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CSR 法規對企業股價表現之影響:以臺灣股市為例

Does CSR Regulation Affect Company's Stock Performance?

Evidence from Taiwan

Student: 嚴蔓舸 Man-Ko Yen

Advisor: 陳敦源 Don-Yun Chen

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Abstract

This study examines the effectiveness of the new regulations regarding CSR report on stock returns in Taiwan. The sample of corporations is divided into five groups depending on "compulsory or noncompulsory" and "voluntary or non-voluntary before the rules." In the empirical study, "the enforcement date of the regulations (Part 1)" and "the filing date of CSR report (Part 2)" are two basis dates; we observe the difference of 180 transaction days before and after the basis date in both parts. The results are as follows. 1. With controlled relevant variables, the whole market increased 26.5% on stock return after the release of the rules. 2. Whether the new regulations are released or not and with controlled relevant variables, the compulsory firms (which are with higher customer awareness) have better stock performance than others; while the firms which are noncompulsory but volunteered to generate a CSR report did not show significant difference on stock performance; the firms that are noncompulsory and do not submit CSR report, however, perform significantly worse than others. 3. After the enforcement of the new CSR regulations, with controlled relevant variables, the companies which are compulsory but voluntary to file CSR report before the rules performs worse than before; the companies that are noncompulsory and do not file CSR report perform significantly better than before; while the new rules do not have significant influence on the other corporations. 4. Companies which have issued CSR report increase 11.11% on stock return after the issuance of CSR report of each company. 5. Companies that are compulsory and voluntary to submit CSR report before the rules shows better stock performance; while the issuance of CSR report does not make other corporations perform better.

Key words: CSR report, regulations, disclosure, stock return, voluntary

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I. Introduction

This study focuses on the effect of the enforcement of new CSR (corporate social responsibility) report regulations in Taiwan on stock returns of listed companies. On November 26, 2014, Taiwan's government released the new regulations requiring certain corporations to submit annual CSR report. Since CSR report discloses nonfinancial information of a corporation, the new CSR regulations may therefore affect investors' evaluation of corporations, which then affects their decision and directly reflects on stock return, the first indicator of market.

In La Porta, Lopez-de-Silanes, Shleifer, and Vishny's article (1997), it mentions that a good legal environment will protect potential financiers, hence their willingness in investing securities will increase, and eventually the capital markets will expand. If the new CSR regulations in Taiwan can improve the legal environment of market, the regulations may also have direct impact on stock return. In Jizi, Nehme, and Salama's research (2016), they mention that voluntary disclosure of CSR is appreciated by stock participants; also, according to Wang, Chuang, and Xu's finding (2016), voluntary information disclosure is positively related to firm's equity. There are few studies regarding mandatory nonfinancial disclosure in Taiwan. Therefore, the main purpose of this research is to shed light on the effect of CSR disclosure on corporate stock performances under legal enforcement in Taiwan.

The legal system of Taiwan's market was not compulsory before. Financial Supervisory Commission R.O.C. (Taiwan) (FSC) issued a press release on September 18, 2014 announcing that an enterprise which is either operating livelihood-related business or have direct interaction with people or above certain scale of capital shall prepare CSR report

annually as a means of communication with its stakeholders. FSC intensified the disclosure of corporations' non-financial information to the publics in order to boost the confidence of consumers and supply chain manufacturers and strengthen the internal governance of corporations at the same time.

The detailed practices of the new regulation are released by Taiwan Stock Exchange (TWSE) on November 26 in the same year. The name of the regulation is called "Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed Companies[1]." According to the rule, a listed or an OTC (over the counter) company under one of the following circumstances shall prepare and file a corporate social responsibility report in Chinese:

1. company that falls into food industry
2. company whose revenue no less than 50% is derived from food and beverage
3. company that falls into chemical industry
4. company that falls into financial and insurance industry
5. company whose capital stock achieves no less than NT$10 billion

The rule also mentions that the listed company must disclose its corporate social responsibility report and link it to the online system of TWSE by June 30. However, with some conditions, the listed company may complete the filing by December 31[2].

In account of the new regulations, the number of the disclosure of CSR reports of year 2014 surged in 2015. The quantity of CSR reports of listed companies is 267, comparing to

[1] Data Source: Taiwan Stock Exchange - Rules & Regulations Directory

[2] If the listed company does not prepare a corporate social responsibility report in the most recent year or does not prepare the report by referring to the GRI Guidelines, or the corporate social responsibility report has obtained a CPA's letter of opinion according to the rules mentioned in the preceding paragraph, the filing may be completed by December 31.

171 reports of year 2013 is commendable. The quantity of CSR reports of OTC companies also increased from 41 to 75. The total amount of listed and OTC companies hiked from 212 to 342.

With the surge of CSR report, TWSE amended the rules to an extent the requirement of the listed companies on October 19, 2015. From 2017 onwards, besides the company that falls into food industry, chemical industry, financial and insurance industry, the company whose revenue no less than 50% is derived from food and beverage and the company whose capital stock is no less than NT$10 billion shall disclose a corporate social responsibility report of 2016, the company whose capital stock has achieved no less than NT$5 billion but no more than NT$10 billion shall comply with the rule as well. In the following study, the previous rules released on November 26, 2014 are adopted, which means that the company whose capital stock has achieved no less than NT$5 billion but no more than NT$10 billion is disregarded as the observed object.

However, it is noteworthy that since the new CSR regulations only restrict certain corporations, the effectiveness of the regulations on the noncompulsory corporations may be different. Furthermore, before the new regulations released, there are already some companies file CSR report spontaneously. According to Dhaliwal, Radhakrishnan, Tsang, and Yang's study (2012), the issuance of stand-alone CSR reports is related with lower analyst forecast error. With lower analyst forecast error, corporations have lower cost of equity, which implies higher stock price. Since the companies which have issued CSR report before the regulations may have already benefited from the disclosure behavior, the new CSR regulations may have different influences on these companies and other companies.

This study contributes to the influences of the rules of CSR disclosure on Taiwan's stock market. Since CSR used to be the activities practiced voluntarily by companies, it is the first time to make CSR into enforcement in Taiwan. Therefore, there are few, if any, research related CSR regulations. The results of this study can examine the effectiveness of these regulations and be a reference basis for Taiwanese government to improve CSR related laws. Moreover, most of CSR associated studies concentrated on the effects on risk, forecast error, equity financing cost and volatility. This study, however, analyzes the angles directly from investors. Stock performance is the straightforward factor that investors consider; meanwhile, it is also the clear-cut indicator which shows investors' preference. The study contributes to the influences of the rules of CSR disclosure on Taiwan's stock market.

Since La Porta, Lopez-de-Silanes, Shleifer, and Vishny's article (1997) has proved that sound legal environment improves stock market, the new CSR regulations, which enforce corporations to disclose information, are supposed to benefit stock performance as well. Therefore, the research questions of the study are as follows:

1. Whether the new CSR regulations can bring positive effectiveness on companies' stock performance?

2. Whether the issuance (disclosure) of CSR report can bring positive effectiveness on companies' stock performance?

II. Literature Review and Hypotheses Development

Stock return reveals the valuation of investors; while the valuation of investors is affected by legal investor protection, which is necessary (La Porta, Lopez-De-Silanes, and Shleifer 2006). Demirguc-Kunt and Maksimovic (1998) find that an active stock market plus

sound legal system improve corporation growth because these companies are available to obtain external funds. In Mclean, Zhang, and Zhao's research (2012), it shares similar result that investment protection laws are not only positive related to access to external fund, they also improve efficient investment, and accurate share prices. For the countries which have poor investor protection, the valuation is also low (La Porta, Lopez-De-Silanes, Shleifer, and Vishny 2002); although mandatory dividend can work as alternative (La Porta, Lopez-De-Silanes, and Shleifer 1998), yet some studies (La Porta, Lopez-De-Silanes, Shleifer, and Vishny 2000; Shleifer and Wolfenzon 2002) indicate that higher dividend is followed by higher investor protection. In Grossman and Hart's study (1980), it indicates that voluntary disclosure is favored by good companies since they want to show difference from other competitors. This implies shareholders can obtain more information, which may increase the valuation. The function of law, moreover, can decrease the social transaction cost caused by non-disclosure (Grossman and Hart 1980). But mandatory adherents of rules seem to attain better forecast accuracy than voluntary adherents (Horton, G. Serafeim, and I. Serafeim 2010). Overall, to conclude the viewpoints above, the new regulations protecting shareholders are supposed to have positive effectiveness on stock market.

The studies above demonstrate the definite influences of laws on security market and the necessity of legal system; Hope (2003) even points out that strong enforcement enhances higher forecast accuracy, which will raise shareholders' valuation on firms. Hermalin and Weisbach (2012), however, have the opposite findings. They argue that disclosure will increase agency problem and related costs, including CEO compensation and CEO turnover rates; besides, to follow stricter disclosure rules, shareholders should pay higher managerial compensation, which will then decrease the valuation of stock. Nevertheless, there are still others support the positive relationship between disclosure and the valuation of stock. The

study conducted by Lundholm and Myers (2002) found that increasing disclosure will enhance the influence of future earnings on current returns. Further discussion pointed out that firms with greater external financing demands have higher voluntary disclosure levels, which will later lead to a lower financing cost (Francis, Khurana, and Pereira, 2005). The most surprising discovery in this study is that firm-level voluntary disclosure incentives seem to be applicable to all places regardless a country's legal and financial system. Moreover, the result also implies the importance of voluntary disclosure in improving financial performance through lowering cost of capital.

Above references discuss about the relationship between financial disclosure and financial performance. Yet, for the nonfinancial disclosure, Dhaliwal, Radhakrishnan, Tsang, and Yang (2012) indicate that issuing CSR reports is positively associated with lower analyst forecast error, which will increase valuation of shareholders; the relationship is particularly stronger in the countries that are more stakeholder-oriented and for the firms with more ambiguous financial disclosure. Thus, based on all the arguments above, the new CSR report regulations in Taiwan are assumed to enhance valuation of investors.

When focusing exclusively on the influences of CSR on CFP, there are still numerous studies upholding the positive relationship between CSR and CFP. It is originated earliest from the book of Freeman (1984); wherein he pointed out that a firm that practices CSR activities is able to manage good relationships with its stakeholders, which is beneficial for its financial performance. El Ghoul, Guedhami, Kwok, and Mishra (2011) found that firms with higher CSR scores will display cheaper equity financing cost, especially in improving such CSR activities as employees' relationship, environment policies, and product strategies.

Furthermore, the evidence found in bank industry by Simpson and Kohers (2002) verifies that social and financial performances are positively connected.

CSR has significant risks, which are relevant to valuation of shareholders as well. Kim, H. Li, and S. Li (2014) observed that CSR performance is negatively associated with crash risk, especially in the firms with less effective corporate governance or a lower level of institutional ownership. Additionally, firms with higher CSP have lower firm-idiosyncratic risk as well (Luo and Bhattacharya, 2009). CSR is clearly connected to idiosyncratic risk, but not all of them reduce the risk. Mishra and Modi (2012) found that positive CSR will reduce idiosyncratic risk of firms while negative CSR increase so. It is noticeable that when firms with higher financial leverage, positive CSR may not reduce idiosyncratic risk. The other findings by Lee and Faff (2009) in contrast show that leading CSP results in lower idiosyncratic risk while lagging CSP results in higher idiosyncratic risk.

However, CSR may have different effects on different types of companies. For instance, Hull and Rothenberg (2008) discovered that CSP has greater influence on the companies with lower innovation and in the industries with little differentiation. Another interesting study (Servaes and Tamayo 2013) revealed that CSR can enhance firm value for those with higher customer awareness; for those with low customer awareness, on the contrary, the effect of CSR is either negative or nonrelative. Therefore, CSR activities have different degree of effect in different time. For example, the theory developed by A. Mackey, T. B. Mackey, and Barney (2007) showed that managers in publicly traded firms might fund CSR activities that do not maximize the present value of their firm's future cash flows but maximize the market value instead. The inferences above could explain the different effects of new CSR report regulations on different groups in this study.

The effects of CSR on firms have diverse outcomes probably because of different sorts of CSR. Hillman and Keim (2001) suggested that CSR activities related stakeholder management improves shareholder value; while activities regarding social issue participation are negatively related to the shareholder value. One research corroborates the opposite i.e. participation in institutional CSR activities which focused on stakeholders and society provides an "insurance-like" benefit; while participation in technical CSRs which aimed at firm's trading partners generates no such advantages (Godfrey, Merrill, and Hansen, 2009). Another research focuses on the dissimilar results of announcement of positive and negative CSR toward abnormal stock returns. Huang, Wang, and Chang (2013) revealed empirical evidence that positive (negative) CSR announcement has significantly associated with positively (negatively) abnormal stock returns; the impact of negative CSR events is stronger than that of positive one. The discovery of the research conducted by Khanna, Quimio, and Bojilova (1998) is of consistency that the disclosure of negative CSR information like Toxic Release Inventory has negative link to stock market returns. Barnett and Salonmon (2012) on the other hand hypothesize that the corporate social performance to corporate financial performance (CSP-CFP) is U-shaped; the consequence turned out to meet the hypothesis that firms with low CSP have higher CFP than moderate CSP, but firms with high CSP have highest CFP instead. Martin (2002) introduced a tool called the *virtue matrix*, to categorize CSR activities into four types, which are *Strategic*, *Structure*, *Choice*, and *Compliance*[3]; each type of CSR activities is based on different intentions and may contribute to different financial performances. The studies above imply that the contents of CSR report may cause different results on corporations, which will influence the valuation of investors.

[3] A CSR activity counted in *Strategic* means that it is beneficial to society and environment, but corporations should try to make it beneficial to shareholders as well; when an activity belongs to *Structure*, it benefits society but damages shareholders' advantages; if a corporation practice CSR for increasing its self-interest, the activity belongs to *Choice*; while if a corporation fulfills CSR due to law or regulations, the activity is regarded as *Compliance*.

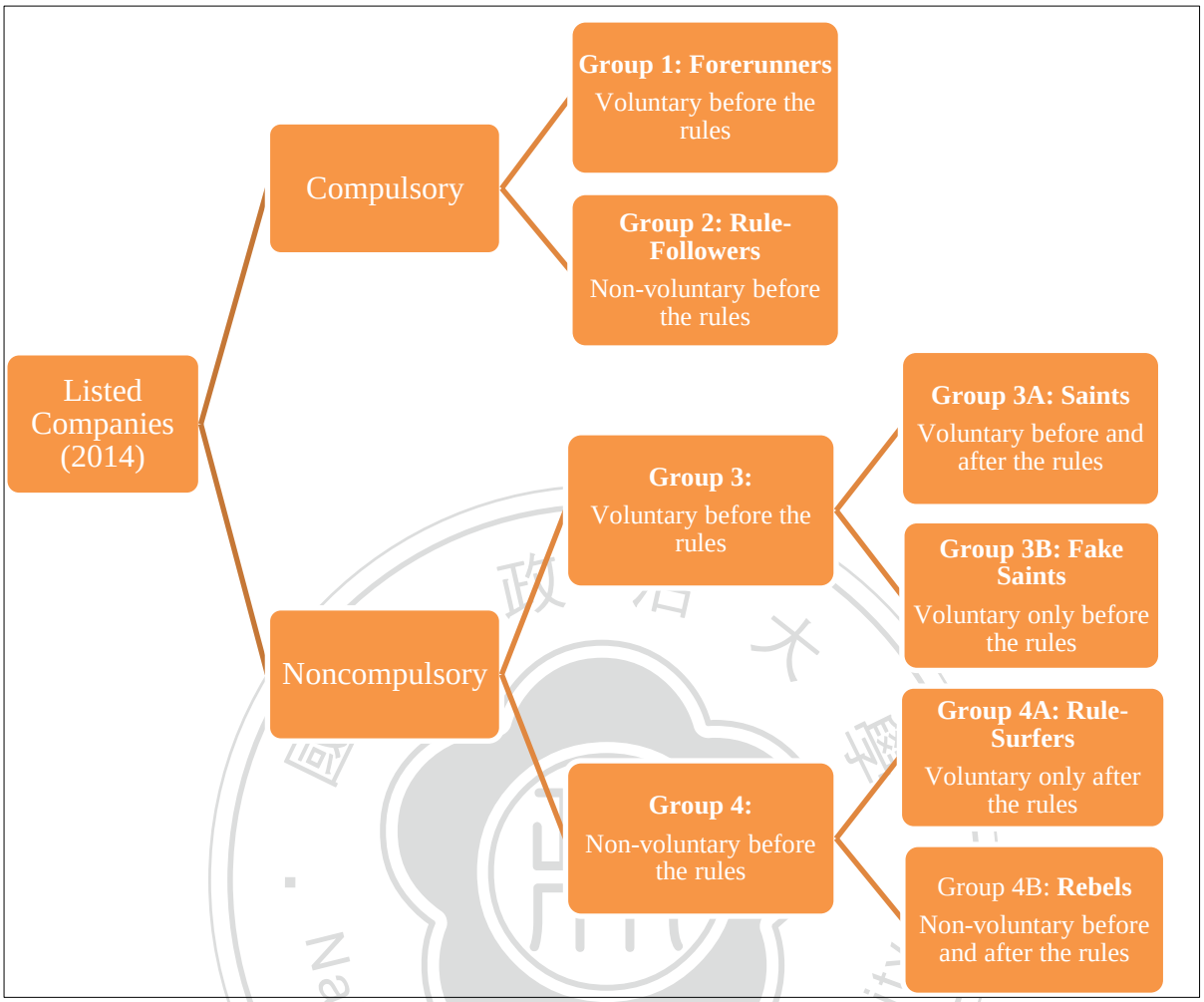

Figure 1. Classification of listed companies. The listed companies are classified into six groups, which are "Group 1: *Forerunners*," who are compulsory and voluntary before the rules, "Group 2: *Rule-Followers*," who are compulsory but non-voluntary before the rules, "Group 3A: *Saints*," who are noncompulsory but voluntary before and after the rules, "Group 3B: *Fake Saints*," who are noncompulsory and voluntary only before the rules, "Group 4A: *Rule-Surfers*," who are noncompulsory but voluntary only after the rules, and "Group 4B: *Rebels*," who are noncompulsory and non-voluntary before and after the rules.

Source: This study and the website of Taiwan Stock Exchange

In view of the circumstances above, all observed listed companies are divided into six groups. The company which is under one of the conditions of the regulations mentioned above is regarded as the sample of "compulsory group." The rest of the listed companies are control group called "noncompulsory group." Next, in each group there are "voluntary group"

and non-voluntary group" shown in Figure 1. The companies which are in the voluntary group under compulsory group, namely voluntary before rules, are counted in *Group 1: Forerunners*. On the contrary, the companies which are in the non-voluntary group under compulsory group belong to *Group 2: Rule-Followers*. As for the voluntary group under noncompulsory group, however, there are two kinds of companies: one is spontaneously filing CSR report before the release of the new regulations; they are regarded as *Group 3A: Saints*, which are voluntary before and after the rules, and *Group 3B: Fake Saints*, which are only voluntary before the rules, namely as they noticed that they are not under obligation of filing CSR report, they stopped issuing CSR report.[4] The other kind of companies is voluntary filing CSR report after the release of the new rules; they are called *Group 4A: Rule-Surfers*. They file CSR report since they find that it becomes a trend of issuing CSR report. Last, the companies which belong to non-voluntary group under noncompulsory group are named *Group 4B: Rebels*.

It is also notable that the filing date of each company may be different, which means the content of CSR report is open to the public on different days. Therefore, two different assumptions based on different event dates are developed: For the first one, say Part 1, the base date is the release date of the regulation. Part 2, on the other hand, the base date is the filing date of CSR report of each company. Under Part 1, investors only care about whether a company files its CSR report regardless the content and the quality. Therefore, the stock market will reflect as soon as the new rules are announced. As for part 2, it emphasizes the actual content in CSR reports. Thus, a company's stock price will increase after the CSR report is available to the public.

[4] Since the numbers of *Group 3B: Fake Saints* are quite few, this group is just a figurehead. Therefore, it will not be discussed in the following.

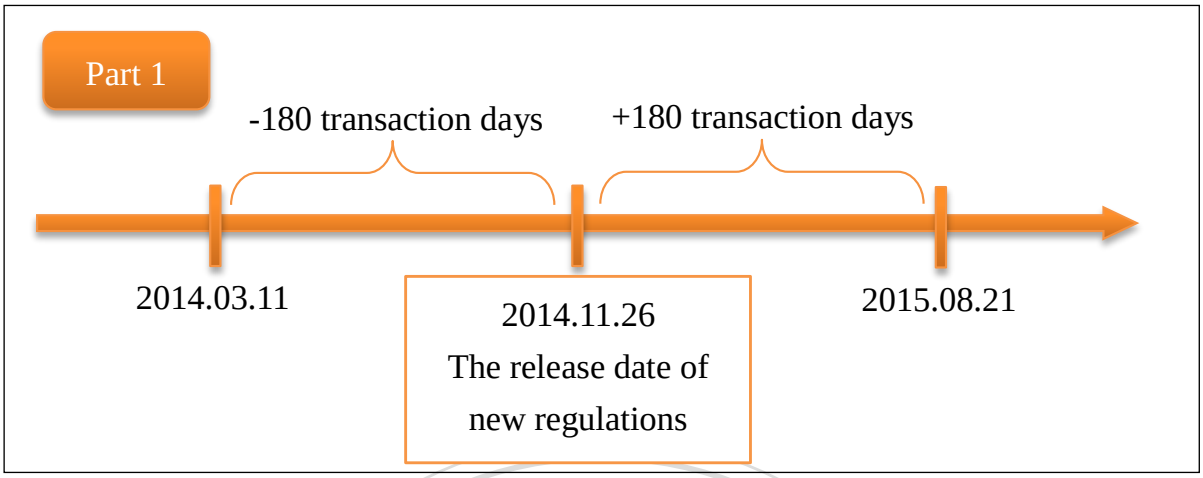

Figure 2. Part 1 database selected period – 180 transaction days before and after the enforcement date of the new regulations of CSR report

Source: This study

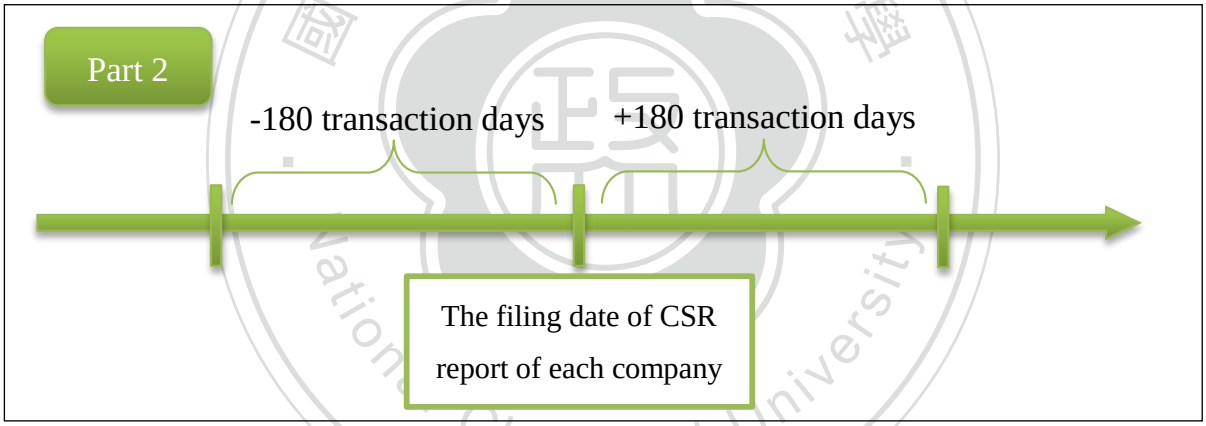

Figure 3. Part 2 database selected period – 180 transaction days before and after the filing date of CSR report of each company

Source: This study

In Figure 2, it shows the selected period of Part 1, which is 180 transaction days before and after the enforcement date of the new regulations of CSR report. The purpose is to examine whether the enforcement of CSR regulations has effectiveness on corporations' stock performance. In Figure 3, on the other hand, it depicts the observed period of Part 2, which is 180 transaction days before and after the filing date of CSR report of each company. Noted that since the sample firms of Group 4B did not issue CSR reports, they are excluded

in Part 2. The intention of this part is to explore the effect of the content of disclosure of CSR report on firms' stock performance.

Briefly, the given research examines the comprehensive influences combined with regulations, information disclosure, and corporate social responsibilities on financial performances of companies; with the knowledge base of the references above, we establish a relationship between regulation, between disclosure, and between CSR and CFP one-to-one; with the classification of listed companies and the observed period selection, the following hypotheses are developed. Recalling that the core purpose of the study is to examine the effectiveness of new CSR report regulations on stock return, the hypotheses are developed under two assumptions. In Part 1, since the shareholders only care about whether companies issue CSR report, the base date falls on the enforcement date of the new regulations, which is November 26, 2014. Hypotheses from 1 to 6 are based on the enforcement date of the new regulations. For Part 2, since the assumption is that shareholders care more about the content of CSR report, the base date is the filing date of CSR report of each company. Below are the hypotheses; the hypotheses from 1 to 6 belong to Part 1, and for Part 2 the hypotheses are from 7 to 9.

Hypothesis 1: After the release of the rules, all companies will have better stock performance.[5]

The new CSR regulations will decrease information asymmetry and therefore enhance the efficiency of the market and provide better legal environment for investors. When the market becomes much sound, potential investors will emerge and the stock market will expand.

[5] This means the whole market will have better stock performance after the release of the rules than before the release of the rules.

Hypothesis 2: After the release of the rules, among forced companies, those voluntarily filed CSR reports do not have better stock performance.[6]

After the release of the rules, the behavior of filing CSR reports of forced companies shifts from "Strategic" to "Compliance," which makes the companies who voluntarily practiced gained nothing while the companies which never intended to volunteer benefited from it because of the positive side-effect of the new regulations.

Hypothesis 3: After the release of the rules, companies which did not voluntarily file CSR reports before but are now compulsory to do so have better stock performance.[7]

According to the research above, regulations have positive influences on stock market. In this situation, investors will gain much more information of these companies due to the new CSR regulations. When the information asymmetry decreases, the stock will perform better.

Hypothesis 4: After the release of the rules, noncompulsory companies that voluntarily filed CSR reports before and after the rules may have better or irrelevant stock performance.[8]

Since these companies are not compulsory, they are affected simply by the new rules, which are thought to be beneficial to the whole market. According to the research result of Horton, G. Serafeim, and I. Serafeim (2010), however, mandatory regulation adopters will improve their financial performances, which will then improve the valuation of shareholders;

[6] This means Group 1 does not have better performance after the release of the rules than before.
[7] This indicates Group 2 has better stock performance after the release of the rules than before.
[8] This indicates the release of the rules may have positive or irrelevant relationship with Group 3A.

while for the noncompulsory adopters, the effects are not robust. So the effect of new CSR regulations on noncompulsory but voluntary corporations may be positive or irrelevant.

Hypothesis 5: After the release of the rules, noncompulsory companies that did not voluntarily file CSR reports before but are voluntary after the rules may have better or irrelevant stock performance.[9]

The situation is similar as the former hypothesis. Since these companies are not compulsory, they are affected simply by the new rules, which are thought to be beneficial to the whole market. According to the research result of Horton, G. Serafeim, and I. Serafeim (2010), mandatory regulation adopters will improve their financial performances, which will then improve the valuation of shareholders; while for the noncompulsory adopters, the effects are not robust. So the effect of new CSR regulations on noncompulsory but voluntary corporations may be positive or irrelevant.

Hypothesis 6: After the release of the rules, noncompulsory companies that do not voluntarily file CSR reports before and after the rules have better stock performance.[10]

The companies which did not submit a CSR report are affected by the new rules, which are thought to be beneficial to the whole market. Moreover, according to Barnett and Salomon's study (2012), CSP-CFP is U-shaped, which means that firms with low CSP have higher CFP than moderate CSP, so among noncompulsory corporations, those who do not issue CSR report will have better stock performance than those who issue a CSR report.

Hypothesis 7: All companies will have better stock performances after filing CSR

[9] This indicates the release of the rules may have positive or irrelevant relationship with Group 4A.
[10] This indicates Group 4B has better stock performance after the release of the rules than before.

reports.[11]

Dhaliwal, Radhakrishnan, Tsang, and Yang (2012) indicate that issuing CSR reports is positively associated with lower analyst forecast error, which will increase valuation of shareholders. Thus, companies that issue CSR reports are thought to have better financial performance.

Hypothesis 8: The mandatory companies have better stock performance after filing CSR reports.[12]

Mandatory companies are regarded as ones with higher customer awareness. According to the study conducted by Servaes and Tamayo (2013), CSR can enhance firm value especially for these companies. As a result, filing CSR report is inferenced to improve corporate financial performance

Hypothesis 9: The noncompulsory companies may have worse or irrelevant stock performance after filing CSR reports.[13]

On the contrary, the noncompulsory companies are regarded as ones with lower customer awareness. CSR, however, will be irrelevant or even negative for these firms (Servaes and Tamayo, 2013). Furthermore, disclosure will increase agency problem and related costs (Hermalin and Weisbach, 2012), which may also be the reason why CSR has negative influences on these corporations' stock performance. Hence, the effect of issuance of

[11] This means the whole market except Group 4B will have better stock performance after the issuance of CSR report.
[12] This means Group 1 and Group 2 have better performance after filing CSR reports.
[13] This indicates Group 3A and Group 4A may or may not have worse stock performance after filing CSR reports.

CSR report on these firms may be irrelevant or negative.

The hypotheses and the corresponding research questions are as below.

Table 1 Questions and relative hypotheses

Questions	Hypotheses
1. Whether the new CSR regulations can bring positive effectiveness on companies' stock performance?	Hypothesis 1: After the release of the rules, all companies will have better stock performance.
	Hypothesis 2: After the release of the rules, among forced companies, those voluntarily filed CSR reports do not have better stock performance.
	Hypothesis 3: After the release of the rules, companies which did not voluntarily file CSR reports before but are now compulsory to do so have better stock performance.
	Hypothesis 4: After the release of the rules, noncompulsory companies that voluntarily filed CSR reports before and after the rules may have better or irrelevant stock performance.
	Hypothesis 5: After the release of the rules, noncompulsory companies that did not voluntarily file CSR reports before but are voluntary after the rules may have better or irrelevant stock performance.
	Hypothesis 6: After the release of the rules, companies that do not voluntarily file CSR reports before and are now not voluntary and noncompulsory to do so has better stock performance.
2. Whether the issuance (disclosure) of CSR report can bring positive effectiveness on companies' stock performance?	Hypothesis 7: All companies will have better stock performances after filing CSR reports.
	Hypothesis 8: The mandatory companies have better stock performance after filing CSR reports.
	Hypothesis 9: The noncompulsory companies may have worse or irrelevant stock performance after filing CSR reports.

Source: This study

III. Data and Methodology

The Research method is divided into three parts: 1. DATA Description; 2. Measurement of Variables; and 3. Empirical Model Setting.

1. Data Description

In the research, the database used is "TSE/OTC Adjusted Price (Daily)- Excluding Right and Dividend" from Taiwan Economic Journal (TEJ). This database only incorporates the data of the companies that are now listing, namely the data of the companies that have already delisted is excluded.

The list of companies that shall submit CSR report Year 2014 and the previous CSR reports of corporations are collected at Market Observation Post System (MOPS) of TWSE.

1.1 Sample Selection

According to the database of TEJ, the population of part 1 includes 787 observations of all listed companies in Taiwan Stock Exchange from March 11, 2014 to August 21, 2015.[14] The population of part 2 is almost the same as that of part 1, except that since the companies of Group 4B do not file their CSR reports, there is no base date of them. Therefore, Group 4B is unqualified for the research of part 2. In part 2, the number of samples is 259.

1.2 Sample Period Selection

There are two parts of observed period adopted in this study. The first part of the period

[14] TDR and F-shares are not included. The company that has terminated listing before April 20, 2017 is not included as well.

of observation is determined by 180 transaction days before and after the release of the new regulations, which falls on November 26, 2014.[15] The hypothesis of this setting of the period is that investors will care only about whether a company files its CSR report instead of the content inside. On the contrary, the other part of the period of observation is calculated depending on each company's filing day of the CSR reports of year 2014. The total observation period will be 180 days before and after the filing day.[16]

In the study of Waddock and Graves (1997), corporates social performance (CSP) is proved to be positively related to prior financial performance and positively associated with future financial performance. Hence both before and after 180 days of the reference dates are selected in this study.

1.3 Population Classification

These corporations are divided into four groups. As mentioned in the introduction, all the listed companies are divided into "compulsory group" and "noncompulsory group" at the beginning. Afterwards, each group is split into "voluntary group" and "non-voluntary group." The "voluntary group" under "compulsory group" is *Group 1: Forerunners*, namely "voluntary before compulsory." The "non-voluntary group" under "compulsory group" is *Group 2: Rule-Followers*, namely "non-voluntary before compulsory." The "voluntary group" under "noncompulsory group" is Group 3, namely "voluntary before the rules." The "non-voluntary group" under "noncompulsory group" is Group 4, namely "non-voluntary before the rules." In Group 3, it can be split into *Group 3A: Saints*, the company voluntary before and after the release of new regulations, and *Group 3B: Fake Saints*, the company

[15] November 26, 2014 is counted in the later period.
[16] The filing day of each company is counted in the later period.

only voluntary before the rules. It is noteworthy that the numbers of this group are quite few; from a statistical point of view, insufficient sample size can lead to an increase in statistical inference uncertainty; therefore it will not be discussed in the following. Group 4 can also be divided into *Group 4A: Rule-Surfers*, the company voluntary only after the release of new regulations, and *Group 4B: Rebels*, namely non-voluntary before and after the rules. The conditions of each group are mentioned as follows.

Group 1: Forerunners—Voluntary before compulsory

This group includes the company voluntary to disclose CSR reports already before the law and is obligated after the law. In the sample, the company has filed CSR report of year 2013.[17] There are 163 companies are obligated to prepare and file CSR reports of 2014. Among them, there are 67 companies that have already filed CSR reports of year 2013. As a result, there are 67 companies in Group 1.

Group 2: Rule-Followers—Non-voluntary before compulsory

This group includes the company which does not disclose CSR report before the law and is obligated after the law. The number will be 163 of the total compelled listed companies deducts 67 of Group 1. Therefore, there are 96 companies in Group 2.

In Group 2, it is noteworthy that under the rules, few companies perform even better as predicted. Some companies file not only CSR reports of year 2014, but also prepare the previous year(s) of CSR reports. Some even provide English version of CSR reports although it is not necessary. This is consistent with the results of the research which Kagan and

[17] Even the CSR report is filed after the release date of new regulations, the company that filed CSR report of year 2013 is counted as voluntary.

Thornton (2003) conducted that companies have the tendency to go "beyond compliance" with tightening regulatory requirements.

Group 3A: Saints—Voluntary before and after the release of new regulations

This group includes the one voluntary to disclose CSR report already before the law and is not obligated after the law. The total companies filing CSR report of year 2013 are 125. The total companies of Group 1 are 67. Still, two firms are excluded since they do not have enough transaction days to observe. Thus, the companies of firms in Group 3A are 57.[18]

Group 4A: Rule-Surfers—Voluntary only after the release of new regulations

Group 4A incorporates the one voluntary to disclose CSR report after the release of the rules but is not obligated after the law. The total companies filing CSR report of year 2014 are 252. After excluding the compulsory companies, namely Group 1 and Group 2, and the companies that have already been voluntary before the release of new regulations, namely the companies in Group 3A, the companies of Group 4A are 39.[19]

Group 4B: Rebels—Non-voluntary before and after the rules

The group is inclusive of the one which does not disclose CSR report before or after the law nor is obligated after the law. The total number of listed companies excluding the firms which have filed CSR reports of year 2013 or 2014 will be the total number of this group. That is, all listed companies deduct those of Group 1, Group 2, Group 3A, and Group 4A.

[18] Firm 2029, 2062, 2369, 3266, 3669, 4119, 4919, 4960, 6166, 8271, and 9911 filed CSR report of year 2013 but did not file CSR report of year 2014. They are still counted in Group 3A.

[19] The companies which have already suspended or have not listed in the observed period are not included. In Group 3A, there are 11 companies did not file CSR report of year 2014.

Nevertheless, few companies who suspend listing during this period are removed from the observed objects. Therefore, there are 528 firms in Group 4B.

Table 2 Categories of population and numbers of each category

Categories	**Numbers of firms**
All listed companies	787
Group1	67
Group2	96
Group3A	57
Group4A	39
Group4B	528

Source: This study and Taiwan Economic Journal (TEJ) database

2. Measurement of Variables

Since the preference of investors will have a direct and immediate impact on the stock market, the dependent variable used in this study is "stock return." In case of control variables, Atiase (1985) indicates that capitalized value should be control when requiring control for disclosure information; and the study adopts market value (MV). Besides market value, volume (Volume) is adopted as one of the control variables as well (Kyle, 1985; Glosten, 1988). According to Capital Asset Pricing Model (CAPM)[20], beta value measures the risk of stock, which may influence investors' valuation; thus, beta value counted by the return of last year (BETA_1Y) is used. Furthermore, referring to the results of Rajgopal, S., and M. Venkatachalam (2011), the study also employs ratio of leverage ratio (LeverageR), return on equity (ROE), cash flow ratio (CashFlowR), and market return (MKT_R) as control variables. Additionally, turnover (Turnover) and current asset to total asset (CATA) are also used since they are the ratios that investors will consider.

[20] CAPM is a model used to estimate the appropriate rate of return and the corresponding risk of a security.

3. Empirical Model Setting

Analytically, the model established to estimate the return on investment of each firm is as follow:

$$AR_{i,j} = \begin{cases} \left|\frac{1}{d}\right| \sum_{j=d}^{0} R_{i,j}, & \mathrm{d} < 0 \\ \frac{1}{d} \sum_{j=0}^{d-1} R_{i,j}, & \mathrm{d} \geq 0 \end{cases}, \quad (1)$$

where

$$R_{i,j} = \frac{CLOSE_{i,j} - CLOSE_{i,j-1}}{CLOSE_{i,j-1}}, \quad (2)$$

where $AR_{i,j}$ represents the average return on investment for j^{th} transaction day of stock *i*, $R_{i,j}$ represents the return on investment for j^{th} transaction day of stock *i*, d represents the day before or after the enforcement date of new CSR regulations, and *i* represents the stock of listed company. The return on investment of each group is the average of *AR*s in each group.

For instance, in part 1, each company of those 67 companies in Group 1 will yield an average rate of 180 days before the release day of the new rules; Group 1 will then yield a mean by these 67 average rates as its average rate of 180 days before. Group 2, Group 3A, Group 4A, and Group 4B are calculated by the same approach. For the average rate of 180 days after the release day of the new rules are the same.

According to the references above, the empirical model in part 1 is constructed as follows:

$$R_{i,j} = \beta_0 + \beta_1 REGU_{i,j} + \beta_2 Group1_{i,j} + \beta_3 Group2_{i,j} + \beta_4 Group3A_{i,j} + \beta_5 Group4A_{i,j} + \beta_6 REGU_{i,j} \times Group1_{i,j} + \beta_7 REGU_{i,j} \times Group2_{i,j} + \beta_8 REGU_{i,j} \times Group3A_{i,j} + \beta_9 REGU_{i,j} \times Group4A_{i,j} + \delta X_{i,t} + \varepsilon_{i,t} \quad (3)$$

In formula (3), $R_{i,j}$ represents the return on investment for j^{th} transaction day of stock *i*, while $REGU_{i,j}$ represents the dummy of the enforcement of new CSR regulations for j^{th} transaction day of i^{th} stock. $Group1_{i,j}$ is the dummy of Group 1, if $R_{i,j}$ is from the stock in Group 1, then $Group1_{i,j} = 1$, else $Group1_{i,j} = 0$; $Group2_{i,j}$, $Group3A_{i,j}$, and $Group4A_{i,j}$ are the dummies of Group 2, Group 3A, and Group 4A consequently.

In part 2, the method is the same when calculating the average rates, but the base date will be the filing day of CSR report of each company. That is, formula (1) and formula (2) are the same in part 2, but d here represents the day before or after the filing date of CSR report of each company.

Since Group 4B is not included in part 2, the empirical model is modified as follow:

$$R_{i,j} = \beta_0 + \beta_1 REPO_{i,j} + \beta_2 Group1_{i,j} + \beta_3 Group2_{i,j} + \beta_4 Group3A_{i,j} + \beta_5 REPO_{i,j} \times Group1_{i,j} + \beta_6 REPO_{i,j} \times Group2_{i,j} + \beta_7 REPO_{i,j} \times Group3A_{i,j} + \delta X_{i,t} + \varepsilon_{i,t} \quad (4)$$

In formula (4), $R_{i,j}$ represents the return on investment for j^{th} transaction day of stock *i*, while $REPO_{i,j}$ represents the dummy of the filing date of CSR report for j^{th} transaction day of i^{th} stock. $Group1_{i,j}$ is the dummy of Group 1, if $R_{i,j}$ is from the stock in Group 1, then $Group1_{i,j} = 1$, else $Group1_{i,j} = 0$; $Group2_{i,j}$, and $Group3A_{i,j}$ are the dummies of Group 2 and Group 3A subsequently.

IV. Empirical Results

Due to the different time point division of this study, the empirical results are composed of two parts: Part 1 is on the subject of the enforcement date of new CSR regulations; while part 2 is regarding the filing date of CSR report of each company.

1. Part 1—the enforcement date of new CSR regulations

Table 3 presents descriptive statistics of 787 listed companies with the time period of 180 days before and after the enforcement date of new CSR regulations. In panel A we can see that the average rate of return (Return) of all observed samples is -0.00053; the average trading volume (Volume) is 2583.17; the average turnover rate (Turnover) is 0.0049; the average market value in million (MVmillion) is 29698.5; the average market value (MV) is 8.8703; the average ratio of current asset to total asset (CATA) is 0.5717; the average leverage ratio (LeverageR) is 0.1119; the average return on equity (ROE) is 9.3736; and that the average cash flow ratio (CashFlowR) is 32.8861.

In panel B, C, D, E, and F, it shows that Group 1 decreases the least (-0.00018) on its average rate of return (Return) while Group 3A decreases the most (-0.00062). For average trading volume (Volume), Group 1 has the highest (13635.31) figure while Group 4B has the lowest (1137.99) one. When it comes to turnover ratio (Turnover), Group 4A has the highest ratio (0.0056) whereas Group 2 has only 0.0027.

Table 3

Descriptive statistics - the enforcement date of new CSR regulations

This table includes descriptive statistics of variables applied in this paper. The sample is composed of 787 listed companies from March 11, 2014 to August 21, 2015. Panel A displays the data of overall sample; panel B, panel C, panel D, panel E, and panel F display the data of 67 companies in Group 1, 96 companies in Group 2,

57 companies in Group 3A, 39 companies in Group 4A; and 528 companies in Group 4B respectively. The variables include rate of return (Return), trading volume (Volume), turnover rate (Turnover), market value in million (MVmillion), market value (MV), ratio of current asset to total asset (CATA), leverage ratio (LeverageR), return on equity (ROE), and cash flow ratio (CashFlowR). The calculation basis of Return, Volume, and Turnover is the daily value of each stock in the sample period. The calculation basis of the other control variables is the value of each stock in the end of 2013.

Panel A

All listed companies

Variable	Mean	Std.	Min	Q1	Median	Q3	Max
Return	-0.00053	0.0196	-0.1875	-0.0088	0	0.0067	0.1
Volume	2583.17	7972.07	0	174	563	1922.5	367103
Turnover	0.0049	0.0095	0	0.00081	0.0019	0.0049	0.2972
MVmillion	29698.5	125452.8	121	2679	6062	14529	2735469
MV	8.8703	1.4325	4.7958	7.8932	8.7098	9.5839	14.8218
CATA	0.5717	0.2123	0.0531	0.4247	0.5776	0.7388	0.9960
LeverageR	0.1119	0.1126	0	0.0284	0.0781	0.1651	0.9575
ROE	9.3736	17.8333	-85.55	3.11	8.96	15.12	250.76
CashFlowR	32.8861	112.0297	-1062.9	5.53	21.63	44.76	1558.96

Panel B

Group 1

Variable	Mean	Std.	Min	Q1	Median	Q3	Max
Return	-0.00018	0.0161	-0.1	-0.0078	0	0.0066	0.0993
Volume	13635.31	21499.03	0	2413	6889.5	15962	367103
Turnover	0.0030	0.0043	0	0.00086	0.0016	0.0035	0.1076
MVmillion	187371.24	361117.13	8096	31551	89132	213431	2735469
MV	11.322616	1.2578	8.9991	10.3594	11.3979	12.2711	14.8218
CATA	0.4344	0.2136	0.1372	0.2690	0.3816	0.5270	0.9237
LeverageR	0.1897	0.1275	0.0054	0.1008	0.1772	0.2597	0.5521
ROE	10.1412	18.7321	-27.99	3.73	9.71	14.38	137.36
CashFlowR	42.5152	54.5889	-7.61	10.48	27.055	42.37	208.05

Panel C

Group 2

Variable	Mean	Std.	Min	Q1	Median	Q3	Max
Return	-0.00044	0.0153	-0.1	-0.0071	0	0.0054	0.1
Volume	3391.98	7617.4	0	203	1005	3459.5	253299
Turnover	0.0027	0.0057	0	0.00061	0.0013	0.0027	0.2808
MVmillion	50696.72	134057.93	541	4918.5	15333	34150.5	1051609
MV	9.5785	1.5210	6.2934	8.5001	9.6375	10.4385	13.8658

CATA	0.4982	0.1986	0.1130	0.3497	0.4697	0.6490	0.9194
LeverageR	0.1394	0.1056	0.00038	0.0472	0.1167	0.2190	0.4282
ROE	8.6535	10.5806	-23.26	2.77	8.165	14.015	47.96
CashFlowR	33.2993	38.7700	-42.44	8.3	22.15	56.38	232.43

Panel D

Group 3A

Variable	Mean	Std.	Min	Q1	Median	Q3	Max
Return	-0.00062	0.0188	-0.1	-0.0088	0	0.0071	0.1
Volume	1896.34	3261.25	0	279	728	2129	54642
Turnover	0.0052	0.0085	0	0.00097	0.0024	0.0058	0.1851
MVmillion	17691.89	30574.08	2328	5238	7210	15907	199059
MV	9.1933	0.9533	7.7528	8.5637	8.8832	9.6745	12.2014
CATA	0.5828	0.1636	0.1755	0.4937	0.5564	0.7272	0.8515
LeverageR	0.0884	0.0819	0.0012	0.0203	0.0609	0.1395	0.3078
ROE	9.8551	10.0217	-29.52	3.57	10.37	16.04	33.85
CashFlowR	33.1853	33.9800	-24.96	8.8	26.83	50.57	125.69

Panel E

Group 4A

Variable	Mean	Std.	Min	Q1	Median	Q3	Max
Return	-0.00039	0.0192	-0.1	-0.0093	0	0.0077	0.1
Volume	2174.66	3790.92	0	362	1057	2419.5	111479
Turnover	0.0056	0.0085	0	0.0013	0.0029	0.0065	0.2570
MVmillion	21728.03	27771.78	1302	5357	11688	24101	126600
MV	9.4169	1.0826	7.1717	8.5862	9.3663	10.0900	11.7488
CATA	0.5742	0.2203	0.0550	0.4149	0.5723	0.7545	0.8873
LeverageR	0.1042	0.0889	0.0028	0.0350	0.0782	0.1442	0.3888
ROE	12.3841	11.9583	-22.94	5.94	12.29	21.02	36.86
CashFlowR	34.3944	47.3697	-106.11	13.23	24.63	50.34	210.9

Panel F

Group 4B

Variable	Mean	Std.	Min	Q1	Median	Q3	Max
Return	-0.00060	0.0208	-0.1875	-0.0092	0	0.0069	0.1
Volume	1137.99	2355.79	0	139	388	1128	104408
Turnover	0.0055	0.0106	0	0.00082	0.0020	0.0054	0.2972
MVmillion	8060.7	15751.14	121	2080.5	4437	8462.5	200993
MV	8.3591	1.0601	4.7958	7.6404	8.3977	9.0434	12.2110

CATA	0.5934	0.2117	0.0531	0.4565	0.6062	0.7530	0.9960
LeverageR	0.1041	0.1137	0	0.0244	0.0711	0.1544	0.9575
ROE	8.9310	19.6190	-85.55	2.02	8.29	14.965	250.76
CashFlowR	31.4716	131.7328	-1062.9	1.845	19.8	44.105	1558.96

Source: This study

Table 4 depicts the t test of the differences of the rate of return before and after the enforcement date of new CSR regulations. Panel A reports the difference between 5 days before and after the enforcement date of new CSR regulations in Group 1, Group 2, Group 3A, Group 4A, and Group 4B. Panel B, C, D, E, F, and G reports the difference between 10, 15, 30, 60, 90, and 180 transaction days before and after the enforcement date of new CSR regulations respectively. In panel A, all groups have significantly negative difference of positive 5 days minus negative 5 days of the enforcement date of new CSR regulations. In panel B, on the contrary, they all have positive difference and except for Group 1 they have all significant difference. In panel C and D, aside from the negative difference of Group 1, all groups have positive difference and most of them are significant. When it comes to panel E and F, all groups have significantly positive difference. For panel G, it portrays a huge opposite change that all groups have negative and significant difference.

Table 4

T test - the enforcement date of new CSR regulations

This table includes rate of return in Group 1, Group 2, Group 3A, Group 4A, and Group 4B with 67, 96, 57, 39, and 528 companies respectively. The observed period of Panel A is 5 transaction days before and after the enforcement date of new CSR regulations in Group 1, Group 2, Group 3A, Group 4A, and Group 4B. The observed periods of Panel B, Panel C, Panel D, Panel E, Panel F, and Panel G, are 10, 15, 30, 60, 90, and 180 transaction days correspondingly. The differences in Table 1 are the average returns of positive days minus those of negative days.

Panel A

The difference between 5 transaction days before and after the enforcement date of new CSR regulations

	-5 days	+5 days	Difference	t-value

Group 1	0.004461	-0.001745	-0.00621	-5.20***
Group 2	0.002761	-0.000463	-0.00322	-3.99***
Group 3A	0.003091	0.001123	-0.00197	-1.97*
Group 4A	0.006575	-0.000188	-0.00676	-4.64***
Group 4B	0.004635	0.001660	-0.00297	-5.67***

Panel B

The difference between 10 transaction days before and after the enforcement date of new CSR regulations

	-10 days	+10 days	Difference	t-value
Group 1	0.000225	0.001292	0.00107	1.37
Group 2	-0.000588	0.001170	0.00176	2.68***
Group 3A	-0.002237	0.003379	0.00562	6.66***
Group 4A	0.000123	0.002409	0.00229	2.43**
Group 4B	-0.000636	0.003169	0.00381	9.88***

Panel C

The difference between 15 transaction days before and after the enforcement date of new CSR regulations

	-15 days	+15 days	Difference	t-value
Group1	0.000213	-0.000120	-0.00033	-0.52
Group2	0.000047	0.000542	0.00050	0.97
Group3A	-0.001054	0.002326	0.00338	4.70***
Group3B	0.000053	0.001265	0.00121	1.53
Group4	-0.000298	0.002404	0.00270	9.12***

Panel D

The difference between 30 transaction days before and after the enforcement date of new CSR regulations

	-30 days	+30 days	Difference	t-value
Group 1	0.001168	0.001090	-0.00008	-0.16
Group 2	0.000266	0.001180	0.00091	2.17**
Group 3A	-0.000765	0.002078	0.00284	5.03***
Group 4A	0.000268	0.001605	0.00134	2.57**
Group 4B	-0.000441	0.001983	0.00242	11.45***

Panel E

The difference between 60 transaction days before and after the enforcement date of new CSR regulations

	-60 days	+60 days	Difference	t-value

Group 1	-0.000739	0.001195	0.00193	6.80***
Group 2	-0.001222	0.000840	0.00206	8.85***
Group 3A	-0.001869	0.001496	0.00336	8.32***
Group 4A	-0.001434	0.001174	0.00261	6.65***
Group 4B	-0.001576	0.001356	0.00293	21.46***

Panel F

The difference between 90 transaction days before and after the enforcement date of new CSR regulations

	-90 days	+90 days	Difference	t-value
Group 1	-0.000422	0.000880	0.00130	5.30***
Group 2	-0.000859	0.000602	0.00146	7.80***
Group 3A	-0.001178	0.001110	0.00229	9.07***
Group 4A	-0.001048	0.001005	0.00205	6.29***
Group 4B	-0.001051	0.001215	0.00227	18.69***

Panel G

The difference between 180 transaction days before and after the enforcement date of new CSR regulations

	-180 days	+180 days	Difference	t-value
Group 1	0.000433	-0.000787	-0.00122	-5.46***
Group 2	-0.000083	-0.000791	-0.00071	-4.70***
Group 3A	-0.000158	-0.001084	-0.00093	-4.29***
Group 4A	-0.000042	-0.000741	-0.00070	-2.72**
Group 4B	-0.000246	-0.000947	-0.00070	-7.51***

*p < 0.10, **p < 0.05, ***p < 0.001

Source: This study

Table 5 depicts the regression of the enforcement of CSR regulations on stock return. The period employs 180 transaction days before and after the enforcement date of new CSR regulations. It includes sample of Group 1, Group 2, Group 3A, Group 4A, and Group 4B. In Panel A, Model 1 to Model 7 display the results without controlling other variables whereas in Panel B, Model 8 to Model 14 present the results with control variables such as volume (Volume), turnover (Turnover), beta value calculated by the return of the previous year of the enforcement date (BETA_1Y), market value (MV), ratio of current asset to total asset

(CATA), leverage ratio (LeverageR), return on equity (ROE), cash flow ratio (CashFlowR), and market return (MKT_R).

Model 1 shows the impact of the enforcement of new CSR regulations on stock return with a dummy variable "regulation (REGU)." Model 2 to Model 6 display the results of the enforcement of new CSR regulations with adding Group 1, Group 2, Group 3A, Group 4A, and Group 4B as dummy variables respectively. Model 7 reveals the influence of the enforcement of new CSR regulations by employing all variables (Group 4B is regarded as the constant term).

In Panel A, without controlling other variables, the coefficient of regulation (REGU) is significantly negative. Under this condition, the enforcement of new CSR regulations makes the whole stock return of samples of listed companies decrease approximately 5 times (0.00076/0.00015). In Model 2 to Model 6, the coefficients of regulation (REGU) are all significantly negative, which means when excluding Group 1, Group 2, Group 3A, Group 4A, and Group 4B respectively, the stock returns of whole market decline due to the enforcement of new CSR regulations as well. When only considering Group 1, overall, it has the highest positive and significant performance (0.00064) comparing to other groups regardless of before or after the enforcement of new CSR regulations; but the interactive dummy (REGU×Group 1) in Model 2 is significantly negative (-0.00050). Group 1 decreases 143.53% ((-0.00072-0.0005)/(0.00021+0.00064)) after the enforcement of new CSR regulations. In Model 3 and Model 5, Group 2 and Group 4A have positive but not significant returns before and after the enforcement of new CSR regulations. In Model 4, Group 3A, on the other hand, has negative but insignificant figures. When it comes to Model 6, Group 4B has significantly negative performance (-0.000286) comparing to other groups no matter

before or after the enforcement of new CSR regulations. The interactive dummy (REGU×Group 4B) is positive but insignificant (0.000186). In Model 7, nevertheless, considering all groups at the same time, the enforcement of new CSR regulations decreases the return of Group 4B by 0.0007007, and its total impact on Group 1 is -0.0012201 (REGU+REGU×Group 1).

Model 8, as Model 1 does, shows the impact of the enforcement of new CSR regulations on stock return with dummy variable "regulation (REGU)," but it employs control variables mentioned above. Model 9 to Model 13, similarly, depict the results of the enforcement of new CSR regulations with adding Group 1, Group 2, Group 3A Group 4A, and Group 4B as dummy variables respectively and also with control variables. Model 14, on the other hand, reports the influence of the enforcement of new CSR regulations by employing all variables (Group 4B is regarded as the constant term).

Table 5

Regressions of the enforcement of CSR regulations on stock return - 180 transaction days before and after the enforcement date of new CSR regulations

This table reports the estimate of the following regression:

$$R_{i,j} = \beta_0 + \beta_1 REGU_{i,j} + \beta_2 Group1_{i,j} + \beta_3 Group2_{i,j} + \beta_4 Group3A_{i,j} + \beta_5 Group3B_{i,j} + \beta_6 Group4_{i,j} + \beta_7 REGU_{i,j} \times Group1_{i,j} + \beta_8 REGU_{i,j} \times Group2_{i,j} + \beta_9 REGU_{i,j} \times Group3A_{i,j} + \beta_{10} REGU_{i,j} \times Group3B_{i,j} + \beta_{11} REGU_{i,j} \times Group4_{i,j} + \delta X_{i,t} + \varepsilon_{i,t}$$

The sample is composed of 787 listed companies from March 11, 2014 to August 21, 2015. Panel A displays stock return under model 1 to 7 without control variables. $R_{i,j}$ represents the return on investment for j th transaction day of stock i, while $REGU_{i,j}$ represents the dummy of the enforcement of new CSR regulations for j th transaction day of i th stock, which implies if the stock return of a company falls on the day after the enforcement date of new CSR regulations, $REGU_{i,j}$ will be 1; otherwise it will be 0. $Group1_{i,j}$ is the dummy of Group 1, if $R_{i,j}$ is from the stock in Group 1, then $Group1_{i,j} = 1$, else $Group1_{i,j} = 0$; $Group2_{i,j}$, $Group3A_{i,j}$, $Group3B_{i,j}$, and $Group4_{i,j}$ are the dummies of Group 2, Group 3A, Group 4A, and Group4 consequently. Panel B displays stock return under model 8 to 14 with control variables such as volume (Volume), turnover (Turnover), beta value counted by the return of last year (BETA_1Y), market value (MV), ratio of current asset to total asset (CATA), leverage ratio (LeverageR), return on equity (ROE), cash flow ratio (CashFlowR), and market return (MKT_R).

Panel A
Without control variables

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Constant	-0.00015***	-0.00021***	-0.000161***	-0.0001513***	-0.000158***	0.000040	-0.0002458***

	(-3.00)	(-3.84)	(-2.91)	(-2.87)	(-3.04)	(0.53)	(-3.75)
REGU	-0.00076***	-0.00072***	-0.000770***	-0.0007492***	-0.000765***	-0.000887***	-0.0007007***
	(-10.35)	(-9.21)	(-9.54)	(-9.77)	(-10.12)	(-7.99)	(-7.35)
Group 1		0.00064***					0.0006787***
		(4.26)					(4.39)
REGU×Group 1		-0.00050**					-0.0005194**
		(-2.26)					(-2.28)
Group 2			0.000078				0.0001624
			(0.62)				(1.24)
REGU×Group 2			0.000062				-0.0000069
			(0.34)				(-0.04)
Group 3A				-0.0000067			0.0000878
				(-0.04)			(0.47)
REGU×Group 3A				-0.0001764			-0.0002249
				(-0.65)			(-0.81)
Group 4A					0.000115		0.0002037
					(0.50)		(0.86)
REGU×Group 4A					0.000067		0.0000020
					(0.20)		(0.01)
Group 4B						-0.000286***	
						(-2.85)	
REGU×Group 4B						0.000186	
						(1.27)	
$\mathbf{R^2}$	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
N	283320	283320	283320	283320	283320	283320	283320

Panel B
With control variables

	Model 8	**Model 9**	**Model 10**	**Model 11**	**Model 12**	**Model 13**	**Model 14**
Constant	-0.00200***	-0.00188***	-0.00193***	-0.0020022***	-0.00201***	-0.00142***	-0.001718***
	(-6.05)	(-5.42)	(-5.84)	(-6.06)	(-6.08)	(-3.79)	(-4.83)
REGU	0.00053***	0.00059***	0.00055***	0.0005320***	0.00052***	0.00030***	0.000631***
	(7.38)	(7.92)	(7.05)	(7.10)	(7.06)	(2.64)	(6.99)
Group 1		0.00076***					0.000952***
		(3.85)					(4.53)
REGU×Group 1		-0.00097***					-0.001004***
		(-3.91)					(-3.98)
Group 2			0.00045***				0.000574***
			(3.42)				(4.06)
REGU×Group 2			-0.00016				-0.000245
			(-0.86)				(-1.26)
Group 3A				-0.0000075			0.000142
				(-0.04)			(0.82)
REGU×Group 3A				-0.0000363			-0.000134
				(-0.14)			(-0.52)
Group 4A					-0.00023		-0.000053
					(-1.06)		(-0.24)
REGU×Group 4A					0.00016		0.000052
					(0.53)		(0.17)
Group 4B						-0.00040***	
						(-3.72)	

REGU×Group 4B						0.00033**	
						(2.30)	
Volume	0.000000049***	0.000000047***	0.000000049***	0.000000049***	0.000000049***	0.000000048***	0.000000045***
	(5.02)	(4.56)	(5.01)	(5.01)	(4.99)	(4.86)	(4.39)
Turnover	0.275382529***	0.276222730***	0.275891421***	0.275393370***	0.275532697***	0.276005874***	0.277259816***
	(32.04)	(31.94)	(32.06)	(32.02)	(32.01)	(32.07)	(31.95)
BETA_1Y	-0.002520268***	-0.002528584***	-0.002475352***	-0.002519798***	-0.00252578***	-0.002493358***	-0.002480638***
	(-17.60)	(-17.65)	(-17.19)	(-17.60)	(-17.62)	(-17.34)	(-17.20)
MV	0.000225909***	0.000206933***	0.000205974***	0.000226472***	0.00022949***	0.000186095***	0.000170017***
	(6.43)	(5.52)	(5.77)	(6.44)	(6.50)	(4.83)	(4.24)
CATA	-0.000976190***	-0.000958436***	-0.00093266***	-0.000976523***	-0.000976899***	-0.00092887***	-0.000893585***
	(-5.01)	(-4.92)	(-4.77)	(-5.01)	(-5.01)	(-4.74)	(-4.56)
LeverageR	0.000206409	0.000162530	0.000197716	0.000201618	0.000196846	0.000222937	0.000137188
	(0.55)	(0.43)	(0.52)	(0.53)	(0.52)	(0.59)	(0.36)
ROE	0.000007882***	0.000008150***	0.000008357***	0.000007870***	0.000007876***	0.000008535***	0.000008924***
	(2.91)	(2.99)	(3.07)	(2.90)	(2.90)	(3.11)	(3.24)
CashFlowR	0.000000340	0.000000351	0.000000361	0.000000340	0.000000338	0.000000366	0.000000383
	(0.99)	(1.02)	(1.05)	(0.99)	(0.99)	(1.07)	(1.12)
MKT_R	0.826886917***	0.826889971***	0.826888238***	0.826886965***	0.82688737***	0.826889026***	0.826893176***
	(151.12)	(151.12)	(151.13)	(151.12)	(151.12)	(151.12)	(151.13)
R^2	0.1202	0.1203	0.1203	0.1202	0.1202	0.1203	0.1203
N	272520	272520	272520	272520	272520	272520	272520

*p < 0.10, **p < 0.05, ***p < 0.001

Source: This Study

In Panel B, addition of other control variables into the regression, the results change dramatically. The coefficient of regulation (REGU) becomes significantly positive in all Models. The enforcement of new CSR regulations makes the whole stock return of samples of listed companies increase 26.5% (0.00053/0.002). For Model 9 to Model 13, the coefficients of regulation (REGU) also turn significantly positive. This implies when excluding Group 1, Group 2, Group 3A, Group 4A, and Group 4B respectively, the stock returns of whole market improve due to the enforcement of new CSR regulations. When only considering Group 1 with control variables, in general, it still has the highest positive and significant performance (0.00076) comparing to other groups regardless before or after the enforcement of new CSR regulations; but the interactive dummy (REGU×Group 1) in Model 9 is significantly negative (-0.00097), even higher than that without control variables. Group 1 decreases 14.39% ((0.00059-0.00097)/(0.00188+0.00076)) after the enforcement of new

CSR regulations. In Model 10 Group 2 has positive and significant return before and after the enforcement of new CSR regulations (0.00045); but the interactive dummy (REGU×Group 2) is negative and insignificant. In Model 11 and Model 12, Group 3A and Group 4A have insignificant figures. When it comes to Model 13, Group 4B has significantly negative performance (-0.00040), comparing to other groups no matter before or after the enforcement of new CSR regulations. The interactive dummy (REGU×Group 4B) is positive and significant (0.00033). Group 4B increases 61.76% ((0.00030+0.00033)/(0.00142-0.0004)) after the enforcement of new CSR regulations. To consider all groups at a same time, in Model 14, it reveals that the enforcement of new CSR regulations significantly improves Group 4B by 0.000631. For Group 1 and Group 2, they have significantly positive performances (0.000952 and 0.000574) which are higher than other groups before the enforcement of new CSR regulations. However, for Group1, it significantly decreases after the enforcement of new CSR regulations by a total of 0.000373 (REGU+REGU×Group 1). The changes in other groups are not significant.

2. Part 2—the filing date of CSR report of each company

In table 6, it presents descriptive statistics of 259 listed companies (Group 1 + Group 2 + Group 3A + Group 4A) with the time period of 180 days before and after the filing date of CSR report of each company. In panel A we can see that the average rate of return (Return) of all observed samples is -0.000067; the average trading volume (Volume) of them is 5309.43; the average turnover rate (Turnover) is 0.0034; the average of market value in million (MVmillion) is 74458.18; the average market value (MV) is 9.9153; the average ratio of current asset to total asset (CATA) is 0.5157; the average leverage ratio (LeverageR) is

0.1322; the average return on equity (ROE) is 9.5309; and the average cash flow ratio (CashFlowR) is 32.9002.

In panel B, C, D, and E, it shows that only Group 4A has positive figure on its average rate of return (Return) which is 0.00015 whereas Group 3A decreases the most (-0.00018). For average trading volume (Volume), Group 1 has the most (13320.51) volume while Group 4A has the lowest (1791.26) one. When it comes to turnover ratio (Turnover), Group 3A has the highest ratio (0.0050) whereas Group 2 has only 0.0023.

Table 6

Descriptive statistics - the filing date of CSR report of each company

This table includes descriptive statistics of variables applied in this paper. The sample is composed of 259 listed companies from negative and positive 180 transaction days of the filing date of CSR report of year 2014 of each company. Panel A displays the data of overall sample; Panel B, Panel C, Panel D, and Panel E display the data of 67 companies in Group 1, 96 companies in Group 2, 57 companies in Group 3A, and 39 companies in Group 4A respectively. The variables include rate of return (Return), trading volume (Volume), turnover rate (Turnover), market value in million (MVmillion), market value (MV), ratio of current asset to total asset (CATA), leverage ratio (LeverageR), return on equity (ROE), and cash flow ratio (CashFlowR). The calculation basis of Return, Volume, and Turnover is the daily value of each stock in the sample period. The calculation basis of the other control variables is the value of each stock in the end of 2013.

Panel A

All listed companies (Group 1 + Group 2 + Group 3A + Group 4A)

Variable	Mean	Std.	Min	Q1	Median	Q3	Max
Return	-0.000067	0.0183	-0.1	-0.0084	0	0.0073	0.1
Volume	5309.43	11981.79	0	335	1319	5018	280593
Turnover	0.0034	0.0057	0	0.00072	0.0016	0.0036	0.2808
MVmillion	74458.18	211559.5	621	6377	16526.5	54098	2735469
MV	9.9153	1.5295	6.4313	8.7605	9.7126	10.8986	14.8218
CATA	0.5157	0.2080	0.0453	0.3488	0.5184	0.6934	0.9237
LeverageR	0.1322	0.1062	0.00038	0.0440	0.1096	0.2024	0.5521
ROE	9.5309	13.2191	-37.09	3.68	9.74	14.52	137.36
CashFlowR	32.9002	44.8985	-106.11	7.325	23.82	46.825	232.43

Panel B

Group 1

Variable	Mean	Std.	Min	Q1	Median	Q3	Max

Return	-0.000071	0.0180	-0.1	-0.0089	0	0.0077	0.1
Volume	13320.51	19418	3	2580.5	6967.5	16275.5	280593
Turnover	0.0027	0.0033	0.000005	0.00090	0.0017	0.0033	0.0726
MVmillion	186111.3	357647.8	8096	31551	89132	213431	2735469
MV	11.3268	1.2559	8.9991	10.3594	11.3979	12.2711	14.8218
CATA	0.4351	0.2157	0.1372	0.2690	0.3817	0.5312	0.9237
LeverageR	0.1898	0.1270	0.0054	0.0957	0.1800	0.2701	0.5521
ROE	10.1873	18.6908	-27.99	4.35	9.48	13.31	137.36
CashFlowR	39.5666	49.1846	-7.61	10.48	27.255	42.37	206.48

Panel C

Group 2

Variable	Mean	Std.	Min	Q1	Median	Q3	Max
Return	-0.000088	0.0170	-0.1	-0.0075	0	0.0065	0.1
Volume	3173.96	7203.04	0	176	790	3212.5	253299
Turnover	0.0023	0.0044	0	0.00049	0.0011	0.0024	0.2808
MVmillion	50602.95	137005.5	621	4863	14789.5	34150.5	1051609
MV	9.5735	1.4982	6.4313	8.4893	9.6014	10.4385	13.8658
CATA	0.4909	0.2013	0.1060	0.3388	0.4707	0.6252	0.9194
LeverageR	0.1419	0.1002	0.00038	0.0530	0.1246	0.2398	0.3245
ROE	8.2728	10.7359	-30.15	2.855	8.435	14.185	36.2
CashFlowR	24.7252	40.3387	-79.62	3.01	14.98	36.15	232.43

Panel D

Group 3A

Variable	Mean	Std.	Min	Q1	Median	Q3	Max
Return	-0.00018	0.0194	-0.1	-0.0087	0	0.0076	0.1
Volume	1835.29	3135.84	0	274	704	2057	53780
Turnover	0.0050	0.0078	0	0.00095	0.0024	0.0058	0.1078
MVmillion	18039.45	36096.69	2328	4647	7191	14663.5	245776
MV	9.1428	0.9705	7.7528	8.4412	8.8806	9.5913	12.4122
CATA	0.5789	0.1671	0.1755	0.4704	0.5496	0.7407	0.8515
LeverageR	0.0904	0.0777	0.0012	0.0221	0.0708	0.1409	0.3078
ROE	9.4429	9.5742	-37.09	4.545	10.645	15.345	24.11
CashFlowR	34.9407	31.4130	-17.17	14.185	29.215	50.205	133.85

Panel E

Group 4A

Variable	Mean	Std.	Min	Q1	Median	Q3	Max

Return	0.00015	0.0204	-0.1	-0.0095	0	0.0085	0.1
Volume	1791.26	2989.03	0	263.5	814	2079	51541
Turnover	0.0047	0.0071	0	0.00092	0.0023	0.0056	0.1396
MVmillion	22375.95	28876.45	1576	6214	11850	30020	148018
MV	9.4411	1.0902	7.3626	8.7346	9.3801	10.3096	11.9051
CATA	0.5810	0.2246	0.0453	0.4098	0.5946	0.7672	0.8873
LeverageR	0.0975	0.0885	0.0028	0.0258	0.0778	0.1427	0.3566
ROE	11.6264	12.0399	-23.48	6.38	13.15	18.18	35.73
CashFlowR	38.8218	61.1284	-106.11	1.89	23.78	63.88	227.34

Source: This Study

Table 7 depicts the t test of the differences of the rate of return before and after the filing date of CSR report of each company. Panel A reports the difference between 5 transaction days before and after the enforcement date of new CSR regulations in Group 1, Group 2, Group 3A, and Group 4A. Panel B, C, D, E, F, and G reports the difference between 10, 15, 30, 60, 90, and 180 transaction days before and after the filing date of CSR report of each company respectively. In Panel A, only *Forerunners* (Group 1) have positive differences; while others have negative differences. *Rule-Followers* (Group 2) have significant difference in result of stock returns between 5 days before and after they filed CSR reports. In panel B, all groups have negative differences but only *Rule-Followers* (Group 2) and *Rule-Surfers* (Group 4A) have significant results. Panel C shares the same results with Panel A that only *Forerunners* (Group 1) have positive differences; while others have negative ones. *Rule-Followers* (Group 2) still have significant results. In Panel D, the situation is quite the same but the results of Group 1 and Group 4A change. In Panel E, all groups have positive but insignificant results. For Panel F, it also has similar outcomes as those in Panel A except that *Saints* (Group 3A) here have positive but insignificant results. When it comes to Panel G, it portrays a huge opposite change. All groups have positive outcomes excluding *Saints*

(Group 3A), which even have significantly negative results; while *Rule-Followers* (Group 2) and *Rule-Surfers* (Group 4A), on the other hand, have significantly positive outcomes.

Table 7

T test - filing date of CSR report of each company

This table includes rate of return in Group1, Group 2, Group 3A, and Group 4A, with 67, 96, 57, and 39 companies respectively. The observed period of Panel A is 5 transaction days before and after the filing date of CSR report of each company in Group 1, Group 2, Group 3A, and Group3B. The observed periods of Panel B, Panel C, Panel D, Panel E, Panel F, and Panel G, are 10, 15, 30, 60, 90, and 180 transaction days correspondingly. The differences in Table 7 are the average returns of positive days minus those of negative days.

Panel A

The difference between 5 transaction days before and after the filing date of CSR report of each company

	-5 days	+5 days	Difference	t-value
Group 1	-0.001591	0.000024	0.00162	1.08
Group 2	0.001004	-0.003286	-0.00429	-3.28**
Group 3A	0.000479	-0.000308	-0.00079	-0.49
Group 4A	0.001457	-0.001222	-0.00268	-1.01

Panel B

The difference between 10 transaction days before and after the filing date of CSR report of each company

	-10 days	+10 days	Difference	t-value
Group 1	-0.000664	-0.001523	-0.00086	-0.95
Group 2	0.001781	-0.003592	-0.00537	-5.68***
Group 3A	-0.000120	-0.000719	-0.00060	-0.55
Group 4A	0.002258	-0.001415	-0.00367	-1.99*

Panel C

The difference between 15 transaction days before and after the filing date of CSR report of each company

	-15 days	+15 days	Difference	t-value
Group 1	-0.001674	-0.001426	0.00025	0.34
Group 2	-0.000089	-0.002663	-0.00257	-4.17***
Group 3A	0.000067	-0.000424	-0.00049	-0.52
Group 4A	0.000261	-0.001125	-0.00139	-0.87

Panel D

The difference between 30 transaction days before and after the filing date of CSR report of each company

	-30 days	+30 days	Difference	t-value
Group 1	-0.001552	-0.002183	-0.00063	-1.21
Group 2	-0.000152	-0.001123	-0.00097	-2.53**
Group 3A	0.000578	-0.000270	-0.00085	-1.44
Group 4A	-0.000562	-0.000374	0.00019	0.19

Panel E

The difference between 60 transaction days before and after the filing date of CSR report of each company

	-60 days	+60 days	Difference	t-value
Group 1	-0.001201	-0.000796	0.00041	1.26
Group 2	0.000103	0.000105	0.0000017	0.01
Group 3A	-0.000283	-0.000045	0.00024	0.57
Group 4A	0.000233	0.000622	0.00039	0.63

Panel F

The difference between 90 transaction days before and after the filing date of CSR report of each company

	-90 days	+90 days	Difference	t-value
Group 1	-0.000667	-0.000394	0.00027	1.07
Group 2	0.000182	-0.000170	-0.00035	-1.69*
Group 3A	-0.000164	-0.000142	0.000022	0.07
Group 4A	0.000716	0.0003476	-0.00037	-0.77

Panel G

The difference between 180 transaction days before and after the filing date of CSR report of each company

	-180 days	+180 days	Difference	t-value
Group 1	-0.000101	-0.000041	0.00006	0.29
Group 2	-0.000482	0.000306	0.00079	5.81***
Group 3A	0.000221	-0.000572	-0.00079	-3.27**
Group 4A	-0.000092	0.000383	0.00048	1.85*

*p < 0.10, **p < 0.05, ***p < 0.001

Source: This Study

Table 8 depicts the regression of fling CSR report on stock return. The period employs 180 days before and after the filing date of CSR report of each company. It includes sample

of Group 1, Group 2, Group 3A, and Group 4A. In Panel A, Model 1 to Model 6 display the results without controlling other variables whereas in Panel B, Model 7 to Model 12 present the results with control variables such as volume (Volume), turnover (Turnover), beta value of the previous year of the filing date of CSR report (BETA_1Y), market value (MV), ratio of current asset to total asset (CATA), leverage ratio (LeverageR), return on equity (ROE), cash flow ratio (CashFlowR), and market return (MKT_R).

Model 1 shows the impact of filing CSR report of each company on stock return with dummy variable "report (REPO)." Model 2 to Model 5 display the results of filing CSR report with adding Group 1, Group 2, Group 3A, and Group 4A as dummy variables respectively. Model 6 reveals the influence of filing CSR report of each company by employing all variables (Group 4A is regarded as the constant term).

In Panel A, without controlling other variables, the coefficient of report (REPO) in Model 1 is significantly positive. Under this condition, filing a CSR report makes the whole stock return of samples of listed companies increase by 124% (0.00021/0.00017). In Model 2 and Model 4, the coefficients of report (REPO) are significantly positive (0.000261 and 0.00049); in Model 5 it is positive but not significant; while in Model 3, it is negative but insignificant. It means when excluding Group 1 and Group 3A respectively, the stock returns of whole market improve due to filing CSR report. In Model 3, when considering only Group 2, it has significantly negative performance (-0.000495) but significantly positive interactive dummy (REPO×Group 2).When considering only Group 3A, on the contrary, it has significantly positive performance regardless before or after the issuance of CSR report, but significantly negative interactive dummy (REPO×Group 3A). In Model 6, however, the coefficient of report (REPO) is positive but insignificant, which shows filing CSR report does

not improve stock return significantly. Nevertheless, Group 3A has significantly negative impact after filing CSR report (-0.0012678).

Model 7, similar to Model 1, shows the impact of filing CSR report on stock return with dummy variable "report (REPO)," but it employs control variables mentioned above. Model 8 to Model 11, similarly, depict the results of filing CSR report with adding Group 1, Group 2, Group 3A, and Group 4A as dummy variables respectively inclusive of control variables. Model 12, on the other hand, reports the influence of filing CSR report by employing all variables (Group 4A is regarded as the constant term).

Table 8

Regressions of CSR disclosure on stock return - 180 days before and after the filing date of CSR report of each company

This table reports the estimate of following regression:

$$R_{i,j} = \beta_0 + \beta_1 REPO_{i,j} + \beta_2 Group1_{i,j} + \beta_3 Group2_{i,j} + \beta_4 Group3A_{i,j} + \beta_5 Group3B_{i,j} + \beta_6 REPO_{i,j} \times Group1_{i,j} + \beta_7 REPO_{i,j} \times Group2_{i,j} + \beta_8 REPO_{i,j} \times Group3A_{i,j} + \beta_9 REPO_{i,j} \times Group3B_{i,j} + \delta X_{i,t} + \varepsilon_{i,t}$$

. The sample is composed of 259 listed companies within 180 days before and after the filing date of CSR report of each company. Panel A displays stock return under model 1 to 6 without control variables. $R_{i,j}$ represents the return on investment for j^{th} transaction day of stock i, while $REPO_{i,j}$ represents the dummy of the filing of CSR report of each company for j^{th} transaction day of i^{th} stock, which implies if the stock return of a company falls on the day after the filing date of CSR report, $REPO_{i,j}$ will be 1; otherwise it will be 0. $Group1_{i,j}$ is the dummy of Group 1, if $R_{i,j}$ is from the stock in Group 1, then $Group1_{i,j} = 1$, else $Group1_{i,j} = 0$; $Group2_{i,j}$, $Group3A_{i,j}$, and $Group3B_{i,j}$ are the dummies of Group 2, Group 3A, and Group 4A consequently. Panel B displays stock return under model 7 to 12 with control variables such as volume (Volume), turnover (Turnover), beta value counted by the return of last year (BETA_1Y), market value (MV), ratio of current asset to total asset (CATA), leverage ratio (LeverageR), return on equity (ROE), cash flow ratio (CashFlowR), and market return (MKT_R).

Panel A
Without control variables

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	-0.00017**	-0.000196*	0.000012	-0.00028***	-0.000186**	-0.0000922
	(-2.03)	(-1.94)	(0.12)	(-2.92)	(-2.11)	(-0.35)
REPO	0.00021*	0.000261*	-0.000135	0.00049***	0.000161	0.0004750
	(1.73)	(1.85)	(-0.85)	(3.63)	(1.26)	(1.38)
Group1		0.000095				-0.0000088
		(0.53)				(-0.03)

REPO×Group 1		-0.000201				-0.0004152
		(-0.74)				(-1.00)
Group2			-0.000495***			-0.0003901
			(-2.85)			(-1.32)
REPO×Group 2			0.000923***			0.0003129
			(3.82)			(0.80)
Group 3A				0.00050**		0.0003132
				(2.48)		(0.99)
REPO×Group 3A				-0.00128***		-0.0012678***
				(-4.21)		(-2.89)
Group 4A					0.000094	
					(0.34)	
REPO×Group 4A					0.000314	
					(0.86)	
R^2	0.000032	0.000038	0.000181	0.000248	0.000066	0.000327
N	92875	92873	92873	92873	92873	92869

Panel B
With control variables

	Model7	**Model8**	**Model9**	**Model10**	**Model11**	**Model12**
Constant	-0.00189***	-0.001596***	-0.00244***	-0.00127**	-0.00193***	-0.001376**
	(-3.60)	(-2.92)	(-4.53)	(-2.37)	(-3.67)	(-2.32)
REPO	0.00021*	0.000083	0.00028*	0.00026*	0.00024*	0.000088
	(1.75)	(0.61)	(1.78)	(1.90)	(1.83)	(0.28)
Group 1		-0.000044				0.000040
		(-0.20)				(0.13)
REPO×Group 1		0.000574**				0.000566
		(2.01)				(1.42)
Group 2			0.00064***			0.000349
			(3.56)			(1.26)
REPO×Group 2			-0.00018			0.000011
			(-0.74)			(0.03)
Group 3A				-0.00085***		-0.000705**
				(-4.26)		(-2.45)
REPO×Group 3A				-0.00019		-0.000016
				(-0.66)		(-0.04)
Group 4A					0.00018	
					(0.69)	

REPO×Group 4A					-0.00016	
					(-0.46)	
Volume	0.000000031**	0.000000030**	0.000000031**	0.000000028**	0.0000000318***	0.000000026**
	(2.56)	(2.40)	(2.52)	(2.27)	(2.59)	(2.09)
Turnover	0.413695244***	0.414790979***	0.418492251***	0.423137687***	0.4131628674***	0.425588738***
	(17.30)	(17.26)	(17.36)	(17.45)	(17.24)	(17.38)
BETA_1Y	-0.00232113***	-0.002342014***	-0.002170446***	-0.002306954***	-0.0023390313***	-0.002239919***
	(-9.91)	(-9.97)	(-9.24)	(-9.85)	(-9.99)	(-9.53)
MV	0.000193129***	0.000166081***	0.000203454***	0.000142700***	0.0001963906***	0.000126356**
	(3.66)	(2.98)	(3.84)	(2.68)	(3.72)	(2.27)
CATA	-0.000393365	-0.000362193	-0.000264153	-0.000217284	-0.0004094372	-0.000136789
	(-1.04)	(-0.95)	(-0.70)	(-0.57)	(-1.08)	(-0.36)
LeverageR	0.000933806	0.000800405	0.000826985	0.000457847	0.0009579186	0.000327585
	(1.27)	(1.09)	(1.12)	(0.62)	(1.30)	(0.44)
ROE	0.000010320	0.000010440	0.000010779	0.000010208	0.0000101973	0.000010672
	(1.47)	(1.49)	(1.54)	(1.46)	(1.45)	(1.52)
CashFlowR	0.000000090	0.000000118	0.000000944	0.000000874	0.0000000074	0.000001271
	(0.06)	(0.08)	(0.61)	(0.57)	(0.01)	(0.82)
MKT_R	0.846237289***	0.846417490***	0.846386147***	0.846282343***	0.8462824411***	0.846538447***
	(102.69)	(102.70)	(102.67)	(102.70)	(102.69)	(102.71)
R^2	0.192624414	0.192682325	0.192803211	0.193034049	0.1926303103	0.193106006
N	82066	82064	82064	82064	82064	82060

*p < 0.10, **p < 0.05, ***p < 0.001

Source: This Study

After adding other control variables into the regression, the results show a minor change instead of a major difference. The coefficient of report (REPO) in Model 7 remains significantly positive. Filing of CSR report makes the whole stock return of samples of listed companies increase by 11.11% (0.00021/0.00189). For Model 8 to Model 11, the coefficients of report (REPO) are positive; those in Model 9, Model 10, and Model 11 are pretty significant. Therefore it implies that excluding Group 1, Group 2, Group 3A, and Group 4A respectively, the stock returns of whole market improves due to filing CSR report. In Model 8, the interaction dummy of Group 1 (REPO×Group 1) is significantly positive (0.000574). In

Model 9, on the other hand, Group 2 has shown a significantly positive performance (0.00064) regardless of the issuance of CSR report either before or after, which is totally different from the result in Panel A. Moreover, Group 3A has the opposite figure in Model 10 as well; it has a significantly negative performance regardless of the issuance of CSR report either before or after (-0.00085). Furthermore, Group 3A still has a significantly negative performance (-0.000705) in Model 12; while all the other groups have no significant difference after filing CSR report comparing to Group 4A.

Table 9 Results of the hypotheses under corresponding questions

Questions	Hypotheses	Results
1. Whether the new CSR regulations can bring positive effectiveness on companies' stock performance?	Hypothesis 1: After the release of the rules, all companies will have better stock performance.	***
	Hypothesis 2: After the release of the rules, among forced companies, those voluntarily filed CSR reports do not have better stock performance.	***
	Hypothesis 3: After the release of the rules, companies which did not voluntarily file CSR reports before but are now compulsory to do so have better stock performance.	insignificant
	Hypothesis 4: After the release of the rules, noncompulsory companies that voluntarily filed CSR reports before and after the rules may have better or irrelevant stock performance.	insignificant
	Hypothesis 5: After the release of the rules, noncompulsory companies that did not voluntarily file CSR reports before but are voluntary after the rules may have better or irrelevant stock performance.	insignificant

Questions	Hypotheses	Results
	Hypothesis 6: After the release of the rules, companies that do not voluntarily file CSR reports before and are now not voluntary and noncompulsory to do so has better stock performance.	***
2. Whether the issuance (disclosure) of CSR report can bring positive effectiveness on companies' stock performance?	Hypothesis 7: All companies will have better stock performances after filing CSR reports.	*
	Hypothesis 8: The mandatory companies have better stock performance after filing CSR reports.	Group 1: ** Group 2: insignificant
	Hypothesis 9: The noncompulsory companies may have worse or irrelevant stock performance after filing CSR reports.	insignificant

*p < 0.10, **p < 0.05, ***p < 0.001

Source: This Study

Table 9 deduced results corresponding to the 9 hypotheses under two main questions. Most of the hypotheses are valid exclusive of those related to Group 2; this indicates that the existing research only explain the situation of the other groups. This study proves the consistency of the results with those in other researches and fills the gaps of the corporations like Group 2.

V. Conclusion

On November 26, 2014, Taiwan's government announced the enforcement of new CSR regulations, which enforced certain listed companies to file a CSR report. Before the introduction of these rules, however, some companies have already disclosed their CSR report to the public in previous years. Few eminent studies conclude that regulations are positive related to companies' financial performance; others indicate that practicing CSR

activities benefit firms' financial performance; still others imply that companies who volunteer to disclose financial information to the public earn positive financial performance. This study, therefore, investigates the impact of new CSR regulations on listed companies' financial performance. Furthermore, it examines if companies who volunteer to file CSR report have better stock performance.

The study is divided into two parts: In the first part, the base date is the enforcement date of new CSR regulations, namely November 26, 2014; the observed periods are 5, 10, 15, 30, 60, 90, and 180 transaction days before and after the enforcement date. The total number of samples in the first part is 787. In the second part, the base date depends on each company's filing date of CSR report; the observed periods are 5, 10, 15, 30, 60, 90, and 180 transaction days before and after the filing date. The total number of samples in the second part is 259.

The results show that the regulations will affect how investors evaluate companies and therefore it will reflect on the stock price. According to the data analysis of Table 5, the regression outcome of the first part reveals that the enforcement of new CSR regulations have significantly positive influence on the stock returns of sample companies. On the other hand, referring to the data analysis of Table 8, the regression outcome of the second part implies that filing CSR report does have significant impact on each sample companies' stock return; still, only *Forerunners* (Group 1) performs better than others after filing CSR report.

Take a closer look at Table 5, after inserting control variables, regardless of the implementation of new CSR regulations, *Forerunners* (Group 1) have the highest positive and significant stock returns; *Rule-Followers* (Group 2) have the second highest positive and significant stock returns; *Saints* (Group 3A) and *Rule-Surfers* (Group 4A) have negative but insignificant figures; *Rebels* (Group 4B) have significantly negative stock returns.

Forerunners (Group 1) and *Rule-Followers* (Group 2) have better stock performance perhaps because they include those corporations with high social concerns. Besides, in those non-mandatory groups, those who do not volunteer to file CSR report have significantly negative stock returns.

Nonetheless, after the enforcement of new CSR regulations, the result of stock returns dramatically changes. The effect of new CSR regulations on *Forerunners* (Group 1) is significantly negative. Therefore the filing of a CSR report before the enforcement of new CSR regulations is regarded as the means of *strategic* in Martin's article (2002) which can be one of the advantages for *Forerunners* (Group 1). When this action becomes mandatory, namely in *compliance*, the advantage disappears, thus the stock return declines. On the opposite, these regulations have significantly positive impact on *Rebels* (Group 4B); for the other groups, there are no significant effects upon them. The possible reason is the spillover effect of the new CSR regulations on the whole market, so that the companies which do not submit their CSR report also benefit from the law.

To summarize, investors worry about both the implementation of regulations and each company's CSR report, as these administer an increase in stock return of listed companies. The enforcement of the regulations, however, regulations do not have positive influence on compulsory companies but they improve the stock return of noncompulsory firms. While only *Forerunners* (Group 1) perform better than the others after filing a CSR report.

This study proves the new CSR regulations have positive influences on the stock return of listed companies overall, but have difference effects on different types of firms. The limitation of this study, however, is that it only considers the behavior of issuing CSR report instead of evaluating the actual CSR activities practiced by firms. Sometimes the content of

CSR report does not reveal the true situation of a company and many investors cannot distinguish if the content of CSR report is true or not. Thus, there will be a gap between choosing companies which write good CSR report and choosing companies which do good CSR activities. Despite the fact, this study inspects the effectiveness of the regulations, of which the results are still substantial and can be served as a reference for Taiwan's government to set subsequent regulations regarding CSR.

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Appendix

Table 10 The control variables and the corresponding codes and calculations and sources

The control variables such as volume, turnover, beta value of last year, market value, current asset, total asset, long term liabilities, return on equity, cash flow ratio, and market return are directly derived from Taiwan Economic Journal (TEJ). Current asset ratio and leverage ratio are calculated by the data from TEJ.

Control Variables	**Code**	**Unit and/or Calculation**
Volume	Volume	Thousand shares
Turnover	Turnover	%
Bata value of last year	BETA_1Y	Beta value calculated by CAPM
Market value	MV	take the form of logarithm (log)
Current asset ratio	CATA	Current asset over total asset
Leverage ratio	LeverageR	Long term liabilities over total asset
Return on equity	ROE	"ROE-Consolidated profit and loss" by TEJ database
Cash flow ratio	CashFlowR	By TEJ database
Market return	MKT_R	%

Source: Taiwan Economic Journal (TEJ) database