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**Shareholder Structure and Dividend Rate in Japanese Firms:  
Analysis Using Panel Data**

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# Shareholder Structure and Dividend Rate in Japanese Firms

## Analysis Using Panel Data

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### Abstract

In Japan, the percentage of shareholders has increased while dividend rate has decrease. In previous years, the dividend rate is said to be lower in Japan than in USA or Europe. Dividend rates in Japanese firms could have increased as far as foreign shareholders have increased since most of them are thought to be institutional investors with market orientated commitment.

In this paper I use data of manufacturing firms listed by the stock market since 1985 to 2009 splinted in two periods since character of corporate governance is thought to have changed since the second 1985.

According to the analysis conclusions are summarized as follows: Foreign shareholders have consistently increased dividend rates since 1985. Moreover, there is no significant relationship between the percentage of financial institutions and dividend rates in the period 1985-1996. However, a reverse trend emerged from the second half of 1990s reflecting that the percentage of trust banks has increased and the commitment of financial institutions has change toward market approach. Additionally, nonfinancial firms had decreased dividend rate only by the late 1990s. This implies that nonfinancial firms had taken a role as stable shareholders changing its interest since then.

*JEL Classification:* G30, G35,

Key words: [dividend rate] [shareholder structure] [corporate governance] [panel data]

## **I. Introduction**

Shareholders have concerns about dividend amount paid by firms. Dividends are revenue of shareholders. In addition, dividends send markets information of firm and take large role of creation of stock value. Jensen[1989] said that shareholders have large concerns dividends to absorb extra funds so as to inhibit organization slack[Cyert and March 1963].

In Japan, traditionally, it is said that concerns of dividends for listed firms is weak. This reason is pointed out cross-shareholding or existence of stable shareholders. So, increase of dividends is rarely realized if investment funds call firms increase dividend since most of stocks issued by Japanese listed firm are possessed friendly financial institutions and nonfinancial firm. In addition, friendly financial institutions and nonfinancial firms demand to sustain relationship transaction and increase stock value in long term rather than to increase dividends or stock value in short term. Only if statement of firms becomes seriously deterioration, intervention from outsider is carried out.

Amable[2003] categorized four groups of developed countries at respect to financial system. Identical market based financial system cluster contain US, Canada, Netherlands, Britain and Australia. Characters of these countries are importance of institutional investors especially pension funds, importance of stock market such as high ratio of market capitalization to GDP, developed venture capital system, frequent of M&A activities and distributed possession of stocks. In addition, these countries have low profitability bank sector.

On the other hand, identical bank based financial system contain Germany, Japan, Austria, France, Italy, Portugal and Spain. Characters of these countries are high ratio of credit facility to GDP, high share of

insurance firms to institution investors, not frequent of M&A activities, developing accounting standards and venture capital system, concentration of possession of stock and some extent of possession by governments.

However, since latter of 1990s, it is said that financial institution, in other words, commercial bank and regional bank have released stocks of other firms and the percentage of stable shareholders have decreased. In addition, at the same time, the percentage of foreign shareholders and trust banks has increased. Moreover, activist funds such as Murakami Fund which actively suggest proposal governance of firm become to stand out.

Jackson and Miyajima[2007] categorized Japanese firms into three groups. First group is traditional Japanese firm. In this type, relationship-oriented financial structure and relationship-oriented organization are composed. Second group is called Type 1 Hybrid. In this type, market-oriented financial structure and relationship-oriented organization are composed. These firms are higher profitability. Third group is called Type 2 Hybrid. In this type, relationship-oriented financial structure and market-oriented organization are composed<sup>1</sup>. Their performance is higher though it is large dispersion.

Then, shareholder structure may be combined with dividend policy, too. Especially, dividend may increase such as identical market based financial countries if the percentage of institutional shareholders such as foreign shareholders increases.

This is why detail analysis for dividend policy of Japanese firm is needed. Especially, at the element of corporate governance, foreign shareholders are thought to take important role in deciding amount of dividends. It is thought that most of foreign shareholders are institutional investors from abroad. Suppose institutional shareholders have stronger interest in dividend than stable shareholders, dividend rate is large if the percentage of foreign shareholders is large. In addition, financial institutions also strengthen interests in dividends since the percentage of trust bank is large

since late of 1990s. The theme of this paper is analysis the relationship between structure of shareholder and dividends rate.

On the other hand, in recent years, economic gap in Japan is serious problem. Some research pointed that one of the reasons is increase of distribution of shareholders containing increase of dividends (Shibata [2009]; Morioka [2010])<sup>2</sup>. It is thought that suppression of wage in recent years has relationship with increase of dividends<sup>3</sup>.

Next, I summarize conclusion in this paper. Foreign shareholders which are supposed to be institutive shareholders from abroad have consistently increased dividend rate since 1985. On the other hand, from 1985 to 1996, no significant relationship between the percentage of financial institutions and dividend rate exists. However, significant relationship is found since then. It is thought that this reflects that the percentage of commercial bank and region bank decreases and the percentage of trust bank increases. After all, the probability that the character of financial institutions has changed intension for market is high.

Structure of this paper is following. In section II, dividend theories for imperfect market and related empirical analysis are introduced. Next, in section III, trend of dividend and shareholder structure in Japanese firms are introduced. In section IV, I explain way to analyze and carry out consideration of result of analysis. In this paper, I use balanced panel data from March in 1985 to March in 2009. In section V, I summarize results.

## **II. Dividend theories and related empirical analysis**

According to *the theory of Modigliani and Miller*, stock value is equal to present value of profit of this firm in the future and dividend policy is neutral to firm value (Modigliani and Miller [1958]; Miller and Modigliani [1961]). However, this theme is approved only if tax and transaction cost do not exist, information is symmetry and contract is perfect. These conditions

are hard to realize. On the other hand, these conditions are rarely achieved in reality. In the following, according to Ishikawa[2007], Hanaeda and Serita[2008], I introduce five dividend theories which are corresponding imperfect market.

At first, I introduce dividend customer segment hypothesis that focuses tax institution and transaction cost. In this hypothesis, it is supposed that investors buy and sell stocks depending on environment such as tax institution and transaction cost and on each of their interests of dividend level. For example, rational investors who hope to maximize their wealth choose capital gain, that is, homemade dividend rather than dividend if sum of tax for capital gain and fee to sell stock is less than tax for income gain. Moreover, wealthy investors who do not need cash income currently may neither sell stock nor seek dividend. These investors may buy stocks of firms whose dividend is low or zero. In this situation, the relationship between dividend policy and stock value does not exist if enough investors who support dividend policy exist whatever firms adopt dividend policy. This is similar to MM theory.

Second, Brav et al.[2005] divided the effect of information about dividend into two forms of information. The one case is for dividend to convey confidence about future expected by managers. The other case is for dividend and buyback to be used as signal intentionally by managers. The Signaling hypothesis in financial theory (Miller and Rock [1985]; Vermaelen [1981]) supposes latter effect. They are called information effect hypothesis together.

In signaling hypothesis, it is assumed that managers use dividend as signal to tell private information about future cash flow in firms to market(Bhattacharya [1979]: Miller and Rock [1985]: John and Williams [1985]). Dividend is involved in heavy “binding power”<sup>4</sup>. This means that dividend increase is carried out only if managers have strong confidence about future profit while dividend cut is avoided as possible. So, dividend

increase is interpreted as expression of good confidence by managers and stock value increases while dividend cut is interpreted as expression of crisis and stock value increases.

Hanaeda and Serita[2008] investigated former effect<sup>5</sup>. They state the question whether or not dividend increase and buyback convey internal information that profit grows in the future to investors is supported by many firms. On the other hand, they inquired whether or not dividend increase and buyback tell investors that firms have little chances to invest is supported by few firms.

Third, the free cash flow hypothesis focuses on imperfectly contract. Firms obtain cash flow by business activities in each fiscal year. Cash flow is used to invest for business activity and is stored as retained earnings. Managers may neglect their efforts since free cash flow is controlled by managers. This hypothesis implies that free cash flow is reduced and corporate management is ordered if managers are promised to pay dividend (Grossman and Hart [1980]: Easterbrook [1984]: Jensen [1986]: Lang and Litzenberger [1989]). In other words, in this hypothesis, increase dividend brings to stock rise through increase of monitoring for managers and reduction of agency cost.

In summary, dividend customer segment hypothesis implies neutrality of dividend policy to stock value as same as MM theory while signaling hypothesis and free cash flow hypothesis basically imply that dividend increase is involved in stock rise and dividend cut is involved in decline in stock prices. According to Ishikawa[2007], most of previous studies found that market evaluates positive to announcement of dividend increase while market evaluates negative to announcement of dividend cut(Pettit [1972]; Charest [1978]; Aharony and Swary [1980]; Asquish and Mullins [1983]; Bajaj and Vijn [1990]; Michaely et al. [1995]). Then, Ishikawa[2007] conclude that signaling hypothesis and free cash flow hypothesis are more adequate than dividend customer segment hypothesis<sup>6</sup>.

In addition, I introduce other two dividend theories. They are pecking order hypothesis and life cycle hypothesis.

At first, pecking order hypothesis emphasizes on the merit of internal finance in comparison of external finance. It is thought that asymmetric information between firms and investors in external finance is larger than in internal finance. Then, firms may not be able to raise fund at appropriate cost if they raise fund by external finance (Myers and Majluf [1984]). Hanaeda and Serita[2008] did not support this hypothesis.

Second, life cycle hypothesis emphasizes that dividend policy differs as stage of development of firms (DeAnglo, et al. [2006]). Especially, dividend is not paid and retained earnings are stored even though newer firms gain many profits since they strongly demand funds. Investors do not oppose. On the other hand, profits are distributed for shareholders in older firms since they do not have many attractive chances for investment. Firms which do not carry out this dividend policy may face free cash flow problem. Hanaeda and Serita[2008] did not support this hypothesis<sup>7</sup>.

### **III. Trend of dividend policy and shareholder structure in Japan**

Ishikawa [2007] divides dividend policy from fiscal year 1977 into three terms<sup>8</sup>. The first term is from fiscal year 1977 to 1991 and total amount of dividend increase from 1 trillion to 2.6 trillion yen. The second term is from fiscal year 1992 to 2000 and this goes around from 2.4 trillion to 2.9 trillion yen in this term. The third term begun at fiscal year 2001 and the amount of dividend increased four series years until fiscal year 2005. The increases in fiscal year 2004 and 2005 are extreme and 1 trillion yen is added series 2 year. After all, total amount of dividend grew at 5.22 trillion yen at fiscal year 2005<sup>9</sup>.

Moreover, standard of Dividend Per Share(DPS) is traditionally 5 yen per stock side by side in previous days by values that dividend is cost for



capital(Hirota [1992]). In fact, about 20 % of firms pay dividend 5 yen per stock in 1980s. However, this proportion has decreased to 7,7 per cent at fiscal year 2005. At the same time, the proportion of firms whose DPS is more 5 yen and less than 10 yen has decreased from 44.6% at fiscal year 1989 to 16.5% at 2005. On the other hand, the proportion of firms whose DPS is more 10 yen is 19.1% at fiscal year 1977 and 53.8% at 2005.

This is why more half of listed firms decide DPS more 10 yen. So, the tradition that dividend is 5 yen per stock has dead out. Additionally, the percentage of firms whose DPS is maintained at a certain value and which adopt stable dividend policy maintained at about between 50 % and 60 % until middle of 1990s and this percentage has declined since fiscal year 1992 in which the percentage is 61.8% and peak. On the other hand, the percentage of firm which carry out dividend increase or resumption of dividend has increased since fiscal year 2001 and about 40% of firms carried out dividend increase or resumption of dividend in fiscal year 2004 and 2005.

Moreover, some firms carry out to pay dividend at multi times per year as interim dividend. The total amount of interim dividend gradually grew until fiscal year 1990 and gone around from 900 million to 1.1 trillion until fiscal 2002. Then, this grew rapidly 1.5 trillion at fiscal 2004 and 2 trillion at fiscal year 2005. The percentage of interim dividend for total dividend stably maintains at near less than 40% since fiscal year 1981. In addition, the percentage of firms which carry out interim dividend grew from 36.3% in fiscal year 1977 to 45.7% in 2005(Ishikawa [2007]).

#### Figure 1

I show the dividend's trend of the listed manufacturing firm in Figure 1. While dividend rate has decreased until around 2000 , dividend rate increased rapidly after that. The average dividend rate of the listed

manufacturing firms is 3.40% at March 2008. However, this value is lower than that of Europe and American firms<sup>10</sup>.

#### Figure 2

Next, I show the trend of shareholder structure from fiscal year 1985 to 2008 in Figure 2. This shows that the percentage of nonfinancial firms and individuals shareholders goes around 20% from fiscal year 2000 to 2009. Then, the percentage of government and securities firm is extreme low and stable. On the other hand, the percentage of financial institutions is higher than other term around 1990 and almost consistently has decreased since then. In contrast, the percentage of foreign shareholders is bottom in later 1980s and almost consistently has increased since then.

#### Figure 3

Moreover, I show detail trend of financial institutions in Figure 3. This figure shows that the percentage of trust banks has been beyond the percentage of commercial banks or region banks since fiscal year 1999 though the percentage of commercial bank or region banks was largest in element of financial institutions in previous day. The percentage of commercial bank or region bank has decreased rapidly since then and is 4.3% at end of fiscal year 2009. In addition, the percentage of life insurance firms has also decreased and is 5.0% at the end of fiscal year 2009 though it was high in previous day. On the other hand, the percentage of trust banks has increased rapidly especially since fiscal year 2000, accounting by 18.4% at the end of fiscal year 2009 and largest in financial institutions. This is why the probability that the character of financial institutions changed in last 1990s exists.

## IV. Analysis

### 1. Data

At first, I explain data which are used in analysis. This data is from Nikkei NEEDS Financial data. Target is manufacturing firms which were listed by stock market except JASDAQ at March 31 at 1985. Target period is from March at 1985 to March at 2009. Target firms are maintained to be listed and to close a book in March in target period. Then, data is parent-only earnings. As a result, balanced panel data is composed of 438 firms and 24 years. Since depended variable is dividend rate one year after, data of March 2009 is excluded.

In addition, I divide data in two periods: from March in 1985 to March in 1996 and from March in 1997 to March in 2008 and analyze. It is worth to analyze by dividing data since environment around Japanese firms changed greatly as Shishido [2007] points.

Moreover, I divide firms into lower profitability firms and higher profitability firms based on average of ROA from fiscal year 1984 to 2008 year of each firm and analyze. Then, I research whether or not level of average of ROA has effected to the role of shareholder structure.

The dependent variable is the dividend rate one year after. The dividend rate is the total amount of dividend divided by the total equity.

### 2. Control variables

Next, I introduce the control variables. The change of total equity in one year is added since dividend rate is total amount of dividend divided by total equity. The coefficient is expected to be negative.

Then, ROA is added since dividend takes a role to pay profit to shareholders. Kubo and Saito [2006] found positive relationship between

ROA and dividend. So, the coefficient of ROA is expected to be positive.

In addition, the ratio of sales abroad to all sales is added. The firms set dividend low level since they face high risk if the ratio is high. The coefficient is expected to be negative.

Moreover, capital ratio is introduced to control financial status. Firms hesitate to increase dividend rate if firms' capital ratio is low and pressure to repay debt is high since the rights of shareholders are subordinated to the rights of creditors. Kubo and Saito [2006] found a negative relationship between debt ratio and dividend. So, the coefficient of capital ratio is expected to be positive.

### 3. Independent variables

Next, I introduce independent variables shareholders structure. Shareholders which are mentioned in this paper are nonfinancial firms, financial institutions, foreign shareholders, mutual funds and officers. In the following, I introduce the effects on dividend rates by each shareholder structure.

Stable shareholders such as nonfinancial firms and financial institutions are thought to decrease dividend rate. Some reason that stable shareholders inhibit dividend in Japan exists. At first, in cross-shareholding (Sheard [1994]), if a firm demands its partner dividend increase, its partner will also call the firm dividend increase and the merit is offset. Second, profit is able to be used as investment if the dividend is low level (Thomas and Waring [1999]). So, firms have incentive to keep dividend rate low level. Third, stable shareholders hope that partners store profits as retained earnings so that their partners can bear change of environment to threaten relationship transactions ([Bourgerious [1981]]. Gedajlovic et al [2005] found negative relationship between the percentage of nonfinancial firms and dividend, however, not significant.

However, we need to pay attention to the effect of financial institutions. The relationship between financial institutions and nonfinancial firms has become market-oriented since late of 1990s(e. g. Inoue 1999: Yasui [1999]). Especially, Japanese financial institutions need to sell stock to gain cash flow since they faced bad debt. In addition, they have had to select partner firm carefully since this reasons(Fukao [1998]). Moreover, we need to pay attention that the percentage of trust banks grows in financial institutions as we see Figure 3. Gedajlovic et al[2005] found that dividend is large if the percentage of financial institutions is high. In the first period of analysis, financial institutions are thought to act as stable shareholders and inhibit dividend. However, in second half, financial institutions are never thought to act as stable shareholders and call firm dividend increase.

Foreign shareholders are thought to increase dividend rate since investment purpose of institutional investors is to boost return by stock investment as possible. Modigliani and Miller[1958] found no relationship between dividend policy and shareholder value. However, agency theory advocates that institutional investors like firms whose dividend is high. At this point, Jensen[1989] pointed that interests of institutional investors are oriented free cash flow which is returned by dividend since incentive of managers to manage firms effectively is gotten strong by the organization slack([Cyert and March [1963]] inhibited. Gedajlovic et al[2005] found that dividend is large if the percentage of foreign shareholders is high. In addition, Hanaeda and Serita[2008] found that firms whose the percentage of foreign shareholders is high do not tend to agree opinions that firms must inhibit dividend and buyback and store retaining earnings since cost of retaining earnings is low and that firms must inhibit dividend and buyback and store retaining earnings since a part of profit must be possessed by employees.

However, this theory may not apply to mutual funds which are institutional investors in Japan. The performance of mutual funds is

evaluated in short term since sales activity of security firm makes mutual funds repeat to buy and sell stock in Japan (Fukao [1999]). As a result, managers of mutual funds are not expected to invest in long term and to seek revenue as not dividend but capital gain. Moreover, Japanese firms' managers who know these circumstances may decrease dividend if the percentage of mutual funds increases. Gedajlovic et al[2005] found that dividend is low if the percentage of mutual funds is large. This result is consistent to expectations.

Lastly, insider shareholders call firms increase dividend for two reasons. At first, according to agency theory, insider shareholders such as directors are easy to increase dividend since they are easy to tell firms opinions about residual profits in the respect of information and power (Alchian and Demsetz [1972]). Second, returning cash flow to shareholders through dividend makes insider shareholders take extra funds from firms and afford to invest in other firms and disperse firm's specific risk since revenue of insider shareholders is heavily dependent on particular firms(Chandler [1990]; May [1995]) <sup>11</sup>.

Kubo and Saito[2006] analyzed relationship between the percentage of managers in Japanese firms and decision of amount of dividend. As a result, they found significantly positive relationship between the percentage of president or board members and dividend<sup>12</sup>.

#### 4. Result

**Table 1**

Table 1 shows descriptive statics before regressive analysis is carried out. The value (in percentage) of financial institutions does not contain the mutual funds in this analysis since the percentage of mutual funds is added to the percentage of financial institutions in Nikkei NEEDS.

The percentage of foreign shareholders in this panel data is lower than the one shown in Figure 2. One reason is that investments by foreign investors are biased to firms whose market capitalization is high. Another reason is thought that investments by foreign investors are biased to newer companies since this sample is firms that consistently listed from March in 1985 to March in 2009.

On the other hand, especially in the second half, the dividend rate is lower than that showed in Figure 1. In addition, the dividend rate in second half changes scarcely in one year in all firms at Table 1 while dividend rate tends to increase from around fiscal year 2000 in Figure 1. So, it is thought that the sample is biased by using firms whose closing month is March only.

#### Table 2

I show results of regressive analysis for all firms in Table 2<sup>13</sup>.

At first, it is found that dividend rate is inhibited in firms whose the percentage of directors is high. Even though the revenue of directors increases if dividend rate is high, it seems that directors do not increase dividend rate. Otherwise, directors seem to hope not to increase dividend but to store retained earnings. This opposes the hypnosis and previous studies. However, the significant relationship disappears if data is divided first half and second half. It seems that standard error increases and significance level is not satisfied since the number of data decreases.

Second, it is found that dividend rate increases in firms whose percentage of financial institutions is high. Moreover, they increase dividend rate only in second half if I divide data to first half and second half and analyze. This is the consistence of the hypothesis. Inoue [1999] and Yasui[1999] pointed that the character of financial institutions has changed since middle of 1990s. In addition, Figure 3 implies that the character of financial institutions changes by change of composition of financial institutions. At

the relationship to dividend rate, this change of financial institutions is demonstrated. However, in first half, the relationship is not significant.

Third, it is found that dividend rate increases in firms whose percentage of foreign shareholders is high. This is consistent to the hypothesis. In other word, it means that dividend rate tends to increase since foreign shareholders have strong interests in dividend and firms deal with these shareholders. In addition, the effect of foreign shareholders has been lager since middle of 1990s.

Forth, nonfinancial firms decreases dividend rate in only first half. In other words, nonfinancial firms had acted as stable until middle of 1990s. However, they have not acted so since middle of 1990s.

Fifth, the percentage of mutual funds is not significant.

In addition, the impact of shareholder structure such as foreign shareholders to dividend rate is not big. For example, in second half, the coefficient of foreign shareholders is 0.022 and average of the percentage of foreign shareholders is 8.3%. This multiplication is 0.183%. In contrast to the average of dividend rate one year after, 1.5%, average effect of foreign shareholders is about one of eight to dividend rate.

### Table 3

Next, I analyze dividing sample by two groups by profitability. Specifically, sample firms are divided by average of ROA at each firm in all term. Hypothesis is thought that each shareholders increases dividend rate larger in lower profitability firms comparing to higher profitability firms. This reason is that it is reasonable for shareholders to receive much dividend from lower profitability firms and invest its fund to other firms since lower profitability firms cannot use assets efficiently. Analysis results are shown in Table 3.

At first, in lower profitability firms, the percentage of directors are



significantly negative in only second half. On the other hand, in higher profitability firms, this is significantly negative in both all term and second. This result is consistent to the hypothesis.

Second, financial institutions increase dividend rate in all term and second half in lower profitability firms while they decrease only in first half in higher profitability firms. This is consistent to the hypothesis.

Third, foreign shareholders increase dividend rate in all term and second half in lower profitability firms while they increase dividend rate in all term and second half in higher profitability firms, too. However, on the other hand, they decrease dividend rate in first half in higher profitability firms. This is strange result. This implies that in this term foreign investors intensively bought stocks of firms that are expected to increase dividend and stock value in the future since profitability is high and dividend rate is low.

Forth, nonfinancial firms decrease dividend rate in first half in lower profitability firms while they decrease dividend rate in all term, first half and second half in higher profitability firms. This is consistent to the hypothesis.

Fifth, mutual funds decrease dividend rate in first half in higher profitability firms. This is consistent to the hypothesis.

These results are shown in Table 4.

Table 4

## V. Summery

First, in analysis using all firms, foreign shareholders consistently increase dividend rate while financial institutions increase dividend rate only after late of 1990s. This is consistent to the hypothesis about financial institutions. In other words, financial institutions may make firms increase

dividend since the character of financial institutions changed market-oriented. On the other hand, nonfinancial firms had taken a role to decrease dividend rate until middle of 1990s. This means that nonfinancial firms acted as stable shareholders. However, they have not acted so since later of 1990s.

Second, shareholders structure has not a big impact on dividend rate. This means that dividend rate change has occurred regardless of the percentage of foreign shareholders in each firm. In addition, dividend rate is not high and does not increase in this sample. This implies that dividend rate keeps almost a certain value in older firms. Then, it is concluded that Japanese firms do not change their behaviors like identical market based financial countries.

Third, most of all shareholders tend to increase dividend rate in lower profitability firms while they tend to decrease dividend rate in higher profitability firms comparing lower profitability firms and higher profitability firms. This means that many shareholders change attitude as profitability of firms.

Forth, one of future tasks is analysis about buyback. Buyback may be also deal with as the mean of distribution profit to shareholders as same as dividend. However, shareholder's equity is hurt if a firm whose price book-value ratio (PBR) is high carry out buyback. As a result, interests of shareholders that do not agree buyback are hurt. In addition, it takes a long time to recover hurt shareholder's equity if firms whose price earnings ratio (PER) is high carry out buyback<sup>14</sup>. In short, not all firms that carry out buyback are firms that return profits to shareholders. In other words, it is not favorable to carry out buyback in firms whose PBR or PER is high even though it is favorable to carry out buyback in firms whose PBR or PER is low. One of future tasks is analysis about relationship between buyback and shareholder structure.

## Footnotes

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- <sup>1</sup> These firms tend to belong to IT-related or retail industries. Moreover, they tend to be managed by promoters and younger companies. They are less dependent on high skill by employees such as distribution industry, dependent on high and general skill by employees such as IT-related industries or combined with flexible outsider labor market.
- <sup>2</sup> See Jackson[2007] about change of distribution of added value in macro level.
- <sup>3</sup> Jackson[2007].
- <sup>4</sup> Generally speaking, firms do not change amount of dividend frequently since firms do not have confidence to keep good performance to afford to keep high level of dividend. On the other hand, they avoid decreasing dividend as possible since dividend cut brings with sliding stock price. This is called binding power in dividend. Especially, dividend has binding power downward since dividend cut tends to be avoided strongly(Ishikawa[2007]).
- <sup>5</sup> Hanaeda and Serita[2008] used data of questionnaire of listed firms and questioned validity of information effect hypothesis, free cash flow hypothesis, pecking order hypothesis and life cycle hypothesis.
- <sup>6</sup> However, Hanaeda and Serita[2008] pointed that free cash flow hypothesis is not validity for dividend.
- <sup>7</sup> On the other hand, it is found that increase dividend is signal to mature of firm in US(Grullon et al. [2002]).
- <sup>8</sup> Targets in analysis of Ishikawa are firms listed closing from April in 1977 to March in 2006. The number of targets is 90289. They contain OTC registration before 2001 but they do not contain banks, securities and insurances.
- <sup>9</sup> The percentage of firms that pay dividend was at the top 93.7% in fiscal year 1990. Then, the number decreased rapidly and was 72.3% in fiscal year 2001. However, this number recovered at 83.6% in fiscal year 2005.
- <sup>10</sup> According to “Initiatives to Increase Stock Value in Fiscal Year 2009” by The Life Insurance Association of Japan, in fiscal year 2008, while dividend rate of Japanese firms is 2.2%, that of American firms is 6.8%. Moreover, Ishikawa[2007] pointed that dividend rate is 2.5% in Japan, 5% units in US and 6% units in Europe in fiscal year 2005.
- <sup>11</sup> Additionally, it is thought that stock option takes a role to ease agency problem between shareholders and managers as same as stocks possessed by managers. However, one of difference between option and stocks is that option does not produce dividend. This is why the effect for option to increase dividend is less little than that of stock in the theory(Kubo and Saito[2006]). In US, Fenn and Liang[2001] carried out analysis using data of 1108 firms from 1993 to 1997. They found that managers who possess many options do not tend to pay dividend and tend to carry out buyback.
- <sup>12</sup> Moreover, previous studies pointed that nonlinear relationships between the percentage of managers and corporate performance may exist(Morck et al. [1988]; Short et al. [1999]). This is called *entrenchment effect*. This means that negative correlation between the percentage of managers and corporate performance is found if the percentage of managers is beyond a

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certain value while positive correlation is found if the percentage of managers is small(Kubo and Saito[2006]). This relationship may also exist in between the percentage of managers and dividend.

<sup>13</sup> At the choice of regressive models, at first, both of cross section effect and time effect are estimated by fixed effect model. Second, F-test is carried out in cross section effect and time effect. Third, I choice a model whose Akaike information criteria is most little. Forth, chosen model is estimated again converting in random effect model and I carry out Hausman test. I choose fixed effect model if random effect model is rejected in 5%.

<sup>14</sup> See this site(<http://www.ccsjp.com/news/news20030326.htm>).

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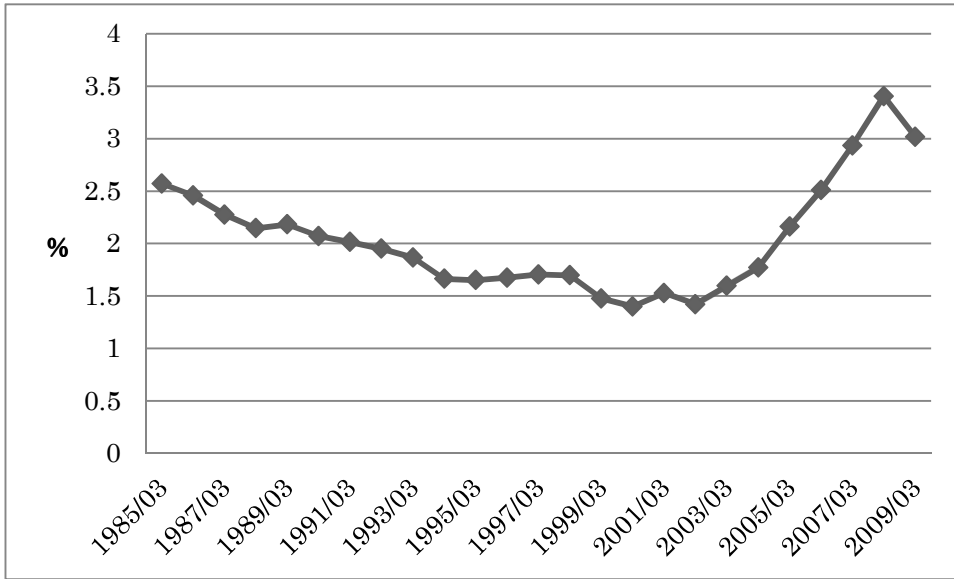
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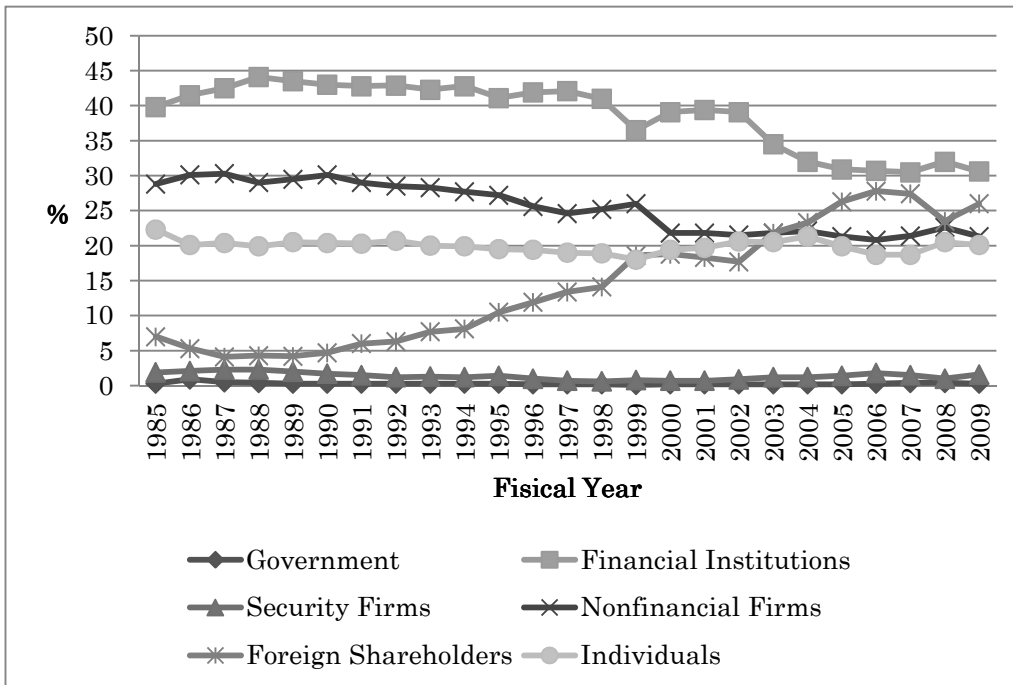
**Figure 1 Trend of Dividend Rate in Manufacturing**



Note : Dividend rate is equal to value of sum of interim dividend and dividend at end of period of normal stocks divided by shareholders equity. Values are these of parent-only earnings and aggregated by each of industry.

Source : Nikkei NEEDS Financial.

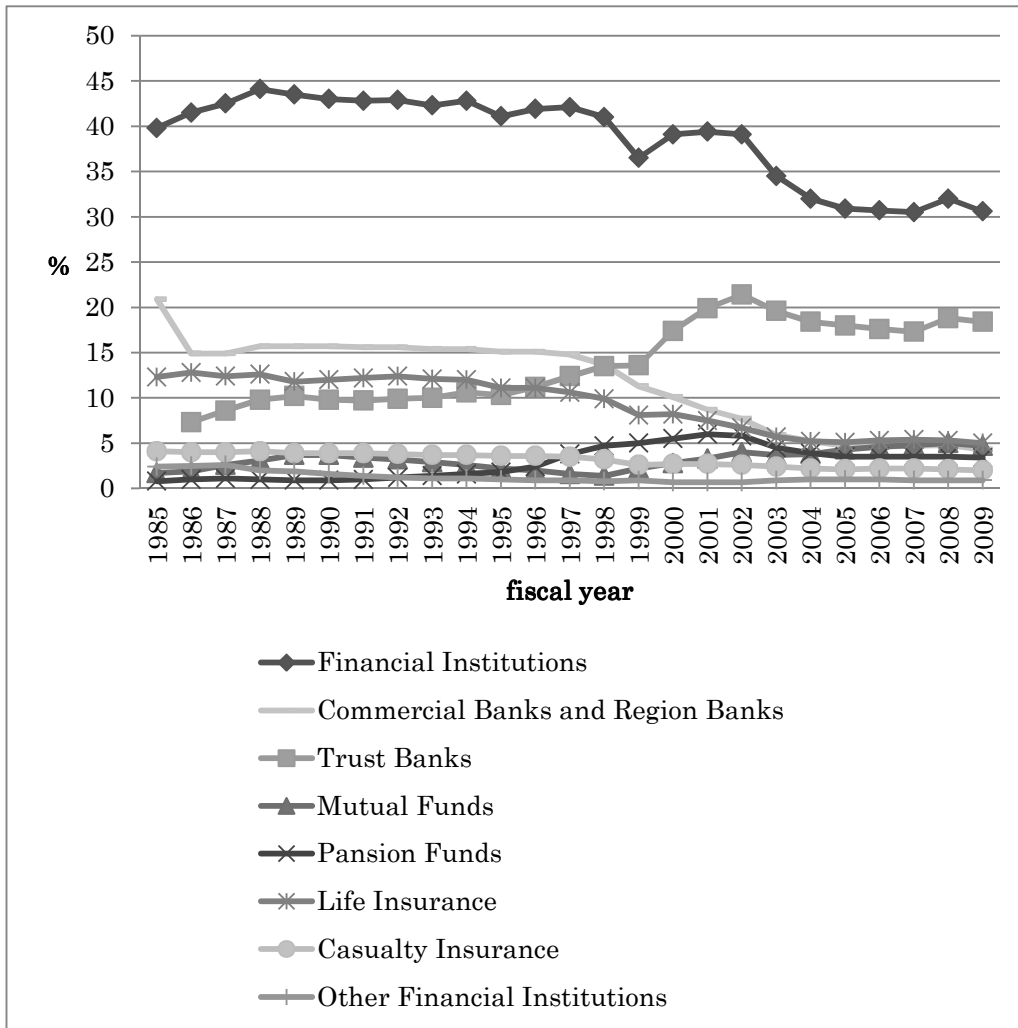
**Figure 2 Trend of Shareholder Structure**



Note: Values are based on amount of money.

Source: Tokyo Stock Exchange, *Kabushiki Bunpu Jokyo Chosa in fiscal year 2009*

**Figure 2 Trend of financial institutions and their contents**



Note: Mutual funds and pension funds are contained to commercial banks and region banks or trust banks. Trust banks are numbered from fiscal year 1986. Others are common to Figure 2.

Source: Common to Figure 2.

**Table 1 Descriptive Statistics**

		nonfinancial firms	capital ratio	change of total equity	managers	dividend rate	dividend rate(one year after)	percentage of sales in oversea	financial institutions	foreign shareholders	mutual funds	ROA
all firms (all term)	average	29.4	40.9	5.8	2.0	1.7	1.7	12.9	30.9	6.3	2.0	3.7
	standard deviation	18.2	18.7	72.4	3.9	1.2	1.1	16.1	14.3	8.4	3.4	3.8
all firms (first half)	average	31.2	37.5	8.1	2.7	1.9	1.8	12.2	32.5	4.3	2.2	4.1
	standard deviation	18.2	17.8	58.2	4.8	1.2	1.2	14.1	14.3	5.7	3.3	3.8
all firms (second half)	average	27.6	44.3	3.5	1.3	1.5	1.5	13.5	29.3	8.3	1.8	3.3
	standard deviation	18.0	19.0	84.2	2.6	1.1	1.1	17.9	14.2	10.0	3.50	3.8
lower profitability (all term)	average	29.4	35.3	4.5	1.9	1.5	1.5	13.4	30.3	5.4	1.9	2.1
	standard deviation	18.4	17.0	71.7	3.8	1.3	1.3	17.0	14.6	7.8	3.4	3.3
lower profitability (first half)	average	31.2	33.2	7.7	2.5	1.8	1.8	13.0	32.6	3.9	2.0	2.6
	standard deviation	18.5	16.6	69.9	4.6	1.4	1.3	15.0	14.5	5.7	3.2	3.4
lower profitability (second half)	average	27.6	37.3	1.2	1.3	1.2	1.2	13.8	28.0	6.9	1.7	1.6
	standard deviation	18.2	17.1	73.3	2.6	1.1	1.1	18.7	14.2	9.2	3.6	3.0
higher profitability (all term)	average	29.4	46.5	7.2	2.1	1.9	1.9	12.3	31.5	7.2	2.1	5.2
	standard deviation	17.9	18.6	73.2	4.0	1.0	1.0	15.2	14.0	8.9	3.4	3.7
higher profitability (first half)	average	31.2	41.9	8.5	2.9	2.0	1.9	11.4	32.4	4.7	2.4	5.6
	standard deviation	17.9	17.8	43.3	4.9	1.0	1.0	13.0	14.0	5.7	3.4	3.6
higher profitability (second half)	average	27.6	51.2	5.9	1.3	1.7	1.8	13.2	30.6	9.8	1.9	4.9
	standard deviation	17.8	18.3	94.0	2.5	1.0	1.0	17.1	14.0	10.6	3.4	3.8

Note: Average and standard deviation are presented and calculated by per cent.

**Table 2 Results of Regressive Analysis (All Firms)**

	all term	first half	second half
constant	0.926*** 0.091	2.182*** 0.194	0.724*** 0.102
financial institutions	0.008*** 0.001	0.002 0.004	0.005** 0.002
foreign shareholders	0.020*** 0.002	0.008* 0.004	0.022*** 0.002
nonfinancial firms	-0.001 0.001	-0.021*** 0.003	0.001 0.002
managers	-0.007+ 0.004	-0.007 0.006	-0.009 0.007
mutual funds	-0.005 0.003	-0.002 0.006	-0.005 0.004
capital ratio	0.001 0.001	-0.004* 0.002	0.003** 0.001
change of total equity	-2.61E-05 0.000	-0.000 0.000	8.94E-05 0.000
percentage of sales in oversea	-0.000 0.001	-0.005* 0.003	-0.001 0.001
ROA	0.107*** 0.003	0.111*** 0.004	0.092*** 0.004
cross section effect	Random	Fixed	Random
time effect	Random	Fixed	Fixed
Adj-R2	0.165	0.503	0.321
F-value	232.0***	12.63***	125.2***
N	10512	5256	5256

Note: The number in upper row is coefficient. That in under row is standard deviation.

Eviews6.0 is used in analysis. \*\*\*, \*\*, \* and + denote coefficients significant at the 0.1%, 1%, 5% and 10% levels.

**Table 3 Results of Regressive Analysis (Divided by Profitability)**

	lower profitability			higher profitability		
	all term	first half	second half	all term	first half	second half
constant	0.575*** 0.128	1.816*** 0.231	0.308+ 0.185	1.628*** 0.126	2.531*** 0.206	1.504*** 0.149
financial institutions	0.013*** 0.002	0.006 0.004	0.006+ 0.003	-0.002 0.002	-0.006+ 0.003	-0.003 0.002
foreign shareholders	0.024*** 0.003	0.006 0.006	0.026*** 0.003	0.015*** 0.002	-0.011** 0.004	0.015*** 0.003
nonfinancial firms	0.001 0.002	-0.012*** 0.003	0.002 0.003	-0.005** 0.002	-0.011*** 0.003	-0.004+ 0.002
managers	0.008 0.006	-0.002 0.008	0.022+ 0.012	-0.016*** 0.005	-0.009 0.007	-0.040*** 0.011
mutual funds	0.005 0.005	-0.005 0.009	-0.009 0.006	-0.002 0.004	-0.019** 0.006	0.000 0.005
capital ratio	0.002 0.001	-0.007** 0.002	0.009*** 0.002	-0.002* 0.001	-0.013*** 0.002	0.001 0.002
change of total equity	7.58E-05 0.000	-0.000 0.000	0.0004* 0.0002	-0.000 0.000	-0.000 0.000	-9.06E-05 0.000
percentage of sales in oversea	-0.001 0.001	-0.007** 0.003	-0.000 0.002	-3.82E-05 0.001	0.004 0.002	-0.003** 0.001
ROA	0.139*** 0.004	0.158*** 0.006	0.108*** 0.006	0.089*** 0.003	0.101*** 0.005	0.078*** 0.005
cross section effect	Random	Random	Fixed	Random	Random	Random
time effect	Random	Random	Fixed	Random	Random	Random
Adj-R2	0.198	0.216	0.572	0.148	0.192	0.323
F-value	145.1***	81.39	15.72***	102.1***	70.50***	63.78***
N	5256	2628	2628	5256	2628	2628

Note: Common to Table 2.

**Table 4 Summary of Results**

		foreign shareholders	financial institutions	nonfinancial firms	managers	mutual funds
all firms	all term	positive	positive	unknown	negative	unknown
	first half	positive	unknown	negative	unknown	unknown
	second half	positive	positive	unknown	unknown	unknown
lower profitability	all term	positive	positive	unknown	unknown	unknown
	first half	unknown	unknown	negative	unknown	unknown
	second half	positive	positive	unknown	positive	unknown
higher profitability	all term	positive	unknown	negative	negative	unknown
	first half	negative	negative	negative	unknown	negative
	second half	positive	unknown	negative	negative	unknown