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# INFLUENCE OF OUTSIDE DIRECTORS ON PERFORMANCE OF JAPANESE COMPANIES

**Hiroyuki Matsuoka[1]† --- Kazuhiro Manabe[2]**
[1]*Department of Management and Information Sciences, Faculty of Environmental and Information Sciences, Fukui University of Technology, Gakuen3-6-1, Fukui, Japan*
[2]*Department of Global Business, School of Contemporary International Studies, Nagoya University of Foreign Studies, takenoyama, Nisshin, Aichi, Japan*

## ABSTRACT

*The reinforcement of corporate governance in Japan is one of the pillars of Japan's growth strategy which companies have to regain "the power to earn". In this respect, the influence of the introduction of outside director on performance of Japanese companies still remains controversial. This research reached one conclusion by introducing a new viewpoint. Especially, we examine how outside director is associated with earnings persistence in Japanese listed companies. Many prior researches agree that company profitability tend to move to the average over time. Earnings persistence is a concept of time series tendency of earnings. Prior research developed some empirical measurements of earnings persistence. If outside director has positive impact on the profitability, then earnings persistence of companies with higher proportion of outside director are higher than that of companies with lower proportion of outside director. Our data used for this study are from Nikkei Economic Electronic Databank System (NIKKEI NEEDS) by Nikkei Media Marketing, Inc. NIKKEI NEEDS has data for all listed companies on stock markets of Japan. We focus on all companies listed on the first or second section of the Tokyo Stock Exchange, and select 13,376 firm-years in the period from 2003 to 2014. We test the effect of outside directors on performance using the empirical model used by many accounting studies. Our results indicate that outside director has positive impact on the profitability in critical situations, while he or she has little positive and negative impact on the profitability normal situations. We conclude that impact of outside director on corporate performance is narrow in Japan.*

**Keywords:** Corporate governance, Outside director, Inside director, Japanese company, Earnings persistence, Profit situation.

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## Contribution/ Originality

The paper's primary contribution is finding that outside director has positive impact on the profitability in critical situations, while he or she has little positive and negative impact on the profitability normal situations. We conclude that impact of outside director on corporate performance is narrow in Japan.

## 1. INTRODUCTION

In recent years, Japanese companies have experienced the frequent occurrence of corporate scandal, (1) and there has been a great discussion about the strengthening of corporate governance in Japan. Generally, corporate governance is the system of rules, practices and processes by which a company is directed and controlled. The examples are to build business processes to be able to do mutual checks for the prevention of unjust of a company and the reform of compensation system of managers aimed at conforming the interest between managers and



† Corresponding author

stockholders.[2] Moreover, various policies have been proposed by the Japanese government and the Tokyo Stock Exchange, and have been prescribed in Companies Act of Japan.[3]

In particular, as for the introduction of outside directors attracting a great deal of attention, there is an aim to raise the degree of discipline of a company through more effective monitoring putting outside eyes in corporate governance of the company. In addition to that, there is the pressure of overseas investors to promote the introduction outside directors in Japanese companies. Therefore, the introduction of outside directors particularly becomes the issue of urgent need.

Meanwhile, the reinforcement of corporate governance itself is one of the pillars of Japan's growth strategy that companies regain "the power to earn". That is to say, the improvement of productivity and the capital injection expansion to enhance production capacity by the practice of the growth strategy including the strengthening of corporate governance are indispensable because the population of Japan has declined rapidly. Moreover, it is thought that the reinforcement of corporate governance can contribute to raise the potentiality of growth through the promotion of innovation and the activation of capital spending. Particularly, the aggressive utilization of outside directors' knowledge and experience that cultivated outside of a company is a part of " aggressive governance strategy " to improve medium-and-long term corporate value ( Reviving Japan Strategy " JAPAN is BACK " revised edition [2014] ).

However, actually, about the reinforcement of such governance, can it be affirmed at a point of economic rationality? Actually, does the reinforcement of corporate governance bring the improvement of corporate performance? Our research put it focus on the introduction of outside directors in corporate governance in particular. We survey prior researches on influence that the introduction of outside directors gives to corporate performance of Japanese companies and based on that, we perform a statistical verification whether the introduction of outside directors increases the profitability of Japanese companies. This time, we paid our attention to a time-series feature of the profit of companies and let our model contain it as a variable. We inspected the relations between corporate governance and the profitability of companies by estimating the relations between corporate governance and the time-series features of profits of companies. It is the characteristic of our research. That is because few theory models to connect the fundamentals and the profitability of companies have been built, and as a result, we think that reliable regression models about the relation between corporate governance and the profitability of companies have not been seemed to be derived.

Prior researches' results are divided by the object and the method of empirical researches whether the introduction of outside directors affects corporate performance. Particularly, the need to divide companies into some groups by characteristics can be noticed. What we can conclude from our empirical research is the following. In this research, when we estimate the effects of corporate governance reinforcement with disregard to the profit situations of companies, the research did not provide meaningful results statistically. That is to say, we were not able to confirm positive effects of corporate governance reinforcement on profitability of companies. However, when companies are in critical situations (ROA <0), governance reinforcement got a result to have some positive effect for recovery of the profitability.

In the section 2 of our article, we place the introduction of outside directors in main company's governance reforms in Japan, and in the section 3, introduce the related prior researches. Moreover, in the section 4, the method and the result of our empirical research are shown. Finally, in conclusion, we summarize the result of this research and refer to directionality and research tasks from now on.

## 2. CORPORATE GOVERNANCE AND OUTSIDE DIRECTOR

Corporate governance is generally translated as "Kigyou Touchi" in Japanese. In our country, about corporate governance, first of all, directors and inspectors of a company are elected in general meeting of stockholders legally (Article 105(1)(iii) and 329(1) of Companies Act of Japan ) . Board of directors consisting of each director of a company is responsible for making decisions of duties of a company ( Article 362(2)( i ) of the Act ) and it takes an extremely important role to watch representative director of a company ( Article 362(2)( ii ) of the Act). Representative director who carries out his or her duties to represent a company is chosen among directors (Article 362 (2) (iii) of the Act ). In addition, board of directors of a company has the authority to dismiss representative director (Article 362(2)(iii) of the Act ). These are the most important outlines of governance in Companies Act of Japan.

However, actually, it is well known that each director of a company doesn't choose representative director but each director is often a subordinate of representative director and appointed by him or her as a director. As a matter of fact, in the companies of our country, there have been a lot of internal promotion directors. [4] Therefore, a big question has been posed in the effectiveness of monitoring representative director's duties of a company by such directors.

Particularly, after the end of 1980s, the various Commercial Act (the existing Companies Act) revisions to be related have been performed from the need of prevention of recurrence of corporate scandal and reinforcement of company competitiveness. In this way, the interest in governance of company has increased and the introduction of outside director is a part of it. Outside director who is not a subordinate of representative director of a company is expected to have two roles. The first is the supervision of duties execution by representative director of a company and the second is the advice to representative director using the knowledge that cultivated out of a company. Outside director was introduced by the Commercial Act revision of 2002 for the purpose of reinforcement of supervision function. In addition, by the revision in 2014, the requirements for qualification of outside director under the Act became strict. For instance, now, a member of operating officer's close relatives of a company, operating officer of the parent company, and operating officer of the fellow subsidiaries can not become outside director of a company( Article 2 （XV） of the Companies Act). The aim is that investment in Japanese companies is promoted and as a result it contributes to the growth of Japan's economy by increasing the trust of internal and external investors for Japanese companies. About the introduction of outside director by Companies Act of Japan, it is not the complete imposition. When a company do not introduce an outside director or more, the company has to explain the reason why it doesn't introduce outside director in stockholders' general meeting (Article 327-2 of the Act, comply or explain).

Meanwhile, in the Tokyo Stock Exchange, it is prescribed that a listed company has to select "an independent officer" or more as a matter which a companies must comply from the viewpoint of general stockholders protection. Independent officer mentioned here is outside director or auditor who has no risk of having conflicts of interests with ordinary stockholders. (the Ordinance for Enforcement of the Securities Listings Regulations, Article 436-2). It was introduced in 2010. The requirement of this independent officer obliged to be selected more than one independent officer is severer than Companies Act of Japan. Furthermore, the following person doesn't satisfy the requirements for qualification of independent officer: the person who was an executive officer of main business partner of a company,: the person who belonged to consultant, accountant, or legal profession (only group such a corporation) and got a large amount of money form it other than executive compensation from a company in the past (the Ordinance for Enforcement of the securities Listings regulations, Article 415(6)).

In addition, "Corporate Governance Cord" (Tokyo Stock Exchange, 2015) was formulated in response to the " Reviving Japan Strategy, JAPAN is BACK " revision in 2014. In the Code, the principles are showed that in a listed

company at least two independent "directors" or more should be selected and they have to put constant distance with execution of business and have to have a role and duty to achieve highly effective supervision (monitoring) of executive officers from the independent objective viewpoint ( principle 4-8, comply or explain ).

It may be said that the formulation of the Financial Services Agency of Japan (2014) for Japan also contributes to the reinforcement of governance of a company in a broad sense. The principles that institutional investors should have responsibility are declared in it, for instance, reinforcement of monitoring portfolio companies by institutional investors (principle 3). The Financial Services Agency of Japanese government is going to expand the introduction of the code to many institutional investors by periodical announcement of the cord introduction.

In the companies of our country, there have been relatively few outside directors and many inside directors. Director is a very important member of board of directors making decision in a company (Article 362(1) of the Companies Act). The pressure of introduction of outside director from foreign investors is high. In addition, there is the argument to doubt positive effect of outside director. Considering these matters, in governance reform of our country, it seems to be a matter of course that the introduction of outside director attracts big attention and has been discussed intensely.

## 3. PRIOR RESEARCHES

Does the introduction of outside director affect the increase of corporate value? There are a lot of researches that tried to confirm it in Japan and overseas. For example, Miwa (2010) says, in general, outside director is not familiar with business of a company in comparison with inside director. However, inside director may have applicable expertise for management of a company. Moreover, when outside director advises representative director, such knowledge is useful. In addition, Miwa also points out outside director has a positive effect to corporate earnings because outside director is not a subordinate of representative director, the interest with representative director is weak, outside director makes decision to raise benefit of stockholders, and outside director is expected to perform effective monitoring for representative director. On the other hand, in Companies Act of Japan, actually, representative director can appoint the person who has some connection to representative director and acquaintances as outside director. Miwa also points out that there is a possibility to reduce corporate earnings in that situation, because the independency from representative director is low, such outside director does not speak his or her own opinion to representative director openly, and outside director's monitoring activities are not enough as outside director. After all, Miwa maintains it has both possibilities as for what kind of influence the introduction of outside director has on the increase of corporate value.

Miwa (2010) verify the following points to confirm above using panel data of companies listed on the First Section of the TSE. (1) The influence that ratio of outside directors (or outside directors who have high independency) to board of directors gives to ratio of current price to book value of assets (or return on assets: ROA) of companies, (2) The influence that the increase of ratio of outside directors (or outside director who has high independency) to board of directors gives to increase probability of ratio of current price to book value of assets (or ROA) of companies. As a result, he arrives at a conclusion that outside director defined in Companies Act of Japan is not more likely to contribute to the improvement of long-term corporate performance.

Irei and Noma (2008) focus on not only outside director, but also outside auditor. They set the following hypothesis taking the independency of outside director and outside auditor into account and analyze the influence of them empirically. That is to say, the hypothesis is that performance is high in the case of companies with many outside directors and outside auditors who have high independency and on the other hand, performance is not high in the case of companies with outside directors and outside auditors who have low independency. They use Tobin's q as a proxy variable of corporate value and ROA as an index to express corporate performance. (1)Only outside

directors with high independency bring high corporate value. (2)About outside auditors, they do not affect corporate value contrary to expectation regardless of degree of the independency. (3)Not only outside directors and outside auditors with high independency do not affect corporate performance, but also outside auditors who have low independency give a positive effect to corporate performance. Pointing out these, they conclude that the possibility remains outside director and outside auditor cannot insist on what they should tell other directors or president who is representative director, the introduction of outside director and outside auditor do not lead to high evaluation from stock markets promptly and particularly the independency of outside directors is important.

In the article of Nishikawa and Hase (2015) they divide companies listed on the First Section of the TSE into large sized companies and middle and small sized companies, using time series data and cross section data, and analyze the influence that outside directors give return on equity (ROE) of the companies. As a result, if we look at the big picture of the market, the introduction of outside directors has a positive effect for their stock prices performance or the other performance. They note that in the case of large sized companies, the relationship between outside directors and stock prices or their performance may not be clear compared to middle and small sized companies. In addition, they think that the introduction effect of outside directors varies according to characteristics of companies, taking the other study Miyajima and Ogawa (2012) into account.

Miyajima and Ogawa (2012) quoted above verify determinant factors of the constitution of board of directors and the introduction effect of outside directors among companies listed on the First Section of TSE. The results are as follows. (1) The constitution of board of directors of Japanese companies is determined by the complexity of business, the need of monitoring, and the degree of negotiations power of representative director, which is concordant with the optical constitution hypothesis. (2) About the company performance effect of outside directors, the selection of outside directors and the rise in ratio of outside directors to board of directors do not contribute to the improvement of performance. (3) However, when they try estimation in consideration of the quantity of information acquisition cost, a positive effect of new selection of outside director and high outside director ratio for companies' performance is confirmed definitely in low information acquisition cost company group, whereas they rather can confirm a negative effect of new selection of outside directors and high outside director ratio for the performance in high information acquisition cost company group. They claim these as a result of their empirical analysis. Information acquisition cost as is defined here is the degree to which outside directors can easily understand the contents of business of a company.

The influence of the introduction of outside director on performance of Japanese companies still remains controversial. This research reached one conclusion by introducing a new viewpoint.

## 4. METHODS SECTION

### 4.1. Analysis

We test the effect of outside directors on performance by using the empirical models applied in many accounting researches. Our models for this research are derived from the following simple regression models.

$$ROA_{it+1} = \alpha_0 + \alpha_1 ROA_{it} + \varepsilon_{it} \quad (1)$$

$$ROE_{it+1} = \beta_0 + \beta_1 ROE_{it} + \theta_{it} \quad (2)$$

In these models, dependent and independent variables are defined by in the following way. ROA is operating income divided by total assets. $ROE$ is net income divided by common equity. We will describe these definitions above. The estimates of slope parameters (i.e. $\hat{\alpha}_1, \hat{\beta}_1$) indicate performance persistence in consecutive two periods. The estimates of intercept parameters (i.e. $\hat{\alpha}_0, \hat{\beta}_0$) indicate short-term trend that unaffected by current profitability.

In order to determine the effect of outside directors on performance persistence, we incorporate binary information of outside directors into above models. We define variable $DUMOD$ by the ratio of numbers of outside

directors divided by numbers of all directors i.e. $RATIOOD$ in the board of directors. Dummy variable $DUMOD$ equals one if a firm's ratio of outside director are higher than average ratio for all firms in the same year and zero if otherwise.

$DUMOD$ is unity if $RATIOOD > \overline{RATIOOD}$, zero otherwise.

We add this dummy variable to the estimate model for allowing different intercept and slope.

$$ROA_{it+1} = \gamma_0 + \gamma_1 DUMOD + \gamma_2 ROA_{it} + \gamma_3 DUMOD * ROA_{it} + \mu_{it} \quad (3)$$

$$ROE_{it+1} = \delta_0 + \delta_1 DUMOD + \delta_2 ROE_{it} + \delta_3 DUMOD * ROE_{it} + \pi_{it} \quad (4)$$

In testing the above explained hypothesis, we examine the statistically significance of intercept and slope coefficients, especially $\gamma_1, \gamma_3, \delta_1, \delta_3$ from equation (3) and (4). Statistical significance of intercept coefficient $\gamma_1$ and $\delta_1$ means that the improvement of monitoring by outside directors drives high performance with no relation to current profitability. On the other hand, significance of slope coefficient $\gamma_3$ and $\delta_3$ means that the improvement of monitoring by outside directors induces high persistence of current profitability.

And, in order to determine the effect of outside directors in critical situations, we incorporate information of critical situation into above models.

$$ROA_{it+1} = \pi_0 + \pi_1 DUMODCS_{11} + \pi_2 DUMODCS_{12} + \pi_3 DUMODCS_{13} + \pi_4 ROA_{it} + \pi_5 DUMODCS_{11} ROA_{it} + \pi_6 DUMODCS_{12} ROA_{it} + \pi_7 DUMODCS_{13} ROA_{it} + \mu_{it} \quad (5)$$

$$ROE_{it+1} = \rho_0 + \rho_1 DUMODCS_{21} + \rho_2 DUMODCS_{22} + \rho_3 DUMODCS_{23} + \rho_4 ROE_{it} + \rho_5 DUMODCS_{21} ROE_{it} + \rho_6 DUMODCS_{22} ROE_{it} + \rho_7 DUMODCS_{23} ROE_{it} + \mu_{it} \quad (6)$$

In above equations, dummy variables are defined by the following.

Equation (5);

$DUMODCS_{11}$ is unity if $DUMOD$ is positive and $ROA$ is positive, zero otherwise.

$DUMODCS_{12}$ is unity if $DUMOD$ is negative and $ROA$ is negative, zero otherwise.

$DUMODCS_{13}$ is unity if $DUMOD$ is positive and $ROA$ is negative, zero otherwise.

Equation (6);

$DUMODCS_{21}$ is unity if $DUMOD$ is positive and $ROE$ is positive, zero otherwise.

$DUMODCS_{22}$ is unity if $DUMOD$ is negative and $ROE$ is negative, zero otherwise.

$DUMODCS_{23}$ is unity if $DUMOD$ is positive and $ROE$ is negative, zero otherwise.

In testing the above explained hypothesis, we examine the statistically significance of intercept and slope coefficients. The statistical significance of intercept coefficients $\pi_1$, $\pi_3$ , $\rho_1$ ,and $\rho_3$ means that improvement of monitoring by outside directors causes higher performance with no relation to current profitability. Especially, the significance of coefficients $\pi_3$ and $\rho_3$ means that firm performance is improved by high level of outside director's monitoring in a critical situation. On the other hand, the statistical significance of slope coefficients $\pi_5$, $\pi_7$ , $\rho_5$ ,and $\rho_7$ means that the improvement of monitoring by outside directors causes higher persistence of current profitability. Especially, the significance of coefficients $\pi_7$ and $\rho_7$ means that firm performance is corrected by outside director's monitoring in a critical situation.

### 4.2. Measures

We measure performance of a firm by two financial ratios. The first ratio is ROA, which is operating income ($OI_{it}$) divided by average total assets ($ATA_{it}$). The average total assets are defined by average of the beginning value ($TA_{it-1}$) and the ending value ($TA_{it}$).

$$\mathrm{ROA}_{it} = \frac{OI_{it}}{ATA_{it}} = \frac{OI_{it}}{TA_{it-1} + TA_{it}}$$

Secondly ROE is other ratio, which is net income ($NI_{it}$) divided by average common equity ($ACE_{it}$).As the average total assets ($ACE_{it}$), the average common equity is defined by average of the beginning value ($CE_{it-1}$) and the ending value ($CE_{it}$).

$$\mathrm{ROE}_{it} = \frac{NI_{it}}{ACE_{it}} = \frac{NI_{it}}{CE_{it-1} + CE_{it}}$$

These two ratios evaluate efficiency and profitability of a company. Especially, ROA measures performance of operation in using all assets (i.e. sum of debt and capital) to generate earnings. On the other hand, ROE measures performance in using capital provided by common shareholders to generate earnings.

Improvement of monitoring by outside directors is measured by ratio of outside directors on board of directors. An outside director has the limited ability of monitoring inside directors. Proportion of outside directors to inside directors is important in terms of monitoring by outside directors. Therefore we use ratio of numbers of outside directors divided by numbers of all directors. We express symbolically this ratio in $RATIOOD_{it}$.

$$RATIOOD = \frac{\text{numbers of outside directors}}{\text{numbers of all directors}}$$

In above equation, Numerator is number of outside directors in company $i$. Denominator is number of directors in firm $i$. Therefore we measure improvement of monitoring by outside directors by $RATIOOD$.

### 4.3. Data and Sample

Our data used for this research are from *Nikkei Economic Electronic Databank System* (NIKKEI NEEDS) by Nikkei Media Marketing, Inc. NIKKEI NEEDS has long-term data for all listed companies on stock markets of Japan. This research selects financial data of all companies to meet following criteria. First, companies are listed on the first or second section of the Tokyo Stock Exchange (TSE). Second criterion, their closing dates are the end of March. Accounting closing date of many Japanese companies is March 31 in each year. Third, their financial statements are according with Japan Accounting standards. Fourth, their accounting periods is 12months. Fifth, financial information (e.g. numbers of inside and outside directors, operation earnings, ordinary earnings, total asset, shareholder's equity), which used by our research, are gathered. Finally, the financial period is from 2003 to 2014.

**Table-1.** Number of companies with outside directors in Japanese company

| Year | Number of companies with outside directors | Ratio of companies with outside directors | Total number of companies |
|---|---|---|---|
| 2003 | 560 | 0.227 | 2471 |
| 2004 | 772 | 0.291 | 2652 |
| 2005 | 931 | 0.347 | 2682 |
| 2006 | 1028 | 0.380 | 2702 |
| 2007 | 1106 | 0.413 | 2677 |
| 2008 | 1130 | 0.430 | 2625 |
| 2009 | 1143 | 0.442 | 2588 |
| 2010 | 1214 | 0.465 | 2612 |
| 2011 | 1266 | 0.488 | 2595 |
| 2012 | 1379 | 0.532 | 2593 |
| 2013 | 1522 | 0.589 | 2582 |
| 2014 | 1877 | 0.733 | 2562 |

**Source:** Nikkei Economic Electronic Databank System (NIKKEI NEEDS) by Nikkei Media Marketing, Inc.

### 4.4. Sample Characteristics

Table.1 and Table.2 show the characteristics of Japanese companies which fulfill the first criterion. Especially, Table.1 indicates that companies with outside director increase in companies listed on TSE. In 2003, 560 companies appoint outside directors, the ratio of companies with independent directors is 0.227. In 2014, 1877 companies appoint outside directors, its ratio is 0.733. Table.1 indicates that the number of companies with outside directors gradually has increased.

Table.2 indicates that the ratio of outside directors to board directors has increased in companies listed on TSE. In 2003, average almost 5 percent on companies listed on TSE appoint outside directors, the ratio of companies with independent directors is 0.227. In 2014, 1877 companies appoint outside directors, its ratio is 0.733. Table.1 indicates that the number of companies with outside directors gradually increases.

**Table-2.** Ratio of outside directors to board of directors in Japanese company

| Year | Average of ratio of outside directors | Std. Dev. of ratio of outside directors | total number of companies |
|---|---|---|---|
| 2003 | 0.046 | 0.105 | 2471 |
| 2004 | 0.060 | 0.117 | 2652 |
| 2005 | 0.075 | 0.131 | 2682 |
| 2006 | 0.082 | 0.133 | 2701 |
| 2007 | 0.091 | 0.139 | 2676 |
| 2008 | 0.096 | 0.141 | 2625 |
| 2009 | 0.099 | 0.142 | 2587 |
| 2010 | 0.106 | 0.146 | 2611 |
| 2011 | 0.112 | 0.148 | 2593 |
| 2012 | 0.122 | 0.151 | 2591 |
| 2013 | 0.132 | 0.150 | 2581 |
| 2014 | 0.157 | 0.145 | 2561 |
| 2015 | 0.221 | 0.124 | 2155 |
| All | 0.106 | 0.143 | 33486 |

**Source:** Nikkei Economic Electronic Databank System (NIKKEI NEEDS) by Nikkei Media Marketing, Inc.

**Table-3.** Listed Section of Sample Companies

| Year | Number of firms listed in TSE's first Section | Ratio of firms listed in TSE's first Section | Number of firms listed in TSE's Second Section | Ratio of firms listed in TSE's Second Section | Total |
|---|---|---|---|---|---|
| 2003 | 991 | 0.804 | 245 | 0.196 | 1233 |
| 2004 | 1021 | 0.805 | 247 | 0.195 | 1268 |
| 2005 | 1057 | 0.809 | 246 | 0.191 | 1306 |
| 2006 | 1081 | 0.806 | 264 | 0.194 | 1341 |
| 2007 | 1112 | 0.809 | 265 | 0.191 | 1375 |
| 2008 | 1127 | 0.811 | 269 | 0.189 | 1390 |
| 2009 | 1139 | 0.815 | 262 | 0.185 | 1397 |
| 2010 | 1152 | 0.818 | 262 | 0.182 | 1409 |
| 2011 | 1152 | 0.815 | 266 | 0.185 | 1413 |
| 2012 | 1169 | 0.816 | 265 | 0.184 | 1433 |
| 2013 | 1190 | 0.811 | 277 | 0.189 | 1467 |
| 2014 | 1185 | 0.808 | 282 | 0.192 | 1467 |
| All/Average | 13376 | 0.811 | 3150 | 0.189 | 16499 |

**Source:** Nikkei Economic Electronic Databank System (NIKKEI NEEDS) by Nikkei Media Marketing, Inc.

As shown in Table.3, our sample, which fulfill all criteria, has a characteristic of composition ratio. In 2003, 999 companies of sample are listed on the first section, 245 companies of sample are listed on the second section. The

proportion of the second section companies is significantly lower than the proportion of the first section companies. In 2014, 1187 companies of the sample are listed on the first section, 282 companies of the sample are listed on the second section. Table.3 indicates that the proportion of first section companies stay constant over our sample period.

Table 4 shows descriptive statistics of our sample, which is based on pool data from 2003 to 2015. Standard deviation indicates that ROA variables (i.e. $\mathrm{ROA}_{it}, \mathrm{ROA}_{it-1}$) have small variation relative to ROE variables (i.e.$\mathrm{ROE}_{it}, \mathrm{ROE}_{it-1}$). On the other hand, inter-quartile range denotes that ROA variables have no difference around the average from ROE variables. From these two statistics, ROE variables (i.e. $\mathrm{ROE}_{it}, \mathrm{ROE}_{it-1}$) have similar spread around the average, but wide sample distribution relative to ROA variables (i.e.$\mathrm{ROA}_{it}, \mathrm{ROA}_{it-1}$) in other range.

**Table-4.** Descriptive Statistics of Pool Data from 2003 to 2008

| | N | Mean | S.D. | Min | 25% | 50% | 75% | Max |
|---|---|---|---|---|---|---|---|---|
| $\mathrm{ROA}_{it}$ | 16499 | 5.237 | 3.993 | -10.576 | 2.68 | 4.583 | 7.349 | 23.102 |
| $\mathrm{ROA}_{it+1}$ | 16499 | 5.266 | 3.969 | -12.452 | 2.722 | 4.651 | 7.407 | 24.263 |
| $\mathrm{ROE}_{it}$ | 16499 | 5.257 | 8.838 | -78.555 | 2.387 | 5.403 | 9.339 | 47.051 |
| $\mathrm{ROE}_{it+1}$ | 16499 | 5.458 | 8.601 | -84.709 | 2.621 | 5.626 | 9.496 | 40.329 |

**Source:** Nikkei Economic Electronic Databank System (NIKKEI NEEDS) by Nikkei Media Marketing, Inc.

## 5. RESULTS

Table5 reports the results of the regression analyses that explore the effects of outside directors upon profit ratio's persistence. The column (1) shows the result of model 1 estimating ROA's persistence. The coefficient of current ROA ($ROA_{it}$) is positive value and statistical significant at 1% level. The interpretation of coefficient 0.752 means that almost 75 percentages of current ROA persist to the following year. As the Column (1), the column (2) shows the result of model 2 estimating ROE's persistence. The coefficient of current ROE ($ROE_{it}$) is positive value and statistical significant at 1% level. The estimate of coefficient means that almost 39 percentages of current ROE persist to the following year.

The Column (3) shows the result of model 3 estimating the effect outside director on ROA's persistence. As previously described, this model estimates the effect of outside director in all situations. The estimate of $\delta_3$ is negative value and statistical significant at only 10% level. On the other hand, the estimate of $\delta_1$ is positive value and statistical significant at only 10% level. The interpretation of these results is quite difficult and complexity. Same as the Column (3), the Column (4) shows the result of model 4 estimating the effect outside director on ROE's persistence. But this model estimates the effect of outside director in all situations. The estimate of $\gamma_3$ is positive value but not statistical significant. The interpretation of this result means that outside directors don't have effect on profit ratio's persistence. The Column (5) shows the result of model 5 estimating the effect outside director on ROA's persistence in the crisis situation. The estimate of $\pi_1$ is positive value but not statistical significant. The estimate of $\pi_5$ is negative value but not statistical significant. The interpretation of these results means that outside directors don't have effect on profit ratio's persistence in the normal situation. The estimate of $\pi_2$ is a positive value and statistical significant at 1% level. The estimate of $\pi_6$ is negative value and statistical significant at 1% level. The interpretation of estimated results means that following ROA has proportional relationship to current negative ROA, while the following ROA shifts upward. The estimate of $\pi_3$ is positive value and not statistical significant. The estimate of $\pi_7$ is a negative value and statistically significant at 1% level. The interpretation of estimated results means that the following ROA has little relationship to current negative ROA, while following ROA does not shift downwardupward. The Column (6) shows the result of model 6 estimating the effect outside director on ROE's persistence in the crisis situation. The estimate of $\rho_1$ is positive value but not statistical significant. The

estimate of $\rho_5$ is negative value but not statistical significant. The interpretation of these results means that outside directors have little effect on profit ratio's persistence in normal situation. The estimate of $\rho_2$ is negative value and statistical significant at 1% level. The estimate of $\rho_6$ is negative value and statistical significant at 1% level. The interpretation of estimated results means that following ROE has little relationship to current negative ROE, while following ROE shift downward. The estimate of $\rho_3$ is negative value and not statistical significant. The estimate of $\rho_7$ is negative value and statistical significant at 1% level. The interpretation of estimated results means that following ROE has little relationship to current negative ROE, while following ROE does not shift downward.

**Table-5.** The Effect of Outside Director on Corporate Performance

| | Model1 | Model2 | Model3 | Model4 | Model5 | Model6 |
|---|---|---|---|---|---|---|
| intercept parameter | 1.326 | 3.413 | 1.263 | 3.310 | 0.913 | 1.159 |
| t-value | ( 33.308)*** | ( 28.675)*** | ( 26.560)*** | ( 22.172)*** | ( 19.151)*** | ( 8.583)*** |
| slope parameter 1 | 0.752 | 0.389 | 0.159 | 0.268 | 0.078 | 0.126 |
| robust t-value | ( 103.786)*** | ( 24.387)*** | ( 1.891)* | ( 1.084) | ( 0.958) | ( 0.579) |
| slope parameter 2 | | | 0.764 | 0.393 | 0.474 | -1.631 |
| robust t-value | | | ( 87.627)*** | ( 18.992)*** | ( 2.508)*** | (-3.518)*** |
| slope parameter 3 | | | -0.029 | -0.010 | 0.324 | -0.987 |
| robust t-value | | | (-1.899)* | (-0.321) | ( 1.244) | (-1.499) |
| slope parameter 4 | | | | | 0.815 | 0.681 |
| robust t-value | | | | | ( 89.998)*** | ( 38.634)*** |
| slope parameter 5 | | | | | -0.019 | -0.011 |
| robust t-value | | | | | (-1.232) | (-0.384) |
| slope parameter 6 | | | | | -0.558 | -0.698 |
| robust t-value | | | | | (-6.771)*** | (-14.958)*** |
| slope parameter 7 | | | | | -0.874 | -0.665 |
| robust t-value | | | | | (-8.494)*** | (-10.854)*** |
| | | | | | | |
| Adj_R2 | 0.573 | 0.160 | 0.573 | 0.160 | 0.587 | 0.225 |
| Observation | 16499 | 16499 | 16499 | 16499 | 16499 | 16499 |

**Additional Notes*:** 10%Level statistical significant, **:5%Level statistical significant, ***:1%Level statistical significant

## 6. CONCLUSION AND DISCUSSION

The goal of this article was twofold. The first was to estimate the effect of corporate governance reinforcement on profitability of companies. The second was to estimate the effect of corporate governance reinforcement with regard to critical situation. Several important conclusions are derived from the findings in this research. When we estimate the effects of corporate governance reinforcement with disregard to the profit situations of companies, the research did not provide the statistically significant effect of corporate governance reinforcement on performance persistence. That is to say, we were not able to confirm positive effects of corporate governance reinforcement on profitability of companies. However, when companies are in critical situations (ROA <0), governance reinforcement got a result to have some positive effect for recovery of the profitability. This differential impact among these situations can be explained by the limitation of outside directors on corporate governance. Like all studies, our research contains some notable limitations. Company performance was measured as ROA and ROE. The level of these persistence measures the effect of corporate governance reinforcement on profitability of companies. Many other financial and non-financial measurements can be used as Company performance, while these ratios were used commonly by the financial statement analysis. Corporate governance reinforcement of outside directors was measured as binary variable. This binary variable equals one if a firm's ratio of outside director are higher than average ratio for all firms in the same year and zero if otherwise. Many other discrete and continue variables can be used as corporate governance reinforcement. Future studies can explore some of the issues identified in this research using other measurement of company performance and corporate governance reinforcement. These results also speak to importance of understanding the effect of outside directors on corporate profitability and these

limitations. In conclusion, our study contributes to find the positive effect of outside director's reinforcement with regard to critical situation, while there may be not meaning relation between corporate performance and outside director's reinforcement.

(1) One example of the scandals is that a woman who is the Toyota Motor Corporation's first woman officer was arrested for Narcotics Control Law alleged violation in 2015. Another example is Mitsubishi Motors admitted rigging data on some of its models' fuel efficiency in 2016.

(2) For example, the introduction of outside directors in addition to inside directors and stock option system.

(3) See section 2.

(4) See table2 below.

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## REFERENCES

Financial Services Agency of Japan, 2014. Stewardship code, Japan: 1-13. Available from www.fsa.go.jp/news/25/singi/20140227-2/04.pdf.

Irei, K. and M. Noma, 2008. Independency of outside officers and corporate value and performance. Japan Journal of Finance, 28(1): 38-55.

Miwa, S., 2010. A empirical research on relationship between outside directors and corporate performance of Japanese companies. Journal of Business Management, 25: 15-27.

Miyajima, H. and R. Ogawa, 2012. Determinant factors of constitution of board of directors and introduction effect of outside directors. RIETI Policy Discussion Paper Series No. 12-P-013: 1-47.

Nishikawa, T. and S. Hase, 2015. Introduction of outside directors and corporate value. Mitsubishi UFJ Shintaku-Sisan-Unyou-Jouhou, February: 1-16.

Tokyo Stock Exchange, 2015. Corporate governance Cord, Japan: 1-35. Available from www.jpx.co.jp/equities/listing/cg/tvdivq0000008jdy-att/code.pdf.