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THE IMPACT EFFECT OF CORPORATE GOVERNANCE AND CORPORATE SOCIAL RESPONSIBILITY ON COMPANY PERFORMANCE AFTER THE FINANCIAL TSUNAMI

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ABSTRACT

This article discusses corporate governance after the recent financial crisis and its relationship with corporate performance by adding in the CSR variable. The empirical study investigates the top 50 Taiwanese electronics companies as denoted by Commonwealth Magazine, which are listed on the Taiwan Composite Stock Exchange or in the Over the Counter (OTC) market over the period 2009-2014. Company data come from the Taiwan Economic Journal (TEJ) Database, while CSR winners are from Wealth Magazine CSR Awards. The empirical results show that corporate governance and corporate performance do have a significant relationship. In ROA, the cross effect of shareholding ratio and CSR is supported empirically, while in ROE, the cross effect of the largest shareholder ratio and CSR is supported empirically. Through the adjustment factor of CSR, managers are able to understand its deeper meaning and its correlation to corporate governance. While CSR activities cost companies a lot of time and money, fulfilling such social responsibility benefits are reflected in a company's financial performance and can be used as a useful reference for decision-making.

Contribution/ Originality: This study is one of very few studies which have investigated corporate governance after the financial crisis and its relationship with corporate performance by adding the CSR variable. The empirical results show that corporate governance and corporate performance exhibit a significant correlation.

1. INTRODUCTION

Following the outbreak of the subprime credit crisis in August 2007, investors began to lose confidence in the value of loan securitization. This triggered a series of liquidity crises and led to the collapse of several large financial institutions in the U.S. and elsewhere. The situation worsened to the point where even governments had to take over some large financial firms.

Following the global financial tsunami, many companies began to change their business approach, methods, and strategies, as well as took into greater account the interests of all parties, such as government agencies, investors, employees, and the general public. Thus, Corporate Social Responsibility (CSR) gradually rose to prominence. Socially responsible businesses often need to spend a lot of capital and money, because they must invest

in social responsibility-related resources, which may lead to increased costs and adverse effects. Of course, the efficient use of corporate resources to invest in social responsibility can enhance a firm's reputation, thus bringing about considerable benefits. There are many studies on the relationship between corporate social responsibility and corporate performance in the past literature. This study adds to this volume of works by targeting the top 50 Taiwanese electronics firms as denoted by Commonwealth Magazine so as to more closely examine the relationship between CSR and corporate performance.

The concept of corporate social responsibility began around the 1950s in the United States and became more popular as society saw that the business activities of enterprises not only affect shareholders, but also the interests of employees, customers, the environment, the local community, and other interested parties. From the viewpoint of the stakeholders theory, a firm should go beyond the profit maximization of shareholders and reach a compromise at the requests of other interested parties (Cornell and Shapiro, 1987). Hillman and Keim (2001) noted that interested parties observing the performance of CSR could actually see an improvement in the relationship among enterprises, thus increasing their profits.

With CSR becoming the focus of attention for many enterprises, CSR business managers must now allocate more enterprise resources into this area. Therefore, operating costs will increase, leading to a decline in financial performance, and even perhaps a result of not being able to achieve the goal of profit maximization. Conversely, some business managers may actively engage in CSR behavior to compensate for their firm's poor financial performance results.

If a business is to be sustainable, then it must be able quickly respond to changing social expectations. At the same time, a firm can place great importance on corporate social responsibility and business ethics in order to obtain the trust of all sectors of society and thus increase potential market opportunities to create more profit. Overall, CSR can be an important factor to enhance enterprises' competitiveness. This article explores the relationship between corporate governance and corporate performance by adding corporate social responsibility into the relationships among these three aspects.

2. LITERATURE REVIEW

In the literature review, this chapter is divided into three parts: 1) corporate governance and corporate performance; 2) corporate social responsibility and corporate performance; and 3) a discussion of the relationships among corporate governance, corporate performance, and corporate social responsibility.

World Bank (1990) defined corporate governance as a "business that is on the premise of complying the contract and the law, to establish a mechanism for the supervision of inspectors in order to reach the goal of maximizing corporate value." Companies use the channel of internal self-government to standardize management and supervise their business. Shleifer and Vishny (1997) indicated that for the majority of listed companies in countries, agency problems do not exist between the authorities and external stakeholders, but there is a conflict of interest between controlling shareholders and outside shareholders. In the case of information asymmetry, management gives priority to its own interests and conducts some activities that are not conducive to outside shareholders. Corporate governance provides a standard to businesses so that they can use their power in society and fulfill their social responsibility. Denis (2001) found that appropriate corporate governance mechanism scan effectively reduce managers' actions that are harmful to shareholder value.

Information on corporate performance is usually analyzed through financial statements. The criteria are typically assets, liabilities, losses, costs, turnover rate, etc. Taiwan's domestic financial industry often uses Treasury Securities and Futures Commission as well as a set of four analytical indicators: (1) financial structure analysis: fixed assets to total assets ratio, the ratio of net worth to total assets, ratio of fixed assets to net worth, and ratio of fixed assets to long-term funding; (2) solvency analysis: liquidity ratio and quick ratio; (3) profitability analysis: operating margin and operating income ratios, the ratio of operating profit and operating income, the operating profit -

interest expense and operating income ratio, the ratio of pre-tax gains and losses and operating income, the before taxes and net loss ratio, and the pre-tax loss total assets ratio; and (4) operating capacity analysis: the ratio of total revenue and accounts receivables or assets or fixed assets or net worth, operating costs, and inventory ratios.

In the past many scholars researched the relationship between corporate governance and corporate performance, probing into the characteristics of the board of directors, corporate governance, and ownership structure. The board, as a bridge between the interests of shareholders and managers, represents the interest of shareholders and is responsible for increasing the company's long-term interests (Veliyath, 1999). Bacon (1973) suggested that the size of the board and corporate performance have a positive relationship. He considered that a few directors who have broad educational, technical, and industrial backgrounds can put forward many views and suggestions on a company's business decisions. Kiel and Nicholson (2003) proposed a larger size board that has more technical, knowledge, and industrial backgrounds can offer a wide range of suggestions for the company's business strategy and help make corporate performance better. Fama (1980); Rosenstein and Wyatt (1990) and other scholars explored whether independent directors could effectively prevent earnings fraud or enhance board independence, such that the board can become an effective oversight mechanism to protect the interests of shareholders. Their results show a positive correlation between the ratio of the number of independent directors and corporate performance.

Yermack (1996) noted a significant inverse relationship between board size and firm value, presenting that large board size enterprises have coordination costs. A larger board means it is more difficult for members to reach a consensus, and the decision-making process greatly affects the efficiency of the board. Thus, shareholders prefer a smaller board size. In addition to outside directors, Jensen (1993); Yermack (1996); Fuerst and Kang (2000) and other scholars pointed out that whether the chairman holds a concurrent post of general manager on the company's board of directors will affect the firm's oversight capacity. Since the agency problem is quite serious, any monitoring and evaluating of the implementation of board functions will not be able to exhibit objectivity and impartiality, which will lead to the company's performance being lower than that of a company whose chairman does not serve as the general manager.

Ownership structure refers to the proportion of total firm equity that is shareholders' equity. However, sometimes the CEO and shareholders have different goals arising out of the agency conflict, thereby affecting company performance. Berle and Means (1932) presented the ownership dispersion hypothesis in which ownership and management should be separated, which is an issue concerning the conflicts of interest between business owners and shareholders. Jensen and Meckling (1976) published the convergence of interest hypothesis to support the ownership dispersion hypothesis, believing that if the concentration of ownership is in the hands of managers, then managerial decisions will trigger losses borne by those managers, and thus these managers will pursue profit maximization in order to avoid any loss to company value. If managers and shareholders have the same purpose, then the agency problem will be curbed. If insiders have a high proportion of shares, then it means they are optimistic about the future prospects of the company, but ownership concentration in the hands of outside directors or major shareholders leads to conflict, as managers may pursue their own interests rather than maximizing corporate value, thereby reducing company value. A combination of ownership and management can improve management efficiency and increase a company's operating performance. Many scholars have also supported this argument (e.g., Morck *et al.* (1988); McConnell and Servas (1990); Oswald and Jahera (1991); Steiner (1996); Demsetz and Villalonga (2001); Chena *et al.* (2003) and Daviesa *et al.* (2005)).

Jensen and Ruback (1983) proposed the entrenchment hypothesis, in which managers who have a high proportion of equity interests will not inhibit, because they worry about their job security and may present some form of anti-takeover behavior. Regardless of whether decisions overall benefit the shareholders, managers exercise substantial decision-making power and ownership refusal may affect their decision-making positions, leading to the eventual deterioration of operating performance. For example, a merger proposal or tender offer may influence

management decision-making, because the managers or directors fear a loss of power and position if it succeeds. This hypothesis describes that "insiders have substantive rights to operate and excessive exploitation of other shareholders shares." The relation between insider stake and corporate performance is negative. Many scholars have supported this conclusion (e.g., Morck *et al.* (1988); McConnell and Servas (1990); Steiner (1996); Chena *et al.* (2003); Daviesa *et al.* (2005)).

After combining the ownership structure of a company's operating performance, Demsetz and Lehn (1985) found that internally-held stocks and the stock market may differ in expected operating performance. This implies that ownership structure and corporate performance do have some relevance. Several scholars reached the same conclusion (e.g., Himmelberg *et al.* (1999) and Demsetz and Villalonga (2001)).

Jensen and Meckling (1976) studied the relationship between corporate performance and ownership structure, believing that corporate performance depends on the ratio of the shares held by internal shareholder directors, supervisors, or managers, with a higher proportion of holdings implying the company's performance is relatively better. Morck *et al.* (1988) examined the relationship between managers' holdings and corporate value, finding that an increase in the concentration of ownership structure brings about three stages of change in corporate value. When the manager shareholding ratio is between5% and 25%, the manager will support the convergence of interest hypothesis, because managers have real decision-making power and their power can consolidate their positions and interests, but in protecting their rights this may harm corporate value. When the manager shareholding ratio is less than 5% or greater than 25%, the manager will support the convergence of interest hypothesis, because stock prices and interests converge. The conclusions show that the best structure of equity is non-linear. Different from Morck *et al.* (1988); Nickell *et al.* (1997) found that managers and their company holdings possess two-stage non-linear characteristics. While managers will have increased their stake through financial incentives and the pursuit of profit maximization, when the number of shares they hold passes a critical point, managers might use substantial discretion to escape any punishment mechanism, thus further pursuing their own goals.

Morck *et al.* (1988) noted that an increase in manager holdings to maximize shareholders' equity has two different effects: (1) wealth effect: when managers' holdings are greater, their wealth rises under a higher company value, and so there is a positive incentive to maximize shareholder interests; (2) entrenchment effect: when managers' holdings are greater, they have real power to protect their own interests, and so they have a negative incentive to maximize the interests of shareholders.

Morck *et al.* (1988) indicated that when managers increase their equity, their wealth will increase as the company value rises, and thus they have a greater incentive to pursue maximization of corporate profits. However, if managers hold a larger stake to a certain extent, then the situation will change, as they may increase their proportion of voting rights, increase internal directors, etc. Although the positive wealth effect persists, some or all of them will be lost to the negative effects of entrenchment.

Many studies have proposed different opinions on the definition of corporate social responsibility. Bowen (1953) suggested that the obligation of the enterprise is to pursue all activities complying with community values. Carroll (1979) put CSR into three categories: economic responsibility (enterprises should make profits), liabilities (enterprises should engage in commercial activities within legal norms), and moral responsibility (enterprises should engage in ethical business practices). For discretionary responsibility, enterprises should take the initiative to engage in behavior conducive to social well-being.

According to the different needs of society at different times, Seithi (1975) divided CSR into three areas: social obligation, social responsibility, and social responsiveness. Mohr *et al.* (2001) spoke against the relation between corporate social responsibility and financial performance, noting that companies are now faced with a huge pressure to balance the two.

Becchetti *et al.* (2008) suggested that CSR and financial performance have a negative relation, as CSR engages in actions that move away from a company's focus by exhibiting non-profit maximizing behavior. Tsoutsoura

(2004) stated there exists a positive relation between CSR and financial performance as high social performance can generate better financial performance. CSR can enhance the brand image, can present a positive reputation on the consumer side, and can make the business more transparent with a lower incidence of corruption. In summary, there are inconsistent conclusions between CSR and financial performance.

Stulz (1988) stated that for corporate governance evaluation scores and independent director seats, the shareholding ratios of institutional investors and managers have a significantly positive relationship, but the shareholding ratios of directors and supervisors have a significantly negative relationship. When directors and supervisors own a high proportion of shares, in order to protect their own interests, they will oppose the company's equity share acquisitions, resulting in the failure of acquisitions and impacting business operations' performance.

Evaluation scores show that corporate commitment has a positive relationship with the manager shareholding ratio. With a significantly higher proportion of shareholding managers, the company places more emphasis on staff training, welfare, and safety and health. For social participation, the evaluation scores imply that with more board members, it is more difficult to integrate opinions. When the decision-making power of directors and managers is concentrated, they are better able to efficiently allocate company resources.

3. HYPOTHESIS

According to the above literature review, we set the first hypothesis as follows.

H1: Corporate governance has a positive impact on company performance after the financial tsunami.

In this study we focus on the corporate governance of the board of directors. Bacon (1973) noted that when more directors have broader educational, technical, and industrial backgrounds, they can put forward many ideas and suggestions on the company's business decisions. Kiel and Nicholson (2003) proposed that with a larger size of the board, the company's business strategy can take on a wide range of suggestions, contributing to good corporate performance. Fama (1980); Rosenstein and Wyatt (1990) and other scholars explored how independent directors can effectively prevent fraud or earnings enhancement through board independence, such that the board becomes an effective oversight mechanism to protect the interests of shareholders. Agrawal and Nagarajan (1990) presented a corollary that when there is more concentrated ownership, more shareholders have an incentive to monitor managers, in order to increase company. Brickley *et al.* (1988); Kaplan and Reishus (1990); McConnell and Servas (1990) also found that the shareholding ratio of institutional investors and corporate performance have a positive relationship. Pound (1988) displays a positive correlation among independent directors, independent directors, board size, and business performance. We thus have the following hypothesis.

H2: CSR has a positive impact on company performance after the financial tsunami

Peters and Mullen (2009) indicated that corporates with a long-term investment in CSR exude a positive impact on shareholders and other interested parties, thus creating and maintaining a competitive advantage. McGuire *et al.* (1988) suggested that CSR brings about a sound corporate reputation, because it improves a corporate's image. If the information of cost is more correct, then it improves financial performance. Although CSR requires businesses to invest in order to achieve cost and resources, it can also create prestige value and financial performance for the enterprise. Therefore, our hypothesis is that CSR has a positive impact on company performance after the financial tsunami.

H3: Corporate governance and CSR have a positive impact on company performance after the financial tsunami.

Because social performance and financial performance have a positive relationship, the ratios between the number of independent directors, board size, and business performance have a positive correlation. Previous studies

tend to focus on ownership structure, stating that the higher the proportion of large shareholders of directors and supervisor holding a high proportion of shareholders then the better business performance. The variables of corporate governance during the financial turmoil presents more significant impact on the company's share price rate of return, because of these factors have a positive impact on corporate performance. Therefore social performance, corporate governance, and ownership structure have a positive impact on a company's performance after the deduction of the financial tsunami.

4. DATA SOURCE, VARIABLE DEFINITIONS, AND RESEARCH MODELS

This chapter examines the methods and design of this research, divided into four sections. The first section of sample and data sources for the variables defined in section II and measure, the third quarter of empirical models and research methods.

4.1. Sample Selection and Data Sources

i. Data Source: All variables are taken from the Taiwan Economic Journal (TEJ) Database and winners of the Corporate Social Responsibility Award.
ii. Sample: Electronics firms listed in Taiwan.
iii. Sample period: From 2009 to 2015, for a total of seven years of data.

4.2. Variable Definitions

This section introduces a strain number (indicators) and variables.

4.2.1. Corporate Performance Indicators (Strain Number)

For research on corporate performance, many scholars have looked at a company's performance metrics. Zantout and Tsetsekes (1994) pointed out that business performance can be divided into two metrics: non-financial performance and financial performance (accounting indicators).

ROA (return on assets) = (net income + interest expense x (1 - t)) / average total assets for the company tax rate. Average total assets = (end the end of the year before the end of the year with total assets + total assets) / 2.

ROE (rate of return on equity) = (net income - special stock dividend) / average common equity. The end of which the average common equity = (common equity before the end of the year by the end of the year + common equity) / 2 shareholders

4.2.2. Corporate Social Responsibility (CSR) Variable

Over the period 2009 to 2015, we look to see if a company has conducted corporate social responsibility as the dummy variable or won the CSR award, taking 1 as a value if so; otherwise, 0.

4.2.3. Corporate Governance Variables

(A) Size of board of supervisors (board size, BS)

According to the approach of Chen (1996) we add the total number of directors and supervisors of the company after taking the natural logarithm. Data are from the new economic report repository, Company DB data library.

(B) Chairman and general manager (managing director, MD)

This variable takes the value of 1 if the company's chairman of the board also serves as a general manager; otherwise, 0.

(C) Proportion of insider ownership (insider ownership, IO)

Following Yu and Zhou (1994) Insider shareholding ratio = sum of shares of directors, supervisors, managers, and large shareholders holding more than 10%at year's end/ number of outstanding shares at year's end.

(D) Largest shareholder ratio (BLOCK)

We follow other scholars to define the largest shareholders as those holding more than 10% of the firm's outstanding shares.

(E) Institutional shareholding ratio (INST)

We follow the literature and define institutional investors holding company is defined as the sum of the sample rate of the outstanding shares of shareholding ratio to remove their natural persons, foreign natural persons overseas project after two.

4.2.4. Control Variables

The control variables are listed as follows.

(1) Firm size (SIZE)

We take the natural logarithm of the company's total assets to denote its size and find a positive correlation with company performance.

(2) Total debt ratio (DR)

Following Lin (1996) we take the book value of the company's total liabilities divided by the book value of the company's total assets and find that company size and company performance have a positive correlation.

4.3. The Models

This study includes descriptive statistical analysis, correlation analysis, and regression analysis as follows.

4.3.1. Descriptive Statistical Analysis

We use the method of descriptive statistical analysis on the variables' maximum, minimum, average, and standard deviation to understand the distribution of each variable and to observe any association with the company's operating performance.

4.3.2. Correlation Analysis

For the correlation analysis of the variables, this study employs the Pearson correlation coefficient assay to analyze the data to see if there is collinearity among the variables.

4.3.3. Regression Models

This study employs the general linear regression model to examine the relevance of corporate governance and company performance, the relevance of corporate social responsibility and company performance, and finally the synergistic effect association of corporate governance and corporate social responsibility with company performance.

(1) The impact effect model of corporate governance on company performance:

$$Y = \beta_0 + \beta_1 \mathrm{BS} + \beta_2 MD + \beta_3 IO + \beta_4 BLOCK + \beta_5 INST + \beta_6 SIZE + \beta_7 DR + \varepsilon_i \ldots\ldots(1)$$

Here Y is the return of equity or assets (ROE or ROA); BS is the natural logarithm number of directors and supervisors on the board; MD is the variable takes the value of 1 if the company's chairman of the board also serves as a general manager; otherwise is 0.IO is the proportion of insider ownership, where insider ownership percentage

= end of the year directors, supervisors, managers, and more than ten percent of the largest shareholder / number of outstanding shares at year's end. BLOCK is the largest shareholder rate to the sum of the rate of ownership of shareholders holding more than ten percent of the shareholding ratio is defined as the largest shareholder. INST is organization ownership rate, institutional investors holding the sample is defined as the sum of the outstanding shares of tradable shares of the removal of their natural ratio, the ratio of overseas foreign natural person holding the second project after. SIZE is the size of the company; we take the natural logarithm of total assets as a measure of company size. DR is the ratio of total liabilities, which is total liabilities divided by the book value of the company's total assets.

(2) The impact models of corporate social responsibility on company performance:

$$Y = \beta_0 + \beta_1 CSR + \beta_2 SIZE + \beta_3 DR + \varepsilon_i \quad \text{.....(2)}$$

Here, Y is equal to ROE or ROA. If company conducted CSR in 2009 to 2015, then it equals 1; otherwise, 0. SIZE is taking a natural logarithm of total assets as a measure of company size. DR is the ratio of total liabilities, which is total liabilities divided by the book value of the company's total assets.

(3)The impact effect of corporate governance and corporate social responsibility on corporate performance:

$$\begin{aligned} Y = {} & \beta_0 + \beta_1 \mathrm{BS} + \beta_2 MD + \beta_3\, IO + \beta_4 BLOCK + \beta_5 INST + \beta_6 SIZE + \beta_7 DR \\ & + \beta_8 BS * CSR + \beta_9 MD * CSR + \beta_{10} IO * CSR + \beta_{11} BLOCK * CSR \\ & + \beta_{12} INST * CSR + \varepsilon_i \quad \text{.....(3)} \end{aligned}$$

Here, Y is *ROE or ROA*. $BS * CSR$ is the cross product effect of the number of directors and supervisors (Board size) and corporate social responsibility (CSR). $MD * SR$ is the cross effect of part-time chairman and general manager (Managing Director) and corporate social responsibility (CSR).$IO * CSR$ is the cross products of insider stake (insider ownership) and corporate social responsibility (CSR).$BLOCK * CSR$ is the cross effect of the largest shareholder ratio (BLOCK) and corporate social responsibility (CSR).

*INST*CSR* is the cross effect of agency shareholding ratio (INST) and corporate social responsibility (CSR). This model used to measure the interactive cross-effect of corporate governance and CSR to corporate performance.

5. EMPIRICAL ANALYSIS

5.1. Descriptive Statistical Analysis

Table 1 presents that the average return of ROA is3.6177with a standard deviation of 7.9805, a maximum value of 67.98, and a minimum value of -104.78. The average ROE is 2.2572with a largest standard deviation of 17.8407, a maximum value of 145.18, and a minimum value of -524.96. The average large shareholding ratio is 1.9505 with a standard deviation of 6.512, a maximum value of 93.29, and a minimum value of 0. The average size of directors and supervisors is 0.9588 with a standard deviation of 0.0799, a maximum value of 1.2553, and a minimum value of 0.4771. The average ratio of insider ownership is 22.7631 with a standard deviation of 14.082. The average ratio of agency shareholders is 33.4394 with a standard deviation of 21.311. The average size of directors and supervisors and corporate social responsibility is 0.0229 with a standard deviation of 0.149. The multiplied term of the average ratio of insider ownership and corporate social responsibility to pay is 0.2961 with a standard deviation of 2.280, showing the ratio of insider ownership and corporate social responsibility to pay little difference multiplied by item. The interactive term of the average rate of the largest shareholder and corporate social responsibility is 0.0304 with a standard deviation of0.6685. The interactive term of the average rate mechanism for shareholdings and corporate

social responsibility to pay is 1.4941 with a standard deviation of 10.030, which means this value varies considerably.

According to Table 1, we see that the largest standard deviation is for ROE, while the lowest standard deviation is for chairman and to be general manager. Therefore, there is a largest difference between the maximum and minimum values of ROE, while there is a very small difference in the values of chairman and general manager.

5.2. Correlation Analysis

Table 2 presents the correlation matrix of variables. The largest shareholder ratio (BLOCK) is negatively correlated with BS, IO, MD, SIZE, BST*CSR, MD*CSR, IO*CSR, INST*CSR, and CSR. However, BLOCK is positively correlated with INST and DR. Next, the size of board of supervisors (BS) is positively and statistically significantly correlated with IO, INST, MD, SIZE, BST*CSR, MD*CSR, ID*CSR, INST*CSR, and CSR. There is also a negative and statistically correlation between the proportion of insider ownership (IO) and MD, SIZE, BST*CSR, MD*CSR, IO*CSR, BLOCK*CSR, INSR*CSR, and CSR. Here, the institutional shareholding ratio (INST), chairman and general manager (MD), Firm size (SIZE), debt ratio (DR), CSR, and the corporate governance interactive term show positive and statistically significant correlations among variables.

5.3. Regression Analysis

Table 3 presents the regression results of corporate governance on return on assets (ROA) and return on equity (ROE). The proportion of insider shareholding (BLOCK) and the proportion of insider ownership (IO) have coefficients of -0.107 and -0.017, and their t-statistics are -9.891 and -2.846, implying that BLOCK and IO to ROA have a negative relationship at the1% significance level. This means that the greater the big shareholder and insider shareholding ratio is, the more negatively it affects company performance. A high insider shareholding ratio results in poor company performance. Institutional shareholding ratio (INST), size of board of supervisor (BS), and chairman and general manager (MD) have coefficients of 0.068, 4.595, and 1.148 and t–statistics of 15.668, 5.395, 5.174, showing a positive relationship at the 1% significance level. The results support the first hypothesis that corporate governance has a positive impact on company performance. This implies that the higher the instutional shareholding ratio is, the larger the size of board of supervisors; and if the chairman of the board also serves as general manager, then this increases corporate performance. The model of R^2 is 0.122, which shows explanatory power. The positive and statistically significant coefficients of size of company to ROA show that a larger-size company exhibits greater company performance.

Table 3 also presents regression results of corporate governance on return on equity (ROE). The large shareholder ownership ratio (BLOCK) and the proportion of insider ownership (IO)to ROE have coefficients of -0.313 and -0.009 and t -statistics of -12.919 and -0.685, respectively; ROE has a negative relationship at the1% significance level. The number of directors and supervisors (BS), institutional ownership rate (INST), and whether the chairman also serves as general manager (MD) to ROE have respective coefficients of 1.514, 0.085, and 1.687, with respective t-statistics of 0.791, 8.684, and 3.381. They show a positive relationship with ROE at the1% significance level. In other words, better corporate governance implies better company performance, which also supports Hypothesis 1.

Table 4 presents the regression results of CSR on ROA and ROE. The CSR coefficient is -2.320 with a t-statistic of -4.813. Thus, CSR has a negative relationship with ROA at the 1% significance level. The results do not support the second hypothesis. The model of R-squared is 0.253.

Table 4 also presents the regression results of CSR to return on equity (ROE). The coefficient of CSR is -1.127 with a t value of -1.046. Thus, ROE has a negative relationship with CSR, but at the 1% significance level. The results do not support the second hypothesis - that is, when a company fulfills corporate social responsibility, it shows better performance. When the firm focuses attention on CSR, operating cost will increase, resulting in

decreasing financial performance. The model of R^2 is 0.275. The performance of CSR companies has a significantly negative effect. This means that when companies conduct CSR-related matters, there are some costs to be borne, and so company performance deteriorates. The larger the company size (SIZE) is to the return on assets (ROA) and return on equity (ROE), the greater the positive relationship is at the 1% significance level. If the company has larger assets, then it will have higher performance. A higher debt ratio (DR) implies poor company performance, probably because the company is bearing a greater financial cost by paying back more debt. A higher debt ratio thus implies poor company performance.

The regression results of the synergistic effects of corporate governance and corporate social responsibility to company performance are shown in Table 5. Here, the regression results for CSR and corporate governance to return on assets (ROA) exhibit that corporate social responsibility (CSR) has a positive coefficient of 11.899 and t-statistics of 2.088, which is significant at the 1% level. The positive and significant coefficient implies a positive relationship with ROA, such that corporates doing CSR activity will increase their reputation and also increase their ROA.

The INST * CSR coefficient is 0.067 with a t-statisticof2.339, showing a positive relationship with ROA, up to the 1% significance level. It implies that companies having a larger instutional shareholding ratio and also doing CSR activity will see an increase in their performance. The cross effect of the agency shareholding ratio and CSR has a significant positive impact on ROA. Moreover, the coefficients of BST* CSR, MD* CSR, IO * CSR, and BLOCK * CSR are -6.344, -1.486, -0.024, and -0.014, respectively. The t-statistic values are-0.538, -0.572, -0.407, and -0.134,which are not at the significance level. Here, the cross effect of CSR and corporate governance do not show a significant effect. However, most of the variables of corporate governance still have a significant impact on ROA. This means that corporates will increase their return on equity by exhibiting good corporate governance.

For ROE, corporate social responsibility (CSR) has a coefficient of 1.587andt-statisticof 0.124,at the 10% significance level, thus showing a positive relationship with ROE. It supports hypothesis one. The cross coefficient of BLOCK * CSR is 0.775 with a t-statistic of 3.223, showing a positive relationship with ROE up to the 10% significance level. It implies that the interactive effect for the company with the largest shareholder ratio (BLOCK) and engaging in the CSR activity exhibits a positive effect and increases the return of equity. However, the coefficients of interactive effects of BS * CSR, IO * CSR, MD * CSR, and INST * CSR are -5.186, 0.089, 2.653, and -0.029witht-statistics of -0.725, 0.682, 0.453, and -0.464, which are not significant at any level. This shows that the cross effect mostly does not have a significant impact on ROE. However, the corporate governance (BLOCK and INST) and control variables (SIZE and DR) still have significant effects on ROE. This supports Hypothesis2. While there is no significant cross effect of corporate governance and CSR on company performance, the significant effect of CSR or corporate governance on company performance has been found herein. This supports Hypotheses 1 and 2.

6. CONCLUSION

Previous studies mostly explore the direct relationship between corporate governance and firm performance or CSR and firm performance. This present study combines those two topics together with corporate social responsibility to discuss the impact of company performance during the recent global financial crisis. The data samples are Taiwanese electronics firms listed on the Taiwan stock exchange market or in the over-the-counter (OTC) market, covering the period from 2009 to 2015. The empirical results of this study are as follows.

Using the variables of size of the board (BS), part-time chairman and general manager (MD), proportion of insider ownership (IO), largest shareholder ratio (BLOCK), and shareholding rate mechanism (INST) as proxies for corporate governance and employing ROA and ROE as proxies for corporate performance, the empirical results show that corporate governance and corporate performance exhibit a significant correlation. The findings confirm what previous studies have shown - that corporate governance plays an important role in corporate performance.

Denis (2001) noted that appropriate corporate governance mechanisms may help spur better company performance. In addition, McWilliams and Siegel (2000) found that corporate social responsibility can build a firm's reputation through quality, reliability, and loyalty. From all this integrated above, we concretely understand that corporate social responsibility does have a significant influence on company performance, thus supporting Hypothesis 1.

Based on the above results, the largest shareholder ratio and the ratio of total liabilities significantly negatively affect company performance. Moreover, organization ownership rate and size of the company have a positively significant effect on company performance from Table 3. The empirical results of Table 4 tell us that CSR has a negatively significant impact on ROA, but not on ROE. Thus, Hypothesis 2 is not supported.

From the empirical results of the cross impact effect of corporate governance and CSR to corporate performance, we see that CSR * INST on ROA and CSR * BLOCK on ROE are positively significant and thus empirically support Hypothesis 3. Through the adjustment factor of corporate social responsibility, managers are able to understand the deeper implications of CSR on corporate governance. If a company conducts corporate social responsibility, it may increase costs over the short run, but will raise company performance in the long run due to the good reputation. In summary, we believe that a corporate engaging in CSR should be reflected in its overall financial performance, which can be used as a reference for future decision-making.

Table-1. Descriptive statistics for the whole sample

	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Probability	Sum	Sum Sq. Dev.
ROA	3.617735	3.090000	67.98000	-104.78	7.980527	-1.35934	17.71850	123391.4***	0.000000	47822.84	841838.8
ROE	2.257186	3.290000	145.1800	-524.96	17.84077	-5.93231	99.60786	5218116***.	0.000000	29837.74	4207200.
BLOCK	1.950463	0.000000	93.29000	0.000000	6.512060	4.173392	24.66392	296873.6***	0.000000	25783.17	560534.7
BS	0.958790	0.954243	1.255273	0.477121	0.079971	-0.00153	3.806072	357.8830***	0.000000	12674.24	84.53308
IO	22.76315	19.16000	94.95000	0.150000	14.08173	1.399538	5.307166	7247.227***	0.000000	300906.1	2621063.
INST	33.43937	29.83000	97.78000	0.010000	21.31083	0.599615	2.606370	877.4647	0.000000	442035.0	6002973.
MD	0.903699	1.000000	1.000000	0.000000	0.295014	-2.73691	8.490695	33108.37	0.000000	11946.00	1150.409
SIZE	6.538779	6.451034	9.390063	4.648848	0.603550	0.887103	4.466089	2917.668	0.000000	86436.12	4814.957
DR	34.16264	32.56000	99.51000	0.010000	16.46185	0.642360	3.479466	1035.705	0.000000	451596.0	3581979.
BST*CSR	0.022901	0.000000	1.230449	0.000000	0.149437	6.432581	42.79124	963254.9	0.000000	302.7227	295.1768
MD*CSR	0.022468	0.000000	1.000000	0.000000	0.148204	6.444486	42.53140	952240.2	0.000000	297.0000	290.3271
IO*CSR	0.296067	0.000000	38.09000	0.000000	2.280098	9.902381	119.5527	7698287.	0.000000	3913.710	68718.38
BLOCK*CSR	0.033960	0.000000	15.70000	0.000000	0.668541	20.15940	417.0125	95304570	0.000000	448.9200	5907.754
INST*CSR	1.494088	0.000000	90.54000	0.000000	10.03004	6.827625	48.88198	1262206.	0.000000	19750.35	1329753.
CSR	0.023148	0.000000	1.000000	0.000000	0.150381	6.342164	41.22304	893325.3	0.000000	306.0000	298.9166

Notes: *, **, and *** denote significance at the 1%, 5%, and 10% levels, respectively.

Table-2. Pearson correlation coefficient

Correlation	BLOCK	BS	IO	INST	MD	SIZE	DR	BST *CSR	MD *CSR	IO *CSR	BLOCK *CSR	INST *CSR	CSR
Probability													
BLOCK	1												
BS	-0.08975	1											
IO	-0.01301	0.07344	1										
INST	0.20937	0.16255	0.418054	1									
MD	-0.05308	0.05194	-0.04386	-0.08195	1								
SIZE	-0.08865	0.24858	-0.2	0.410299	-0.03139	1							
DR	0.0389	0.00201	-0.01242	0.025867	-0.02483	0.175505	1						
BST*CSR	-0.01212	0.07509	-0.11145	0.226945	0.035955	0.413761	0.089897	1					
MD*CSR	-0.01022	0.06231	-0.10832	0.219752	0.04949	0.405776	0.087081	0.982847	1				
IO*CSR	-0.00852	0.01594	-0.04527	0.171832	0.026515	0.31313	0.075943	0.821803	0.824925	1			
BLOCK*CSR	0.08771	0.00594	-0.03421	0.094179	0.016583	0.14794	0.049838	0.321334	0.335077	0.2893	1		
INST*CSR	-0.00669	0.06975	-0.1116	0.247342	0.032142	0.412231	0.079983	0.970308	0.949781	0.7787	0.361902	1	

Table-3. Regression results of corporate governance on corporate performance

	ROA	t-statistic	ROE	t-statistic
C	-18.063	-23.052***	-26.612	-15.191***
SIZE	3.833	31.549***	5.986	22.034***
DR	-0.098	-23.951***	-0.300	-32.939***
CSR	-2.320	-4.813***	-1.127	-1.046
Included observations	13219		13219	
F-statistic	473.261		472.309	
Adjusted R-squared	0.0968		0.0966	

Notes: *,**, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Table-4. Regression results of CSR on corporate performance

	ROA	t-statistic	ROE	t-statistic
C	-15.212	-13.825***	-20.497	-8.287***
BLOCK	-0.107	-9.891***	-0.313	-12.919***
BS	4.595	5.395***	1.514	0.791
IO	-0.017	-2.846**	-0.009	-0.685
SIZE	2.258	15.694***	4.215	13.035***
DR	-0.090	-22.111***	-0.287	-31.507***
INST	0.068	15.668***	0.085	8.684***
MD	1.148	5.174***	1.687	3.381***
Included observations	13219		13219	
F-statistic	262.954		239.619	
Adjusted R-squared	0.122		0.113	

Notes: *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Table-5. Regression results of synergistic effects of corporate governance and CSR on corporate performance

	ROA	t -statistic	ROE	t-statistic
C	-17.038	-15.085***	-21.364	-8.403***
BLOCK	-0.107	-9.882***	-0.322	-13.228***
BS	4.826	5.574***	1.745	0.895
IO	-0.019	-3.201***	-0.014	-1.020
CSR	11.899	2.088**	1.587	0.124
INST	0.070	15.807***	0.088	8.909***
MD	1.244	5.586***	1.696	3.383***
SIZE	2.493	16.608***	4.322	12.853***
DR	-0.088	-21.855***	-0.287	-31.480***
BST*CSR	-6.344	-0.538	-5.186	-0.725
MD*CSR	-1.486	0.571	2.653	0.453
IO*CSR	-0.023	-0.407	0.089	0.682
BLOCK*CSR	-0.014	-0.134	0.775	3.223***
INST*CSR	0.067	2.339**	-0.029	-0.464
Included observations	13219		13219	
F-statistic	146.202		130.323	
Adjusted R-squared	0.125		0.113	

Notes: *,**, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

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