

**Corporate Governance in Taiwan :**  
**Board Control and Employee Stock Bonus Plans**

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## **Corporate Governance in Taiwan :**

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**ABSTRACT :** This study examines the correlation between board control and employee stock bonus granted of TSEC-Listed Electronic Companies in Taiwan, in both corporate governance and regulatory perspectives. In addition, the soundness of regulations regarding board control is also examined. This empirical research differs from previous studies in the ways that, not only the different roles played by board directors and supervisors are identified more clearly, but also more accurate data with regard to board control are applied. The results show that the level of employee stock bonus granted increase as the number of directors increases, and increase as the stakes that chairman, supervisors, as well as managers have in terms of ownership increase. On the other hand, the level of employee stock bonus granted is negatively correlated with directors' ownership, as well as the number of supervisors. Besides, the evidence provides support for our argument that, owing to the different characteristics, it is inappropriate to combine directors' ownership with supervisors' ownership as an explanatory variable as adopted by previous studies. Moreover, although the empirical results are generally compatible with related regulations, some recommendations are made for strengthening the board control mechanism.

**Key words:** corporate governance, employee stock bonus plans, board control, compensation contract.

# **Corporate Governance in Taiwan :**

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### **I. INTRODUCTION**

Generally, corporate governance refers the structure and processes by which the company are directed and managed and the accountability of management is stressed, in order to protect shareholders' interest through enhancing corporate performance while taking into account the interests of other stakeholders.<sup>1</sup> Organization for Economic Co-operation and Development (OECD) concurred with the "OECD Principles of Corporate Governance" in 1999.<sup>2</sup> Because of the disastrous cases such as Enron, WorldCom and scores of other companies embroiled in accounting and managerial scandals, the New York Stock Exchange (NYSE) and the NASDAQ Stock Market (NASDAQ) have approved sweeping new listing standards and the Congress of U.S. has enacted wide-ranging federal legislation-the Sarbanes-Oxley Act of 2002.<sup>3</sup> The core of that Act pushes for a more comprehensive control over outside auditors, enhanced financial information disclosure, and more severe responsibility toward executive officers. Following that, The Conference Board proposed "Commission on Public Trust and Private Enterprise Findings and Recommendations : Part 1 : Executive Compensation" , and "Part 2 : Corporate Governance, and Part 3 : Audit and Accounting" in 2002 and 2003, respectively. In Taiwan, in order to assist companies listed on the Taiwan Stock Exchange Corporation (TSEC) and the GreTai Securities Market (GTSM, collectively

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<sup>1</sup> See "Corporate Governance in Taiwan" , amended by Securities and Futures Institute in April, 2004.

<sup>2</sup> Furthermore, OECD has proposed "White Paper on Corporate Governance in Asia" , which was first issued on June 10, 2003 and second revised printing on July 15, 2003.

<sup>3</sup> Sarbanes-Oxley Act of 2002 (P.L. 107-204) .

referred to as "TSEC/GTSM listed companies") to establish a sound corporate governance system, and to promote the integrity of the securities market, the TSEC and GTSM jointly issued "Corporate Governance Best-Practice Principles for TSEC/GTSM Listed Companies" on October 4, 2002, to be followed by TSEC/GTSM listed companies.<sup>4</sup> Article 2 of that principles advises that when setting up the corporate governance system, in addition to complying with relevant laws, regulations, articles of incorporation, contracts signed with the TSEC or GTSM and other relevant regulations, a TSEC/GTSM listed company shall follow the following principles (1) protect shareholders' rights and interests; (2) strengthen the power of the board of directors; (3) fulfill the function of supervisors; (4) respect stakeholders' rights and interests; and (5) enhance information transparency.

Structural conflicts inherent inside the large-scale corporate may result in many different problems with respect to corporate governance. As different cultural, political and economic environments shape corporates into different structures, structural conflicts trigger even more dilemma in corporate governance. For example, supervisors are said to be playing an important role in governance mechanism in Taiwan, however, they did not function as expected. There was merely about 35% of TSEC-listed electronic companies that maintain at least one independent supervisor to the date of June 30, 2003.<sup>5</sup> Therefore, we do not focus on the examination of the soundness of "Corporate Governance Best-Practice Principles for TSEC/GTSM Listed Companies" . Rather, we examine the related regulations regarding board control of Taiwan's Company Law and Article 2 of "Rules and Review Procedures for Director and Supervisor Share Ownership Ratios at Public Companies" announced by Securities and Futures Bureau, Financial Supervisory

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<sup>4</sup> Second revised in March 2004.

<sup>5</sup> Calculated by the data collected from the data base of Market Observation Post System of TSEC.

Commission, Executive Yuan, R.O.C.<sup>6</sup>

Many executives credit employee stock bonus plans with recruiting innovative employees and thus helping Taiwan's high-tech companies to become globally competitive. While a number of studies have examined the relationships between employee stock bonus plans and variables such as firm performance, corporate value (e. g., Chen 2003; Hung 2004; Sue 2004; Wu 2004), and compensation contracts (e. g., Chang 2004; Li 2003; You 2003) in Taiwan, relative few studies have investigated the correlation between board characteristics and employee stock bonus plans. Therefore, we focus on the correlation between board control and employee stock bonus plans in corporate governance and regulatory perspectives.

Article 235 of Taiwan's Company Law states that the percentage of surplus profit distributable as employee's bonus shall be specified in the articles of incorporation, unless otherwise approved specially by the central authority in charge of the end-enterprise concerned. It is a compulsory regulation while there is no ceiling or floor with respect to the percentage of surplus profit distributable as employee's bonus. Certain companies extended employee's bonus plans from distribution of cash to distribution of common stock since 1986. In Taiwan, firms have applied employee stock bonus plans extensively with the wish of improving firm performance and increasing firm value. Because firms are not allowed to purchase their own stock in the open market until 2000, for the past two decades employee stock bonus plans have been the primary tool used to provide equity-based compensation and incentive by firms in Taiwan, especially in the high-tech firms.<sup>7</sup> Under the taxation rules in Taiwan, the total amount of cash compensation is taxed according to personal income tax rate whereas the bonus shares are taxed at par value while market prices are higher than the par value. A high level of

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<sup>6</sup> Taiwan's Company Law is revised on November 12, 2001. Rules and Review Procedures for Director and Supervisor Share Ownership Ratios at Public Companies are amended on November 15, 2002.

<sup>7</sup> The regulations of granting employee stock options was announced by the Ministry of Finance in this very year.

employee bonus grants will benefit employees at the expense of stockholders' wealth, since distribution of employee stock bonus will result in the dilution of firm's EPS.

Furthermore, in Taiwan, qualification requirements of employees who are entitled to receive dividend bonus, including the employee of subsidiaries of the company meeting certain specific requirements, may be specified in the articles of incorporation. The argument incurred in the ways of distribution and the amount paid of dividend bonus include the transparency of decision making process, the independence of related decision makers, and the rationality of the amount distributed. Because the plans of surplus earning distributions are proposed by board of directors, this study will develop and then test the theoretical hypothesis related to level of employees stock bonus plans and board control.

The evidence provides support for our argument that, owing to the different characteristics, it is inappropriate to combine directors' ownership with supervisors' ownership as an explanatory variable as adopted by previous studies. Moreover, although the empirical results are generally compatible with related regulations, some recommendations are made for strengthening the board control mechanism.

The remainder of this paper is organized into 6 sections. Section II summarizes rules for board of directors and supervisors. Section III develops the hypotheses. Section IV describes the sample selection and empirical design. Section V shows the empirical results mainly surrounding the association between the percentage of employee stock bonus granted and the board and ownership structure variables. Section VI contains sensitive tests to determine the robustness of the results to alternative specifications. A summary and conclusion is provided in Section VII.

## **II. RULES FOR BOARD OF DIRECTORS AND SUPERVISORS**

The basic regulatory model of corporation in Taiwan is a two-tier structure that

consists of Board of director, supervisor(s) and shareholders. Shareholders, as owners of the corporation, elect directors and supervisor(s) by shareholders' meeting. The board, holds discretionary power owing to the delegation of shareholders, also performs the functions of management. Shareholders retain the power to reshuffle the director who abuses the delegated discretion to protect their own interests. Supervisor monitors improprieties of directors, who also audit managerial execution of business activities.<sup>8</sup> To set the stage for further discussion, the related rules for board of directors and supervisors enacted in Taiwan are summarized as follows :

### **Rules for the board of directors**

1. The board of directors of a company shall have at least three directors who shall be elected by the shareholders' meeting from among the persons with disposing capacity (Article 192, Company Law).<sup>9</sup>

2. The Board of Directors, in conducting business, shall act in accordance with laws and ordinances, the Articles of Incorporation, and the resolutions adopted at the meetings of shareholders (Article 193, Company Law).

3. Business operations of a company shall be executed pursuant to the resolutions to be adopted by the board of directors, except for the matters the execution of which shall be effected pursuant the resolutions of the shareholders' meeting as required by this Law or the articles of incorporation of the company (Article 202, Company Law).

4. In calling a meeting of board of directors, a notice setting forth therein the subject(s) to be discussed in the meeting shall be given to each director and supervisor (Article 204, Company Law).

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<sup>8</sup> See "Corporate Governance in Taiwan" , amended by Securities and Futures Institute in December 2002.

<sup>9</sup> TSEC began requiring that IPO firms listing from February 2002 on should have two independent directors and one independent supervisor. This is the first time the term "independent directors" is proposed formally by Securities and Futures Bureau.

## **Rules for supervisors**

1. Supervisors of a company shall be elected by the meeting of shareholders, among them at least one supervisor shall have a domicile within the territory of the Republic of China. For a company whose shares are issued to the public, there must be two or more supervisors to be elected (Article 216, Company Law).

2. Supervisors shall supervise the execution of business operations of the company, and may at any time or from time to time investigate the business and financial conductions of the company, examine the accounting books and documents, and request the board of directors or managerial personnel to make report thereon (Paragraph 1, Article 218, Company Law).

3. (1) Supervisors of a company may attend the meeting of the board of directors to their option; (2) In case the board of directors or any director commits any act, in carrying out the business operations of the company, in a manner in violation of the laws, regulations, the articles of incorporation or the resolutions of the shareholders' meeting, the supervisors shall forthwith advise, by a notice, to the board of directors or the director, as the case may be, to cease such act (Paragraph 2, Article 218, Company Law).

4. A supervisor shall not be concurrently a director, a managerial officer or other staff/employee of the company (Article 222, Company Law).

*According to those articles, we can see that supervisors carry the duty of supervision whereas board of directors is responsible for business execution in Taiwan.*

## **Rules for director and supervisor share ownership ratios at public companies**

Article 2 of 「Rules and Review Procedures for Director and Supervisor Share Ownership Ratios at Public Companies」 announced by Securities and Futures Bureau, Financial Supervisory Commission, Executive Yuan, R.O.C., regulates the followings:

The total registered shares owned by the directors and supervisors of a public company shall not be less than the following percentage of total issued shares:

1. Where the paid-in capital of the company is NT\$300 million or less, the total registered shares

owned by all directors shall not be less than 15 percent of the total issued shares; the total registered shares owned by all supervisors shall not be less than 1.5 percent of the total issued shares.

2. Where the paid-in capital of the company is more than NT\$300 million but NT\$1 billion or less, the total registered shares owned by all directors shall not be less than 10 percent of the total issued shares; the total registered shares owned by all supervisors shall not be less than 1 percent of the total issued shares. However, where the total shareholding to be owned by directors and supervisors calculated using such method is less than the maximum prescribed in the preceding Item, the maximum shareholding prescribed in the preceding Item shall be applicable.

3. Where the paid-in capital of the company is more than NT\$1 billion but NT\$2 billion or less, the total registered shares owned by all directors shall not be less than 7.5 percent of the total issued shares; the total registered shares owned by all supervisors shall not be less than 0.75 percent of the total issued shares. However, where the total shareholding to be owned by directors and supervisors calculated using such method is less than the maximum prescribed in the preceding Item, the maximum shareholding prescribed in the preceding Item shall be applicable.

4. Where the paid-in capital of the company is more than NT\$2 billion, the total registered shares owned by all directors shall not be less than 5 percent of the total issued shares; the total registered shares owned by all supervisors shall not be less than 0.5 percent of the total issued shares. However, where the total shareholding to be owned by directors and supervisors calculated using such method is less than the maximum prescribed in the preceding Item, the maximum shareholding prescribed in the preceding item shall be applicable.

The shareholdings of independent directors and supervisors elected by a public company shall not be counted in the total referred to in the preceding paragraph; if a public company has simultaneously elected two or more independent directors and one or more independent supervisor, the share ownership figures calculated at the rates set forth in the preceding paragraph for all directors and supervisors other than the independent directors and supervisor(s) shall be

decreased by 20 percent.<sup>10</sup>

### **III. RESEARCH HYPOTHESES**

This research will focus on the possible factors, which may influence the percentage of employee's stock bonus grants. The possible factors can be divided into three categories : (1) industry specification, (2) firm size, and (3) board control.

Since the research is focused on the high-tech firms in Taiwan, we don't make further control for industry specification, whereas we control firm size by treating it as an independent variable in the regression model. Furthermore, board of directors makes the proposal for earnings distributions and then shareholders ratify the proposal in the shareholders' meeting in Taiwan. Hence, board control may be the most important factor that may influence the percentage of employee stock bonus granted—board control, in the perspectives of corporate governance and regulatory. For board control, we derive our hypotheses in nine aspects : (1) the chairman's stock ownership of the firm, (2) CEO's stock ownership of the firm, (3) CEO duality, (4) directors' stock ownership of the firm, (5) supervisors' stock ownership of the firm, (6) managers' stock ownership of the firm, (7) board size, (8) percentage of inside directors within the board, and (9) number of supervisors. We will discuss the nine hypotheses one by one in the reminder of this section.

#### **The chairman's stock ownership of the firm**

Unlike the Board in the U.S. that has both executive and supervisory power, the board in Taiwan not only holds discretionary power from the delegation of shareholders, but also performs the functions of management as well. According to Article 202 of Taiwan's

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<sup>10</sup> This paragraph was added to the Article on November 15, 2002.

Company Law, board of directors in Taiwan is responsible for business execution, and chairman of the board is considered to be in the same category as managers.

Ownership structure significantly affects firm value and performance. Early studies focused on a linear relation between firm performance and ownership structure. Theoretically, there are two hypotheses : Convergence of Interest Hypothesis and Entrenchment Hypothesis. These two major viewpoints are briefly described as follows :

#### 1. Convergence of Interest Hypothesis

Jensen and Meckling(1976) put forward the Convergence of Interest Hypothesis. They argued that from an agency theoretic perspective, the need to monitor management stems from the divergence of interests between managers and stockholders. The higher the managers' ownership stake in the company, the greater the alignment of managers' and stockholders' incentives. Due to a reduction of agency costs, this hypothesis predicts that firm value and performance increases as management ownership rises.

#### 2. Entrenchment Hypothesis

As Demsetz(1983) and Fama and Jensen(1983) pointed out, managers holding a substantial portion of a firm's equity may have enough voting power to ensure that their position inside the company are secure. As a result, they may become to a great extent insulated from external disciplining forces such as takeover threat or the managerial labour market. At certain levels of equity ownership, managers' consumption of perquisites may outweigh the loss they suffer from reduced value of the firm.<sup>11</sup> A high level of managerial ownership in a high information asymmetry environment allows managers to indulge preferences for non-value-maximizing behavior. Thus, this

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<sup>11</sup> Kim, Kenneth A., Kitsabunnarat, Pattanaporn, and Nofsinger, John R. 2002. "Ownership and operating performance in an emerging market: evidence from Thai IPO firms" , Journal of Corporate Finance, 156.

hypothesis predicts a negative relation between firm performance and managerial ownership.

Stulz (1988) presented a model where high ownership by managers can effectively preclude the possibility of a takeover, in accordance with the entrenchment hypothesis. Shleifer and Vishny (1997) argued that as ownership exceeds a certain point, the majority owners tend to use firms to serve themselves with private benefits that are not shared by the minority shareholders, or even at the expense of the minority shareholders and the corporate value. La Porta et al. (2000) stand for this argument.

Directors are often concurrently managers in Taiwan. In such a situation, directors are players and referee concurrently when they propose the surplus earning distribution proposals.<sup>12</sup> Thus, the higher the ownership of chairman of board, the more his or her influence on the board, hence the more likely that the efficiency of corporate governance will decrease. When employee stock bonus plans are used in compensation contracts, the following hypothesis is developed :

**H1** : *The greater the chairman's ownership of the firm, the higher percentage of employee stock bonus granted.*

### **CEO's stock ownership of the firm**

A CEO is likely to control both operating and board decision when he or she owns significant portions of the firm. Holderness and Sheehan (1988) argued that managers who are majority shareholders in publicly held companies receive marginally higher compensation than other managers. Concentrated ownership may do harm to corporate value. As aforementioned, Shleifer and Vishny (1997) and La Porta et al. (2000) stand

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<sup>12</sup> Article 228 (I) of Taiwan's Company Law regulates that at the close of each fiscal year, the board of directors shall prepare the surplus earning distribution or loss-offsetting proposals and shall forward the same to supervisors not later than the 30<sup>th</sup> day prior to the meeting date of a general meeting of shareholders.

for that argument. Healy (1985) presented evidence that CEOs manage earnings to maximize their bonuses. When employee stock bonus plans are used in compensation contracts, the following hypothesis can be developed :

**H2** : *The greater the CEO's ownership of the firm, the higher percentage of employee stock bonus granted.*

### **CEO duality**

CEO duality exists when a CEO also serves as chairman of the board. According to Taiwan's Company Law, in the case of a company limited by shares, remuneration of the managerial personnel shall be decided by a resolution to be adopted by a majority vote of the directors at a meeting attended by at least a majority of the entire directors of the company. Thus, when a CEO is also the chairman of the board, he or she will have significant influence on determining his or her own compensation package. As pointed out by Finkelstein and Hambrick (1989), CEO may set his or her own compensation. Most employee stock bonus is distributed to high-level management team in Taiwan. The directive function of the board of directors to managers will be more ineffective when a CEO also serves as chairman of the board, and the problem of agency will be more serious. Boyd (1994) suggested that if the role of CEO and chairman of the board are separated, he would expect less influence over executive pay setting institutions. The following hypothesis is developed when employee stock bonus plans are used in compensation contracts :

**H3** : *The percentage of employee stock bonus granted will be higher when CEO is concurrently the chairman of the board.*

### **Directors' stock ownership of the firm**

More and more recent researches account for both the convergence of interest and entrenchment hypotheses by considering a nonlinear relationship between managerial ownership and firm performance. Mork, Shleifer, and Vishny (1988) found that the effects of the convergence of interest are dominant within the 0%-5% ownership range and above the 25% ownership level. The entrenchment effect is dominant within the 5%-25% ownership range.

Liu (1993) examined the relationship between the ownership composition of the board and corporate performance in Taiwan using the agent theoretic framework, and found :

(1) the convergence of interest hypothesis effects are dominant within the 0%-25% ownership range; (2) the entrenchment effect is dominant within the 25%-40% ownership range; (3) for outside directors' ownership, the convergence of interest hypothesis effects are dominant within the 0%-25% ownership range and above the 40% ownership level whereas the entrenchment effect is dominant within the 25%-40% ownership range.<sup>13</sup>

According to Article 2 of 「Rules and Review Procedures for Director and Supervisor Share Ownership Ratios at Public Companies」, We estimate the average total registered shares owned by the directors of the sample companies is within the 0%-25% ownership range.<sup>14</sup> As aforementioned, the board characteristics in Taiwan are different from those in the U.S.

According to Liu's (1993) empirical results, within the 0%-25% ownership range, there is a positive correlation between ownership structure composition of board and corporate performance in Taiwan. However, owing to the different characteristics, it is

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<sup>13</sup> Following all of the previous studies, the board is composed of directors and supervisors in his model. Therefore, board's ownership is inappropriately composed of both directors' and supervisors' ownership here.

<sup>14</sup> The average ownership of directors and supervisors in Wang's (2004) 1,404 panel data sample across six years (1997-2002) is 30.469%. Wang selected TSEC-listed electronic companies as his study samples. The average ownership of directors and supervisors in Chih's (2004) 170 panel data sample across three years (2001-2003) is 30.04%. Those 170 companies are TSEC-listed electronic companies. The range of our estimation (0%-25%) is consistent with those results, after deducting supervisors' estimated ownership (5%-10%) from 30.469% and 30.04%, respectively.

inappropriate to combine directors' ownership with supervisors' ownership as an explanatory variable. On the other hand, directors' ownership is commonly much higher than that of supervisors in Taiwan. Liu's (1993) results can be therefore contributed mainly to directors' ownership. We infer that "the higher the directors' ownership, the better the corporate performance" argued by Liu may imply that the higher the directors' ownership, the less likely they will do harm to stockholders' equity. Based on the above inference, the following hypothesis is developed when employee stock bonus plans are used in compensation contracts :

**H4** : *The greater the board of directors' ownership of the firm, the lower percentage of employee stock bonus granted.*

#### **Supervisors' stock ownership of the firm**

According to Article 2 of 「 Rules and Review Procedures for Director and Supervisor Share Ownership Ratios at Public Companies 」 , we infer the average ownership of the supervisors is low and we estimate that to be within the 5%-10% ownership range. Since no research in Taiwan has ever treated supervisors' ownership as an explanatory variable, there is no related empirical result for our reference. Alternatively, we follow the result of Mork et al. (1988) , that the entrenchment effect dominates within the 5%-25% ownership range.

When employee stock bonus plans are used in compensation contracts, we develop the following hypothesis :

**H5** : *The greater the supervisors' ownership of the firm, the higher percentage of employee stock bonus granted.*

## **Managers' stock ownership of the firm**

As aforementioned, Holderness and Sheehan (1988) argued that managers who are majority shareholders in publicly held companies receive marginally higher compensation than other managers. Furthermore, the higher the managers' ownership, the more their influence over the board of directors. The following hypothesis is hence developed when employee stock bonus plans are used in compensation contracts :

**H6** : *The greater the managers' ownership of the firm, the higher percentage of employee stock bonus granted.*

## **Board size**

Article 192 of Taiwan's Company Law regulates that the board of directors of a company shall have at least three directors who shall be elected by the shareholders' meeting from among the persons with disposing capacity.<sup>15</sup> Lipton and Lorsch (1992) , Jensen (1993) , and Yermack (1996) argued that the board's decision-making quality decreases with board size because the more people in the group, the lower the group's coordination and processing skills ( see Steiner 1972; Hackman 1990) . Yermack (1996) provided an empirical investigation of the performance effect of board size of 792 companies in an eight-year period (1984-1991) . His main finding is that there is a clear inverse relation between the firm's market valuation and the size of board of directors. In Taiwan, Huang (1993) found that the influence of board size on operating performance is not clear. Furthermore, Wu (1994) and Sun (1996) found no significant correlation between board size and firm performance. On the contrary, Chang (2004) provided an empirical investigation to find the independent director system and the operating performance of 176 TSEC listed companies across two years (2002-2003) . She found

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<sup>15</sup> TSEC began requiring that IPO firms listing from February 2002 on should have two independent directors and one independent supervisor.

that the scale of the board is negatively related to firm's performance.

Although a board is engaging in business conducting rather than monitoring, we can apply Jensen's (1993) empirical result to infer that the larger the board's size, the more conflict of interests. A positive relationship between board size and employee's stock bonus granted can therefore be hypothesized :

**H7** : *The larger the board size, the higher percentage of employee stock bonus granted.*

### **Percentage of inside directors within the board**

Pincus et al. (1989) found that the portion of board seats held by outside (nonmanager) directors was significantly associated with audit committee formation. They explained this relationship as stemming from the liability exposure of outside directors. An alternative explanation comes from the management literature, where the portion of insiders on the board has been used as a measure of management's influence in several studies (Kesner et al. 1986; Kosnik 1987; Siggh and Harianto 1989) . According to Mizruchi (1983) , a high proportion of insiders on the board is a strong signal that the company will be dominated by its officers. As incentives of managers can conflict with those of shareholders, the board's effectiveness in execution of its duties depends in large part on its independent directors (Jemison and Oakley 1983) . Several papers present evidence suggesting that effective governance and firm performance increase with board independence ( for example, see Brickley et al. 1994; Byrd and Hickman 1992; Weisbach 1988) .

As for the ratio of employee stock bonus grants, an effective board will avoid to propose a surplus earning distribution proposal with high ratio of employee stock bonus in consideration of the shareholders' benefits. Based on the above arguments, inside

directors in the board will decrease board's effectiveness.<sup>16</sup> Hence, we develop the following hypothesis :

**H8** : *The higher percentage inside directors within the board, the higher percentage of employee stock bonus granted.*

### **Number of supervisors**

Generally, studies in Taiwan used ownership combined of both directors and supervisors as an explanatory variable. Besides examine the different influence of directors' ownership and supervisors' ownership on ratio of employee stock bonus granted, this study use the number of supervisors as an independent variable. According to Article 216 of Taiwan's Company Law: "Supervisors of a company shall be elected by the meeting of shareholders, among them at least one supervisor shall have a domicile within the territory of the Republic of China. For a company whose shares are issued to the public, there must be two or more supervisors to be elected." As mentioned before, the supervisory role of supervisors in Taiwan is similar to that of directors in the U.S. One may argue that if the minimum number of supervisors regulated by Taiwan's Company Law is adequate to perform the duties.

Large U.S. listed companies generally maintain various functional committees such as nomination committee, finance committee, public issues committee, audit committee, compensation committee, and executive committee. Among the above, audit committee, nomination committee and compensation committee exercise different kinds of monitoring functions. In December 1999, the NYSE and NASDAQ modified their requirements by mandating listed companies to maintain audit committees with at least three directors, "all of whom have no relationship to the company that may interfere

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<sup>16</sup> Owing to data restriction, inside directors are current managers of the company in our research.

with the exercise of their independence from management and the company”.<sup>17</sup> Compared to the U.S., this study argues that one supervisor regulated by Taiwan’s Company Law (two for public issued companies) is inadequate to carry on the monitoring functions.<sup>18</sup> A positive correlation between the number of supervisors and the monitoring functions can therefore be hypothesized:

**H9** : *The greater the number of supervisors, the lower percentage of employee stock bonus granted.*

#### IV. EMPIRICAL DESIGN

##### Research subjects and period

Employee stock bonus plans have been the primary tool used to provide equity-based compensation and incentive by firms in Taiwan for the past two decades, especially in the high-tech firms. Our research is focused on TSEC-listed electronic companies accordingly.

To point out the role of directors in Taiwan is not the same as that of directors in the U.S., and to examine the correlation between board control and percentage of employee stock bonus granted in corporate governance and regulatory perspectives, this study use the data just prior to the announcement of “Corporate Governance Best-Practice Principles for TSEC/ GTSM listed Companies” . We do not use the data of 2003 to

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<sup>17</sup> See NYSE Listing Guide, Section 303.01(B)(2)(a); NASDAQ Market Listing Requirements Section 4310(c)(26)(B). See also SEC Release Numbers 34-42231, 34-42232 and 34-42233, “Adopting Changes to Listing Requirements for the NASD, AMEX, and NYSE regarding Audit Committees” .

<sup>18</sup> Article 27 of Corporate Governance Best-Practice Principles for TSEC/ GTSM listed Companies issued on October 4, 2002 regulates that “ For the purpose of developing monitoring functions and strengthening management mechanisms, the board of directors of a TSEC/GTSM listed company may, taking into account the basis of the size of the board and the number of the independent directors, set up audit, nomination, compensation or any other functional committees and have them stipulated in the articles of incorporation” . The recommendation of this Article has few or even no effect on our sample in the research period because there was only about 4.29% TSEC-listed electronic companies have three or more independent directors as of June30, 2003.

examine the effectiveness of the announcement of “ Corporate Governance Best-Practice Principles for TSEC/ GTSM Listed Companies” , because there was mere about 35% of TSEC-listed electronic companies that maintain at least one independent supervisor as of June 30, 2003.<sup>19</sup>

Data related to those researches on board characteristics in Taiwan are generally drew from the data base of Taiwan Economic Journal (TEJ) and is a summary data composed of both those of directors and supervisors as of December 31. Since board holdings may change significantly from December 31 of the previous year to the date that the surplus earning distribution proposal is proposed by board of directors, it is improper to use the year-end data. In our research, we use related data at the end of the month prior to the date of shareholders’ meeting convened.<sup>20</sup>

In summary, the research subjects are those TSEC-listed electronic companies, whose regular meeting of shareholders were convened in 2003 and with employee’s stock bonus granted in the vary year. Firms distributed their retained earnings of 2002 in 2003 according to Taiwan’s Company Law. This empirical research differs from previous studies in the ways that: (1) the different roles played by directors and supervisors are more clearly identified. That is, supervisors’ ownership and directors’ ownership are seen as separate independent variable, instead of combining both as one explanatory variable as adopted by previous studies. (2) more precise data with regard to board characteristics are applied.

## **Data sources**

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<sup>19</sup> Article 117 of Taiwan’s Company Law regulates that the regular meeting of shareholders shall be convened within six months after close of each fiscal year, unless otherwise approved the competent authority for good cause shown. Accordingly, we compute the percentage of TSEC-listed electronic companies those maintain at least one independent supervisor as of June 30.

<sup>20</sup> Board of directors makes the proposal for earnings distributions and then shareholders ratify the proposal in the shareholders’ meeting in Taiwan. According to Article 172 of Taiwan’s Company Law, for a public issued company, a notice to convene a regular meeting of shareholders shall be given to each shareholder no later than 30 days prior to the scheduled meeting date. Hence, we use related data at the end of the month prior to the date of shareholders’ meeting convened as the proxy for the circumstance while the board proposes the proposal of earnings distribution.

1. Financial data (employee's stock bonus, the paid-in capital, and total assets) were collected from the financial files of listed companies of TEJ.
2. Market data (percentage of return on equity) were collected from the equity files of listed companies of TEJ.
3. Dates of shareholders' meeting were collected from the Market Observation Post System of TSEC.
4. Data regarding board of directors and supervisors, and managers' ownership of the firm (chairman's ownership of the firm, CEO's ownership of the firm, directors' ownership of the firm, supervisors' ownership of the firm, managers' ownership of the firm, number of directors, number of inside directors within the board, and number of supervisors) were collected from Taiwan Securities & Futures Information Center of Securities & Futures Institute. Directors', supervisors', and managers' ownership of the firm were footed by this study ; CEO duality was judged by the authors after examining files of each sample company .

### **Sample selection criteria**

This study was focused on TSEC-listed electronic companies. To be selected as research sample, a firm must have disclosed the aforementioned financial and market data of 2002, convened shareholders' meeting with employee stock bonus granted in 2003, and filed in data regarding inside directors' ownership one month prior to the date of shareholders' meeting. Any firm with omission of data will be eliminated from the sample. As a result, final sample of this study includes 147 TSEC-listed electronic companies.

### **Empirical Model**

We do not know, at this point, whether heteroskedasticity is even present in the population. Wooldridge (2000) suggests that in large sample sizes, we can make a case for always reporting only the heteroskedasticity-robust standard errors in cross-sectional

applications, and this practice has been followed more and more in applied work. Therefore, we apply White errors in our cross-sectional LS regression analysis. A firm is allowed to distribute earnings on condition that it has accumulated retained earnings. In other words, a firm must have good performance to distribute earnings. Return on equity is therefore can be used as a proxy for financial performance measure. The regression model used to examine the influences of board control over the level of employee stock bonus granted (H1 to H9), is specified as follows:

$$\begin{aligned}
 BP_i = & \alpha_0 + \alpha_1 ASST_i + \alpha_2 ROE_i + \alpha_3 DIRH_i + \alpha_4 CEOH_i + \alpha_5 DUAL_i + \\
 & \alpha_6 BORH_i + \alpha_7 SUVH_i + \alpha_8 MAGH_i + \alpha_9 BORN_i + \\
 & \alpha_{10} INSD_i + \alpha_{11} SUVN_i + \varepsilon_i
 \end{aligned} \tag{1}$$

where:

BP=level of employee stock bonus granted ( % ), i.e., employee stock bonus granted ÷ paid-in capital.

ASST=total assets ( expressed in thousands of New Taiwan dollars ) used as a control variable.

ROE=return on equity ( % ) used as a control variable.

DIRH=equity holding of chairman of board of directors at the end of the month prior to the date of shareholders' meeting convened ( % ) .

CEOH=CEO's shareholding of the firm at the end of the month prior to the date of shareholders' meeting convened ( % ) .

DUAL=CEO duality at the end of the month prior to the date of shareholders' meeting convened ; used as an indicator variable, 1 = CEO is concurrently the chairman of the board.

BORH=Directors' ownership of the firm at the end of the month prior to the date of shareholders' meeting convened ( % ) .

SUVH=Supervisors' ownership of the firm at the end of the month prior to the date of shareholders' meeting convened ( % ) .

MAGH=Managers' ownership of the firm at the end of the month prior to the date of shareholders' meeting convened ( % ) .

BORN=Number of directors at the end of the month prior to the date of shareholders' meeting convened.

INSD=Percentage of inside directors within the board at the end of the month prior to the date of shareholders' meeting convened ( % ) .

SUVN=Number of supervisors at the end of the month prior to the date of shareholders' meeting convened.

## V. EMPIRICAL RESULTS

### Descriptive Statistics

Descriptive statistics of the sample companies are presented in Table 1. As shown, on average, the ratio of stock bonus granted (BP) is 1.6012%, with the maximum of 5.5941% (announced by Carry Computer Eng. Co., Ltd.) among the TSEC-listed electronic companies in Taiwan in 2003. The standard deviation of ratios of employee stock bonus granted is 1.1029. Taiwan Semiconductor Manufacturing Co., Ltd. announced NT\$1.539 billion of employee stock bonus, which is the largest amount, whereas Emerging Display Technologies Corp. announced NT\$900 thousand of employee stock bonus, which is the least amount ( untabulated ) .

As for total assets ( ASST ) , it ranges from that of Uniform Industrial Corp.'s NT\$875.61 million to that of Taiwan Semiconductor Manufacturing Co., Ltd.'s NT\$370 billion. As for equity holding of chairman of board of directors ( DIRH ) and CEO's shareholding of the firm ( CEOH ) , the maxima are 50.13% and 31.380%, respectively, and the minima are both 0% . We can see that CEO duality consists of 32.65% of the

sample. As for directors' ownership (BORH) and supervisors' ownership (SUVH), the maxima are 50.440% and 38.140%, and the minima are 3.25% and 0.29%, respectively. In H4, we estimate the average ratio of total registered shares owned by the directors of the sample companies is within the 0%-25% range, which is consistent with the mean of BORH, 22.128%. In H5, we estimate the average ratio of total registered shares owned by the supervisors of the sample companies is within the 5%-10% range, which is also consistent with the mean of SUVH, 6.6973%. The number of directors (BORN) ranges from 3 to 11. Percentage of inside directors within the board (INSD) ranges widely from 0% to 100%. As shown in Table 1, on average, the number of supervisors (SUVN) is 2.4354, with the minimum of 1, which violates the Article 216 of Taiwan's Company Law.

**Table 1**  
**Descriptive Statistics**

<i>Variable</i>		<i>Mean</i>	<i>Max.</i>	<i>Min.</i>	<i>Std. Dev.</i>
BP	(%)	1.6012	5.5941	0.0789	1.1029
ASST	(millions)	17,267	370000	875.61	44,298
ROE	(%)	15.348	66.100	1.5600	9.6866
DIRH	(%)	10.041	50.130	0.0000	9.1301
CEOH	(%)	4.6542	31.380	0.0000	5.8154
DUAL	(1 or 0)	0.3265	1	0	0.4705
BORH	(%)	22.128	50.440	3.2500	10.536
SUVH	(%)	6.6973	38.140	0.2900	8.7635
MAGH	(%)	7.4786	44.170	0.0100	8.4146
BORN		5.9047	11	3	1.6483
INSD	(%)	27.212	100.00	0.0000	20.711
SUVN		2.4354	4	1	0.7125

Note : N= 147

## Test of Multicollinearity

### Correlation analysis

A preliminary examination of the Pearson correlation matrix of the regression model, as presented in Table 2, indicates that correlations among explanatory variables are generally low.

### Test of multicollinearity

The values of variance inflationary factor (VIF) for the explanatory variables are calculated to understand if the problem of multicollinearity is severe.<sup>21</sup>

The VIF of the explanatory variables of the regression model are presented below. Obviously, there is no significant problem of multicollinearity in the regression model.

<u>Variable</u>	<u>VIF</u>
ASST	1.101769
ROE	1.059798
DIRH	1.886515
CEOH	3.344560
DUAL	1.770679
BORH	2.065258
SUVH	1.644848
MAGH	2.684297
BORN	1.288324
INSD	1.384018
SUVN	1.171903

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<sup>21</sup> The variance inflation factor (VIF) is defined as  $VIF(\hat{\beta}_j) = \frac{1}{1 - R_j^2}$ .

Usually VIF=10 is taken as the critical point for detecting multicollinearity. If VIF>10, then there is multicollinearity among the explanatory variables, which may cause the standard errors of the estimated regression coefficients to be very large.

## Regression Analysis

The regression model is to test H1 to H9, and the results are presented in Table 3. Some observations are worth pointing out. Firstly, as for control variable, this study does not expect a positive or a negative relationship between total assets( ASST ) and the level of employee stock bonus granted ( BP ) . However, the results indicate there is a negative correlation between total assets ( ASST ) and the level of employee stock bonus granted ( BP ) . On the other hand, return on equity ( ROE ) is positively associated with the level of employee stock bonus granted ( BP ) , just as predicted. Since employee stock bonus granted is a part of earnings distribution, the higher the profit, the higher the earnings available for distribution. On average, 1% increase in return on equity increases distribution of employee stock bonus by 0.0789%, holding other factors fixed.

Secondly, as predicted, the coefficients on equity holding of chairman of the board ( DIRH ), supervisors' ownership of the firm( SUVH ), managers' ownership of the firm ( MAGH ) , number of directors ( BORN ) , and percentage of inside directors within the board ( INSD ) are positive. But the coefficient on INSD is statistically insignificant at the 0.10 level. Furthermore, the coefficients on ownership of board of directors ( BORH ) and number of supervisors ( SUVN ) are both negative just as predicted and are both statistically significant at the 0.01 level. It is worth of noticing that number of supervisors ( SUVN ) has the greatest influence upon level of employee stock bonus granted ( BP ) .

Finally, contrary to the hypotheses, both CEO's shareholding of the firm( CEOH ) and CEO duality( DUAL ) are negatively related to the level of employee stock bonus granted ( BP ) . However, the coefficients on both CEOH and DUAL are statistically insignificant at the 0.10 level.

These results indicate that besides influenced mainly by financial performance( ROE ), the level of employee stock bonus granted ( BP ) increases as DIRH, SUVH, MAGH, or BORN increases, whereas decreases as BORH or SUVN increases.

**Table 2**  
**Correlation Coefficient Matrix**

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	ASST	ROE	DIRH	CEOH	DUAL	BORH	SUVH	MAGH	BORN	INSD	SUVN
ASST	1										
ROE	-0.0402	1									
DIRH	-0.0276	-0.0455	1								
CEOH	-0.1178	-0.0174	0.25045	1							
DUAL	-0.1156	-0.0523	-0.0238	0.60974	1						
BORH	-0.1449	-0.0825	0.62158	0.27732	0.07496	1					
SUVH	0.04265	-0.045	0.36242	-0.1983	-0.0988	0.43779	1				
MAGH	-0.0484	0.1156	0.12101	0.74238	0.47971	0.18278	-0.2023	1			
BORN	0.18661	-0.0747	-0.2365	-0.1323	-0.0303	-0.1901	-0.1695	-0.1547	1		
INSD	-0.0434	0.03632	0.06159	0.30474	0.28039	0.16578	0.14083	0.41011	-0.2653	1	
SUVN	0.03772	-0.0098	-0.0598	0.09599	0.12465	0.08769	-0.0267	0.14868	0.2688	-0.0635	1

In other words, the evidence provides support for H1, H4, H5, H6, H7, and H9. As for H1, the result supports the argument that directors are players and referee concurrently when they propose the surplus earning distribution proposals. Thus, the higher the ownership of chairman of board, the more his or her influence on the board, hence the more likely that the efficiency of corporate governance will decrease. As regards H4, the evidence is similar to the nonlinear relationship between manager ownership and firm performance described in Liu's (1993) research. In other words, the results of this study show that the convergence of interest hypothesis is dominant when considering directors' ownership. At the same time, the entrenchment hypothesis is dominant when both supervisors' ownership (H5) and managers' ownership (H6) are put into play. As for H7, the result supports the argument that the board's decision-making quality decreases with board size, just as proposed by Lipton and Lorsch (1992), Jensen (1993), and Yermack (1996). Finally, as for H9, the number of supervisors is negatively related to ratio of employee stock bonus granted. It implies that the more supervisors, the higher quality of corporate governance.

It is worth noting that ratio of employee stock bonus granted is negatively correlated to directors' ownership of the firm (BORH), whereas is positively correlated to supervisors' ownership of the firm (SUVH). The evidence provides support for our argument that owing to the different characteristics, it is inappropriate to combine directors' ownership with supervisors' ownership as one explanatory variable, as those applied in previous studies. Besides, the results also provide supports to Article 2 of "Rules and Review Procedures for Director and Supervisor Share Ownership Ratios at Public Companies" amended by Securities and Futures Bureau. Since the function of independent directors governed by "Corporate Governance Best-Practice Principles for TSEC/GTSM Listed Companies" is mainly related to supervision,<sup>22</sup> we suppose that the characteristics of

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<sup>22</sup> Article 27 of the Principles regulates that "For the purpose of developing monitoring functions and strengthening

independent directors are similar to those of (independent) supervisors. On one hand, based on the results that the ratio of employee stock bonus granted is positively correlated to supervisors' ownership of the firm (SUVH), to rise the supervisors' ownership will not be recommended by this study. On the other hand, since the ratio of employee stock bonus granted is negatively related to the number of supervisors (SUVN), we stand for more independent directors and (independent) supervisors to be taking seats in the boards of the public companies.

## VI. SENSITIVE ANALYSIS

### **Divide the Sample into Three Groups and Rerun the Regressions**

By dividing the sample into three groups according to paid-in capital of the companies, the regressions are rerun respectively. The classification criterion is based on the related regulation of Article 2 of 「Rules and Review Procedures for Director and Supervisor Share Ownership Ratios at Public Companies」 announced by Securities and Futures Bureau, Financial Supervisory Commission, Executive Yuan, R.O.C. Because there is no company whose paid-in capital is NT\$300 million or less in our sample, we divide the sample into three groups:

- 1.Those companies whose paid-in capital is more than NT\$300 million but NT\$1 billion or less (expressed as group 1 hereafter), which counts for 39 companies in the sample.
- 2.Those companies whose paid-in capital is more than NT\$1 billion but NT\$2 billion or less (expressed as group 2 hereafter), which counts for 51 companies in the sample.
- 3.Those companies whose paid-in capital more than NT\$2 billion (expressed as group 3 hereafter), which counts for 57 companies in the sample.

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management mechanisms, the board of directors of a TSEC/GTSM listed company may, taking into account the basis of the size of the board and the number of the independent directors, set up audit, nomination, compensation or any other functional committees and have them stipulated in the articles of incorporation.”

**Table 3**  
**Regression of the Model**

$$BP_i = \alpha_0 + \alpha_1 ASST_i + \alpha_2 ROE_i + \alpha_3 DIRH_i + \alpha_4 CEOH_i + \alpha_5 DUAL_i + \alpha_6 BORH_i + \alpha_7 SUVH_i + \alpha_8 MAGH_i + \alpha_9 BORN_i + \alpha_{10} INSD_i + \alpha_{11} SUVN_i + \varepsilon_i$$

<i>Variable</i>	<i>Related Hypothesis</i>	<i>Predicted Relation</i>	<i>Estimated Coefficients</i>	<i>t-statistic</i>	<i>Prob.</i>
INTERCEPT		+/-	1.0118	3.3716	0.001
ASST		+/-	-2.09E-09	-2.2799	0.0242
ROE		+	0.0789	9.0547	0
DIRH	H1	+	0.0189	1.9572	0.0524
CEOH	H2	+	-0.0167	-1.0235	0.3079
DUAL	H3	+	-0.0233	-0.1167	0.9072
BORH	H4	-	-0.0264	-3.5031	0.0006
SUVH	H5	+	0.0227	2.1829	0.0308
MAGH	H6	+	0.0186	1.8254	0.0701
BORN	H7	+	0.0636	1.7224	0.0873
INSD	H8	+	0.0014	0.4164	0.6777
SUVN	H9	-	-0.3339	-3.0801	0.0025
Adjusted R-Squared			0.6183		
F-statistic			19.8824		

Note : N=147.

The correlation coefficient between total assets and paid-in capital is 0.9576. On the other hand, since certain companies do not file in all data regarding substantial inside directors, this study has to eliminate the control variable “total assets (ASST)” and the explanatory variable “percentage of inside directors within the board (INSD)” in the following sensitive analysis models, while other variables remain the same as those in the previous model.

The results of rerunning the regression models after dividing the sample into three groups are represented in Table 4. As predicted, the coefficients on equity holding of chairman of board of directors (DIRH) in all groups are positive, but are all insignificant. The effects on CEO’s shareholding of the firm (CEOH) and CEO duality (DUAL) are

mixed and insignificant. The coefficients on directors' ownership of the firm (BORH) are significantly negative as predicted in two groups. The coefficients on managers' ownership of the firm (MAGH) are significantly positive as predicted in two groups. The coefficients on supervisors' ownership of the firm (SUVH) and number of directors (BORN) are significantly positive as predicted in group 2. The coefficients of number of supervisors (SUVN) are negative as predicted ; and one is significant in group 2 ( $p$ -valve=0.003) , one is near marginally significant in group 3 ( $p$ -valve=0.119) .

In summary, H4, H6 and H9 are supported by the results while H5 and H7 are weakly supported by the results.

### **Combine Related Data of Directors with Those of Supervisors and Rerun the Regression**

As previous studies, we combine :(1) directors' and supervisors' stock ownership, and (2) number of directors and number of supervisors, respectively, then rerun the regression. As aforementioned, certain companies do not filed in all data regarding substantial inside directors, we have to eliminate the explanatory variable "percentage of inside directors within the board (INSD)" in the following sensitive analysis model. The regression model can be identified as follows:

$$BP_i = \alpha_0 + \alpha_1 ASST_i + \alpha_2 ROE_i + \alpha_3 DIRH_i + \alpha_4 CEOH_i + \alpha_5 DUAL_i + \alpha_6 D\&SH_i + \alpha_7 MAGH_i + \alpha_8 D\&SN_i + \varepsilon_i \quad (2)$$

where :

D&SH=Total directors' and supervisors' ownership.

D&SN=Total number of directors and supervisors.

The results are presented in Table 5. As shown, all coefficients on independent variables become statistically insignificant except for those on return on equity (ROE) and on CEO's shareholding of the firm (CEOH) . The results indicate that the higher the CEO's ownership of the firm, the lower the ratio of employee stock bonus grants, which

**Table 4**

**Regressions of the Model : Each of the Three Groups, respectively**

$$BP_i = \alpha_0 + \alpha_1 ROE_i + \alpha_2 DIRH_i + \alpha_3 CEOH_i + \alpha_4 DUAL_i + \alpha_5 BORH_i + \alpha_6 SUVH_i + \alpha_7 MAGH_i + \alpha_8 BORN_i + \alpha_9 SUVN_i + \varepsilon_i$$

Variable	Related Hypothesis	Predicted Relation	Group 1			Group 2			Group 3		
			Estimated Coefficients	t-statistic	Prob.	Estimated Coefficients	t-statistic	Prob.	Estimated Coefficients	t-statistic	Prob.
INTERCEPT		+/-	0.49249	0.668392	0.5092	1.12996	2.476	0.0175	1.342013	2.97531	0.0046
ROE		+	0.09714	12.68463	0	0.07198	7.21113	0	0.067324	6.25326	0
DIRH	H1	+	0.02613	1.077638	0.2901	0.0292	1.34789	0.1851	0.00169	0.13662	0.8919
CEOH	H2	+	-0.053	-1.66421	0.1068	0.01312	0.47262	0.639	-0.01104	-0.3227	0.7484
DUAL	H3	+	0.29789	0.798648	0.431	-0.1274	-0.5048	0.6164	-0.01503	-0.0311	0.9754
BORH	H4	-	-0.0296	-2.76234	0.0099	-0.0625	-4.9638	0	-5.01E-05	-0.0035	0.9972
SUVH	H5	+	-0.0046	-0.20902	0.8359	0.07235	4.50766	0.0001	-0.00317	-0.2612	0.7951
MAGH	H6	+	0.02374	1.969021	0.0586	0.01732	1.66469	0.1036	0.01537	0.54957	0.5852
BORN	H7	+	0.09488	1.408183	0.1697	0.12225	2.00793	0.0513	0.009468	0.13698	0.8916
SUVN	H9	-	-0.2048	-1.38817	0.1757	-0.3509	-3.1507	0.003	-0.344	-1.5879	0.119
Adjusted R-squared					0.696652			0.73312			0.42286
F-statistic					10.69652			16.2614			5.55893

Note : N<sub>1</sub> = 39, N<sub>2</sub> = 51, and N<sub>3</sub> = 57.

is contrary to the hypothesis. Furthermore, the adjusted R-square is smaller than that in Table 3. The evidence provides support for our argument that it is inappropriate to combine directors' data with supervisors' data as those applied in previous studies.

**Table 5**

**Regression of Combination of both Directors' and Supervisors' Related Data**

$$BP_i = \alpha_0 + \alpha_1 ASST_i + \alpha_2 ROE_i + \alpha_3 DIRH_i + \alpha_4 CEOH_i + \alpha_5 DUAL_i + \alpha_6 D\&SH_i + \alpha_7 MAGH_i + \alpha_8 D\&SN_i + \varepsilon_i$$

<i>Variable</i>	<i>Related Hypothesis</i>	<i>Predicted Relation</i>	<i>Estimated Coefficients</i>	<i>t-statistic</i>	<i>Prob.</i>
INTERCEPT		+/-	0.848916	2.516424	0.1030
ASST		+/-	-8.20E-10	-1.086043	0.2794
ROE		+	0.079632	8.875283	0
DIRH	H1	+	0.014112	1.353294	0.1782
CEOH	H2	+	-0.032097	-1.750120	0.0823
DUAL	H3	+	0.051050	0.241275	0.8097
D&SH			-0.005204	-1.087432	0.2787
MAGH	H6	+	0.009219	0.747243	0.4562
D&SN			-0.046009	-1.442762	0.1514
Adjusted R-squared			0.51114		
F-statistic			20.08177		

Note : N=147. D&SH stands for total directors' and supervisors' ownership, and D&SN represents total number of directors and supervisors.

## VII. SUMMARY AND CONCLUSIONS

Most prior studies focused on firm performance, corporate value, and compensation contracts in Taiwan, whereas few studies focused on the relationship between board characteristics and employee stock bonus plans. This study examines the correlation between board control and employee stock bonus granted in both corporate governance and regulatory perspectives. This research differs from previous researches in two ways: (1) the roles of directors and supervisors are more clearly identified. Supervisors' ownership and directors' ownership are taken as separate independent variables, instead of a combined one; and (2) more precise data with regard to board characteristics are employed.

Empirical results generally support the expectations of this study. The level of employee stock bonus granted increases in accordance with the increase of chairman's ownership, supervisors' ownership, managers' ownership, or number of directors, whereas decreases while directors' ownership or number of supervisors increase. Significant correlation has not been found between ratio of employee stock bonus granted and any one of the following explanatory variables : CEO's ownership, CEO duality, and percentage inside directors within the board. The evidence provides support for our argument that, owing to the different characteristics, it is inappropriate to combine directors' ownership with supervisors' ownership as one explanatory variable as those applied in previous studies.

The results provide support for Article 2 of 「Rules and Review Procedures for Director and Supervisor Share Ownership Ratios at Public Companies」, which regulates

the minimal total registered shares shall be owned by the directors in the perspective of corporate governance under the consideration of employee stock bonus grants, since the empirical results indicate that the greater the board of directors' ownership of the firm, the lower percentage of employee stock bonus granted. It's therefore necessary to set the minimum threshold for directors' share holdings. On the contrary, as the results indicate, the greater the supervisors' ownership of the firm, the higher percentage of employee stock bonus granted. This evidence is not in contradiction to the Article, because the minimal total registered shares shall be owned by the supervisors, as regulated by the Article, are ranging from 0.5% to 1.5%, which are in fact quite low.

The results are compatible with the regulation that "The shareholdings of independent directors and supervisors elected by a public company shall not be counted in the total referred to in the preceding paragraph; if a public company has simultaneously elected two or more independent directors and one or more independent supervisor, the share ownership figures calculated at the rates set forth in the preceding paragraph for all directors and supervisors other than the independent directors and supervisor(s) shall be decreased by 20 percent."

Moreover, the empirical results indicate that the greater the number of supervisors, the lower percentage of employee stock bonus granted. This probably results from too few mandate supervisors regulated by Taiwan's Company Law for public issued companies. As aforementioned, the role of supervisors is similar to that of directors in the U.S. In December 1999, the NYSE and NASDAQ modified their requirements for audit committees. Under the new standards, firm must maintain audit committees with at least three directors, "all of whom have no relationship to the company that may interfere with the exercise of their independence from management and the company." Compared to that regulation, it is suggested to reconsider the threshold regarding "there must be two or more supervisors to be elected for a public issued company" regulated by Article 216 of

Taiwan's Company Law.

Finally, our results stand for “Corporate Governance Best-Practice Principles for TSEC/GTSM Listed Companies” in that (1) TSEC began requiring that IPO firms listing on from February 2002 should have two independent directors and one independent supervisor, and(2) for the purpose of developing monitoring functions and strengthening management mechanisms, the board of directors of a TSEC/GTSM listed company may, taking into account the basis of the size of the board and the number of the independent directors, set up audit, nomination, compensation or any other functional committees, and have them stipulated in the articles of incorporation.

Further research on the effectiveness of “Corporate Governance Best-Practice Principles for TSEC/GTSM Listed Companies” is recommended when most TSEC/GTSM Listed Companies maintain independent directors and independent supervisors as the Principles suggested.

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