THE DECREASE IN DIVERSIFICATION AND CORPORATE GOVERNANCE: EVIDENCE FROM JAPANESE FIRMS+

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Abstract

This paper analyzes the effects of firm performance and governance factors on the decrease in diversification of Japanese firms in the 1990s. We focus on the cases of the decrease in diversification, because many previous studies proved that diversification caused firm value discount. Adjusting an excessive unrelated diversification would be an important topic, because the problems of low synergy between business units, inefficiency in management and so on were more serious in this type of diversification. The findings of this study are as follows. In the first half of the 1990s, immediately after the collapse of bubble economy, lower firm performance and main bank relationship encouraged firms to decrease the level of diversification of their businesses. On the other hand, in the latter half of the 1990s when the decrease in diversification itself was activated, higher performing non-manufacturing firms and manufacturing firms with lower profitability but facing higher growth in their main business tried to decrease diversification in order to strengthen the competitiveness in main businesses. Also, this kind of decrease in diversification was supported by the governance characteristics such as insider majority smaller boards of directors and the pressure from capital market.

Keywords: Decrease in diversification, Corporate governance, Business portfolio restructuring, Selection and concentration, Diversification, Capital market

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1. Introduction

While many studies investigated the effects of business diversification, most of recent studies found the negative relationship between diversification and firm value. It is almost common that diversification results in firm value discount. Basically, this research also takes the stance that diversification causes the firm value discount. From the viewpoint of this basic consideration, in order to enhance firm value, it is meaningful for companies to restructure their business portfolio, with decrease in diversification. Accordingly, the research questions of this study are as follows. What facilitated Japanese firms' business portfolio restructuring? More concretely, what effects did firms' governance structure have on the decrease in diversification as a business portfolio restructuring? This paper does not discuss the reason why diversification causes firm value discount, but considers the leading factors, especially governance factors that facilitate the decrease in diversification.

The targets of this study are Japanese businesses in the 1990s, because they experienced drastic change, both in corporate strategy and corporate governance. For corporate strategy, in the background of the collapse of bubble economy in the early 90s, selection and concentration of business and reorganization of group companies became more and more important. In particular in the latter half of the 1990s, concentration of resources on a core business and withdrawal from an unprofitable business were simultaneously required. Also, it was a time when strategic alliances and strengthening group management were actively utilized.

For corporate governance, while the discipline from main banks that had played an important role in Japanese corporate governance so far had become weaker, the pressure from capital market had become stronger. This shift could be confirmed by some facts as follows; in the latter half of the 1980s, excellent companies that had good market reputation shifted their financing pattern from indirect to direct one. In the 1990s, while the ratio of cross shareholding decreased, institutional investors including foreigners increased their influence. Besides, the 1990s was the time when companies actively worked on the reform

of internal governance, especially the reform of top management showed progress. While the downsizing of board of directors had been progressed through the 1990s, the introduction of the executive officer system and outside directors accelerated the reform of managerial organization. These reforms were intended to strengthen the effectiveness of strategic decision making and monitoring. The incentive of corporate managers also tried to be enhanced by the introduction of stock option. Therefore, it was a turning point for the Japanese companies that they experienced a great change both in corporate strategy and corporate governance in the 1990s.

This paper proceeds as follows. Section 2 reviews the previous studies and clarifies the meanings of the decrease in diversification. Section 3 presents the method of analysis including hypotheses, estimation model and variables. Section 4 outlines the decrease in diversification in the 1990s. Section 5 shows the estimation results and discuss the effects of governance structure. Section 6 presents conclusions.

2. Diversification and performance

For the relationship between diversification and performance, Rumelt(1974) found that Dominant-Constrained and Related-Constrained showed high performance. Since then, many studies investigated the correlation between them. For the recent studies, the results of Berger and Montgomely(1988), Wernerfelt and Montgomery(1988), Lang and Stulz(1994), Berger and Ofek(1995) clarified that excessive diversification causes the inefficiency of management, and results in the firm value discount. For the results from Japanese companies, Lins and Servaes(1999) confirmed the diversification discount from the results of cross section analysis of 1992 and 1995. Hiramoto(2002) also confirmed the same result using the cross section data of 1995.

Concerning the type of diversification, while positive evaluation is usually given to the related diversification, negative evaluation is absolutely given to the unrelated diversification. For example, Wernerfelt and Montgomery(1988) showed that related rather than unrelated diversification had the positive effects on firm performance. Markides and Williamson(1994) pointed out that related diversification had an advantage from the viewpoints of economies of scope and accumulation of resources. In addition, Morck,Shleifer and Vishny(1990) found that while related diversification had a positive effects on shareholder value, unrelated diversification had a negative effects. Furthermore, Rumelt(1982), Varadarajan and Ramanujam(1987) also positively evaluate the related diversification. On the other hand, Hiramoto(2002) found the firm value discount not only in unrelated diversification but also in related diversification. Therefore, the synergy effect is expected by using management resources, especially informational resources such as know-how, simultaneously among business divisions in related diversification. On the contrary, disadvantage caused by less synergy, decreased specialty in management, increased coordination costs among business divisions, asymmetries of information between top management and divisional managers etc. is stronger than advantage in risk dispersion in unrelated diversification. Accordingly, a negative variation on unrelated diversification is almost a common understanding. Then, this paper basically considers that unrelated diversification has a lot of problems, and focuses on business portfolio restructuring that may contribute to dissolving the excessive diversification.

On the other hand, Kikutani et.al.(2007) approached diversification from the viewpoints of entry to new business and exit from existing business. They showed that Japanese companies have done many new entries and withdrawals in gross than observed in net, companies with many entries did a number of exits, and companies with simultaneous entry and exit achieved high performance. However, the influences of corporate governance structure on business portfolio restructuring had not been so clarified. This research tries to contribute to this point by estimating the effects of governance factors on business restructuring. By the way, because many previous studies limited their sample only in manufacturing companies, this paper included non-manufacturing companies also. If the inefficiency in unrelated diversification originates in the low professions and relations, it is very important to comprehend the business expansion beyond the manufacturing and nonmanufacturing section. And it is meaningful to analyze the effects of corporate governance on business portfolio restructuring including the withdrawals from different types of business.

3. Method

3.1. Definition of business portfolio restructuring

Our research interest is how governance factors influence the strategic decision making of business portfolio restructuring. Here, we define the decrease in diversification as the business portfolio restructuring, based on the negative evaluations on diversification in many previous studies [49]. We comprehend the decrease in diversification whether the reduction in number of business sections occurred or not. Because, previous studies concerning

[49] See Denis,Denis and Sarin(1997), Berger and Ofek(1999) etc.

diversification discount showed the tendency that the negative influence of diversification became stronger as the number of business increase. Therefore, downsizing the number of business attempted by "selection and concentration" would contribute to improve the firm value[50].

Concerning the business portfolio restructuring, its concrete contents are important. Kikutani and Saito(2006) investigated the change in a qualitative business composition for this respect. They found the shift to main business related type, by the combination of withdrawals from unrelated business and new entry to related business. They also found this tendency was accelerated in the latter half of 1990s.

By the way, it is necessary to specify the business field itself to comprehend the reduction in the number of business. In this study, we allocated the 3-digit(detailed) and 2-digit(middle) standard industry codes based on the Japanese standard industry code(Nihon Hyoujun Sangyo Bunrui) to all business sections that had positive sales, using the segment data. Then, we identified the code of each business section and classified into one single business if they had the same code. In the end, we set up the database of the number of business based on the 2digit and 3digit code. Concerning the types of diversification, we may consider unrelated diversification as the case that had two or more business sections beyond the 2digit code, and related diversification as the case that had two or more 3-digit code business sections within one 2-digit code business section[51]. Considering the decrease in diversification by the context of withdrawal from unrelated business fields, it would be adequate to specify the business by using the 2-digit code rather than the 3-digit code. Therefore, this study considers the effects of corporate governance on the decrease in diversification, in case companies have two or more unrelated businesses, measured by the 2-digit code criteria.

3.2. Hypotheses

Firm performance

It is thought that the strength of a pressure to decrease diversification depends on the firm performance. Intuitively, if the inefficiency caused by an excessive diversification results in the deterioration in firm performance, the pressure to reform would be increased and the probabilities of decrease in diversification would increase. On the other hand, diversification contributes to lessen the volatility of performance and stabilize the profitability according to the risk dispersion hypothesis. Thus, in case that the business risk is high, decrease in diversification which lessens the effects of risk dispersion would hardly occur. Therefore, we consider the profitability and risk as a firm performance, and set the following hypothesis.

H1. Decrease in firm performance and increase in business risk increase the probability of decrease in diversification.

Governance factors

We consider top management characteristics, ownership structure, main bank relationship, debt, and employee as governance factors. A basic idea is that, if a certain governance factor works effectively as a disciplinary mechanism against management, this factor restrains diversification and encourages the decrease in diversification. Therefore, we set the following hypothesis and explain the backgrounds of each factor.

H2. Governance factors that work as a disciplinary mechanism increase the probability of decrease in diversification.

Board of directors

As characteristics of a typical Japanese board of directors, a large number of directors, the low percentage of outsiders, those who promoted within a firm make up the majority could be pointed out. Those characteristics, supplying ample positions in the boards of directors for corporate insiders, had an incentive effect on employees in terms of increasing their chances of promotion and motivations to accumulate firm specific skills. The characteristics of boards of directors were complementary to the long-term employment system, in a sense that it enhanced an incentive in promotional competition through ranking hierarchy(Miyajima and Aoki,2002). On the other hand, Japanese board of directors had problems in terms of strategic decision making and monitoring(Aoki,2004). It would be difficult to carry out active debate with an oversized board of directors. Also, the objective evaluation would be difficult because the insiders monitor the insiders. The reform of top management system activated in the 1990s tried to recover those functions. The introduction of the executive officers system and outside directors intended to strengthen strategic decision making and objective monitoring by dividing directors and officers and including outsiders.

Therefore, the board with a large number of directors could be considered to have a negative effect on strategic decision makings because of high coordination costs among directors who is representative of each business section, less activated

[50] Hiramoto(2002) indicates that selection of business without concentration within core business field does not contribute to enhance firm value.

[51] This way of identification is basically the same as Hiramoto(2002) which used Nikkei NEES classification.

discussions on the boards and so on. Then, a large board of directors could have a negative effect on the strategic decision making of decrease in diversification. On the other hand, insider dominated board of directors may have a weak monitoring system, thus outsiders on the board of directors would strengthen the monitoring function. Accordingly, the higher ratio of outsiders on the board would increase the probability of occurring decrease in diversification.

Ownership structures

In contrast to the ratio of cross shareholding gradually decreasing in the 1990s, the presence of institutional investors such as the increase in foreign investors. When companies hold shares each other, both of them are silent partners. This situation contributed to releasing managers from the pressure of capital market and enabled to avoid the myopic management. However, it had a problem of weakening discipline on management, even if corporate performance declined. In contrast to the influence of cross shareholding, foreign investors that are known as an active investors gave pressures to management by opposing in the general meetings. Therefore, it could be thought that cross shareholding mitigates the pressure of restructuring when diversified companies face the firm value discount. On the contrary, foreign investors would enhance the pressure of decrease in diversification.

Main banks and debt

As is well known, main banks played an important disciplinary role in Japanese corporate governance, differently from the takeover mechanism in an Anglo American countries. The relationship that main banks intervene in management depending on the performance of client companies was characterized in contingent governance by Aoki(1994a,b). However, with the decline in bank financing, it is often said that the role of main banks stepped back. We take into account this change, and confirm the effects of main bank relationship on the decrease in diversification, in the sense to confirm whether bank-centred governance structure had transformed into the market-based structures. If main bank monitoring was effective, the probabilities of decrease in diversification would be increased.

Concerning the role of debt, the function of reorganization is important(Aghion and Bolton,1992). High ratio of debt increases the risks of default that verifiably proves the moral hazard of managers. The pressures of restraining excess diversification would be increased under the situation that the ratio of debt is high, because the control rights would transfer from managers to debt holder in case the company defaults. Therefore, the higher debt ratio reinforces the discipline on management, and would increase the probabilities of decrease in diversification.

Employee commitment

Lastly we discuss the effects of employees' commitment on decrease in diversification. It is often pointed out that there is the difference among companies in employees' commitment, and the change in long-term employment system takes place in the 1990s. Although it is difficult to find the appropriate variable that directly represents the strength of employee's commitment, we consider the effects of the average tenure of employees as a proxy of employees' sunk costs for their firm. According to Allen and Gale(2000), the longer the employees worked for a firm and the more they invested their resources in firms specific skill, the stronger incentive of voluntarily reforming instead of exiting they had when firms performed badly. Therefore, the strong commitment of employees to their firm would restrain the excess diversification. Accordingly, the probability of decrease in diversification would be increased in firms with longer average tenure of employees where employees are more cooperative for enhancing firm value.

3.3. Data

In order to test the hypotheses mentioned above, this study used the sample of firms listed on the first section of Tokyo stock exchange except firms in financial sections[52]. Especially concerning the effects of corporate governance, it is important to consider the situation in big businesses where the agency problems are relatively serious. That is the reason why we used the firms listed on the first section of Tokyo stock exchange. Here, the average number of firms is 918 and its standard deviation is 30 during the year from 1990 to 1998. We divided our sample into two periods, from 1990 to 1993, and from 1994 to 1997, and confirmed the change in factors that triggered the decrease in diversification.

The information about each segment that was used for specifying business fields, the information about financial performance that was used for making variables of corporate performance, main bank relationship, and the information about ownership structure and employment were all obtained from the Development Bank of Japan's 'Company Financial

[52] Strictly, even if a company was categorized in a non-financial section when downloading data, in case that the company had financial businesses as a result of new entry or as a second business, the standard industry codes were assigned to those business sections. Therefore, our data set captured those financial businesses.

Affairs Data(non-consolidated base)' [53] . The information about top management was obtained from the Toyo Keizai directors' handbook and the annual reports of each company. The information about cross shareholding was obtained from NLI Research Institute's 'database of cross shareholdings'.

3.4. Estimation model and variables

The estimation method for testing the hypotheses is the logistic regression model with the dependent variable is weather the decrease in diversification was occurred or not. The estimation formula is as follows.

$$DID_{t\to t+1} = f[PEF_t, GOV_t, MKT_t, FRM_t, ID_t, YD]$$

Dependent variable

Here, the dependent variable $DID_{t\to t+1}$ is a dummy variable that equals to 1 if the decrease in the number of business section was confirmed in the 2-digit basis of Japanese standard industry code, and is equal to 0 if it was not confirmed. Here, the decrease in diversification in the year t is defined as the case when the decrease in the number of business sections comparing the number of business in the end of fiscal year t to the counterparts in the end of fiscal year t+1.

It is not necessary that the condition of firm performance and the features of governance structure at the end of a certain fiscal year immediately trigger the decrease in diversification. It could be considered that there is a certain time lag between the strategic decision making and its implementation. In order to take this possibility into account, and to confirm the stability of estimation results, we tested the models using not only one-year-base change(from t to t+1) but also two-year-change(from t to t+2) in decrease in diversification.

Independent variables

For the performance factors(PEFt), we adopted the following three variables. First, we used the standardized return on asset(roa;operating plofit/total asset) as a performance variable that represents the profitability of the firm. For standardization, the remainder in roa between raw data and the industry average is divided by industry standard deviation. Here, we captured the industry by the 2-digit standard industry code. Accordingly, we confirm basically the effects of the level of profitability compared to the rival companies within the same industry on the decrease in diversification. Second, we generated the growth rate of main business(gmain) that represents the growth of main business. Here, we specified the business section that had the maximum sales as a main business in the 2-digit standard industry code base, and calculated the average growth rate in the past three years[54]. Finally, we adopted the coefficient of variation in sales of past three years(salecv) as a variable that represents the business risk.

For the governance structure(GOVt), we used the following variables. As a characteristics of top management, the number of directors(nod) and the ratio of outside directors(outr;number of outside directors/total number of directors) are adopted. As an ownership structure, the ratio of shareholding by foreign investors(foreign) and the ratio of shareholding by cross shareholders(cross) are adopted. For the main bank relationship, we made a dummy variable by the following procedures. At first, we specified the bank with the largest amount of financing measured by bank loan as main banks. Then, we gave the dummy variable 1 in case that these main banks are the largest shareholder among banks. In order to confirm the effects of debt, the ratio of debt(debt;(debt+bond)/total liability) is used. Lastly to check the effects of employee's commitment, an average tenure of employees(emptenu) is adopted.

Control variables

The following factors that may have influences on the decrease in diversification were controlled. Many previous studies that had tested the relationships between diversification and firm performance, had pointed out the possibility that market structure and the industry factors would intervene the relations between them[55]. As factors of a market structure, we made the growth rate of the whole market(mgrowth) and the concentration in top 3 companies(mctop3) in main business based on a 2digit industry code. The mgorwth is an average growth rate(one year change) of total sales of each main business in the past three years. The mctop3 is the sum of sales shares of sales top three companies in each main business. Here, the total market sales of each main business used in the calculation process of those two variables are aggregated data of all listed companies not only in the first section of Tokyo stock exchange but also all the stock market in Japan(except financial sections). Then, we added the industry dummy(ID) specified by the 2-digit industry code of the main business to the estimation model. In addition, we included the number of business based on the 2-digit industry code(nob). According to the discussion on the inefficiency of diversification, enlarged number of

[53] The fiscal year of 1998(the end of March in 1999) was a final year that we could use the nonconsolidated data in JDB database.

[54] In case when a main business changed, we captured the sales of the business section in the former year, and calculated the growth rate of the main business.

[55] For example, see Cristensen and Montgomery(1981).

business sections makes it serious the problems of coordination costs and asymmetry of information, thus the probability of the decrease in diversification would be increased in the company with many business sections. Lastly, in order to control the effects of macro shock, year dummy(YD) is included to the estimation model.

Therefore, this estimation model considers the effects of performance and governance factors at the end of fiscal year t on the probability of the decrease in diversification in the year t+1(in addition t+1 and t+2) , after controlling the effects of market structure and industry and so on.

Table 1

Because this paper analyzes the leading factors on the decrease in diversification, we excluded the cases of single business, when a company has only one business section at the end of year t. Besides, concerning the strategic decision making on business portfolio restructuring, it would be doubtful that a company makes decision independently when it has a parent company. Then, we excluded the cases when more than 50% of shareholding by nonfinancial company is confirmed. We also excluded the cases when the number of business increased compared to the former year, because these cases would not be the same as the case of no change.

Table 1 shows the basic statistics of each variable. For the governance factors, while the number of directors had decreased, the ratio of outside directors had increased comparing the period of 1990-93 with 1994-97. This is consistent with the direction of top management reforms in Japan. For the ownership structure, the ratio of shareholding by foreign investors increased especially in a manufacturing section, from 4.8% to 7.3%. The average tenure of employees became a slight longer in manufacturing section.

4. Decrease in diversification−Outline in 1990s

Let us confirm easily about the transition of business development in the 1990s. As usual, a diversified firm is considered to have multi-business fields. Here, we identify the firms with two or more business sections based on the 2-digit and 3-digit Japanese standard industry code as a diversified firm. Table 2 panel 1 shows the change in percentage of diversified firms. The ratio of a diversified firm is 59.9% based on the 2-digit industry code, and 71.1% based on the 3-digit industry code on average. As is expected that the ratio of diversified firm decreases when the number of business based on the 3-digit criteria is reclassified into the 2-digit base, however its difference is not so large as expected. This result means that approximately 85% of diversified firms with the criteria of the 3-digit industry code develop their businesses beyond the 2-digit industry code. When we see the change in the 1990s, although its magnitude is small, decline in 1997 to 98 could be confirmed. This indicates that the decrease in diversification progressed in the latter half of the 1990s, and the number of firms with single business increased.

Table 2

Then we confirm the number of business the diversified firms have on average. Table 2 panel 2 shows the change in the number of business in diversified firms. Here, the sample is limited to the firms with more than two businesses, in order to eliminate the effects of increase and decrease in the number of single business firm. The average number of businesses is 2.60 based on the 2-digit industry code and 2.90 based on the 3-digit industry code. Therefore, diversified firms had two or three businesses on average. Although the fluctuation in the time series was stable, this was a net result of new entry and withdrawal from existing business. We should pay attention to the fact that firms engaged in a lot of entry and exit if we see the gross results behind.

Now, we confirm the frequency of the decrease in diversification that this study pays attention. Table 3 shows the change in the decrease in diversification based on the 2-digit industry code divided by manufacturing and non-manufacturing sections [56]. First, it could be confirmed that the decrease in diversification activated in the latter half of the 1990s. The number of the decrease in diversification was increased from 22 cases, 1.59% of the first half of the 1990s to 51 cases, 3.60% in manufacturing firms, and from 12 cases, 1.65% to 39 cases, 5.15% in non-manufacturing firms. Second, the decrease in diversification was more activated in non-manufacturing firms compared to manufacturing firms. Table 4 shows the decrease in diversification by industries. In the manufacturing section, the decrease in diversification was generally seen widely across the industries. It was also confirmed that the ratio of the decrease in diversification was almost under average in the first half of the 1990s; however, the number of industries with the ratio more than average, such as food, precision machine, increased in the latter half of the 1990s. In this sense, the decrease in diversification in manufacturing section was activated over comparatively wider industries in the latter half of the 1990s. On the other hand, the ratio of the decrease in diversification in non-manufacturing section was kept highly through the 1990s. In particular, it is

[56] The distinction between manufacturing and non-manufacturing is based on a 2digit industry code of the business section with largest sales.

remarkable that the decrease in diversification was activated in industries that had suffered from the problem of excessive liability, such as construction, distribution, and real estate in the latter half of the 1990s.

Therefore, the decrease in diversification was activated in the latter half of the 1990s when the selection and concentration became strongly conscious as an important task for corporate management. Also, this tendency was obvious in non-manufacturing section rather than in manufacturing section.

Tables 3-4

5. Determinants of Decrease in Diversification

Table 5 shows the estimation results concerning the effects of performance and governance factors on the decrease in diversification. At first, for the effects of firm performance, standardized roa did not have any significant correlation with the decrease in diversification in the first half of the 1990s. However, in the latter half of the 1990s, standardized roa showed the contrast results over industries. It was negatively correlated to the decrease in diversification in manufacturing section(model 3,4). On the contrary, it was positively correlated to the decrease in diversification in non-manufacturing section(model 8). For the growth of main business, gmain was statistically significant only in manufacturing section. It showed the negative correlation with the decrease in diversification in the first half of the 1990s(model 1,2), but it showed the positive correlation in the latter half of the 1990s(model 3). For the risk, we could not find any significant correlations. Therefore, for the effects of firm performance on the decrease in diversification, hypothesis 1 is partially supported, but it is more important that the results showed the different influences from first and latter half of the 1990s and from manufacturing to non-manufacturing section. This indicates that the main player that forwarded the decrease in diversification had changed. In the first half of the 1990s, manufacturing firms that had faced the moderation of the growth rate of its main business would forward business portfolio restructuring. On the other hand, in the latter half of the 1990s, good performing non-manufacturing firms with high profitability, and manufacturing firms with low profitability but facing high market growth of its main business, aiming at reinforcing the competitiveness in their main business, would forward the decrease in diversification.

Table 5

For the governance factors, the estimation results are as follows. First, for the effects of top management factors, the number of directors(nod) and the ratio of outside directors(outr) showed negatively significant correlation with the decrease in diversification in manufacturing section in the latter half of the 1990s(model 3). Although it is not statistically significant, these variables show mostly the same tendency as in two-year change in the decrease in diversification, so these results are comparatively reliable. Therefore, manufacturing firms with smaller boards of directors, and with less outside directors on the board decreased diversification actively in the latter half of the 1990s.

Second, for the ownership structure, the ratio of shareholding by foreign investors(foreign) showed a strong positive correlations with the decrease in diversification at significant level of 5% and 1% in manufacturing section in the latter half of the 1990s, though it showed a negative correlation in the first half of the 1990s(model 3,4). Therefore, firms with high ratio of shareholding by foreign investors decreased diversification more actively in the latter half of the 1990s. On the other hand, the ratio of cross shareholding(cress) showed a significant negative correlation at the 10% level with the decrease in diversification in non-manufacturing section in the first half of the 1990s(model 5,6). Therefore, firms with less cross shareholding decreased diversification more, and this implies that the situation of less stable shareholder would increase the pressure of reforming businesses on managers. This result is consistent to the negative view of cross shareholding that it weakens the discipline.

Third, strong relationship with a main bank(mbdum) was positively correlated to the decrease in diversification, in non-manufacturing section in the first half of the 1990s(model 5,6). It was significant at the 10% level based on one-year change and at the 1% level based on two-year change. It is important that this relationship is confirmed in the section where cross shareholding mitigates the pressure of decrease in diversification. Therefore, main banks would have a kind of disciplinary effects that encouraged the decrease in diversification on non-manufacturing firms in the first half of the 1990s. However, this significance had lost in the latter half of the 1990s when a financial crisis became serious.

Finally, the average tenure of employees(emptenu) showed significant negative correlations at the 1% level with the decrease in diversification in non-manufacturing section in the first half of the 1990s(model 5,6). Accordingly, the probability of the decrease in diversification decreases the average tenure of employees gets longer. This result implies that comparatively young firms would be more active in restructuring businesses. When we see the tenure of employee as a proxy of accumulation of firm specific skills, the costs of withdrawal would be low before accumulating firm specific skills, so it

would be easier for firms to engage in restructuring businesses.

Discussion

Here, we consider the implications obtained from the estimation results concerning governance factors.

The effects of board of directors

The characteristics of typical Japanese type of board of directors, such as a large number of directors, and an insider majority structure were important for enhancing the incentive effects on Japanese type of employment system such as long term employment and promotional competition trough ranking hierarchy[57]. On the other hand, the Japanese boards of directors also had problems such as lack of leadership, or obscure managerial responsibility. Many Japanese firms begum to reform of top management, facing the globalization and changing business chances, and those cost became serious in the 1990s.

Here, it is interesting that the reform of top management in Japan had two directions. One is to strengthen the strategic decision making, through activation of discussion on the board by decreasing the number of directors. Another is to strengthen the monitoring, by increasing the number of outside directors[58]. The estimation results of this study that the probability of the decrease in diversification is significantly high in firms with smaller boards of directors implies that the conflicts among directors who represents each business section and the coordination costs of diversification strategy are more serious in firms with larger boards of directors. Accordingly, it is indicated that downsizing the boards of directors would contribute to strengthen strategic decision making. Therefore, the result concerning the size of the boards of directors is consistent with the direction of actual top management reform in Japan.

In contrast, the estimation results concerning outside directors were the opposite from our expectation. We had expected that the stake and the bond were stronger for insiders rather than outsiders, especially in the cases of the decrease in diversification usually accompanied by withdrawal from existing business sections. Thus, we had expected that boards of directors with higher ratio of outsiders could show stronger leadership in decreasing diversification. However, the estimation results of this study showed that boards of directors with higher ratio of insiders were more active in decreasing diversification. This result indicates the probability that insiders have higher ability of interpreting the firm specific managerial information. Also, it is implied that the autonomous governance by insiders had begun to work in the 1990s[59].

The effects of foreign investors

It was an outstanding change in Japanese corporate governance that the foreign investors increased their presence in the 1990s. Then, its increase was more obvious in manufacturing firms. It could be seen that the influence of foreign investors on restructuring businesses of manufacturing firms worked as a pressure to forward the decrease in diversification activated in the latter half of the 1990s. Actually, Miyajima and Inagaki(2003) showed that foreign investors preferred the stocks of firms with less diversified. Hiramoto(2002) confirmed the positive correlation between the ratio of shareholding by foreign investors and firm value based on a cross sectional analysis of the year 1995, and showed the viewpoint that foreign shareholders invested highly performing firm rather than that they enhanced firm value. However, the results of this study may show the opposite causality that foreign investors prompt to decrease the level of diversification, and accelerate the selection and concentration. As a result, firm value would be enhanced.

The effects of main banks

The estimation results that main bank relationship worked as a pressure to prompt the decrease in diversification in non-manufacturing section in the first half of the 1990s are important. In the latter half of the 1980s, the financing pattern shifted from indirect financing to direct financing. This tendency was obvious in excellent firms. As a result, banks facing the deterioration in the pool of client firms increased the new loan to firms in non-manufacturing industries such as construction and real estate. At this time, in order to lessen the monitoring costs, banks lend out with collateral land[60]. In this sense, the main bank loan lacked in strict ex ante monitoring. Despite of these facts, main banks had a certain effects on the decrease in diversification for new client firms. The main bank monitoring stepped back in the 1990s, but in the non-manufacturing section in early 1990s, main banks would have a kind of disciplinary effects. Hiramoto(2002) also reported that main bank relationship had a positive influence on firm value. Therefore, it is indicated that, disciplinary mechanism of main banks and the situation that less cross shareholding, in other words, the pressure from capital market coexisted in the non-manufacturing section in the first half of the 1990s. However, the

[57] See Miyajima and Aoki(2002).

[58] See Aoki(2004).

[59] Miyajima and Aoki(2002) approached this possibility by the analysis on CEO turnover.

[60] See Miyajima and Arikawa(1999), Hasimoto et.al.(2006).

relationship that main banks accelerate the decrease in diversification lost statistical significance in the latter half of the 1990s when the decrease in diversification activated. Main bank monitoring would step back because of their bad debt problem and financial distress in 1997 and so on.

6. Conclusions

This paper analyzed the determinants of the decrease in diversification for Japanese firms in the 1990s, based on the well-known fact that diversification resulted in firm value discount. Concerning the types of diversification, it would be important for business portfolio restructuring that unrelated diversification was corrected, because the problems of low synergy, inefficiency and so on were more serious in this type of diversification. So, we analyzed the cases when the number of businesses specified by the 2-digit Japanese standard industry code was decreased. Concerning the leading factors for business portfolio restructuring, we could confirm that some of governance factors and the conditions of firm performance had positive effects on the decrease in diversification. As a result of our estimation that analyzed the hypotheses concerning the determinants of the decrease in diversification, it was remarkable that the effects of governance ware not universally invariable assumed theoretically. The governance factors showed the different effects between periods of the first and the latter half of the 1990s, and between manufacturing and non-manufacturing sections. Therefore, the effects of corporate governance were contingent. Here, we summarize the estimation results.

At first, the decrease in diversification was activated in the late 1990s. And it was more activated in the non-manufacturing section rather than the manufacturing section. This indicates that the decrease in diversification was activated especially in industries where the problem of excess liability was serious, such as construction, distribution, and real estate. The proportion of diversified firms with two or more businesses declined in the late 90s. However, the average number of business sections was almost fixed throughout the 1990s. These results indicate that the restructuring businesses including new entries not only the withdrawals were activated in the 1990s.

Second, the backgrounds of the decrease in diversification had changed through the 1990s. In the first half of the 1990s, manufacturing firms facing low growth of their main business forwarded to decrease diversification. This would be close to our general image that low performance firms advance restructuring desperately. On the other hand, non-manufacturing firms with high profitability and manufacturing firms with low profitability but facing high market growth of their main business advanced the decrease in diversification in order to strengthen the competitiveness in main business in the latter half of the 1990s. This was an offensive decrease in diversification by high performing firms. This trend would contribute to the recovery of macro economics in the first half of the 2000s. However, seen from the different viewpoint, the fact that firms with higher performance forwarded the decrease in diversification actively implies the possibility of strategic fixation in firms with lower performance. This possibility would enlarge the difference between winners and losers. Accordingly, the governance problems would become more resinous for firms whose performance became worse and worse steadily.

Finally, we here summarize the effects of governance factors on the decrease in diversification. For the top management characteristics, firms with smaller boards of directors showed a positive attitude toward the decrease in diversification. This result indicates that the downsizing board of directors contributes to reduce the coordination costs among business sections and strengthen strategic decision making. On the other hand, firms with boards of directors consist of fewer outsiders showed a positive tendency in decreasing diversification. This result implies that insiders have an advantage in interpreting the firm specific information. It also indicates a possibility that the autonomous governance led by insiders began to work. In contrast, it indicates that the problems of strategic decision making and incentives and so on still remain for the role of outside directors. Concerning the effects of ownership structure, the possibility that stable shareholders based on cross shareholdings mitigates the pressure on the decrease in diversification, for the non-manufacturing firms in the first half of the 1990s. On the other hand, foreign shareholders that increased their presence in the 1990s would encourage the 'selection and concentration' especially in manufacturing firms. The main banks gave pressures on the decrease in diversification for non-manufacturing firms in the first half of the 1990s. In this sense, main banks would have kept some degree of influence on the restructuring business in their client firms. However, main bank influence was stepped back in the latter half of the 1990s when their bad debt problem became serious.

Therefore, the decrease in diversification in Japan, as a whole, could be summarized as follows. In the first half of the 1990s, the factors such as low firm performance(in manufacturing section) and main bank relationship(in non-manufacturing section) rather than the pressure from capital market encouraged the decrease in diversification. In the latter half of the 1990s when the decrease in diversification itself activated, high performing non-manufacturing firms and manufacturing firms with low profitability but high growth in their main business tried to decrease

diversification in order to strengthen the competitiveness in main business. And this decrease in diversification was supported by the governance characteristics such as insider majority small boards of directors and the pressure from capital market, mainly from foreign shareholders.

Finally, we mention about the future tasks. First, we need to complement our estimation results by using the consolidated data. We used non-consolidated data because it was better to capture the strategic decision making such as spin-offs activated in the latter half of the 1990s aiming at reinforcing the incentive of subsidiaries by empowerment. However, it is very important to use the consolidated base data especially in the analysis of after the year 2000 because the non-consolidated base accounting became popular. Second, although we have discussed the cases of the decrease in diversification, based on the assumption that diversification result in firm value discount, diversification also had the positive effects of risk dispersion, seeking synergy and so on. Accordingly, it is also needed to discuss about the cases of new business entry, from the viewpoint of corporate management. The governance factors discussed in this paper may not only encourage the decrease in diversification but also promotes the new entry, thus encourage the business portfolio restructuring [61]. Therefore, it would be important to analyze the effects of corporate governance from the viewpoints of change in strategic decision making.

References

1. Aghion, P. and P. Bolton(1992), "An Incomplete Contracts Approach to Financial Contracting", *Review of Economic Studies*, 59, pp.473-494.
2. Allen,F. and D.Gale(2000), *Comparing Financial Systems*,MIT Press.
3. Aoki,H.(2004),"Boardroom Reform in Japanese Business : An Analysis of the Introduction of the Executive Officer System and its Effects", *Asian Business & Management*,Vol.3 No.2.
4. Aoki,M.(1994a),"Monitoring Characteristic of the Main Bank System: An Analytical and Developmental View",Aoki, M.and H.Patrick eds [1994],*The Japanese Main Bank System*,Oxford University Press.
5. Aoki,M.(1994b),"The Contingent Governance of Teams: An Analysis of Institutional Complementarity",*International Economic Review*, 35,pp.657-676.
6. Berger,P. and E.Ofek(1995), "Diversification's effect on firm value,"*Journal of Financial Economics*, 37, pp.39-65.
7. Berger,P. and E.Ofek(1999), "Causes and Effects of Corporate Refocusing Programs,"*Review of Financial Studies*,12,pp.311-345.
8. Berger,W. and C.Montgomely(1988), "Tobin's q and the structure performance relationship,"*American Economic Review*, 78, pp.246-250.
9. Cristensen,H.K. and C.A.Montgomery(1981), "Corporate Economic Performance : Diversification Strategy Versus Market Structure",*Strategic Management Journal*,2, pp.327-343.
10. Denis,D.J.,D.K.Denis and A.Sarin(1997), "Agency Problems, Equity Ownership, and Corporate Diversification,"*Journal of Finance*,52,pp.135-160.
11. Hashimoto,J.,S.Hasegawa and H.Miyajima(2006), *Modern Japanese Economy*, Yuhikaku Aruma. (in Japanese)
12. Hiramoto,T.(2002),"Diversification and Firm Value",*Modern Finance*, 12,pp.31-55. (in Japanese)
13. Kikutani,T.,H.Itoh and O.Hayashida(2007), "Business Portfolio Restructuring of Japanese Firms in the 1990s : Entry and Exit Analysis",Aoki,M.,G.Jackson and H.Miyajima,eds., *Corporate Governance in Japan : Institutional Change and Organizational Diversity*, Oxford University Press.
14. Kikutani, T. and T. Saito(2006),"Entry and Exit as a Business Governance", *Organizational Science*, 40, pp.15-26.(in Japanese)
15. Lang,L. and R.Stulz(1994), "Tobin's q, Corporate Diversification and Firm Performance,"*Journal of Political Economics*, 102, pp.1248-1291.
16. Lins,K. and H.Servaes(1999), "International Evidence on the Value of Corporate Diversification,"*Journal of Finance*,45,pp.31-48.
17. Markides, C. and P.Williamson(1994), "Related Diversification, Core Competences, and Corporate Performance", *Strategic Management Journal*, 15, pp.149-165.
18. Miyajima, H. and H. Aoki(2002),"Change in the J-type Firm : From Bank-centred Governance to Internal Governance", Maswood,J., J.Graham and H.Miyajima eds. *Japan - Change and Continuity*, RoutledgeCurzon.
19. Miyajima,H. and Y.Arikawa(2000),"Relationship Banking and Debt Choice : Evidence from the Liberalization in Japan", Ministry of Finance,Policy Research Institute Discussion Paper 00A-07.
20. Miyajima,H. and K.Inagaki(2003),*Variety of Japanese Firms and Corporate Governance*, Ministry of Finance,Policy Research Institute(in Japanese)
21. Morck,R.,A.Shleifer and R.Vishny(1990), "Do Managerial Objectives Drive Bad Acquisitions?," *Journal of Finance*,45,pp.31-48.
22. Rumelt,R.P.(1974), *Strategy, Structure and Economic Performance*, Division of Research, Harvard Business School.
23. Rumelt,R.P.(1982), "Diversification Strategy and Profitability", *Strategic Management Journal*,3, pp.359-369.
24. Varadarajan,P. and V.Ramanujam(1987),

[61] Kikutani et.al.(2007) pointed out that the same factor encourages entry and exit simultaneously.

"Diversification and Performance : A Reexamination Using a New Two-Dimensional Conceptualization of Diversity in Firms", *Academy of Management Journal*,30,pp.380-393.

25. Wernerfelt,B. and C.Montgomery(1988), "Tobin's q and the Importance of Focus in Firm Performance,"*American Economic Review*, 78, pp.246-250.

Appendices

Table 1 Descriptive Statistics

	Manufacturing				Non-manufacturing			
	90-93		94-97		90-93		94-97	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
roa	0.033	0.035	0.029	0.035	0.042	0.023	0.030	0.026
gain	0.042	0.119	0.006	0.080	0.092	0.375	0.021	0.095
salecv	0.080	0.067	0.061	0.054	0.081	0.057	0.060	0.068
nod	18.341	7.667	17.311	7.362	22.289	9.053	21.041	8.641
outr	0.186	0.175	0.192	0.185	0.248	0.188	0.255	0.195
foreign	4.805	5.431	7.331	7.086	4.884	5.599	6.949	6.740
cross	15.577	8.511	15.364	8.509	14.531	8.243	14.208	8.263
debttc	0.258	0.143	0.247	0.155	0.295	0.161	0.297	0.168
mbdum	0.199	0.400	0.209	0.407	0.207	0.405	0.229	0.421
emptenure	15.438	3.987	16.529	3.794	14.022	3.991	14.798	3.861
mgrowth	0.042	0.054	0.012	0.046	0.096	0.090	0.052	0.113
mctop3	0.231	0.119	0.226	0.119	0.331	0.190	0.318	0.202
nob	2.554	0.774	2.545	0.778	2.667	0.940	2.628	0.915

note1:roa is before standardization.
note2: except firms with single business and the cases in which the number of business increased.

Table 2 Data in Diversified Firms

Panel1 The proportion of diversified firm

Year	2digit	3digit
90	59.1%	71.9%
91	60.2%	72.1%
92	60.2%	72.1%
93	60.4%	71.8%
94	60.8%	71.8%
95	60.6%	71.3%
96	60.4%	70.9%
97	58.4%	68.7%
98	58.7%	69.0%
avg.	59.9%	71.1%

Panel2 Number of business sections

	2digit			3digit		
Year	Mean	Std. Dev.	Max	Mean	Std. Dev.	Max
90	2.61	0.82	6	2.90	1.09	8
91	2.60	0.84	6	2.89	1.11	8
92	2.60	0.84	7	2.89	1.12	8
93	2.60	0.85	8	2.89	1.12	8
94	2.58	0.84	8	2.87	1.10	8
95	2.56	0.82	8	2.87	1.08	8
96	2.57	0.82	8	2.87	1.10	9
97	2.62	0.85	7	2.95	1.10	9
98	2.62	0.84	7	2.95	1.11	9

note1: except firms with single business

Table 3 The number of decrease in diversification

	Manufacturing		Non-manufacturing	
Decrease in diversification	No	Yes	No	Yes
90	328	4	169	1
91	344	4	178	5
92	343	5	182	3
93	348	9	186	3
94	340	14	184	9
95	349	6	194	2
96	323	24	157	22
97	353	7	183	6
sum of first half	1363	22	715	12
proportion		1.59%		1.65%
sum of latter half	1365	51	718	39
proportion		3.60%		5.15%

note1: 2digit base. Except firms with single business.

Table 4 Decrease in diversification by industries

	90–93			94–97		
	(a)number	(b)industry	(a)/(b)	(a)number	(b)industry	(a)/(b)
Food	1	82	1.2%	8	91	8.8%
Textile	3	67	4.5%	2	76	2.6%
Paper·Pulp·Wooden products	1	42	2.4%	3	53	5.7%
Chemistry	2	168	1.2%	7	178	3.9%
Petroleum Coal Rubber	1	43	2.3%	3	49	6.1%
Ceramics·Soil and Stone	–	–	–	2	79	2.5%
Steel	–	–	–	4	70	5.7%
Nonferrous Metal	1	60	1.7%	4	68	5.9%
Metal	1	61	1.6%	2	68	2.9%
Machinery	2	169	1.2%	4	175	2.3%
ElectricalAppliance	3	147	2.0%	7	262	2.7%
Transportation Machinery	3	135	2.2%	1	131	0.8%
Precision Instrument	1	51	2.0%	3	47	6.4%
Other Manufacturing	3	28	10.7%	1	27	3.7%
Mining	1	4	25.0%	–	–	–
Construction	3	202	1.5%	12	217	5.5%
Erectricity·Gas·Water	–	–	–	1	28	3.6%
Information and Communication	1	12	8.3%	1	22	4.5%
Transportation	2	47	4.3%	6	114	5.3%
Distribution (Wholesale Retail)	1	80	1.3%	15	131	11.5%
RealEstate	2	41	4.9%	2	35	5.7%
Eating and Drinking·Accomodation·Others	2	15	13.3%	2	20	10.0%
sum average	34	1454	4.8%	90	1941	5.1%

Table 5 Estimation Results

	Manufacturing				Non-manufacturing			
	90–93		94–97		90–93		94–97	
	one-year base	two-year base	one-year base	two-year base	one-year base	two-year base	one-year base	two-year base
model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
roa	−0.248	−0.328	−0.343 *	−0.390 **	0.289	−0.800	0.383	0.690 **
	(−0.68)	(−1.47)	(−1.75)	(−2.16)	(0.39)	(−1.55)	(0.25)	(2.29)
gmain	−14.797 ***	−3.694 *	4.548 *	3.113	0.623	−1.309	−1.669	−0.039
	(−2.76)	(−1.69)	(0.90)	(0.49)	(0.40)	(−1.21)	(−0.73)	(−0.02)
salecv	−0.843	3.753	1.004	1.401	−3.827	−2.316	1.272	4.874
	(−0.16)	(0.50)	(0.28)	(0.47)	(−0.35)	(−0.41)	(0.32)	(1.27)
nod	0.049	0.020	−0.069 **	−0.040 −	0.108	0.034	0.013	0.034
	(0.06)	(0.70)	(−2.25)	(−1.59)	(0.00)	(0.61)	(0.41)	(1.15)
outr	−1.002	−1.119	−1.983 *	−1.205	−1.777	−0.769	0.642	0.677
	(−0.57)	(−1.02)	(−1.74)	(−1.33)	(−0.55)	(−0.35)	(0.54)	(0.61)
foreign	−0.130	−0.082 *	0.049 **	0.054 ***	−0.284 *	−0.114	−0.012	−0.076 *
	(−1.57)	(−1.71)	(2.11)	(2.65)	(−1.65)	(−1.17)	(−0.31)	(−1.91)
cross	−0.058	−0.030	−0.010	−0.012	−0.239 *	−0.103 *	0.013	0.019
	(−1.61)	(−1.44)	(−0.42)	(−0.66)	(−1.86)	(−1.76)	(0.51)	(0.83)
debttc	−2.752	−1.775	1.411	1.899 *	−0.072	−5.502	0.028	−0.353
	(−1.31)	(−1.37)	(0.18)	(0.91)	(−0.01)	(−1.54)	(0.01)	(−0.18)
mbdum	0.635	0.415	0.068	−0.195	3.384 *	2.601 ***	0.052	0.024
	(0.00)	(0.04)	(0.16)	(−0.51)	(0.83)	(3.12)	(0.11)	(0.05)
empleneure	−0.018	−0.023	0.018	0.029	−0.535 ***	−0.370 ***	−0.083	−0.028
	(−0.25)	(−0.53)	(0.37)	(0.69)	(−3.09)	(−3.37)	(−1.15)	(−0.41)
mgrowth	9.013	7.353	17.294	14.802	−12.092	4.606	−1.570	−1.295
	(0.49)	(0.77)	(1.64)	(1.41)	(−0.60)	(0.86)	(−0.33)	(−0.24)
mctop3	−33.051	−7.004	18.359	−20.631	−31.664	−9.373	−0.353	−26.003
	(−1.47)	(−0.53)	(1.39)	(−0.85)	(−1.34)	(−0.87)	(−0.04)	(−1.03)
nob	0.346	0.482 **	0.581 ***	0.471 ***	1.782 **	1.810 ***	0.763 ***	0.657 **
	(1.06)	(2.47)	(3.26)	(2.92)	(2.47)	(4.42)	(3.02)	(2.41)
Number of obs	940	1060	1089	880	365	384	484	356
LR chi2	39.970	48.430	69.660	75.690	53.990	86.510	50.040	62.900
Pseudo R2	0.215	0.126	0.183	0.160	0.512	0.431	0.195	0.215
Log likelihood	−72.948	−168.174	−155.745	−199.077	−25.786	−57.014	−103.154	−114.809

note1: Except firms with single business, subsidiary, and cases in which the number of business increased.
note2: Industry dummy(ID) and year dummy(YD) omitted to show.
note3: z score in parenthesis. *** 1% significant, ** 5% significant, * 10% significant.