Investor Types and Trading of the Environment, Social and Governance Stocks in the Stock Exchange of Thailand

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A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Science Program in Finance
Department of Banking and Finance
Faculty of Commerce and Accountancy
Chulalongkorn University
Academic Year 2016

ประเภทของนักลงทุนกับการซื้อขายหุ้นสิ่งแวดล้อม สังคมและธรรมาภิบาลในตลาดหลักทรัพย์แห่งประเทศไทย

นายกิตติคุณ เตชะอุบล

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาวิทยาศาสตรมหาบัณฑิต
สาขาวิชาการเงิน ภาควิชาการธนาคารและการเงิน
คณะพาณิชยศาสตร์และการบัญชี จุฬาลงกรณ์มหาวิทยาลัย
ปีการศึกษา 2559

Thesis Title	Investor Types and Trading of the Environment, Social and Governance Stocks in the Stock Exchange of Thailand
By	Mr. Kittikhun Taechaubol
Field of Study	Finance
Thesis Advisor	Dr. Narapong Srivisal

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กิตติคุณ เตชะอุบล : ประเภทของนักลงทุนกับการซื้อขายหุ้นสิ่งแวดล้อม สังคมและธรรมาภิบาลในตลาดหลักทรัพย์แห่งประเทศไทย (Investor Types and Trading of the Environment, Social and Governance Stocks in the Stock Exchange of Thailand) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: ดร. นราพงศ์ ศรีวิศาล, 46 หน้า.

วิทยานิพนธ์นี้จัดทำขึ้นเพื่อศึกษาความสนใจของนักลงทุนต่อบริษัทในตลาดหลักทรัพย์แห่งประเทศไทย (SET) ที่มีการดำเนินงานโดดเด่นด้าน สิ่งแวดล้อม สังคม และธรรมาภิบาล (Environmental, Social and Govermance: ESG) หรือความรับผิดชอบต่อสังคมและสิ่งแวดล้อม (Corporate Social Responsibility: CSR) ผลการศึกษาข้อมูลจากประกาศรายชื่อหุ้นที่มีการพัฒนาอย่างยั่งยืนของประเทศไทย โดยตลาดหลักทรัพย์แห่งประเทศไทย (Thailand susutainability investment: TSI) และสถาบันไทยพัฒน์ (ESG100)ในช่วง 2014-2015 พบว่ามีผลตอบแทนหลังการประกาศ TSI และ ESG100 มีผลตอบแทนในเชิงลบอย่างมีนัยสำคัญ อย่างไรก็ตาม ESG 100 มีผลตอบแทนในเชิงลบน้อยลง ทั้งนี้ผลตอบแทนเฉลี่ยสะสมมีขนาดเพียงเล็กน้อยในเชิงผลตอบแทนรายวันและผลตอบแทนรายปี จึงสามารถสรุปได้ว่าไม่มีนัยสำคัญทางเศรษฐกิจ และไม่สามารถนำไปใช้ในเชิงปฏิบัติได้จริง นอกจากนี้การศึกษาประเภทของนักลงทุนที่ให้ความสนใจต่อบริษัทที่มีผลการดำเนินงานโดดเด่นด้าน สิ่งแวดล้อม สังคม (ESG) และธรรมาภิบาล หรือมีความรับผิดชอบต่อสังคม (CSR) พบว่านักลงทุนต่างประเทศให้ความสนใจต่อหุ้นที่ประกาศใน TSI มากกว่านักลงทุนสถาบันอย่างมีนัยสำคุญและนักลงทุนสถาบันให้ความสนใจต่อหุ้นที่ประกาศใน TSI น้อยกว่านักลงทุนรายย่อยอย่างมีนัยสำคัญ แต่นักลงทุนต่างประเทศเทียบกับนักลงทุนรายย่อยผลลัพธ์ไม่ได้มีนัยสำคุญ โดยพิจารณาจากร้อยละการซื้อขาย จึงทำให้ไม่มีหลักฐานเพียงพอต่อการหาข้อสรุป เช่นเดียวกับการพิจารณาโดยวิธีดุลการซื้อขายพบว่าผลลัพธ์ที่ได้มีไม่นัยสำคัญ ซึ่งทำให้ไม่มีหลักฐานเพียงพอที่จะสรุปได้ว่ากลุ่มนักลงทุนใดให้ความสนใจต่อหุ้นที่จัดอยู่ใน ESG และ CSR มากที่สุด

ภาควิชา การธนาคารและการเงิน ลายมือชื่อนิสิต .....

สาขาวิชา การเงิน ลายมือชื่อ อ.ที่ปรึกษาหลัก .....

ปีการศึกษา 2559

5882906226 : MAJOR FINANCE
KEYWORDS: ESG / CSR / ENVIRONMENTAL SOCIAL AND GOVERNANCE / CORPORATE SOCIAL RESPONSIBILITY / ABNORMAL RETURN

KITTIKHUN TAECHAUBOL: Investor Types and Trading of the Environment, Social and Governance Stocks in the Stock Exchange of Thailand. ADVISOR: DR. NARAPONG SRIVISAL, 46 pp.

This study involves finding how the Environmental Social and Governance (ESG) or the Corporate Social Responsibility (CSR) affects investors' attention in the Stock Exchange of Thailand. The goal is to examine whether there is any interest in investing on the companies with good ESG or CSR practice in the Stock Exchange of Thailand (SET) represented by those in the Environment Social and Governance 100 (ESG100) list by Thaipat Institution or in the Thailand Sustainability Investment (TSI) list by SET, announced during 2014-2015. Conducting an event study, upon examination of these events, the result shows that there are significantly negative abnormal returns of the TSI list. On the other hand, there are less significantly negative for the abnormal returns after announcement for the ESG100 list. As the result of CAAR is very economically small for daily and yearly returns, investors are unlikely to be able to exploit the abnormal returns for trading strategy. In addition, this research study further examines which types of investors are more concerned about the companies advocating for CSR and finds that foreign investors concern more CSR stocks than institutional investors and institutional investors concern CSR stocks less than individual investors but there are no significant comparing foreign investors with individual investors for the method that uses percentage of buy and sell to compute trade imbalance, while there is no significant difference across investor types for trade imbalance calculated using levels of buy and sell method.

Department:	Banking and Finance	Student's Signature	.....
Field of Study:	Finance	Advisor's Signature	.....
Academic Year:	2016		

ACKNOWLEDGEMENTS

Pursuing a master degree is like walking through a rough stage of education. Today I have finally reached the very last stage of doing master degree, simply because of my remarkable advisor Ajarn Narapong Srivisai. He is the one who has given me advice, suggestions and helped me on getting through all the hard process of my thesis. Moreover, I would like to thank my generous committees Ajarn Anirut Pisetasalasai, Ajarn Vimut Vanitcharearnthum and Ajarn Archawa Paweenawat who have given me a lot of comments and suggestions on my work. Nevertheless, I would like to thank all faculty members that helped me getting all the information I needed.

I would like to also thank my friends at the program, namely Pawin Thachasongtham (Max), Poompak Kusawat (Poom), Luttapol Tachasirodom (Bed), Nachanok Punyavirocha (Nampetch) and Pinyada Saengsakdaharn (Kwan). Without any of them, I would not have completed my thesis. Also, I would like to thank all of my friends at the program for friendship and great moment together in the past years.

Additionally, I would like to thank all financial laboratory staff p'Benz and p'Pong, and supporting staff p'Pla for helping me going through all the hard process to complete my thesis.

Finally, I would like to thank my beloved parents. With their greatest love and supports, I was able to start my adventure and went through all the hard time until the end.

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CHAPTER 1

Introduction

1.1 Background and motivation

In a financial market, there are many asset classes that investors can invest in, such as a bond, mutual fund, stocks. Furthermore, the process that each investor makes a decision to invest could be different, depending on variety of factors that investors care and the weight they put on each of the factors they considered. For example, some investors make a decision by considering the fundamental information of the underlying company, whereas some investors rely on technical analysis, where they plot historical information on graphs. Yet, there are more factors that can affect the investment decision of the investors, especially those with long-term objectives including business models and practices of the underlying company of each stock. Corporate Social Responsibility (CSR or sometimes referred to as corporate conscience, corporate citizenship, or responsible business), a form of corporate self-regulation integrated into a business model and involves participating in initiatives that benefit society, has become a business practice that catches attention of a number of investors, as there are several studies linking CSR and stock performance, such as Apparel et, al. (1985). Other business practices that have been given good credit and are highly correlated with CSR include environmental sustainability and good governance. On the other hand, CSR reflects investors' wealth in long-term according to the research that was made by Chen and Gavious (2015).

In a positive way, a firm that focuses on environmental, social, and governance (ESG) practice should have better profit in the long term due to good management and discipline of its business practice. Regarding to the environmental aspect, a company that has policies and process

related to environment tends to use resources more efficiently, including the restoration of the natural environment which is affected by the business. Regarding to society aspect, a company concerning about society tends to have a policy that employs human resources fairly and equally. Promotion and ongoing staff development also help improving the quality of firm production. CSR also includes opportunities for sustainable growth of the communities that are relevant to the company. Finally, a company that has good corporate governance generally operates transparently and has clear guidelines for risk management which should positively affect firm performance and make the company attractive in the eyes of investors. According to the video clip "Why sustainability stocks are good?" (SET, 2015) advertised by the by the Stock Exchange of Thailand (SET) on its website link through YouTube, companies that concerned and took an action on such issue in the past 10 years give an overall return of 30 percent, compared with the overall return of SET index, which is around 20 percent during the same period.

However, focusing on CSR, environment, and good governance generally incurs more costs, as a study of Brammer, et, al. (2006). Therefore, investors who concern mainly about cost may not be interested in the firm's management. This leads to a question on which group of investors would be interested in the firms that emphasizes on CSR and ESG, particularly in the Stock Exchange of Thailand in which the concepts of CSR and ESG are still new, and the awareness of people on the importance of these issues is still low.

In Thailand, on October 16, 2014, SET announced the list of stocks called "Thai Sustainability Investment", which we will refer to as the TSI list throughout this paper, for the first time which certified that the stocks on the list have shown excellence in managing environmental, social and, governance. The list consists of 51 companies, categorized into two groups: Group 1 contains 13 stocks already included in the Dow Jones Sustainability Indices (DJSI), which have long been internationally acknowledged in term of CSR and sustainability practice, and Group 2 contains

38 stocks assessed by the SET. In addition, for the second list, an institution named Thaipat announced on February 1, 2015, the "ESG100" list for 100 stocks with the best ESG practice. Hence, we will first conduct event studies around these two announcements to examine how investors in Thailand's stock exchange market react to the lists. We expect to see abnormal returns if investors care about CSR or ESG and view the list as new and informative indicators to help them select the stocks with good CSR or ESG practice.

In addition, we want to further examine which type of investors are more interested in the stocks on SET's Thai Sustainability Investment list.[1] Since foreign investors may be more familiar with the concept of CSR than Thai investors, we expect that trading behavior of the foreign investors can be different from that of Thai individual or institutional investors. However, Dodd, et, al. (2015) found that foreign investors would prefer to trade on foreign markets that are large and highly liquid; so, foreign investors may care more about liquidity of stocks and ignore underlying business practice such as CSR and ESG when investing in Thailand. Moreover, Kwon, et, al. (2016) found that institutional and foreign investors tended to invest in long-term while individual investors were less extreme and uninformed traders in short-term view. So, we seek to investigate which type of investors – foreign, institutional, or individual investors -- focuses more on the stocks on the lists.

1.2. Research Questions

This paper has 2 main research questions as follow.

[1] At the time of this study, the data on trading behaviors of each investor type are not available for the period covering the announcement of the ESG100 list. Hence, we limit our study only the to SET's TSI list.

1.2.1. Research Question 1: How market respond to the announcements?

As CSR and ESG are well known in many countries, and there are many studies that show positive and negative aspects of CSR and ESG, it is important to consider whether the investors in Thailand consider the CSR or ESG stocks than stocks without these practices? Would CSR or ESG stocks from the lists that have been announced catch the investors' attention? However, CSR and ESG gives opportunities for sustainable growth of the communities that are relevant to the company, and profit would thereby recover in long-term (Chen and Gavious (2015)). Thus, conducting an event study analysis, we would expect that abnormal returns after each of the announcements should be more than the abnormal returns of the period before the announcement, if the announcements draw investors attention.

1.2.2. Research Question 2: Which type of investors would concern on CSR stocks in Thailand?

In Thailand, CSR is not a popular event. There are many investors that still do not know what CSR is. Since the first announcement of the CSR list in Thailand has just become available, it would be an interesting thing to study, among the three types of investors – foreign, institutional and individual investor -- which type concerns most on CSR stocks. According to the study by Brammer, et, al. (2006), institutional and foreign investors have a longer-term view, which is more in-line with period of return realization on CSR investment. Yet, foreign investors may be more familiar with the concept of CSR than Thai institutional investors. Thus, in Thailand, it is interesting to examine whether foreign investors would concern most on the CSR stocks on the TSI list, the first CSR list that was announced in Thailand.

1.3. Objectives

The main objective of this study is to investigate whether the TSI list and the ESG100 list recently announced in Thailand received investors' attentions. We will first find the difference between abnormal returns of the period before and after the announcement dates of the TSI list and ESG100 list to see how investors react. Secondly, we aim to find out which groups of investors -- institutional, individual or foreign investors -- concern more about CSR in their decision to invest by investigating trading volumes of each of the investor types.

1.4. Research Contribution

In many countries, there are many studies that are related to CSR that shows positive impact to the business performance or the stock returns. The results of the studies that I researched are such as that CSR is positive correlated with the profitability of the stocks (Apparel et, al. (1985)), CSR stocks recover in long-term (Chen and Gavious (2015)) and some CSR stocks' performance depends on the activities including recycling, donations, social policy and environmental-friendly activities. Yet, there are some studies that showed negative impact of CSR on stocks' according to activities that are related to the education sponsorship has negative impact to the CSR stocks (Hall and Rieck (1998)). The concepts of CSR and ESG are still new. The very first official list of the best listed companies that had done CSR were announced on October 16, 2014 for TSI list and on February 1, 2015 for ESG100. So, this paper will provide additional empirical evidence on how Thailand's market reacts to the CSR. This paper will also contribute to the literature by further studying on whether different investor types pay similar attention to the CSR stocks, as different types of investors may have different views, trading styles, and objectives. Furthermore, to see that among the three groups of investors in Thailand --institutional, individual and foreign investors,

which type invests the most on stocks in the list by considering the buying and selling records of each investor types which the indicators that will be used to measure are trade imbalance and percentage buy sell. The aim of this study is to see that among the three types of these investors, who would have the most concern on CSR stocks on the list. There is a support result from a study by Kwon, et, al. (2016). It found that the institutional and foreign investors have a long-term view, while individual investors have short-term view, less extreme and are uninformed when they trade stocks. A study of Chen and Gavious (2015) found that CSR reflects investor in long-term. Thus, foreign investor would be the type that concern the most on CSR stocks on the list. Finally, the benefit from this paper is to know the trend to invest in CSR stocks and to see how market react to CSR stocks from the list.

CHAPTER 2

Literature

The literature review was conducted on various study papers as a reference for this study of the environmental, social and governance in Thailand stock market with a combination between a TSI list rated by SET and ESG100 rated by Thaipat. Corporate Social Responsibility (CSR) or ESG (Environmental, Social and Governance) is one of the popular things that companies are doing to give back to social. There are some papers that study about CSR and investors behavior which, are concluding differently from different studies. Firstly, for the positive and negative outcome of CSR: Apparel et, al. (1985) study the relationship between CSR and profitability, this study uses elaborate and forced-choice instrument administrated to corporate CEOs. The result is that it found weak relationship between CSR and profitability. This shows a sufficient evidence to support the claim that socially responsible firms are more profit than other firms.

Chen and Gavious (2015) study on how CSR has different value implications for different shareholders. The finding informed that the investors do not believe that CSR has a real profit potential for the firm and suggested that the positive value implications of CSR reflects in long-term wealth for shareholders.

Clarkson, et, al. (2015) study on whether and what extent, firms committing to better CSR performance are more likely to issue CSR disclosure. To have CSR disclosure, it needs to be examined by the third party from the accounting profession and further examine whether the issuance of standalone CSR disclosure. The data of from the Environmental, Social and Governance (EGS) from Thomson Reuters that they use are in the period of 2003-2008. The results they suggest that while a firm's CSR commitment has a positive relation with both CSR report issuance and CSR

assurance there is no evidence of a positive relationship between CSR commitment and the choice of an external party from the accounting profession assured and for whether the issuance of standalone CSR disclosure, the external assurance of CSR disclosure and choice of the assured for CSR disclosure play an important role. Although the results support the signaling role of CSR disclosure and CSR assurance and did not find the matters of assured, both issue standalone CSR and having CSR disclosure assured brings benefits to issuing firms.

Brammer, et, al. (2006) study on corporate social performance and stock returns: UK evidence from disaggregate measures. The study found that CSR that is related to employment is weakly positive. However, there is some impact to the employee returns. On the other hand, CSR that is related to environmental and community is negatively correlated with returns, thus the cost in CSR activity recovers in long-term and shareholders are slow to realize the returns.

Hall and Rieck (1998) study on the effect of positive corporate social actions on shareholder wealth and find out that CSR do not lead to an increase in investors returns as a result of the impact of the CSR activities, which include recycling, donations, social policy and environmental-friendly activities. On other hand, there are some negative CSR impact on shareholder wealth activities. These activities are such as employ-sponsored education on Wall Street Journal event.

Hsu, et, al. (2015) study whether investors and analysts consider CSR when assess firms' announcements of earnings and management earnings forecast. They find out that only adverse CSR performance has an impact on investors' assessment of corporate disclosure which, both positive and adverse CSR performance got an impact on analysts' forecast and also find that firms with adverse CSR performance exhibit lower disclosure quality, earnings persistence and earning growth. They conjecture that CSR performance has an impact on investors' and analysts' reactions to these corporate disclosures because CSR performance can be a signal of management integrity

and thus an indicator of firms' disclosure quality; and CSR performance can reflect potential business risks, which can affect earnings persistence and future financial performance.

An empirical examination of the relationship between CSR disclosure and financial performance in an emerging market by Saleh, et, al. (2008) questioned whether CSR is linked to financial performance for PLCs (Public limited company) in Malaysia. The sample consists of 200 largest firms, which are taken out of 499 firms listed on the main board of Bursa Malaysia during 2000-2005. The results obtained reveal that the situation at that time in Malaysia infancy with respect to the disclosure of CSR information, CSR has an impact on financial performance of companies listed on Bursa Malaysia. The financial performance change in a statistically significant manner, in response to the increase and decrease of CSR.

Secondly, for investors behavioral and characteristic:

Dodd, et, al. (2014) examine the determinants of the foreign trading volume of European stocks listed in multiple markets. The results highlighted on the significance of the fundamental motives of trading. Foreign investors usually trade on foreign markets that are large and more liquid and on the stocks that foreigners could acquire information at lower cost, have higher volume of trade in foreign markets and book-to-market ratio, and have growth opportunities. Firm with higher growth may need to raise external capital, increasingly making company more visible to investors.

Kwon, et, al. (2016) did a study on modeling the dynamics of institutional, foreign and individual investors through price consensus in Korea. For the findings, institutional and foreign investors tend to have long-term views while individual investors have a short-term view, less extreme and uninformed trades.

Ichsani and Suhardi (2015)'s study finds the effect of return on equity (ROE) and return on investment (ROI) on trading volume. The reason that ROE and ROI have an effect on trading volume

is that they have positive correlation with the profitability, since ROE and ROI use net income as a benchmark in measuring profitability.

Finally, Ko, et, al. (2005) examines the characteristic and performance of institutional and foreign investors in Japanese and Korean stock markets. They find that firm size is more strongly correlated with foreign ownership than with institutional ownership. Also, there is a strong relation between firm size and foreign ownership. Moreover, there is a strong relation between book-to-market and foreign ownership that are negatively correlated. This means that the foreign investors concern on the growth more than the value stocks, based on positive correlation between foreign ownership and ROE.

CHAPTER 3

Data Description

3.1. Hypothesis Development

We expected that people would react on the lists of CSR stocks that were announced and invest on the stocks in the list. Thus, it is expected that the abnormal returns after the announcements would be higher than before the lists are announced. Finally, if we study and follow the company that have a good CSR and invest on it before the list will be yearly announced, we would probably gain profit out of the investment.

For the factor that we test, if there is an effect, the abnormal returns and cumulative abnormal returns (CAR) after the announcements would be higher than before the announcements, and trade imbalance between buy and sell after the announcements would be high for the investors that concern on the CSR stocks. The development of the hypothesis explanation is as follow in the hypothesis formation section.

3.2. Research Hypothesis formation

3.2.1. Investor's Reaction to the announcements of the CSR lists

An empirical examination of the relationship between corporate social responsibility and profitability, Apparel, et, al. (1985) said there is a relationship between CSR and the profitability. Also, there is a study by Brammer, et, al. (2006) said that CSR has a weak positive relationship with employment. Since, there are an impact to the employee return. On the other hand, CSR that is related to the environmental and community are negatively correlated with returns; thus, the costs in CSR activity recover in long-term, and shareholders are slow to realize the returns. Moreover,

Hall and Rieck (1998) finds that CSR does not lead to an increase in investors returns but have positive impact on shareholders' wealth in firm that has done CSR according to recycling, donations, social policy and environmental-friendly activities. Even though CSR and ESG are still new, and there is no prior study on their impact on stock performance and returns, as CSR and ESG could have positive effect on environment and social, it should draw investors' attention; this forms up to be the first hypothesis as follow

Hypothesis 1. There is an increase in abnormal return after the announcements

3.2.2. Types of Investors interested in the CSR stocks

According to the corporate social responsibility that is popular in other countries, in the study of Classon and Dahlstrom (2006), Chen and Gavious (2015) found that CSR reflect in long-term wealth for shareholders. Kwon, et, al. (2016) found that institutional and foreign investors tended to have long-term views while individual investors tended to have a short-term view but less extreme and uninformed trades. In Thailand, CSR is growing but not as popular as other countries. Announcements by SET's TSI list and the Thaipat Institution's ESG100 list were the very first to indicate good CSR practices and management. In each group of investors, there are various ways of decision making for investment. These are such as the consideration on the costs, investment duration: long term or short term. Kwon, et, al. (2016), Dodd, et, al. (2014) concluded that foreign trade on foreign markets that are large, more liquid and on stocks that cloud acquire information at low cost; high volume trade, book-to-market and growth opportunities. Also, Ko, et, al. (2005) concluded that firm size is more strongly correlated with foreign ownership than with institutional ownership also a strong relation between firm size and foreign ownership, between book-to-market and foreign ownership are negatively correlated, which means that foreign investors

concern more on growth than value stocks, based on positive correlation between foreign ownership and ROE. After all, this develops into the hypothesis as follows:

Hypothesis 2. Foreign investors invest more on companies on the TSI list after we control for market factors and stock characteristics such as market return, market capital, book-to-market ratio, momentum, return on equity, and return on investment in the previous period.

3.3. Thailand Sustainability investment TSI data list

There are 51 companies shown appendix in the table A.1, categorized into 2 groups: Group 1 contained 13 stocks already included in the Dow Jones Sustainability Indices (DJSI), classify by 3 criteria; First, listed in 2,500 largest companies of the S&P Global board market index 59 RobecoSAM industries 47 countries. Second, Selection of top 10% in terms of sustainability in each industry. Third, Free float adjusted market capitalization in total no less than 15% in each industry. Group 2 contains 38 stocks assessed by the SET, some criteria that Thailand Sustainability Investment consider. Firstly, the company must not have characteristic as follow (1) revoked or request a voluntary delisting. (2) listed in years 2014-2015 (3) Registered company indirectly in 2014-2015 (4) had fewer than 150 shareholders or together hold less that 15% of the share capital (5) had incorrect financial statements (6) SEC in order to amend its essence of financial statement (7) got SP sign for a delay in the financial statement year 2014-2015. Secondly, the scores of sustainability evaluation must have at least half of the full marks in each part of ESG. Thirdly, the company was not complaints by corporate governance or affect the social environment, which has been judged guilty by authorities and components. Lastly, Sustainability department considers the company that is the most appropriate to declare for “Thailand Sustainability Investment”

3.4. Thaipat ESG100 data list

ESG100 contains the list of 100 companies that are ranked based on the assessment of the sustainability and listed in the Stock Exchange on Thailand. The assessment is rated by Thaipat institute, which was founded by a group of investors that has the main objective to maximize their stock profit. The criteria are based on the document or the information from the source and the annual statements that the company publicly disclosed. In order for them to get the information for ESG100 assessment, the company needs to follow the capital market supervisory Board's rules, conditions and procedures for disclosure of information about the financial position and results of operations of the company. The source of the information that they use for the assessment are also come from the annual report, sustainability report and operating information related to sustainable development. As the table A.2 shown in the appendix for ESG100 list.

3.5. Stock market data

For the study, the data of each stocks are from Thomson Reuters including price, market return, book-to-market ratio, ROI, ROE. For the volume of all the stocks in SET, the buy side and the sell sides of each group of investors needs a special data from SET by using SAS to gather and organize the data.

A summary of all data used in this study, shown in the table 3.1 below

Table 3.1 Data variables and description

Variables	Description	Source
R_i	Return of $stock_i$ in the unit of percentage point per day	Self-construction based on information from Thomson Reuters.
MKT	the monthly return minus the risk free rate, unit percentage	Self-construction based on information of return on market portfolio minus risk-free return rate of each stock from Thomson Reuters.
SMB	Small minus big(market capital) by sorting small to big market capital and minus the return of the first 30% smallest with the 30% largest from the last, unit percentage	Self-construction based on information of the capital market of each stock from Thomson Reuters.
HML	High minus low (book-to-market ratio) by sorting high to low book-to-market and minus the return of the first 30% smallest with the 30% largest from the last, unit percentage	Self-construction based on information of book-to-market ratio of each stock from Thomson Reuters.
MOM	Monthly premium on winners minus losers, zero-cost portfolio that is long previous 12-month return winners minus with short previous 12-month loser stocks, unit percentage	Self-construction based on information of long minus short of each stock from Thomson Reuters.
% Buy (B)	Buy on all CSR stocks divided by total buy on stocks of each group investor for each day, unit in percentage.	Self-construction based on data from SAS

Variables	Description	Source
% Sell (S)	Sell on all CSR stocks divided by total sell on stocks of each group investor for each day, unit in percentage.	Self-construction based on data from SAS
% Buy - % Sell (BS)	% Buy minus % Sell unit percentage	Self-construction based on data from SAS
BSTI (Trade imbalance)	$BSTI = \frac{Buy - Sell}{Total\ transaction}$	Self-construction based on data from SAS
ROE	Return on equity (ROE) $ROE = \frac{Earning\ after\ tax}{Total\ equity} x100\%$	Self-construction based on information of ROE of each stock from Thomson Reuters.
ROI	Return on investment (ROI) $ROI = \frac{Earning\ after\ tax}{Total\ assets} x100\%$	Self-construction based on information of ROI of each stock from Thomson Reuters.

CHAPTER 4

Methodology

4.1 Event study analysis

Abnormal return is a portfolio's return which is not explained by market's fundamentals and risk. It is one of the most common measurement of risk-adjusted performance.

To measure the abnormal return in this paper, we run the following time series for each of the stocks *j* on the list using the daily data from -140 to -20 days before the event date to get the estimates $\hat{\alpha}_j$ and all $\hat{\beta}_j$'s, assuming that 20 days before the announcement are not influenced by the event itself, we estimate the following Carhart four-factor model:

$$R_{j,t} = \alpha_j + \beta_{1,j}(R_m - R_f)_t + \beta_{2,j}SMB_t + \beta_{3,j}HML_t + \beta_{4,j}MOM_t + \varepsilon_{j,t} \quad (4.1)$$

Where R_m-R_f is an excess return on market, SMB is the Fama-French's small minus big (market capital) factor, HML is the Fama-French's high minus low (book-to-market) factor, and MOM is the monthly premium on winners minus losers, which captures the market's momentum. After predicting the variables from equation (4.1), to find the abnormal return by using equation (4.2) as follow:

$$AR_{j,t} = R_{j,t} - (\hat{\alpha}_{j,t} + \hat{\beta}_{1,j}(R_m - R_f)_t + \hat{\beta}_{2,j}SMB_t + \hat{\beta}_{3,j}HML_t + \hat{\beta}_{4,j}MOM_t) \quad (4.2)$$

Where t in this equation indicate time, consist 20, 10, 5, 1 days window. AR is abnormal return of each stock in each day. Then find cumulative abnormal return by as follow equation:

$$CAR_{I,t} = \sum_{t=1}^{I} AR_t \quad (4.3)$$

Where I refer to the total period and t in this equation indicate time.

Testing Hypothesis 1

To answer hypothesis 1, we focus on the stocks included in the ESG100 list, which was announced on February 1, 2015, and the TSI list, announced on October 16, 2014. For each list, we will estimate abnormal returns for each stock in the list before and after the announcement date by equation (4.2), then comparing the means of the abnormal returns before and after. Using daily time period of 20 days before and 20 days after the announcement date, also 10, 5 and 1 days before and after the announcement.

After finding the abnormal return of each stock, we find the average abnormal returns (AAR) to see whether they differ from zero. In addition, cumulative abnormal returns (CAR) and average cumulative abnormal returns (CAAR) are calculated. By summing up the abnormal returns before (after) the announcement from equation (4.3) will get CAR of each stock before (after) the announcement. After getting the CAR, we find CAAR, which is the average of CAR across stocks, by running the regression as follow:

$$CAR_{j,t} = \phi_0 + \phi_1 a1_{j,t} \quad (4.4)$$

where *j* refers to stock *j*, *t* is the time periods indicating whether the CAR is before or after the announcement, and a1 is a dummy variable, if equals to 1 it is the after the announcement. Hence, ϕ_0 refers to CAAR before the announcement, ϕ_1 refers to the difference between after and before the announcement, and $\phi_0 + \phi_1$ is the CAAR after the announcement.

4.2 Analysis of investor types' interest

Investors will be separated into three groups; individual, institutional, and foreign investors to find which type of investor that concern most on CSR stocks. We will answer this question by considering the differences of buying and selling behaviors of each group of investors. To be more

specific, if the investor is more interested in the CSR stocks, it should buy more and sell less CSR stocks, resulting in higher trade imbalance of the CSR stocks. Herein, we use two proxies of trade imbalance of each stock of each investor type: first, BS which is buy relative to the investor type's total buy of the stock minus sell relative to its total sell of the same stock, second, BSTI which is buy minus sell divided by the type's total transaction of the stock. The BS variable is better in case that buy and sell transactions are largely different in sizes across types, as buying 50% of the total 10 million Baht in would imply more interests that buying 10% of 1 billion Baht. However, the BS variable may be a poor indicator in case each type holds very few CSR stocks. In such case, buying or selling just a little more will result in very large percentage changes and dominate other transactions. Collecting data daily for 1 year in 2014 for TSI list, based on information from SAS. We separate the finding which type of investor concerns most on the CSR stocks into 2 cases. First, we will find the aggregate BSTI and BS over all the CSR stocks for each type of investor. Second, we find the BSTI and BS for each stock, including both the stocks in the TSI list and not in the list, and analyze the differences in trade imbalances of each investor types before and after the announcement and between on and off the TST list. For the control variables, the first case, which is the study at the level of all CSR stocks aggregated up, will use the Carhart four factor model to control. For the second case, which is studied using data at stock level, we add ROI and ROE which vary across stocks and have impact on buy and sell volumes. In additional, support by a study of Ichsani and Suhardi (2015)'s study found the effect of return on equity (ROE) and return on investment (ROI) on trading volume and a study of Ko, et, al. (2005) found that firm size is correlated with foreign ownership than with institutional ownership also a strong relation between firm size and foreign ownership, which means that foreign investors concern on growth than value stocks, based on positive correlation between foreign ownership and ROE. Also the reason that ROE and

ROI have an effect on trading volume is the positive correlation with the profitability, since ROE and ROI using net income as a benchmark in measuring profitability.

Testing Hypothesis 2

To answer, we find BSTI and BS for each type, as case 1. By the following equation

$$Z_{1,i,t} = \beta_0 + \beta_1 D^{INV}_i + \beta_2 D^F_i + \beta_3 D^{INV}_i T_t + \beta_4 D^F_i T_t + \beta_5 T_t + \gamma_0 X_{1,t} + \varepsilon_{i,t} \quad (4.4)$$

where $Z_{1,i,t}$ is trade imbalance, proxied by 2 variables as explained in detailed earlier:BSTI - buy minus sell and divided by total transaction -- and BS - difference between percent buy and percent sell, D^{INV}_i is a dummy variable equals to 1 if the observation i is individual investor type, D^F_i is a dummy variable equals to 1 if the observation is foreign investor type, and T_t is a dummy variable represent time, equals to 1 if the T is more than 207, which 207 is the date of the announcement of TSI list. $X_{1,t}$ refers to the control variables, including firm size, the Carhart's four factors. For the subscription, i captures investor type and t indexes time.

In addition, for Z_1 of each type values of before the announcement can be found by $\beta_0+\beta_1+\gamma_0$ for individual investor, $\beta_0+\gamma_0$ for institutional investor and $\beta_0+\beta_2+\gamma_0$ for foreign investor. The values of after announcement of each type can be found by $\beta_0+\beta_1+\beta_3+\beta_5+\gamma_0$ for individual investor, $\beta_0+\beta_5+\gamma_0$ for institutional investor and $\beta_0+\beta_2+\beta_4+\beta_5+\gamma_0$ from foreign investor shown in Table 4.2.1.

For case 2, the answer could be obtained by estimating the following regression equation at stock levels, including both the stocks on and not on the TSI list:

$$\begin{aligned} Z_{2,i,j,t} = {} & \beta_0 + \beta_1 D^{INV}_{j,t} + \beta_2 D^F_{j,t} + \beta_3 D^{INV}_{j,t} T_t + \beta_4 D^F_{j,t} T_t + \beta_5 T_t + \\ & \gamma_0 LIST_i + \gamma_1 D^{INV}_{j,t} LIST_i + \gamma_2 D^F_{j,t} LIST_i + \gamma_3 D^{INV}_{j,t} T_t LIST_i + \\ & \gamma_4 D^F_{j,t} T_t LIST_i + \gamma_5 T_t LIST_i + \gamma_6 X_{2,i,j,t} + \varepsilon_{i,j,t} \end{aligned} \quad (4.5)$$

where $Z_{2,i,j,t}$ is trade imbalance, proxied by 2 variables as explained in detailed earlier: BSTI - buy minus sell and divided by total transaction -- and BS - difference between percent buy and percent sell, D^{INV}_i is a dummy variable equals to 1 if the observation i is individual investor type, D^{F}_i is a dummy variable equals to 1 if the observation is foreign investor type, and T_t is a dummy variable represent time, equals to 1 if the T is more than 207, which 207 is the date of the announcement of TSI list. $LIST_i$ is a dummy variable, equals to 1 if it is in TSI list. $X_{2,i,j,t}$ refers to the control variables, including firm size, the Carhart's four factors, ROE, and ROI. For the subscription, i captures investor type, j captures stocks and t indexes time.

Based on the regression equation (4.5), the average trade imbalance (after controlling for market factors, ROE, and ROI) before the TSI-list announcement can be represented by $\beta_0+\beta_1+\gamma_0+\gamma_1+\gamma_6$ for individual investor, by $\beta_0+\gamma_0+\gamma_6$ for institutional investor, and by $\beta_0+\beta_2+\gamma_0+\gamma_2+\gamma_6$ for foreign investor. Values of after announcement of each type can be found by $\beta_0+\beta_1+\beta_3+\beta_5+\gamma_0+\gamma_1+\gamma_3+\gamma_5+\gamma_6$ for individual investor, $\beta_0+\beta_5+\gamma_0+\gamma_5+\gamma_6$ for institutional investor and $\beta_0+\beta_2+\beta_4+\beta_5+\gamma_0+\gamma_2+\gamma_4+\gamma_5+\gamma_6$for foreign investor. For Z_2 of each stock not in the TSI list values of before the announcement can be found by $\beta_0+\beta_1+\gamma_6$ for individual investor, $\beta_0+\gamma_6$ for institutional investor and $\beta_0+\beta_2+\gamma_6$ for foreign investor. Values of after announcement of each type can be found by $\beta_0+\beta_1+\beta_3+\beta_5+\gamma_6$ for individual investor, $\beta_0+\beta_5+\gamma_6$ for institutional investor and $\beta_0+\beta_2+\beta_4+\beta_5+\gamma_6$ fro foreign investor. Table 4.2.2 and 4.2.3 provides the summary of what we just mentioned.

Table 4.2.1. Z_1 before and after announcement for each type, as shown below

		Individual	institutional	Foreign
Case 1	Before announcement	$\beta_0+\beta_1+\gamma_0$	$\beta_0+\gamma_0$	$\beta_0+\beta_2+\gamma_0$
	After announcement	$\beta_0+\beta_1+\beta_3+\beta_5+\gamma_0$	$\beta_0+\beta_5+\gamma_0$	$\beta_0+\beta_2+\beta_4+\beta_5+\gamma_0$

Table 4.2.2. Z_2 before and after announcement of each stock that are in the list, as shown below

Stocks in TSI list		Individual	institutional	Foreign
Case 2.1	Before announcement	$\beta_0+\beta_1+\gamma_0+\gamma_1+\gamma_6$	$\beta_0+\gamma_0+\gamma_6$	$\beta_0+\beta_2+\gamma_0+\gamma_2+\gamma_6$
	After announcement	$\beta_0+\beta_1+\beta_3+\beta_5+\gamma_0+\gamma_1+\gamma_3+\gamma_5+\gamma_6$	β_0+ $\beta_5+\gamma_0+\gamma_5+\gamma_6$	$\beta_0+\beta_2+\beta_4+\beta_5+\gamma_0+\gamma_2+\gamma_4+\gamma_5+\gamma_6$

Table 4.2.3. Z_2 before and after announcement of each stock that are not in the list, as shown below

Stocks not in TSI list		Individual	institutional	Foreign
Case 2.2	Before announcement	$\beta_0+\beta_1+\gamma_6$	$\beta_0+\gamma_6$	$\beta_0+\beta_2+\gamma_6$
	After announcement	$\beta_0+\beta_1+\beta_3+\beta_5+\gamma_6$	$\beta_0+\beta_5+\gamma_6$	$\beta_0+\beta_2+\beta_4+\beta_5+\gamma_6$

Then, to answer the research question on whether foreign investors were the type that most interested in the stocks on the CSR list, we test, for the study at the aggregate level, whether the change of trade imbalance from before to after the announcement of the foreign investor type is higher than those of the other two types. More precisely, we conduct the following hypothesis tests in Table 4.2.4.:

Table 4.2.4. Hypothesis across type

Compare across type			
Types	After announcement	Before announcement	After - Before announcement
Foreign > Individual	$\beta_2+\beta_4-\beta_1-\beta_3$	$\beta_2-\beta_1$	$\beta_4-\beta_3$
Foreign > Institutional	$\beta_2+\beta_4$	β_2	β_4
Institutional < Individual	$\beta_1+\beta_3$	β_1	β_3

And to test at the stock level, we compare whether the difference of the change between those on and not on the list is highest for the foreign investor type. In other words, we test the following hypotheses shown in Table 4.2.5. to Table 4.2.7:

Table 4.2.5. Hypothesis across type with stocks in TSI list

Compare across type stocks in TSI list			
Types	After announcement	Before announcement	After - Before announcement
Foreign > Individual	$\beta_2+\beta_4+\gamma_2+\gamma_4-\beta_1-\beta_3-\gamma_1-\gamma_3$	$\beta_2+\gamma_2-\beta_1-\gamma_1$	$\beta_4+\gamma_4-\beta_3-\gamma_3$
Foreign > Institutional	$\beta_2+\beta_4+\gamma_2+\gamma_4$	$\beta_2+\gamma_2$	$\beta_4+\gamma_4$
Institutional < Individual	$\beta_1+\beta_3+\gamma_1+\gamma_3$	$\beta_1+\gamma_1$	$\beta_3+\gamma_3$

Table 4.2.6. Hypothesis across type with stocks not in TSI list

Compare across type stocks not in TSI list			
Types	After announcement	Before announcement	After - Before announcement
Foreign > Individual	$\beta_2+\beta_4-\beta_1-\beta_3$	$\beta_2-\beta_1$	$\beta_4-\beta_3$
Foreign > Institutional	$\beta_2+\beta_4$	β_2	β_4
Institutional < Individual	$\beta_1+\beta_3$	β_1	β_3

Table 4.2.7. Hypothesis comparing stocks in TSI list and not in TSI list

Compare across stocks in and not in TSI list	
Types	**Stocks in TSI list compare with not TSI list**
Foreign > Individual	γ_4-γ_3
Foreign > Institutional	γ_4
Institutional < Individual	γ_3

Limitation of paper

The limitation of the first part of this paper is the stocks that have been merged, delisted and in MAI market. For the second part is the problem on the delayed of the data for 2015 trading transection of each type, which can't examine on ESG100 list. Thus, if including the investigation in MAI market could be included in this study and the data available for 2015 would be good for a future research.

CHAPTER 5

Empirical Results and Discussion

For the result and discussion of the abnormal return before and after the announcement of both lists; TSI list and ESG100 list (Appendix Table A.1-A.2) and the types of investor – individual, institutional and foreign investors that concerns on CSR stocks, can be find in this section.

5.1. Abnormal return

We first examine the abnormal return of each list, finding before and after the announcement and plot them into graphs as seen in Figure 5.1.1 and Figure 5.1.2 to see a rough pattern before and after the announcement of SET and ESG100 list, which TSI list announce on October 16, 2014 (t = 207) and ESG100 list announce on February 1, 2015 (t = 284).

Figure 5.1.1. shows the abnormal returns around the announcement of the TSI list, as t more than 207 (red line) will be classified as after announcement. This figure shows that the abnormal returns after the announcement are mostly lower than before the announcement. In other words, the negative abnormal return before the announcement and the abnormal return becomes more negative after the announcement.

Figure 5.1.2. shows the abnormal returns before and after the announcement of ESG100 list, t equals to 284 (red line) as the announcement date. For the result, abnormal returns after the ESG100 list was announced seems to be largely higher than before the announcement. The abnormal returns are still negative but less negative after the announcement.

Figure 5.1.1. Abnormal return before and after the announcement date (red line) of TSI list

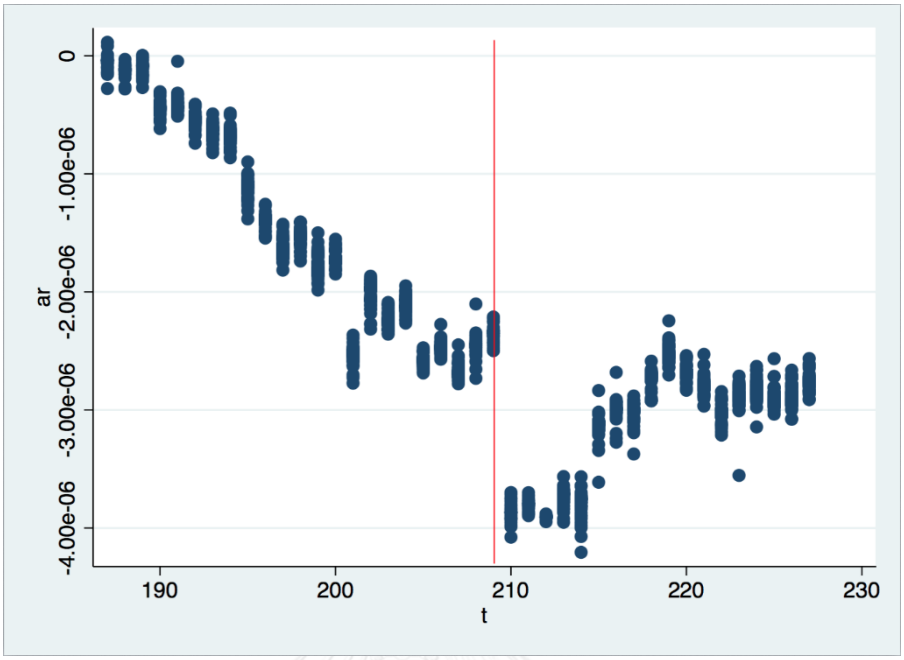
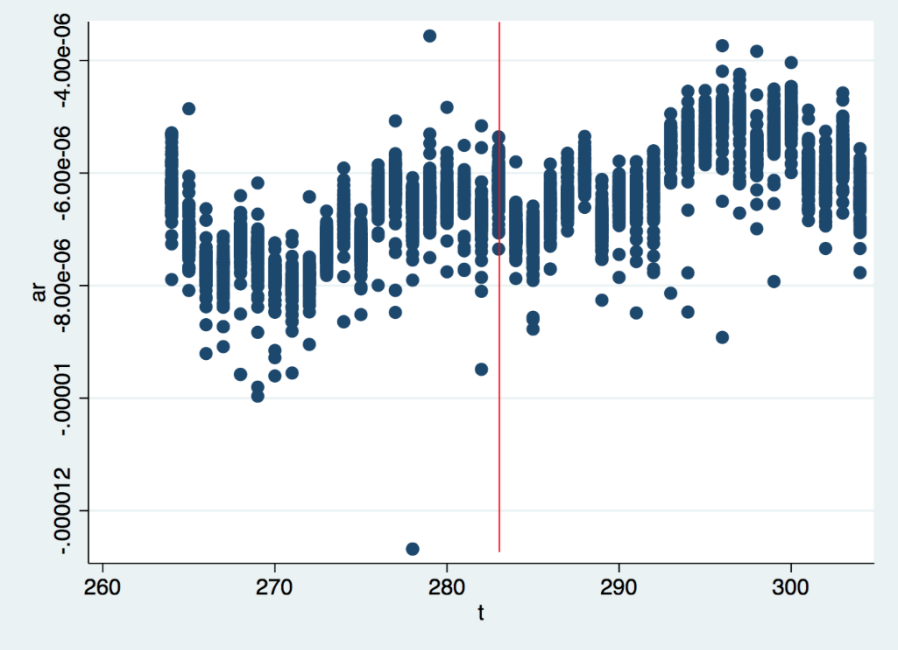


Figure 5.1.2. Abnormal return before and after the announcement date (red line) of ESG100 list



In addition, Figure 5.1.3. shows the average abnormal returns of the TSI list. As seen in the figure for the TSI list, the average abnormal returns become more negative, which can imply that the TSI list draws attention of the investors but in negative way. Similarly, Figure 5.1.4. shows the average abnormal returns of the ESG100 list. After the announcement, the ESG100 list tends to be less negative than the average abnormal returns before the announcement from ESG100 list, we can infer that the list also draws investors' attention but in a better way comparing with the TSI list, as reaction to the ESG100 list results in less negative abnormal returns.

Figure 5.1.3. Average Abnormal Return of TSI list

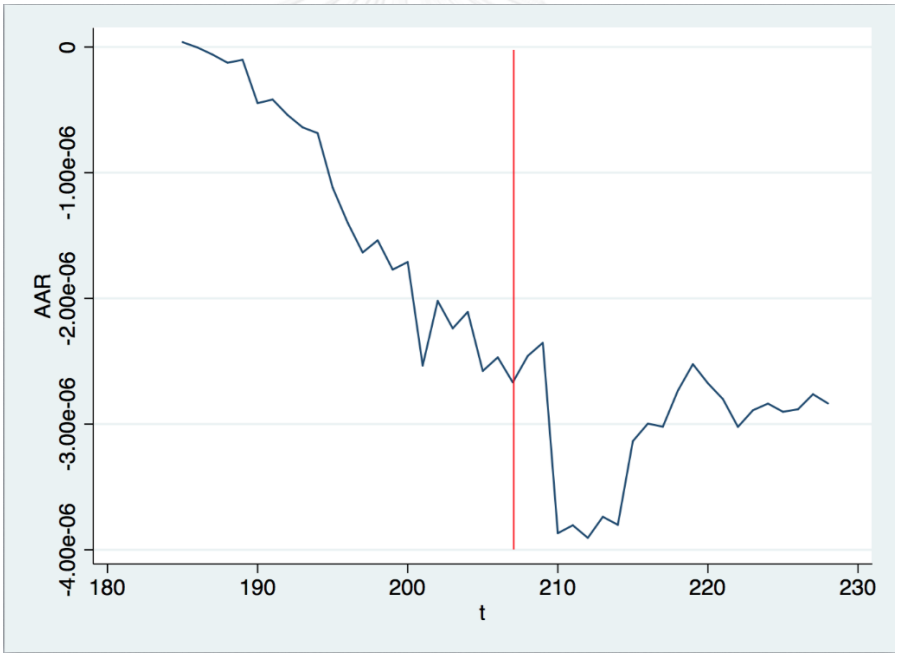
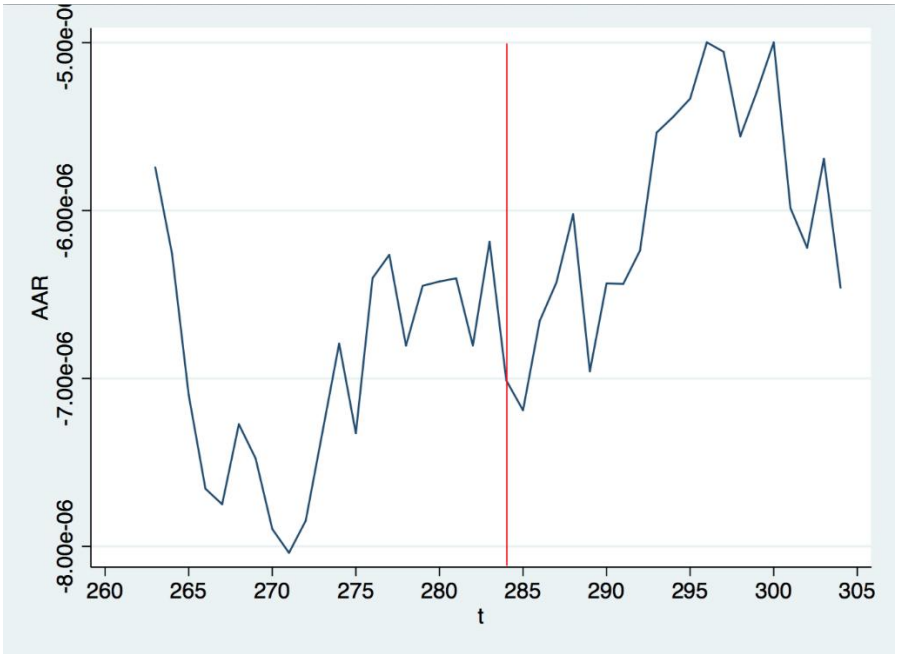


Figure 5.1.4. Average Abnormal Return of ESG100 list



5.2. Cumulative Abnormal return

The result of the regression to find CAAR from equation (4.3) is shown in Table 5.2.1 and for Table 5.2.2. It shows the summary of the results of cumulative average abnormal returns for both lists. For the TSI list, 1 day, 5 days, 10 days and 20 days CAARs after the announcement are significantly more negative than the period before the announcement. In contrast, for the ESG100 list, the CAARs after 1 day and 5 days-window turn significantly more negative, but the differences in the CAARs turn to be significantly positive after 10 and 20 days from the announcement in spite of the fact that the 10- and 20-day-window CAARs are still negative. These results suggest that both lists could draw investors' attention, but the reactions are negative, although the returns rebound somewhat less negative in 10 days and 20 days-window after the announcement of the ESG100 list. A plausible explanation is that, in Thailand, investors are interested to invest more in short-term than long-term as Brammer, et, al. (2006) found that the cost in CSR activity recover in long-

term and shareholder are slow to realize return. For the ESG100 list which abnormal returns become positive in 10 days and 20 days after the announcement, it might be that the list attracted more investors investing in long-term and that they may understood more about CSR or ESG that it would grow steady. Yet, although the results are negatively significant in statistical sense, the size of the CAARs are very small economically. On other hand, converting in yearly from daily abnormal return as show in Table 5.2.3. the results are still very small. Thus, it is not economically significant, and investors is not likely to be able to exploit the abnormal returns for trading strategy.

Table 5.2.1. Cumulative average abnormal return regression result of both lists

The regression result finding cumulative abnormal return from equation $CAR_{jt} = \phi_0 + \phi_1 a1_{jt}$ where a1 is a dummy variable, equals to 1 refers to after the announcement.

Variables	TSI				ESG100			
	1 day	5 days	10 days	20 days	1 day	5 days	10 days	20 days
Constant(ϕ_0)	-5.27e-06***	-1.45e-05***	-2.28e-05***	-2.71e-05***	-1.36e-05***	-4.10e-05***	-7.65e-05***	-0.000153***
diff(ϕ_1)	-1.92e-07	-5.34e-06***	-1.43e-05***	-4.23e-05***	-1.28e-06***	-9.86e-07	3.38e-06*	2.20e-05***
Observations	90				186			
R-squared	0.007	0.487	0.693	0.851	0.053	0.005	0.018	0.193

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5.2.2. Cumulative average abnormal return before, after and differences of after minus before summary for both lists

List	1 days			5 days			10 days			20 days		
	Before	After	Af-Be	Before	After	Af-Be	Before	After	Af-Be	Before	After	Af-Be
TSI list	-0.0000053***	-0.0000055***	-0.0000002	-0.0000145***	-0.0000198***	-0.0000053***	-0.0000228***	-0.0000371***	-0.0000143***	-0.0000271***	-0.0000694***	-0.0000423***
ESG100 list	-0.0000136***	-0.0000149***	-0.00000019***	-0.0000410***	-0.0000420***	-0.0000010	-0.0000765***	-0.0000731***	0.0000034*	-0.0001530***	-0.0001310***	0.0000220***

Table 5.2.3. Yearly cumulative average abnormal return

List	1 days			5 days			10 days			20 days		
	Before	After	Af-Be	Before	After	Af-Be	Before	After	Af-Be	Before	After	Af-Be
TSI list	-0.0019***	-0.0020***	-0.0001	-0.0053***	-0.0072***	-0.0019***	-0.0083***	-0.0135***	-0.0052***	-0.0099***	-0.0253***	-0.0154***
ESG100 list	-0.0050***	-0.0054***	-0.0001***	-0.0150***	-0.0153***	-0.0004	-0.0279***	-0.0267***	0.0012*	-0.0558***	-0.0478***	0.0080***

5.3. Type of investors that concerns about CSR

The results of the investor types (individual, institutional, and foreign investors) obtained from equation (4.4) are shown in Table 5.3.1. (BSTI) and Table 5.3.2. (BS). The tables provide t-statistics and p-value of the hypothesis tests against the null hypotheses stated in the table, which compare trade imbalance of periods before and after the announcement across investor types.

Table 5.3.1. Regression result of BSTI before and after the announcement by each type

The regression result finding $Z_{1,i,t}$ from equation (4.4) in methodology hypothesis 2 first part as follows

$$Z_{1,i,t} = \beta_0 + \beta_1 D^{INV}_{it} + \beta_2 D^{F}_{it} + \beta_3 D^{INV}_{it} T_{it} + \beta_4 D^{F}_{it} T_{it} + \beta_5 T_{it} + \gamma_0 X_1 + \varepsilon_{i,t}$$

	After Announcement			Before Announcement			After - Before	
	T stat	P-value		T stat	P-value		T stat	P-value
Foreign > Individual			Foreign > Individual			Foreign > Individual		
$\beta_2+\beta_4-\beta_1-\beta_3 > 0$	0.100	0.462	$\beta_2-\beta_1 > 0$	1.775	0.038**	$\beta_4-\beta_3 > 0$	0.911	0.181
Foreign > Institutional			Foreign > Institutional			Foreign > Institutional		
$\beta_2+\beta_4 > 0$	0.000	0.500	$\beta_2 > 0$	-0.520	0.000***	$\beta_4 > 0$	0.424	0.334
Institutional > Individual			Institutional > Individual			Institutional > Individual		
$\beta_1+\beta_3 < 0$	0.100	0.463	$\beta_1 < 0$	2.289	0.000***	$\beta_3 < 0$	0.490	0.314

Table 5.3.2. Regression result of percent BS before and after the announcement by each type

	After Announcement			Before Announcement			After - Before	
	T stat	P-value		T stat	P-value		T stat	P-value
Foreign > Individual			Foreign > Individual			Foreign > Individual		
$\beta_2+\beta_4-\beta_1-\beta_3 > 0$	14.002	0.0***	$\beta_2-\beta_1 > 0$	25.944	0.0***	$\beta_4-\beta_3 > 0$	0.574	0.283
Foreign > Institutional			Foreign > Institutional			Foreign > Institutional		
$\beta_2+\beta_4 > 0$	0.600	0.274	$\beta_2 > 0$	0.245	0.402	$\beta_4 > 0$	0.648	0.259
Institutional > Individual			Institutional > Individual			Institutional > Individual		
$\beta_1+\beta_3 < 0$	14.604	0.0***	$\beta_1 < 0$	25.711	0.0***	$\beta_3 < 0$	1.225	0.111

As the result for trade imbalance (BSTI) in Table 5.3.1. there is no statistically significant results. Thus, there is not enough evidence to conclude that which type of investors concern more on CSR stocks from the list than the other types. Similarly, for the result of percentage using the variable BS, there is still no statistical significance found in the result. Thus, we could not make a conclusion at the aggregate level and further investigate whether there might be a difference when controlling for ROE and ROI.

For the second part, difference of BSTI and BS between period before and after announcement of each stock in TSI list regression result, for BSTI is shown in Table 5.3.3. and for BS shown in Table 5.3.4. For stocks that are not in TSI list shown in Table 5.3.5. and Table 5.3.6. in order of BSTI and BS. The comparison of how each type of investor concern on CSR stocks and non-CSR stocks. Shown in Table 5.3.7. for stocks in TSI list using BSTI, there are no significance in the value of before and after the announcement, which there are not enough evidence. However, Table 5.3.8. for BS shows significant results of the hypothesis tests, implying that foreign investors concern about the CSR stocks more than institutional while institutional investors concern less CSR stocks than individual but there are no significant for foreign investors comparing with individual investors. Thus, based on the BS variable, we cannot conclude that foreign investors concern most on CSR stocks in Thailand, which does not consistent with the second hypothesis.

The equation that used to find the regression result for Table 5.3.3. to Table 5.3.6. is from equation (4.5) in the methodology hypothesis 2 section as follows

$$Z_{2,i,t} = \beta_0 + \beta_1 D^{INV}_{it} + \beta_2 D^{F}_{it} + \beta_3 D^{INV}_{it} T_{it} + \beta_4 D^{F}_{it} T_{it} + \beta_5 T_{it} + \gamma_0 LIST_{it} + \gamma_1 D_{it}^{INV} LIST_{it} + \gamma_2 D^{F}_{it} LIST_{it} + \gamma_3 D_{it}^{INV} T_{it} LIST_{it} + \gamma_4 D^{F}_{it} T_{it} LIST_{it} + \gamma_5 T_{it} LIST_{it} + \gamma_6 X_2 + \varepsilon_{i,t}$$

Table 5.3.3. Regression result of BSTI before and after the announcement by each CSR stocks in TSI list

	After Announcement			Before Announcement			After - Before	
	T stat	P-value		T stat	P-value		T stat	P-value
Foreign > Individual			Foreign > Individual			Foreign > Individual		
$\beta_2+\beta_4+\gamma_2+\gamma_4-\beta_1-\beta_3-\gamma_1-\gamma_3 > 0$	0.000	0.475	$\beta_2+\gamma_2-\beta_1-\gamma_1 > 0$	2.839	0.002***	$\beta_4+\gamma_4-\beta_3-\gamma_3 > 0$	1.095	0.137
Foreign > Institutional			Foreign > Institutional			Foreign > Institutional		
$\beta_2+\beta_4+\gamma_2+\gamma_4 > 0$	0.000	0.484	$\beta_2+\gamma_2 > 0$	1.808	0.035**	$\beta_4+\gamma_4 > 0$	0.728	0.233
Institutional > Individual			Institutional > Individual			Institutional > Individual		
$\beta_1+\beta_3+\gamma_1+\gamma_3 < 0$	0.000	0.487	$\beta_1+\gamma_1 < 0$	1.217	0.112	$\beta_3+\gamma_3 < 0$	0.529	0.298

Table 5.3.4. Regression result of percent BS before and after the announcement by each CSR stocks in TSI list

	After Announcement			Before Announcement			After - Before	
	T stat	P-value		T stat	P-value		T stat	P-value
Foreign > Individual			Foreign > Individual			Foreign > Individual		
$\beta_2+\beta_4+\gamma_2+\gamma_4-\beta_1-\beta_3-\gamma_1-\gamma_3 > 0$	2.796	0.003***	$\beta_2+\gamma_2-\beta_1-\gamma_1 > 0$	6.418	0.0***	$\beta_4+\gamma_4-\beta_3-\gamma_3 > 0$	0.583	0.281
Foreign > Institutional			Foreign > Institutional			Foreign > Institutional		
$\beta_2+\beta_4+\gamma_2+\gamma_4 > 0$	1.109	0.134	$\beta_2+\gamma_2 > 0$	3.795	0.001***	$\beta_4+\gamma_4 > 0$	2.429	0.008***
Institutional > Individual			Institutional > Individual			Institutional > Individual		
$\beta_1+\beta_3+\gamma_1+\gamma_3 < 0$	1.924	0.027**	$\beta_1+\gamma_1 < 0$	8.837	0.0***	$\beta_3+\gamma_3 < 0$	1.166	0.122

Table 5.3.5. Regression result of BSTI before and after the announcement by each stocks not in TSI list[2]

	After Announcement			Before Announcement			After - Before	
	T stat	P-value		T stat	P-value		T stat	P-value
Foreign > Individual			Foreign > Individual			Foreign > Individual		
$\beta_2+\beta_4-\beta_1-\beta_3 > 0$	0.000	0.482	$\beta_2-\beta_1 > 0$	1.997	0.023	$\beta_4-\beta_3 > 0$	1.229	0.110
Foreign > Institutional			Foreign > Institutional			Foreign > Institutional		
$\beta_2+\beta_4 > 0$	0.000	0.487	$\beta_2 > 0$	1.860	0.032**	$\beta_4 > 0$	0.693	0.245
Institutional > Individual			Institutional > Individual			Institutional > Individual		
$\beta_1+\beta_3 < 0$	0.000	0.500	$\beta_1 < 0$	0.600	0.274	$\beta_3 < 0$	0.200	0.424

Table 5.3.6. Regression result of percent BS before and after the announcement by each stocks not in TSI list[2]

	After Announcement			Before Announcement			After - Before	
	T stat	P-value		T stat	P-value		T stat	P-value
Foreign > Individual			Foreign > Individual			Foreign > Individual		
$\beta_2+\beta_4-\beta_1-\beta_3 > 0$	7.984	0.0***	$\beta_2-\beta_1 > 0$	18.321	0.0***	$\beta_4-\beta_3 > 0$	0.141	0.440
Foreign > Institutional			Foreign > Institutional			Foreign > Institutional		
$\beta_2+\beta_4 > 0$	0.964	0.167	$\beta_2 > 0$	4.689	0.0***	$\beta_4 > 0$	2.823	0.002***
Institutional > Individual			Institutional > Individual			Institutional > Individual		
$\beta_1+\beta_3 < 0$	5.771	0.0***	$\beta_1 < 0$	19.069	0.0***	$\beta_3 < 0$	3.338	0.0***

[2] Using equation as follows: $Z_{2,i,t} = \beta_0 + \beta_1 D^{INV}_{it} + \beta_2 D^{F}_{it} + \beta_3 D^{INV}_{it} T_{it} + \beta_4 D^{F}_{it} T_{it} + \beta_5 T_{it} + \gamma_0 LIST_{it} + \gamma_1 D_{it}{}^{INV} LIST_{it} + \gamma_2 D^{F}_{it} LIST_{it} + \gamma_3 D_{it}{}^{INV} T_{it} LIST_{it} + \gamma_4 D^{F}_{it} T_{it} LIST_{it} + \gamma_5 T_{it} LIST_{it} + \gamma_6 X_2 + \varepsilon_{i,t}$

Table 5.3.7. Test between CSR stocks in TSI list and not in TSI list of BSTI

	After - Before	
	T stat	P-value
Foreign > Individual		
γ_4-γ_3 > 0	1.187	0.117
Foreign > Institutional		
γ_4 > 0	0.721	0.237
Institutional > Individual		
γ_3 < 0	0.458	0.323

Table 5.3.8. Test between CSR stocks in TSI list and not in TSI list of BS

	After - Before	
	T stat	P-value
Foreign > Individual		
γ_4-γ_3 > 0	0.500	0.310
Foreign > Institutional		
γ_4 > 0	2.598	0.005***
Institutional > Individual		
γ_3 < 0	1.863	0.031**

CHAPTER 6

Concluding remark

The aims of this paper is to study perceptions of investors toward stocks with Environment, Social, and Governance (ESG) or Corporate Social Responsibility (CSR) in the Stock Exchange of Thailand. First, the major indicator examined in this paper is the event studies around the announcements of the SET's TSI and Thaipat Institution's ESG100 lists designed to include the top best public companies in CSR or ESG practices.

The results of CAAR suggest that both lists could draw investors' attention, but the reactions are negative, although the returns rebound somewhat less negative in 10 days and 20 days-window after the announcement of the ESG100 list. A plausible explanation is that, in Thailand, investors are interested to invest more in short-term than long-term as Brammer, et, al. (2006) found that the cost in CSR activity recover in long-term and shareholder are slow to realize return. For the ESG100 list which abnormal returns become positive in 10 days and 20 days after the announcement, it might be that the list attracted more investors investing in long-term and that they may understood more about CSR or ESG that it would grow steady. Yet, although the results are negatively significant in statistical sense, the size of the CAARs are very small economically. Thus, it is not economically significant, and investors is not likely to be able to exploit the abnormal returns for trading strategy.

As the result for which type of investors concern most on CSR stocks on TSI list by compare each type, with trade imbalance (BSTI) there is no statistically significant results. Thus, there is not enough evidence to conclude that which type of investors concern more on CSR stocks from the list than the other types. Similarly, for the result of percentage using the variable BS, there is still

no statistical significance found in the result. Thus, we could not make a conclusion at the aggregate level and further investigate whether there might be a difference when controlling for ROE and ROI.

For the second part, difference of BSTI and BS between period before and after announcement of each stock in TSI list. For stocks in TSI list using BSTI, there are no significance in the value of before and after the announcement, which there are not enough evidence. However, for BS shows significant results of the hypothesis tests, implying that foreign investors concern about the CSR stocks more than institutional while institutional investors concern less CSR stocks than individual but there are no significant for foreign investors comparing with individual investors. Thus, based on the BS variable, we cannot conclude that foreign investors concern most on CSR stocks in Thailand, which does not consistent with the second hypothesis.

Finally, for the future research as Brammer, et, al. (2006) found that cost on CSR will be recover in long-term, so it might be interesting to use longer period to find the event study analysis. We hope this paper would be useful for investors or whom might be interested in firms that done CSR in the Stock Exchange of Thailand (SET).

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APPENDIX

Table A.1 Thailand Sustainability Investment TSI data list (rated by SET)

Thailand Sustainability Investment rating						
DJSI [1]		SET rating				
ADVANCE	PTTEP	AKP	EASTW	LPN	S&J	TF
AOT	PTTGC	BAFS	EGCO	PDI	SAT	THAI
BANPU	SCC	BCP	GCAP	PG	SC	THCOM
CPF	TOP	BECL	HMPRO	PPP	SCG	TOG
CPN	TU	BWG	INTUCH	PPS	SPALI	TSTH
IRPC		CFRESH	IVL	PRANDA	SSSC	QTC
MINT		CHO	KBANK	PSL	STA	
PTT		DELTA	KKP	RATCH	SYNEX	

[1] DJSI is Dow Jones Sustainability Indices

Table A.2 ThaipatESG100 (rated by Thaipat)

100 Companies rated by Thaipat (ESG100)					
ADVANC	CK	HTC	NSI	SAT	TCAP
AMANAH	CMO	ICC	PDI	SC	TF
AOT	CPF	ILINK	PE	SCB	THAI
APCO	CPN	INTUCH	PG	SCC	THANI
ASP	CSL	IRPC	PM	SCG	THCOM
BAFS	DELTA	IVL	PPP	SE-ED	TISCO
BANPU	DRT	KBANK	PRAND	SFP	TKT
BAY	DTAC	KKC	PS	SITHAI	TMB
BBL	DTC	KKP	PSL	SNC	TOG
BCP	EASTW	KTB	PT	SNP	TOP
BECL	EE	LHBANK	PTT	SPI	TSTH
BIGC	EGCO	LPN	PTTEP	SSI	TUF
BLA	ERW	MBK	PTTGC	SSSC	UMI
BMCL	GLOW	MCOT	QTC	STANLY	UPOIC
BTS	HANA	MFC	RATCH	SUC	WACOAL
BWG	HEMRAJ	MFEC	S&J	SYNEX	
CFRESH	HMPRO	MINT	SABINA	TBSP	

Table A.3 TSI list 1 days CAR regression result

	(1)
VARIABLES	Car
diff	-1.92e-07
	(2.39e-07)
Constant	-5.27e-06***
	(1.69e-07)
Observations	90
R-squared	0.007

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A.4 TSI list 5 days CAR regression result

	(1)
VARIABLES	Car
diff	-5.34e-06***
	(5.85e-07)
Constant	-1.45e-05***
	(4.13e-07)
Observations	90
R-squared	0.487

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A.5 TSI list 10 days CAR regression result

	(1)
VARIABLES	Car
diff	-1.43e-05***
	(1.01e-06)
Constant	-2.28e-05***
	(7.15e-07)
Observations	90
R-squared	0.693

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A.6 TSI list 20 days CAR regression result

	(1)
VARIABLES	Car
diff	-4.23e-05***
	(1.88e-06)
Constant	-2.71e-05***
	(1.33e-06)
Observations	90
R-squared	0.851

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A.7 ESG list 1 days CAR regression result

	(1)
VARIABLES	Car
diff	-1.28e-06***
	(3.98e-07)
Constant	-1.36e-05***
	(2.81e-07)
Observations	186
R-squared	0.053

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A.8 ESG list 5 days CAR regression result

	(1)
VARIABLES	Car
diff	-9.86e-07
	(1.04e-06)
Constant	-4.10e-05***
	(7.39e-07)
Observations	186
R-squared	0.005

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A.9 ESG list 10 days CAR regression result

	(1)
VARIABLES	Car
diff	3.38e-06*
	(1.85e-06)
Constant	-7.65e-05***
	(1.31e-06)
Observations	186
R-squared	0.018

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A.10 ESG list 20 days CAR regression result

	(1)
VARIABLES	Car
diff	2.20e-05***
	(3.30e-06)
Constant	-0.000153***
	(2.34e-06)
Observations	186
R-squared	0.193

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A.11 BS between before and after announcement for each type regression result for part 1 hypothesis2

	(1)
VARIABLES	BS
indiB	0.0615**
	(0.0268)
foreignB	0.0138
	(0.0267)
b3	-0.0566
	(0.0587)
b4	-0.0139
	(0.0586)
time	0.0343
	(0.0415)
mkt	-245.3
	(746.5)
smb	-4.181*
	(2.193)
hml	2.749
	(2.285)
mom	0.406
	(3.380)
Constant	-0.0476**
	(0.0234)
Observations	735
R-squared	0.021

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A.12 BS between before and after announcement for each stocks regression result for part 2 Hypothesis2

	(1)
VARIABLES	BS
indiB	0.111
	(0.185)
foreignB	0.390*
	(0.209)
b3	-0.111
	(0.412)
b4	-0.374
	(0.505)
time	0.214
	(0.391)
tsi	0.438
	(0.392)
g1	0.335
	(0.530)
g2	-0.902*
	(0.489)
g3	-0.302
	(1.416)
g4	0.858
	(1.266)
g5	-0.413
	(0.977)
mkt	-600.0
	(770.7)
hml	2.970
	(2.306)
smb	-3.848*
	(2.234)
mom	0.889
	(3.399)
roi	-0.00385
	(0.00921)
roe	0.000847
	(0.00206)
Constant	-0.212
	(0.187)
Observations	735
R-squared	0.033

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

VITA

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