AN INVESTIGATION OF THE FINANCIAL PERFORMANCE OF SUSTAINABILITY REPORTING COMPANIES VERSUS NON-REPORTING COMPANIES: A THAILAND PERSPECTIVE

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An investigation of the financial performance of Sustainability Reporting Companies Versus Non-reporting Companies: A Thailand Perspective. (51PP.)

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ABSTRACT

The purpose of this study is to research the relationship between financial performance and CSR disclosure, base on GRI standard to research the CSR impact on corporate value.

Within this research, the researcher has selected two group companies as samples, the GRI group companies which disclosed CSR reports according to GRI standard from 2015 to 2019, and Non GRI group companies which didn't disclose CSR reports at the same period. After collecting and analyzing the two groups financial data by regression model, the study founded that, as expected, the firm value of companies that disclosed CSR reports according to GRI standard were better than companies that did not disclose CSR reports, but the difference is not significant.

Keywords: Corporate social responsibility, GRI, firm value

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CHAPTER 1
INTRODUCTION

1.1 Rationale and Problem Statement

Since the 1960s, Corporate Social Responsibility(CSR) has attracted lots of attention from different kinds of organizations. Companies, NGOs, even governments, as more and more organizations take it seriously. Especially in listed companies, a number of companies recognized that business are part of society (Chen & Lin, 2009), so CSR has been gaining momentum across business community all these years. It became a trend of listed companies in the world to disclose sustainability reports. As we can see from the list of Fortune 500, 90% of the listed companies have explicated CSR initiatives as their business strategy (Luo & Bhattacharya, 2006).

In 1972, Votaw wrote: 'corporate social responsibility means something, but not always the same thing to everybody. To some it conveys the idea of legal responsibility or liability; to others, it means socially responsible behavior in the ethical sense; to still others, the meaning transmitted is that of 'responsible for' in a causal mode; many simply equate it with a charitable contribution; some take it to mean socially conscious; many of those who embrace it most fervently see it as a mere synonym for legitimacy in the context of belonging or being proper or valid; a few see a sort of fiduciary duty imposing higher standards of behavior on businessmen than on citizens at large'(Votaw, 1972, p. 25).

At recent definitions, Carroll(2008) claimed that CSR has four kinds of responsibilities, they were: economic, legal, ethic and philanthropic. While Dahlsrud (2006) reasoned a five dimension of CSR: environmental and social, economy, stakeholder, voluntariness. In the last two decades, stakeholder groups and customers have increasing attention to corporate practices so that they had also shown an intense interest into the field of CSR (Golob, Lah & Zlatko, 2008).

The literature on management field has recognized social responsibility as an important corporate duty (Quinn, Mintzberg, & James, 1987). As the fact that CSR is a significant factor at decision making in business, the relationship between the company's social and ethical policies or it's actions and financial performance (Arlow & Gannon, 1982; Ullmann, 1985) are two important topic.

CSR, as a voluntarily corporate disclosure, was described by Vogel(2010) as a new form of self-regulation, as Shamir(2008) cited, it could enhance the 'economization of the political'. At the same time, CSR could free corporations from governmental pressures under a facade of morality(Banerjee, 2008; Shamir 2004a).

CSR is not something that's essential for companies to run their business, so the developments of CSR in a country needs the work of it's governments.

Government's role in encourage corporate to disclose CSR reports is very important, as government is the provider of an enabling environment for private sector development that could diminish the risk, lower the cost, reduce barriers of operation, raise rewards and opportunities for a full competitive and responsible private enterprises(Neha Singhal, 2014).

The government's motivations for promote CSR, as previous study revealed, including the welfare state crisis (Midttun, 2005), the relational state and new governance (Moon, 2002), for new social demands (Kjaergaard & Westphalen, 2001), national competitiveness (Hodge, 2006) and sustainable development (European Commission, 2002).

The key roles a government can play when support CSR, as Tom, Halina and Bruce (2002) listed, were as follows:

(a) regulating, this means the government can regulate the behavior of business by defining minimum standards for business performance within the legal framework; By establishing targets for corporate to achieve; by setting up enforcers to supervise the business activities of corporate; by promulgating regulations to confine impermissible business conduct; or imposing license of operation or mandatory environmental friendly industrial systems. The government setting up the minimum age for labour forces, the minimum wages, were good example of regulating practice.

(b) facilitating, the government encourages corporate to disclose CSR to gain environmental and social improvements. It can be done by provide tax incentives for corporate which engage in CSR. Also, governments should provide the information business needed, ensure corporate can access them easily. For example, the industrial, trade, environmental and labour policy that related to CSR elements. Offer technical assistance and advisory services for business when they need it, or support voluntary certification and supply chain initiatives.

(c) Brokering, government can be a broker in partnering with different organizations in tackling social and environmental challenges. It can be done by multiple ways, for example, mobilize resources; encourage organizational collaborations in capacity building and standard-setting processes, community development, the organizational joint can be government-industry, stakeholders, public-private partnerships. In this role, government can also provide funding for leading campaigns, universities, research institutes, or for information collaboration, raise awareness of citizens and training in public.

(d) Warranting, government can play this role in various ways. The education programme to raise awareness, when try to promote CSR in a new country, the first step is to fill the knowledge gaps of the significance and contribution of CSR on business successfulness and sustainable development, as well to increase their awareness and public acceptance (Bertelsmann & GTZ, 2007). Conduct official policy

documents, reward publicly the leading companies which conducted good CSR practice, endorse specific professional CSR indicators and guidelines, introduce GRI standards.

In the effort to promote CSR practice, special agency were established by governments in some countries. In Thailand, the agency responsible for introduce and promote CSR is The CSR Institute(CSRI), renamed as Social Responsibility Center(SR center), it was first set up under the Stock Exchange Thailand(SET) in 2007.

Apart from government's promotion and encouragements, listed companies has their own reasons to disclose CSR too. 黄继玉

A listed company's normative goal, according to Johan K Bosch and Alwyn P. du Plessis (1982), is to maximum shareholders' wealth. By wealth maximization, there are different parameters to define it, i.e. to maximize the firm's total market value, or the price per share, or the value of owner's equity(Levy and Sarnat,1977). Companies emphasis on different parameters at different develop stage.

At more than 130 countries, listed companies are encouraged to disclose information according to CSR requirements. It is voluntary not a compulsory. United Nations General Assembly encourage it to achieve a better and more sustainable future for all. There were several standards for companies to follow when they conduct the CSR reports, GRI standards is the most widely used one. For the listed companies, The motives to disclose GRI reports, described by Nigel Finch(2005), it is in attempt to communicate with their stakeholders the management performance in order to achieve the long-run corporate benefits, for example, to increase competitive advantages, to improve the financial performance, to maximize profit and then to achieve the long-term success of the company.

There are many incentives for companies to implement sustainability programs according to previous researches. As a study by Ernst & Young and the Boston college of Corporate Citizenship(2013) showed. The advantages of CSR reporting has a positive effect on (1) build a good company reputation, (2)establish employee loyalty, (3) help to reduce inaccurate information about the company's social performance, (4) help to refine the company's mission and corporate strategies.

Furthermore, studies show that stakeholders are supporting and rewarding companies that takes more responsibility on sustainable development. In a survey conducted by Deloitte at 2009, 54% of 6498 shoppers they interviewed considered sustainability as one of the decision-making factors when purchasing. In another recent survey conducted by Nielson at 2014, more than half of the 30,000 consumers interviewed are willing to pay a premium for products or services provided by socially and environmentally responsible organizations.

The CSR reports has impact on investor decisions too, the non-financial information disclosed offer investors a better understanding of corporate performance,

thus investors can better assess a company's likelihood of future success or risk management systems(Holder-Webb, 2009).

According to the US SIF, sustainable, responsible and impact investing assets have expanded to $12.0 trillion in the U.S in 2017, up 38 percent from $8.7 trillion in 2016.

The CSR has statistically significant impact on corporate financial performance (Margarita Tsoutsoura,2004). Studies by Olaf Weber and Thomas Koellner(2008) revealed positive correlation between sustainable activities and corporate financial performance. While the highest level of GRI reports has a negative and significant influence on firm value of smaller or less profitable firms, it has no significant impact on larger and more profitable firms(Gietl Simon, Goettsche Max, Habisch André, Roloff Martin and Schauer Maximilian, 2012).

It seems that CSR report is very popular among different organizations, it is very good for the whole society and environment, but when corporate put into resources to engage in CSR reports, does it really effect company's financial performance? If yes, it is in a positive direction or negative direction?

1.2 Objective of Study

This study will examine the relationship between CSR disclosure and corporate financial performance. As GRI is the most widely used standards in Thailand, this study will compare the financial performance between companies that disclosed CSR reports according to GRI standard from 2015 to 2019 and companies that didn't disclose CSR reports in the same period. By comparing the difference of financial performance between two groups, we can check if listed companies with GRI disclosure had better financial performance than Non GRI companies.

1.3 Scope of Study

This study takes example within Thai listed companies, the test group and control group both choosing from the Stock Exchange of Thailand(SET). Test group were companies listed at Sustainable Stock index of SET, select 30 of which disclosed sustainable report according to GRI standard from 2015 to 2019, in this study, the test group named GRI group. The control group named Non GRI group, the group consisted by 30 listed companies in SET which didn't disclose sustainability reports at any year between 2015 to 2019.

A company's financial performance can be effected by many factors, the market share in it's industry, the company size, the strategy or even the accounting method it used. So when choose the Non GRI group sample, the decision factors were industry, the average amount of total asset from 2015 to 2019, the average amount of revenue between the five years.

The study focus on the two groups' financial data, using Economic Value

Added(EVA) as indicator to evaluate company's financial performance. Researcher also collected each companies' Earning per share, Book value per share, share price, as additional indicators. The aim of this research is to test the correlation between GRI standard and companies financial performance.

1.4 Research Questions

According to the objective and scope of the study which were stated above, this study can be considered as an exploratory research project. According to Blumberg, Cooper and Schidler (2008), this kind of research were undertaken when there were not much is known at hand about the situation or when the information about a particular problem or scenario is limited. The research question of this study defined as follows:

Is there a statistically significant difference in the financial performance of companies that voluntarily submit sustainability reports according to GRI standard and those who didn't follow GRI standard?

1.5 Significance of the Study

With the environmental deterioration in Thailand become more serious, and the intensifying demand for transparency from stakeholders, the trend for listed companies to disclose sustainability reports accelerated. But it still have a long way to go when compare it to the whole number of listed companies. This study will help Thai listed companies in the following way:

1.5.1 The result of this research will reveal the relationship between CSR report and corporate financial performance. It can be a reference for companies to value the impact of sustainability activities from financial aspect, to help companies make decision on CSR more objectively.

1.5.2 This research will help companies gain more knowledge of CSR reports, so as be a reference for future business strategy.

1.5.3 This research will help companies make decision when they are on decision about whether or not to disclose GRI reports. As this research will show the relationship between GRI and financial performance.

1.5.4 This research can be a good example for governments to promote sustainable development to listed companies, can help government to better encourage CSR reports.

1.5.5 The result of this research could fill the gap in Thailand CSR & financial performance research, provide a reference and meaningful information for future application and research.

1.6 Definition of Terms

1.6.1 **Corporate Social Responsibility (CSR)** is a concept whereby companies

integrate social and environment concerns in their business operations and in their interaction with their stakeholders on a voluntary basis. (Commission of the European Communities, 2001). This concept came from sustainability development, the aim of which is to seeks to meet the needs of the present without compromising the ability to meet the future generation to meet their own needs'' (World Commission on Environment and Development, 1987, p. 8). The CSR undertake major activities to support social causes and fulfill commitment((Kotler & Lee, 2005). The CSR consist of five dimensions:

1.6.1.1 Environmental dimension refers to a company's business influences on the natural environment, such as a cleaner environment, environment stewardship and environmental concerns in business operations (Dahlsrud, 2006, p.4).

1.6.1.2 Social dimension includes "the relationship between business and society" (Dahlsrud, 2006, p.4). This dimension focuses on benefiting or contributing to a better society as a whole.

1.6.1.3 Economy dimension refers to the socio-economic or financial aspects, including describing CSR in terms of business operation" (Dahlsrud, 2006, p.4).

1.6.1.4 Stakeholder dimension points that the stakeholders are all of people influenced by company's operation, who are "employees, suppliers, customers and communities of the firm" (Dahlsrud, 2006, p.4).

1.6.1.5 Voluntariness dimension refers to "the action that is not prescribed by law and it is based on ethical values and even beyond legal obligations" (Dahlsrud, 2006, p.4).

1.6.2 **Sustainability Report** is a report published by a company or organization about the economic, environmental and social impacts caused by its everyday activities. It presents the organization's values and governance model, and demonstrates the link between its strategy and its commitment to a sustainable global economy.

Sustainability reporting can be considered as synonymous with other terms in this research, as non-financial reporting; triple bottom line reporting, corporate social responsibility (CSR) reporting, and more. It is also an intrinsic element of integrated reporting; a more recent development that combines the analysis of financial and non-financial performance. Major providers of sustainability reporting guidance include:

(1)GRI (GRI's Sustainability Reporting Standards)

(2)The Organisation for Economic Co-operation and Development (OECD Guidelines for Multinational Enterprises)

(3) The United Nations Global Compact (the Communication on Progress)

(4) The International Organization for Standardization (ISO 26000, International Standard for social responsibility)

This study focus on GRI standards.

1.6.2 **The Global Reporting Initiative Standards** are the first global standards guidelines for sustainability reporting, was first published in 2000(GRI 2012). These guidelines are for voluntary use by organizations for reporting on the economic, environmental and social dimensions of their activities, products and services(Global Reporting Initiative, 2002; O'Dwyer and Owen,2005). Reporting with the GRI Standards supports companies thriving economically by improving governance and stakeholder relations, enhancing reputations and building trust. GRI's inception has rapidly become one of the most recognized multi-approaches to sustainability reporting since it's first publish (Ballou et al. 2006; Brown et al. 2009). Over a number of years, with input from more than 150 organisations and across 30 countries, the GRI guidelines have been developed and upgraded to the fourth generation of guidelines called G4 at 2013(GRI 2014b). Within the GRI guidelines an important characteristic is the assurance application levels. The three alphabetic levels - A, B and C - dictate the number of criteria that need to be reported on by companies and hence provide qualitative information, transparency and accountability (GRI, 2012). There are six levels (A, A+, B, B+, C, C+) with A+ being the highest application level. The plus (+) sign added to the alphabetic letter indicates that a company is using the GRI framework and their sustainability reports are externally assured.

Disclosure standards in SR according to the GRI-G4 Guidelines consist of:

(1)Economy

In this section the report contains the companies activities' impact on economic conditions of stakeholders and the economic systems.

(2)Environment

This section measures the business operations' impacts on creatures and environment on earth, specifically on ecosystems, land, air, water.

(3)Human Rights

Considering the lack of transparency in the selection of investors and suppliers / contractors. In its work, the company should always consider the interests of shareholders and other stakeholders based on the principles of fairness and equality.

(4)Community

Focusing on the impact of the organization on the community in which they operate, and reveals how the risks that might arise from the interaction with other social institutions.

(5)Product liability

Contains the reporting products which were produced by companies and services that directly affect customers, i.e. health and safety, information and labeling, marketing, and privacy.

(6)Social

At this sector it contains the details of social activities undertaken by the company. On what and how it takes out.

1.6.3 **Economic Value Added(EVA)** is an indicator used to measure the company's financial performance, also refer as Economic profit. When calculate EVA the capital cost would be deducted, and the results adjusted for taxes too. The EVA is an important indicator for company profitability.

CHAPTER 2

LITERATURE REVIEW

Numerous studies on the relationship between CSR and financial performance were conducted, chapter 2 aims to provide a brief conclusion of related previous literature and studies. The different indicators used to measure financial performance, different results generated from different studies, the related theories. The chapter can be summarized as following topics:

2.1 Related Literature and Previous Studies

In the last few decades, reporting of non-financial information has become widespread (Ioannou and Serafeim, 2011). It was increasingly becomes a trend and necessity for companies to inform about their environmental and social, economic performance to stakeholders as well as the public(Chariri and Firman, 2009). And The studies on relationship between social responsibilities and their impact on economic performance are numerous too, the results are mixed. Different time /industry /country, even different method, may generate different results.

The Studies on relationship between financial performance and sustainability reports generally can divide into two types. The first one using accounting measures of profitability to evaluate company financial performance to examine the relationship. The second one uses event study method to measure the short-term financial implications, i.e abnormal returns, after companies engage in socially responsible acts or some irresponsible activities.

Some studies analyzed companies from different countries. For example, the study by Olaf Weber and Thomas Koellner at 2008 analyzed 100 companies from 19 countries, mostly from developed countries, from different industry. Their study revealed that the companies performing well on GRI Indicators(sustainability policies,strategies and operations and their impacts) also perform well financially. There is no significant relations between sustainability categories and total return(Olaf Weber and Thomas Koellner, 2008). While at 2013, another study for multiple countries' company revealed

different result, No significant relationship between corporate social responsibility reports and financial performance(Michelon, Giovanna, 2013). Their study found that the companies with good financial performance are tend to use sustainability disclosure more than others.

On more recent studies, Paskah and Irine(2014) found that the presence of social responsibilities disclosure will increase the profitability of the company, their samples taken from manufacturing companies listed on Indonesian Stock Exchange. In US, firms adopting sustainability reports outperform significantly than firms do not support GRI sustainability reporting guidelines(Eccles,Ioannou&Serafeim,2012). Their study suggested that companies that are sustainable can generate higher profits and get better stock returns, it will be a long-run competitive advantages for a company. Same year in Singapore, companies that engaged in corporate social responsibility reports at a higher level have higher share price compare to companies that do not have engagement in sustainable disclosure(Amir Khaveh,Seyed Rajab Nikhashemi, Abdolaziz Yousefi, Ahasanul Haque,2012). According to Flammer(2015), the adopting of sustainability disclosures can leads to an increase in shareholder value by 1.77% for companies. Another study at 2018 by Silvia and Anessandro on Italian companies, sustainability activities have a positive impact on companies competitive advantage, i.e. a better corporate reputation, higher customer satisfaction and better organizational commitment, these advantages is a second-stage mediator that can contribute to the financial performance positively.

There were also studies found no significant or even negative relationship between sustainability reports and financial performance. According to the study on US companies by Michael and Barry, Mohammad (2011), when look at the short-term benefits, the sustainability reports do not help to generate a higher stock prices, it do not result in a higher returns to shareholders either. But in the long run, the sustainability reports can help at brand loyalty building, it can positively affect corporate reputation too, the brand loyalty and good reputation should be positively correlated to the maximization of shareholder wealth. Studies on Nigerian companies revealed similar results, The sustainable reports' impact in Nigerian companies financial performance is insignificant(Mansur lubabah Kwanbo, 2011). The transition into sustainability reporting by banks is influenced by profitability and shareholders fund. The relationship between sustainable reporting index and corporate profitability and shareholders fund is positive, but the correlation coefficient is small(Obiamaka NWOBU,2015). Companies in South African who voluntarily submit GRI reports are slightly better than the Non-GRI companies, but there was no evidence of statistically significant differences(Buys, Oberholzer and Andrikopoulos, 2011).

About the financial performance indicator, there were variables choices too.

The most commonly used indicators are ROA and ROE. The Return on Asset ratio(ROA) is a measurement of corporate profitability in relation to the employed

assets owned by them(Correia et al. 2007; Horngren at al.2008). Same year, Epps and Cereola (2008) quoted that as Return on Asset(ROA) shows the value of earnings generated from employed resources, it can be used to measure a business organization's operating performance. Another indicator used to measure the rate of return on ownership interest is the Return on Equity(ROE) (Horngren at al.2008).

EBITDA margin were used in previous studies too, it is calculated as the EBITDA divided by total revenue, it was used to measure the degree of the cash operating expenses use up revenue.(Olaf Weber and Thomas Koellner,2008). The study by Olaf Weber and Thomas Koellner(2008) used EBITDA, ROE,ROA and total return to measure financial performance.

There were also some other indicators used, Current ratio(CR), Debt Equity Ratio (DER), they were used to measure firm's financial leverage, Inventory Turnover (IT), Dividend Payout Ratio (DPR), they were used to measure the percentage of net income that is distributed to shareholders in the form of dividends during the year. The study by Soelistyoningrum and Prastiwi(2011) used ROA,Current ratios (CR), Divided Payout Ratio(DPR) as financial ratios, on the base of that, Paska and Irine(2014) used leverage ratio(DER) and Inventory Turnover(IT).

The study conducted by Buys et al(2011) used ROA, ROE, EVA and MVE to measure companies financial performance. EVA, as Stewart cited at 2001, is an internal indicator used to measure the company's financial performance. MVA means the present value of future EVA values(Kramer and Peters 2001). The reasons companies used EVA was that, a profitable company may not necessarily be adding any value to shareholders.(Drucker 1995).

In conclusion, the results of previous studies were mixed. The difference may happen from the different environment between developed countries and developing countries(Aras et al,2010). Or maybe other reasons. Different sample taken from different countries may generate different results.

When we want to search for the potential association between GRI and financial performance in Thailand firms, we can define the question as follow: Is there a statistically significant difference in the financial performance of companies that submit GRI report and those who didn't submit it?

2.2 Related Theories

Theoretically, the nature of sustainability activities will have positive impact on corporate as whole. The CSR model, according to Chih Hung Chen(2011), is reflected by four dimensions: Accountability, Transparency, Competitiveness, Responsibility.

a. Accountability, accountability is not like responsibility, an individual or a group or maybe a company can be assigned or enforced a responsibility(Wood & Winston ,

2007), but accountability cannot be assign by others. Accountability is something internally, it means answerability, blameworthiness, liability, and the expectation of account-giving (Dykstra, Clarence, 1938). When talk about business, a company that's accountable should communicate with stakeholders as well as presented to public regarding the strategies and actions that support the company's values, vision, and effectiveness(Tetlock, Thompson, Levine, & Messick, 1999). One of the key virtues of accountability is to be openness. An accountable company should also be answerable for their business decisions, actions and commitments, they should proactive initiative to explain it to public (Wood & Winston, 2007). The demand from market for companies to demonstrate accountability for their business actions are growing(Feltus & Petit, 2009), so, there were researchers suggested that appropriate measures and reporting standards should establish to determine what and how a listed company should be accountable for(Crowther & Green, 2000).

b. Transparency, transparency is the degree of asymmetric information about control errors(Faust & Svensson(2001). In business, there is the growing demand from participants outside the company that requires the company's specific information so they can understand and evaluate the company more objectively. Corporate transparency is the process to make it happen. Companies with higher level of transparency can get a higher level of credibility of the company's CSR and a better strategic outcomes(Jensen, 2002).

c. Competitiveness, from aspect of CSR, the improvement of quality of products and services, is not enough to be competitive, a company should also demonstrate the CSR management of business(Price & Newson, 2003). Study showed that when top global companies disclose their social and environmental policies, they revealed part of their effective management too, by these mechanisms, stakeholders will have a greater prominence of these top companies, thus a strong reputation were built up(Rindova, Williamson, Petkova, & Sever, 2005). From the transaction point of view, a good reputation maybe signal the seller's competence and goodwill when there were no previous transaction between seller and buyer (Campbell, 1999). A company's reputation were built upon two dimensions mainly, the first dimension is the collective responsiveness, the second dimension is the recognition a company accumulated over the years at their business field(Rindova et al,2005). A public company's behaviors were observed overtime by it's stakeholders, as perceptions accumulated, reputation were built successfully. Stakeholders' uncertainty reduced, new buyers can reply their trust on sellers' reputation to evaluate the products benefits and their costs((Barone, Manning, & Miniard, 2004). So, when competitiveness is enhanced, companies may experience the financial performance improvement accordingly(Sharma, 2005).

d. Responsibility, From inside the corporate, companies need to develop internal responsibility management systems that can establish corporate standards and codes of conduct and implement it from time to time.(Waddock, Marc, & Kirk, 2006). For outside the corporate, this kind of systems helps companies to gain extra credibility. Internally, companies at a minimum need to adhere to globally accepted norms or standards of practice (Waddock, Marc, & Kirk, 2006; Bansal & Hunter, 2003). In the need of fulfill public expectations on corporate responsibility, Waddock et al. (2002) suggested a complete responsibility measurement (TRM) approach to help companies to deal with these pressures.

Based on the theory, the relationship between sustainable reports and financial performance has been studied for several years, both theoretically and empirically, but the result were still inconsistent or inconclusive. Due to the high costs of labor, sustainable companies may have a lower financial performance. While they may also have a better financial performance because their sustainability helps to avoid costly controversies with nearby communities (Eccles, et al, 2012). Thus, here concluded two sides of theories.

2.2.1 Positive relationship

For the relationship between sustainability reports and corporate financial performance, most of the studies revealed positive relation. Roy and Ghosh(2011) researched the results of 20 related studies, then pointed out that the majority of the studies in the field found a positive relationship between sustainability reports and financial performance.

A study by Dahlia and Siregar (2008), found that the major purpose of companies to use the sustainable reporting framework is to improve the stakeholders relationship management, in trying to communicate the managing performance to achieve the company's long run benefits for stakeholders, for example, the financial performance improving, competitive advantages increasing, profit maximization, as well as long-term corporate success. A later study conducted by Silvia and Anessandro (2018), has a similar result, it said that sustainability activities positively affect competitive advantage (corporate reputation, customer satisfaction and organizational commitment), as these advantages are a second-stage mediator that positively contributes to corporate financial performance.

Jones(2005) conducted studies for Australia companies to research the relationship between sustainable reports and financial performance, he found strong evidence to support the relationship is positive and systematic.

At 2011, the research conducted by Soelistyoningrum and Prastiwi (2011) found that sustainability Report disclosure had a positive and significant effects on ROA.

A previous research for listed companies at the Indonesian Stock Exchange (IDX), conducted by Adhima (2012), revealed that the sustainable report disclosure based on Sustainability Report Disclosure Index (SRDI) had a positive and significant impacts on companies' profitability.

The study by Buys et al(2011), as described above, found that the economic performances of companies that voluntarily submit sustainability reports are better than those who do not support Global Reporting Initiatives (GRI) sustainability reporting guidelines.

Jaggi and Freedman (1992) choose sample from pulp and paper companies, researched the pollution level's impact on corporate economic and market performance and found that it has a direct impact on corporate financial performance, then suggested that companies should pay more attention to their environmental performance. Ngwakwe (2009) measured each companies' return on total assets, affirmed that sustainability activities influenced companies financial performance.

The study by Khaveh et al (2012) suggested a positive correlation between companies sustainability disclosure and share price & net profit.

In Eccles et al (2012)'s study, they tracked both high sustainable and less sustainable firms' stock market performance. The result suggested that companies in high sustainability group outperformed significantly than those from the low sustainability group. Companies with high sustainability level significantly generate higher stock returns, deducing that sustainability is a source of competitive advantage and represents an addition of value to a company.

2.2.2 Negative relationship

Some studies at funds revealed negative relationship. Hamilton et al(1993) found no statistically significant differences between financial performance and sustainable reports, their study based on 32 socially responsible and conventional mutual funds. Barnbett and Salmon(2003) found the relationship remained in dispute. Furthermore, Jones, Van der Laan and Frost, Loftus(2008) found that the majority of international studies indicate that socially responsible investment funds may in effect slightly under-perform in the market.

In a study researched companies in United Kingdom, the reseachers Murray et al (2006) found no relationship between sustainability disclosure and financial market performance. Later on, Adams, Thornton and Sepehri (2010) found that the label of corporate sustainability has no statistically significant impact on the financial performance.

2.2.3 Related studies in Thailand

There were abundant studies researched the relationship between CSR and financial performance, but only limited numbers used the context of Thailand. Wuncharoen(2013) researched the relationship between CSR reports and financial performance based on 148 hotels in Kho Samui Island, their results show that both Return of Assets(ROA) and Return on Equity(ROE) have a positive and statistically significant correlation with CSR disclosure. But their study used only 1 year financial data. Same year, Janamrung and Issarawornrawanich conducted another study for same topic, based on the data of 2 years, their study collected 204 companies which were in industrial and resources sectors, the results revealed that CSR scores had a positive and significant relationship with ROA, but when use ROE and Tobin's Q to measure the financial performance, the correlation were not significant. Sukcharoensin (2012)'s study were focused at 50 top listed companies in Thailand, their results didn't find a relationship between CSR disclosure and ROA&ROE, but the CSR disclosure has a positive association with corporate governance rating, ownership structure.

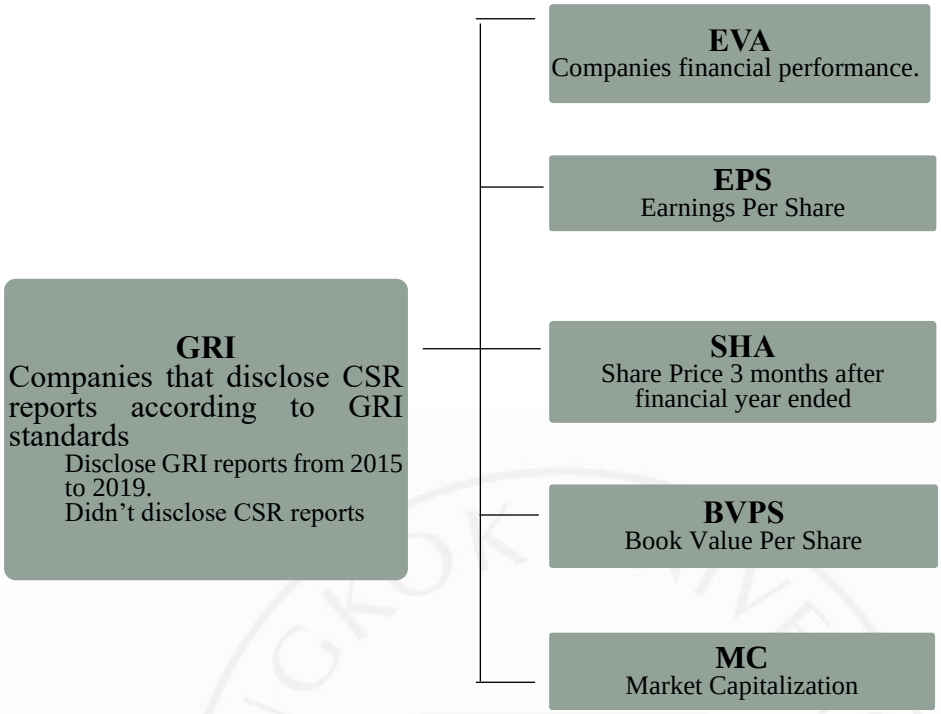
A study by Wisuttorn Jitaree(2015) researched the relationship between CSR and financial performance, the result revealed a positive and significant correlation between CSR and Return On Asset(ROA), Net Profit Margin(NPM), but the relationship between CSR and Earning Per Share(EPS) is negative and insignificant.

2.3 Hypothesis

Based on the related field's literature review, the justification of hypothesis were made. Depends on the research objectives and research questions, the hypothesis is assumed as:

The differences between financial performances of companies that voluntarily submit sustainability reports according to GRI standard is expected to better than companies that did not follow GRI standard.

2.4 Theoretical Framework



CHAPTER 3
METHODOLOGY

The chapter 3 is about the research methodology, consisted as the sampling method to examine the relationship between listed companies financial performance and GRI disclosure, and the procedure of data collection. This chapter involves the following five sections:

3.1 Research Design

3.2 Population and Sample Selection

3.3 Research Instrument

3.4 Data Collection Procedure

3.5 Summary of Demographic Data

3.1 Research Design

This research will be carried out with a quantitative research method, select the sample companies and split them into two groups, then collect financial data of each sample companies. The GRI group were group of companies that disclosed CSR reports according to GRI standards at the researched years, Non GRI group were group of companies that didn't disclose CSR reports at any year in the researched period. Then the data from two group were analyzed together to see the financial performance difference, then to find out the correlation between corporate financial performance and GRI.

3.2 Population and Sample Selection

This study aims to research the relationship between GRI and corporate financial performance base on Thailand listed companies. So the population of this study are the listed companies in Stock Exchange of Thailand(SET). The Stock Exchange of Thailand set up Social Responsibility Center at 2007, aims to build a strong foundation for the sustainable growth of the capital market in the long run(SET SC center, 2020). The develop of sustainability reports has growing rapid recent years, at SETTHSI Index which listed the companies who meet the assessment criteria of environmental, social and corporate governance(ESG) sustainability indicators, there were 45 companies only in 2018, but at 2019, the number increased to 63.

The first step of sampling is to select the GRI group companies. Just as the research conducted by Suttipun(2012) revealed, company's age and industry have a significant association with financial performance. So in this study, GRI group consisted of companies from different industries.

As the impacts of sustainable activities on financial performance will delay, this study decided to collect 5 years financial data of each sample companies, from 2015 to 2019. So when select companies that disclosed sustainability reports according GRI standard since 2015 and continued to do it until 2019, the numbers are limited. Thus the GRI group consist of 30 companies only. Their industry distribution as: Agro&Food (4), Consumer Products(1), Industrial (5), Property & Construction(5), Resources(7), Services(3), Technology(5).

In this study, Total Asset were used to measure company's size, after GRI group list were selected, each company's average total asset value from 2015 to 2019 were calculated.

The second step of sampling is to select the Non GRI group companies. The Non GRI group companies came from SET, they were selected base on each GRI group companies' industry and total asset. For every company in GRI group, there is another company in Non GRI group that came from same industry, the Non GRI company's average total asset between 2015 to 2019 are similar to GRI company.

3.3 Research Instrument

3.3.1 The financial performance indicators

(1) Economic Value Added

In this study, Economic Value Added(EVA) was used to measure a company's financial performance. Accoding to Drucker(1995), a profitable company may not necessarily be adding any value. To measure if a company is actually adding value, the cost of capital must be in excess from profit. When the EVA value is more than zero, it means the company's profit is more than the cost of capital, the company returned to environment more value than the total value of resources it received from general economic environment. When the EVA value is less than zero, it indicate that the company is destroying wealth(Drucker 1995; Correia et al,2007).

Economic value added formula conducted as three main component:

1. Net Operating Profit After Tax (NOPAT)

NOPAT represents the value of company's potential cash earnings it can get without the cost of capital. The formula is:

$$NOPAT = Operating\ Income * (1\text{-}Tax\ Rate)$$

2. Capital Invested

Capital Invested represented the total capital invested through equity or debt. The formula is:

$$Capital\ Invested = Total\ debt + Adjusted\ Equity$$

3. Weighted Average Cost of Capital (WACC)

WACC is a calculation of the total cost of capital when company are sourcing its funds. All sources of capital are proportionately weighted in WACC calculation, including all the long-term debt, common stock, bonds etc. It represents the minimum profit a company should earn base on existing asset to satisfy providers of capital, if a company's return is less than WACC, capital providers may invest elsewhere (Fernandes, Nuno,2014). The formula of WACC is:

$$WACC = (E/V) * Ke + (D/V) * Kd * (1\text{-Tax Rate})$$

E = Capital Invested
V = Total Debt + Total Equity (the total value of the company)
Ke = Cost of Debt
D = Toal Debt
Kd = Cost of Equity

For Ke, the Cost of Debt, the formula is:

$$\text{Cost of Debt} = \text{Interest expense} / \text{Total debt}$$

For Kd, Cost of Equity, this study follow the Capital Asset Pricing Model (CAPM):

$$\text{Cost of Equity} = Rf + (Rm - Rf) * \text{Beta}$$

The EVA formula as below:

$$EVA = NOPAT - (WACC * \text{Capital Invested})$$

(2)Book Value Per Share(BVPS)

Book value of equity per share (BVPS) is the ratio of equity available to common shareholders divided by the number of outstanding shares. When compared to the current market value per share, the BVPS can provide information on how a company's stock is valued. The formula is:

Book Value Per Share = (Stockholders' Equity - Preferred Stock) / Average Share Outstanding

(3) Earnings Per Share(EPS)

Earnings Per Share(EPS) is the value after company's net profit divided by the number of outstanding share of the common stock. It is the measurement of a company's profitability, a company with higher EPS means investors can get more return than other companies with a lower EPS. For formula is :

Earnings Per Share = (Net Income - Preferred Divideds) / End of Period Common Shares Outstanding

(4) Share price 3 months after financial year ended

In this study the code for Share price 3 months after financial year ended is SHA, As the share price of date near annual report may effect by EPS, share price 3 months after financial year ended is more objective to show the market value of a company.

(5) Market capitalization

Market Capitalization normally presented as Market Cap in financial statement or stock exchange website, Is calculated by multiply share market price at a specific date and the number of shares outstanding. Choi,Collins and Johnson(1997, pp. 357-8) formulate Market Cap as a function of total assets minus total liabilities where assets and liabilities are priced by the market 'irrespective of whether or not they appear on the firm's accounting balance sheet'. Bowen and Davis, Rajgopal (2002) present Market Cap as a function of revenue, earnings, book value, and total assets of the firm. A listed company's share price is determined by the supply and demand in the market, when investors are confident at company's future growth, the demand for it's shares increase, then the price would increase, if the market look bad on company's future, the stock sellers could drive share price down. So the Market Cap. is a real time indicator of the company's value.

Market Cap.= Share Price * Number of Shares

(6) Total asset

Total asset is the total amount of resources in control of the company in order to increase production or efficiency, it presented by each company in balance sheet, is the sum of current and non-current asset owned by the company. Total Asset is more reliable and objective than other indicators in this study, thus it was used to select Non GRI group samples.

3.3.2 The model

In this study, company size and EVA were considered together to check the relationship between GRI and financial performance, the main test model as below:

$$GRI = \beta_0 + \beta_1 MC + \beta_2 TA + \beta_3 EVA + \beta_4 TD + \varepsilon$$

MC = Market Capitalization
TA = Total Asset
EVA = Economic Value Added
TD = Total Debt

In data collection, the data for EVA and Total Asset, Market Cap, Total Debt were collected, but their value are too high when put into R statistic to run analysis, so LN function in excel were used to modify variables in order to make them suitable for data analysis. LN function is a built-in function in excel, it calculates the natural logarithm of a given number. The logic behind it is: If $e^x = y$, Then $Ln(y) = x$. So to use LN

function does not effect the final result of regression. When run R statistic analysis, MC and TA and TD value were modified, EVA value is too high too, but some companies' EVA value are lower then zero, LN function is not appropriate to modify it. As both total asset and market cap. can be used to measure the company's size, use one of them is enough to run the analysis. So EVA/TA were used to replace EVA. The modified model as below:

$$\text{Model 1: } GRI = \beta_0 + \beta_1 LNMC + \beta_2 EVATA + \beta_3 LNTD + \varepsilon$$

LNMC = LN(Market Capitalization)
EVATA = EVA / Total Asset
LNTD = LN(Total Debt)

The additional test model as below:

Model 2:

$$SHA_i = \beta_0 + \beta_1 GRI + \beta_2 EPS_i + \beta_3 BVPS_i + \beta_4 GRI*EPS_i + \beta_5 GRI*BVPS_i + \varepsilon$$

SHA = Share price 3 months after financial year ended
EPS = Earnings Per Share
BVPS = Book Value Per Share
I = year 2015 to year 2019

The additional model were used to check the GRI effect on company's share price. As the variables used in main analysis are more focus on corporate' whole picture on yearly basis, it helps to evaluate the company as a big entity. Additional test research the GRI effect on small aspect, it evaluate the company at per-share scale, so it will be easier to reveal the effect on daily basis.

In model 2, the variable GRI is know as a dummy variable, it is the indicator of two distinct group, GRI=1 means the companies disclosed GRI report at 2015 to 2019, GRI=0 means the companies didn't disclose CSR report at any year from 2015 to 2019. The GRI*EPS and GRI*BVPS are known as a multiplicative dummy variables, they have the effect of rotating the regression line.

3.3.3 Data analyzing tools

In this study, Excel was used to calculate EVA and record the financial data of companies. After data collection, R statistics were used to run Logistics regression for main analysis, fixed effect regression for additional analysis.

The basic information in data set were: COM (company code, in total 60 companes), IND (Industry, 7 industries in total), YEAR (year, from 2015 to 2019). GRI indicates whether the company follow GRI(1) or not(0).

The other variables in data set were: LNMC(as indicator for company size), EVATA(as indicator for financial performance), LNTD(as indicator for company performance). EPS(as to show the company's profitability in yearly basis), BVPS(as indicator for net asset on per-share scale of company), SHA(as indicator of market evaluation of company).

The software used for statistic analysis are R statistic. Main analysis were tested by logistic regression, the command glm() were used when run logistic regression. GRI is a binary variable, the code as:

Model 1<-glm(GRI~LNMC+EVATA+LNTD, data=data, family=binomial)

Additional analysis were tested by fixed effect regression, as GRI is a binary variable, there are other variables that are constant across individuals, for example, COM and YEAR, IND make same changes to each individual. The additional analysis is to research the GRI impact on share price each year. The command plm() were used. The code as:

Model 2<-plm（SHA~GRI+EPS+GRI*EPS+BVPS+GRIEPS+factor(YEAR)+COM, data=data, model=“within”，index=”IND”）.

For Pearson and Spearman correlation coefficient tests, R statistic were used.

3.4 Data Collection Procedure

At sampling listed companies in SET were checked each, from company website to read their sustainability reports, so as to make sure the sustainability reports were following GRI standards or not.

This study focus on listed companies from SET, the data used is a secondary data that hand collected from annual reports, which were obtained from SET database, for some that did not enclose financial statement in SET website (https: //www.set.or.th/), the data were obtained from company's website. As researchers have noted, the sample size is essential for any empirical study. Due to the limited number of Thai listed companies that follow GRI standards for more than 5 years, this study collected financial data of sample companies from 2015 to 2019, over the 5 years period, which then produced a total of 300 observations, within seven industry sectors.

SET presented each company's EPS, share price, Book Value Per Share, Market Cap and Total Asset, but the data dated back to 2016 only, SET presented Beta too, but dated back to 2018 only. When collect stock price and Beta for 2015, Yahoo Finance website were used (https://finance.yahoo.com/). The EPS, BVPS, Market Cap and Total Asset data for 2015, were obtained from Finnomena website

(https://www.finnomena.com).

The data for EVA calculation were obtained from financial statement. Operating income and tax expense from income statement, total debt from statement of financial position, adjusted equity were from statement of changes on equity. The risk free rate and risk premium from website (http://www.market-risk-premia.com/th.html).

3.5 Summary of Demographic Data

As mentioned before in Section 3, the demographic data specifically in the scales for: The GRI following, The industry, Share price 3 months after financial year ended, EPS, BVPS, Market Cap, Total Asset, Total Debt. The samples were all listed companies in SET, the GRI group were from SETTHIS list who followed GRI from 2015 to 2019, the Non GRI group were companies that did not disclose CSR reports on the same periods.

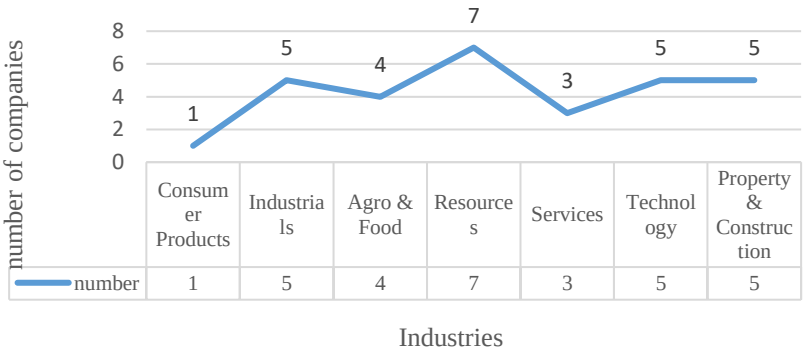
After data collecting and EVA calculation, the data will be put into R statistics to run Logistic regression.

On industry choices, this study consistent with prior disclosure studies, the 60 sample companies is made up of non-financial companies only. This study choose from 7 industry sector, Agro&Food (4), Consumer Products (1), Industrial (5), Property & Construction (5), Resources (7), Services (3), Technology (5).

On total asset, only Non GRI groups' total asset were controlled. Companies' total asset of GRI group were collected from 2015 to 2019, the average value of each companies were calculated, then base on the companies industry and average total asset at previous 5 years, another company that in same industry sector with similar average total asset at previous 5 years which did not disclose CSR reports were chose as Non GRI company group.

Apart from Total Asset, this study collected samples' market capitalization data too. Together with total asset, as the measures of company size and value.

Figure 3.5.1 Distribution of Industry of two groups



CHAPTER 4
FINDINGS

This study aims to research the relationship between CSR and corporate financial performance, the researcher collected samples of GRI group companies and Non GRI group companies' financial data, analysis the data set using Excel and R statistics, also used R statistics to run Spearman and Pearson correlation test to check the data reliability. The results of analysis presented in the following parts:

4.1 Summary of Findings of Descriptive Statistics

4.2 Correlation Analysis

4.3 Results of Main Analysis

4.4 Results of Additional Analysis

4.5 Conclusion

4.1 Summary of Findings of Descriptive Statistics

The basic comparisons of GRI group and Non GRI group data.

Table 4.1.1 Descriptive statistics, EVA & MC of GRI group and Non GRI group

	EVA		MC	
	GRI	Non GRI	GRI	Non GRI
Mean	2,373,531,463	1,308,513,350	120,795,484,434	43,056,617,467
Median	1,095,112,254	595,608,377	38,778,945,000	14,968,500,000
Std dev	19,187,487,562	2,815,320,285	191,188,198,200	72,722,384,030
MIN	-149,463,788,217	-8,960,478,131	704,600,000	819,800,000
MAX	39,304,973,663	16,586,122,249	1,067,856,070,000	413,192,050,000
No.of obv	150	150	150	150

The GRI group consisted by listed companies that disclosed GRI reports from 2015 to 2019, the sample has 30 companies, each company collected 5 years data, so in total the number of observation is 150. Non GRI group consisted by listed companies that did not disclose GRI reports at any year between 2015 to 2019, the sample size is the same as GRI group, 30 companies, each company collected 5 years data, so total number of observation is 150 too. In this study the GRI group and Non GRI group has same sample size, collected data at same year, so as to eliminate unnecessary deviation.

EVA is the indicator used to measure the company's economic performance, the philosophy behind this is that a profitable company maybe not adding value to investor's wealth. When evaluate a company's performance, the return on investment should compensate the risk exposure the equity investors faces when they make decision. In order to add value, a company's profit should in excess of the company's

cost of capital. If the profit is less than cost of capital, it means the company's return on whole investments from economic environment is less than the resources it received from economic environment. In other words, a company with EVA higher than zero means it produces value more than what it received from investors, the company performed well. If the company's EVA is less than zero, it means the company's insufficient return for the risk undertaken.

For the EVA of two groups data, in GRI group there are 122 value higher than zero, 28 value less than zero, 81.3%(N=150) of the time companies were creating wealth. In Non GRI group data, there are 108 value higher than zero, 42 value less than zero, 72%(N=150) of the time companies were creating wealth. As showed in table 4.1.1, both mean and median value of EVA of GRI group are higher than Non GRI group. The maximum value of GRI group is higher than Non GRI group, the minimum value lower than Non GRI group. According to standard deviation, the GRI group's EVA are spread out at a wider range than Non GRI group. From descriptive statistics of EVA data, the GRI group's company performed better than Non GRI group's company in general.

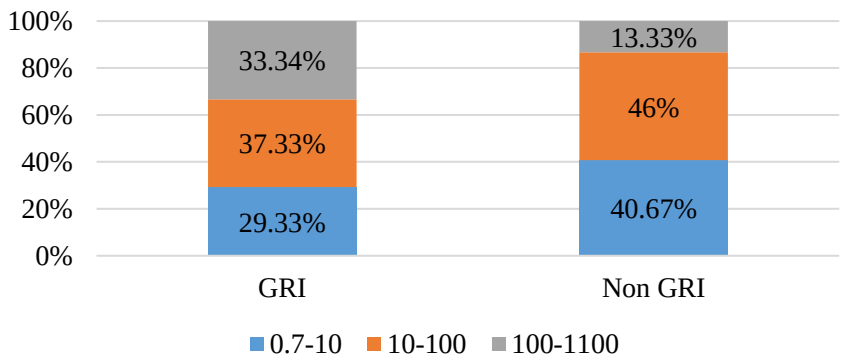
But EVA is the measurement of adding value produced from invested capital, a company with more resources are likely to produce more profit, so EVA alone is not enough to determine GRI group has better financial performance than Non GRI group.

In determining a company's value, market capitalization and total asset and total debt are important indicators too.

Market Cap is the value share price multiple the number of available shares. A listed company's share price is determined by the supply and demand in the market, when investors are confident at company's future growth, the demand for it's shares increase, then the price would increase, if the market look bad on company's future, the stock sellers could drive share price down. So the market capitalization is a real time indicator of the company's value. In this study, the market cap value of each company were collected from 2015 to 2019, at the time of each year's closing share price. In total there are 150 set of data. The data can be divided into three scale, arge-cap (baht 100 billion or more), mid-cap(baht 10 billion to 100 billion), small-cap(baht 700 million to 10 billion). In GRI group, the distribution of each scale are 29.33% for large-cap, 37.33% for mid-cap, 33.34% for small-cap. In Non GRI group, the distribution as 13.33% for large-cap, 46% for mid-cap, 40.67% for small-cap. Data shown in table 4.1.2.

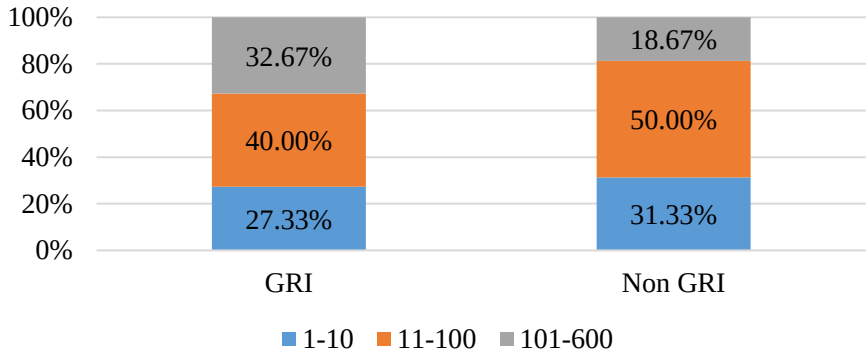
As showed in table 4.1.1, both mean and median value of MC of GRI group are higher than Non GRI group. The GRI group's market cap. are spread out at a wider range than Non GRI group according to standard deviance. From descriptive statistics of MC data, the GRI group's company market value are higher than Non GRI group's company in general.

Figure 4.1.2 Distribution of MC of two groups



While market cap is the value of a company measured by market. Total asset is the measurement of company value from accounting aspect. Total asset is the total amount of resources in control of the company in order to increase production or efficiency, this is more reliable and objective than other indicators, thus in this study total asset was used to select Non GRI group samples. The data set of total asset of two groups were collected from 2015 to 2019, at the base of each company's annual report. The total set has 150 observations. The distribution of data are as table 4.1.3 showed. The data were divided into three scale, 1 to 10 billion as small size, 10 to 100 billion as middle size, 100 to 600 billion as large size. According to data, GRI group companies have more large and middle size companies than Non GRI group.

Figure 4.1.3 Distribution of TA of two groups



The descriptive analysis showed similar result, according to table 4.1.4, both mean and median value of total asset of GRI group are higher than Non GRI group. The GRI group's total asset are spread out at a wider range than Non GRI group according to standard deviance. The size of GRI group companies are bigger than Non GRI group companies in general.

Table 4.1.4 Descriptive statistics, TA & TD of GRI group and Non GRI group

	TA		TD	
	GRI	Non GRI	GRI	Non GRI
Mean	120,524,421,568	46,221,871,133	41,254,813,881	23,243,277,767
Median	41,694,220,000	24,006,530,000	10,179,327,500	7,481,265,000
Std dev	165,471,577,348	53,223,566,646	64,861,478,440	84,885,012,263
MIN	1,620,140,000	1,366,380,000	0	0
MAX	634,733,230,000	252,016,620,000	311,426,312,000	1,018,948,853,000
No.of Obv	150	150	150	150

Total debt in this study include sample company's short and long term debt, the data collected from each companies' annual report. According to table 4.1.4, the mean and median debt of GRI group are higher than Non GRI group, but Non GRI group's value spread wider range than GRI group.

Earnings Per Share(EPS) is the value after company's net profit divided by the number of outstanding share of the common stock. It is the measurement of a company's profitability, a company with higher EPS means investors can get more return than other companies with a lower EPS. Therefore, a company with higher EPS is in favor to investors in market as the market will pay more for a company with higher profits, in other words, higher EPS means higher corporate value. A company with EPS lower than zero means the company were losing money this year. In this study the sample companies' EPS data from 2015 to 2019 were collected, 150 observations for each group. In GRI group, there were 7 EPS value lower than zero, 4.67%(N=150) of group are losing money. In Non GRI group, 17 EPS value lower than zero, 11.33%(N=150) of group are losing money.

As data in table 4.1.5, Mean and Median value of GRI group are higher than Non GRI group, GRI group's EPS value spread wider than Non GRI group, in general, GRI group companies' were more profitable than Non GRI group.

In this study SHA were collected too, SHA means Share price 3 months after financial year ended, the share price collected from same date each year for both GRI and Non GRI group. As the share price of date near annual report may effect by EPS, share price 3 months after financial year ended is more objective to show the market value of a company. The descriptive analysis presented in table 4.1.5, both mean and median value of GRI group are higher than Non GRI group, GRI group's data spread much wider than Non GRI group.

Book Value Per Share(BVPS) is the ratio of equity available to common shareholders divided by the number of outstanding shares. The book value is the difference between a company's total assets and total liabilities, if all of the company's tangible assets were liquidated, all debts were paid, the remaining cash value are the book value of the company. BVPS is the book value on per share basis. BVPS is an

important indicator for stock investors to value the stock price, when BVPS higher than share price, it means the company were undervalued, otherwise the company were overvalued. When BVPS of a company increase, it means the net wealth each share represent are increased, the company's profitability should increase too. As to stock price, the stock should be perceived as more valuable, then the share price should increase accordingly.

As data presented in table 4.1.5, standard deviance of two groups are similar, it means the two groups data spread at similar range, the Mean value of two group are similar too, but median value of GRI group is 3 times of Non GRI value.

Table 4.1.5 Descriptive statistics, EPS & SHA,BVPS of GRI and Non GRI group

	EPS		SHA		BVPS	
	GRI	Non GRI	GRI	Non GRI	GRI	Non GRI
Mean	3.555	2.411	45.068	28.734	22.014	18.084
Median	1.535	0.48	19.65	7.375	12.765	4.43
Std dev	7.292	6.026	87.151	55.948	37.181	36.158
MIN	-2.42	-2.86	0.18	0.43	0.63	0.58
MAX	46.74	40.03	540	317	229.31	195.6
No.of Obv	150	150	150	150	150	150

4.2 Correlation Analysis

Firstly the correlation for main analysis were tested. Variables tested were GRI, LNMC, EVATA, LNTD. Both Pearson and Spearman correlation method were used.

The correlation coefficient is a measurement of strength of linear relationship between variables. The value lies between 1 and -1, when the value is 0, it means no correlation. Value 1 and -1 means strong correlation. The value 1 indicates that when one variable increase, the other variable increase too, the value -1 indicates otherwise, when one variable increase, the other decreases. Table 4.2.1 shows a guideline of correlation coefficient value and the strength of the linear relationship.

Table 4.2.1 Strength of Linear Relationship

Correlation coefficient value	Strength of linear relationship
0.8-1	Very strong
0.6-0.8	Moderately strong
0.3-0.5	Fair
<0.3	Poor

The Pearson correlation test result listed as table 4.2.2, The degree of freedom indicate the maximum number of logically independent values in the data sample.

The correlation coefficient value of LNMC and GRI, EVATA and GRI, LNTD and

GRI were all less than 0.3, it indicates that the linear relationship between variables LNMC and GRI, EVATA and GRI, LNTD and GRI are poor.

Table 4.2.2 Pearson correlation test result of main analysis variables

Variables	t	df	p-value	conf.int		Cor.coeff
LNMC	4.1038	298	0.00005251***	0.1212157	0.3357298	0.2312819
EVATA	1.5349	298	0.1259	-0.02492687	0.19980098	0.08856396
LNTD	1.693	298	0.0915*	-0.0158107	0.2085408	0.0976049

Note:
t is the t-test statistic value.
df is the degrees of freedom (df= 298).
p-value is the significance level of the t-test.
Signif. codes: '***' <0.001 very strong evidence
'**' 0.001-0.01 strong evidence
'*' 0.01-0.05 evidence
'.' 0.05-0.1 weak evidence
' ' 0.1-1 no evidence
conf.int is the confidence interval of the correlation coefficient at 95%.
Cor.coeff is the correlation coefficient.

The P-value of LNMC and GRI is 0.00005251, it indicates that the poor result of correlation between LNMC and GRI have very strong evidence, the result is not likely to be happen by chance. The P-value of EVATA and GRI is 0.1259, there is no evidence the relationship is reliable, it indicates that the correlation between them are poor, but the result may happen by chance. The P-value LNTD and GRI is 0.0915, weak evidence, it indicate the correlation coefficient result is reliable but the level is not high.

The P-value can be effected by sample size, additional Spearman correlation test were tried.

As table 4.2.3 presented, the correlation coefficient value of both LNMC and GRI, EVATA and GRI, LNTD and GRI are less than 0.3, indicates a poor linear relationship. The P-value of LNMC and GRI, EVATA and GRI are both very stong evidence, indicate that the results are strongly reliable. The P-value of LNTD and GRI is 0.02739, the significant level is weak evidence, it means the correlation coefficient result is weak reliable.

In both Pearson test and Spearman test, the results of correlation between three variable(LNMC and EVATA, LNTD) and GRI are poor yet the p-value is statistically significant. The specific value of P-value and correlation coefficient are different, that may result from the distribution of data set.

Table 4.2.3 Spearman correlation test result of main analysis variables

Variables	s	p-value	Cor.coeff
LNMC	3497545	0.00009975***	0.2227591
EVATA	3516320	0.0001354***	0.2185868
LNTD	3926789	0.02739*	0.1273706

Secondly, the additional tests' variables were tested by Pearson and Spearman too. The variables tested were EPS and SHA, GRI and SHA, BVPS and SHA.

Pearson test result presented at table 4.2.4, the correlation coefficient value between EPS and SHA, BVPS and SHA are more than 0.8, the P-value of the two data are very strong evidence, indicates that the relationship between EPS and SHA, BVPS and SHA are very strong and positive, when EPS and BVPS value increase, SHA increase too. The correlation coefficient value between GRI and SHA are less than 0.3, indicates a poor relationship, the P-value of it are weak evidence.

Table 4.2.4 Pearson correlation test result of additional analysis variables

Variables	t	df	p-value	conf.int		Cor.coeff
EPS	39.269	298	2.2e-16***	0.8949906	0.9320677	0.915451
GRI	1.9316	298	0.05435*	-0.002063812	0.221652645	0.111203
BVPS	30.644	298	2.2e-16***	0.8410035	0.8960973	0.8712683

Note:
t is the t-test statistic value.
df is the degrees of freedom (df= 298).
p-value is the significance level of the t-test.
Signif. codes: '***' <0.001 very strong evidence
'**' 0.001-0.01 strong evidence
'*' 0.01-0.05 evidence
'.' 0.05-0.1 weak evidence
' ' 0.1-1 no evidence
conf.int is the confidence interval of the correlation coefficient at 95%.
Cor.coeff is the correlation coefficient value.

The Spearman test result presented at table 4.2.5, the P-value between three group data are very strong evidence, indicates that the results are strongly reliable. But correlation coefficient value of EPS and SHA, BVPS and SHA are more than 0.8, means they have strong linear relationship. Correlation coefficient value of GRI and SHA are less than 0.3, indicates a poor linear relationship between the two variables.

The specific value of Pearson and Spearman test are different, but the results from the two tests are similar.

Table 4.2.5 Spearman correlation test result of additional analysis variables

Variables	s	p-value	Cor.coeff
EPS	561667	2.2e-16	0.8751838
GRI	3232259	7.055e-07	0.2817122
BVPS	782848	2.2e-16	0.8260318

4.3 Main result

In this study, the model for main analysis is as below:

Model 1 : GRI $=\beta_0 +\beta_1$ LNMC + β_2 EVATA + β_3 LNTD + ε

GRI is a binary outcome, so in this study logistic regression was used for main analysis. The result presented in table 4.3.1. The intercept value is defined as the expected outcome when independent variables are zero. The estimate value in table means the correlation coefficient of the predictors. The value more than zero means a positive correlation, the variable GRI has a positive effect on the other variable. If the coefficient value is less than zero, it means a negative correlation. Std. Error represents the accuracy of Coefficient estimates, a larger standard error value means less confident for the estimate. Z value is the coefficient estimate divided by the standard error. Pr(>|z|) is the P value, it corresponding to the z value, a smaller p value represents a more significant level.

Null deviance in the table is the value when there are only intercept in the equation with no variables. While Residual deviance is the value when all variables are in the equation. The difference between null deviance and residual deviance is an indicator of the model, a greater difference means a better fit of the model. Degree of freedom indicate the number of independent random variables we have in the data.

The full name of AIC is Akaike Information Criterion, it is an measure of model's quality from information-theoretic aspect.

The coefficient test showed in table 4.3.1 revealed that LNMC and EVATA variables have positive significant correlation with GRI, as their P value less than 0.05. The interpretation of the result could be as follows:

For each unit change in LNMC, the log odds of disclosing GRI reports will increase by 0.24, the p value of it indicates that LNMC has strong correlation with whether the company disclose GRI report.

For each unit change in EVATA, the log odds of disclosing GRI reports will increase by 5.02, the correlation between EVA and GRI is positive, but the p value (<0.05) indicates that the result is only a weak evidence.

The coefficient correlation value of LNTD is negative, it indicates that for each unit change in LNTD, the log odds of disclosing GRI reports will decrease by 0.015, but the p value showed LNTD is not a significant variable in determine company disclosing GRI.

In the table, an addition of 3(299-296=3)independent variables decreased the deviance from 415.89 to 389.89, a significant reduction in deviance, the residual deviance has reduced by 26 with a loss of 3 degrees of freedom.

From the logistic regression result, GRI and LNMC have positive and significant correlation, GRI and EVATA have positive correlation, but the result has only weak evidence.

Table 4.3.1 Logistic Regression result of main analysis model

Deviance Residuals:				
Min	1Q	Median	3Q	Max
-1.6285	-1.1322	-0.3068	1.0845	2.0196
Coefficients	Estimate	Std. Error	Z value	Pr(>|z|)
(Intercept)	-6.21344	1.79900	-3.454	0.000553***
LNMC	0.23791	0.08167	2.913	0.003580**
EVATA	5.01755	2.21305	2.267	0.023374*
LNTD	0.01473	0.02500	0.589	0.555871

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 415.89 on 299 degrees of freedom

Residual deviance: 389.89 on 296 degrees of freedom

AIC: 397.89

Number of Fisher Scoring iterations: 7

4.4 Additional analysis

The model for additional analysis in this study is as below:

Model 2:

$SHA_i = \beta_0 + \beta_1 GRI + \beta_2 EPS_i + \beta_3 BVPS_i + \beta_4 GRI*EPS_i + \beta_5 GRI*BVPS_i + \varepsilon$

Penal Fixed effect regression were used to measure the correlation between variables SHA and GRI, EPS, BVPS. The result represented at table 4.4.1.

Total Sum of Squares is the total number of variation there is in the dependent variable. In this study, the number is 1510900. Residual Sum of Squares is the number of variation in the dependent variables that did not be explained. In this study, the number is 111500. So in this analysis, the number of variation in dependent variables

that were explained were 1399400(1510900-111500).

The R-squared value is the measurement of how well the model fits for the data. The value of R-squared indicates the proportion of variance in the dependent variable that can be explained by the independent variables in the model. In this model, the R-squared value is 0.92621, it means 92.6% of the variance in dependent variable were explained by the independent variables. Adjusted R-squared is a modified version of R-squared consider the number of predictors. Adjusted R-squared value increases when the new independent variable improves the model more than would be expected by chance, the value decreases when the new variable improves the model by less than expected by chance. In other words, when the adjusted R-squared value decreases, it means the new variable does not have real impact on the model.

Both sum of squares value and R-squared value are good, indicate that the model fits the data well.

As the table 4.4.1 presented, The GRI（Coefficient value=1.04004, P>0.1）has positive correlation with share price, but the P value indicate the result is not statistically significant. Both Earning per share(=5.17878, P<0.000) and Book value

Table 4.4.1 Fixed Effect regression result of additional analysis

		Residuals		
Min.	1st Q	Median	3rd Q	Max.
-123.91282	-6.67058	-0.69966	5.25650	104.54602
Coefficient	Estimate	Std.Error	t-value	Pr(>|t|)
GRI	1.04004	2.95328	0.3522	0.7250
EPS	5.17878	0.86858	5.9623	8.109e-09***
GRIEPS	7.10950	1.05898	6.7135	1.195e-10 ***
BVPS	0.73367	0.13287	5.5218	8.150e-08 ***
GRIBVPS	-0.88974	0.17615	-5.0511	8.298e-07 ***
factor(YEAR)2016	0.77403	3.96186	0.1954	0.8453
factor(YEAR)2017	2.97386	3.96705	0.7496	0.4542
factor(YEAR)2018	2.15015	3.98660	0.5393	0.5901
factor(YEAR)2019	-1.72306	4.01220	-0.4295	0.6679

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Total Sum of Squares: 1510900

Residual Sum of Squares: 111500

R-Squared: 0.92621

Adj. R-Squared: 0.92193

F-statistic: 361.199 on 9 and 259 DF, p-value: < 2.22e-16

per share(=0.73367, P<0.000) have positive and statistically significant association with share price of sample company. GRI with Earning per share(=7.1095, P<0.000)

has a positive and statistically significant association with the share price of sample company, GRI with Book value per share(=-0.88974, P<0.000) has a negative and statistically significant association with the share price.

4.5 Conclusions

From descriptive statistics result, The mean and median value of Market capitalization and Total asset, Total debt, Economic value added of GRI group are higher than Non GRI group. It means as two groups, the GRI group's companies are bigger than Non GRI group's companies in size, they valued more in market than the Non GRI group, they held more debt than Non GRI group. While, the GRI group companies are creating more wealth than Non GRI group companies, a better financial performance. The median and mean value of EPS, BVPS, SHA value of GRI group are higher than Non GRI group, indicate that GRI group companies are more profitable, they are in favor of investors more than Non GRI group companies.

The Pearson and Spearman correlation tests revealed that GRI have poor correlation with Market Cap., Economic value added, share price. The correlation between share price and Earning per share, Book value per share are both strong and significantly.

From the main analysis result, the correlation between GRI and Market Capitalization is positive and statistically significant, the correlation between GRI and Economic value added are positive but is only weak evidence.

In additional analysis, when we research the correlation between GRI and share price, the result revealed that GRI has poor correlation with share price, but when GRI as dummy variable, the multiplicative variable(GRI*EPS) has positive and significant correlation with share price, the multiplicative variable(GRI*BVPS) has negative and significant correlation with share price.

CHAPTER 5
DISCUSSION

For this chapter, the aim is to summarize and discuss the findings from this study presented in previous chapters with a theoretical explanation. Apart from summary and discussion, this chapter will also provides the limitations of this research, and recommendation for future application and future research. This chapter includes following components:

5.1 Hypothesis Summary

5.2 Discussion

5.3 Limitations

5.4 Recommendation for Future application

5.5 Recommendation for Future Research

5.1 Hypothesis Summary

This study mainly to research the financial performance difference between companies that submit GRI report from 2015 to 2019 and those didn't submit it during that time. The hypothesis in this study is:

The differences between financial performances of companies that voluntarily submit sustainability reports according to GRI standard is expected to better than companies that did not follow GRI standard.

When testing the hypothesis, EVA is the indicator of companies' financial performance. The first step is to overview the basic data, according to results from previous chapter, the GRI group companies has higher EVA, 81.3%(N=150) of the data are more than zero when Non GRI group has only 72%(N=150) of the data more than zero, the average value of GRI group(=2373million) are higher than Non GRI group(=1308million). This is a fully support of the hypothesis. But at the same time, the Market Capitalization and Total Asset, Total Debt of GRI group are higher than Non GRI group. As previous study researched, the relationship between EVA and Market Capitalization is significant (Habibollah and Nik, 2013). Due to the MC and TA, TD difference between GRI and Non GRI group, the EVA difference between GRI group and Non GRI group is not enough to show that GRI group has better financial performance. Share price is the second indicator for financial performance, both means and median value of GRI group are higher than Non GRI group, hypothesis fully supported.

The second step to test hypothesis is the main analysis. Market Capitalization and Total Asset, Total Debt were considered when analysis the EVA of two groups. The

result showed a positive correlation between GRI and EVA (=5.01755, P<0.05). This is a weak support of the hypothesis. GRI has a positive but weak correlation with company financial performance. The correlation between MC and GRI are positive and statistically significant, this is evidence of Habibollah and Nik's research in 2013.

The third step to test hypothesis is the additional analysis, the result showed a positive but not significantly correlation between GRI and share price. Share price is the market value of a company, a company with better financial performance will be in favour of investors, thus it's share price will go high. As presented in previous chapter, GRI group's share price mean and median are higher than Non GRI group, but from panel regression result, we could conclude that GRI has a positive but slightly impact on share price. Hypothesis is partly supported.

To summarize, the financial performances of companies that voluntarily submit sustainability reports according to GRI standard are better than companies that did not follow GRI standard, but the difference is not significant.

5.2 Discussion

The result of this study is a positive direction, it is in accordance with the studies presented in positive relationship theories in chapter 2. there are slightly difference between this study and previous studies. This study base on Thailand listed companies. Jones(2005) found compelling evidence of a systematic and positive relationship between sustainability report and economic performance when he researched Australian companies. Buys et al(2011) found same result when research South African companies. The study by Olaf and Thomas(2008) suggested that companies performing well on GRI indicators also perform well financially after researched companies from more than 19 countries. The study for US companies showed that sustainability reports company outperformed significantly than firms do not support GRI reporting guidelines(Eccles, Ioannou & Serafeim, 2012). The study for Singapore companies by Amir et al (2012) got a positive result when they research the relationship between sustainability disclosure and share price.

Researches from different countries generate different results. This may happen from the different environment between developed countries and developing countries(Aras et al, 2010). Why GRI helps companies financial performance?

That we can learn from the nature of sustainability development. The four dimensions of sustainability activities, accountability, transparency, competitiveness, responsibility. The accountability nature helps companies to communicate with both stakeholders and public on their actions supporting their vision, value, and effectiveness(Tetlock et al, 1999), thus is a way to encourage public companies to value their actions second time before show it to public, improve the openness of a company. The transparency nature contributes to increase a company's strategic outcomes(Jensen,

2002), it can also enable participants outside the firm to understand and analyse the company's specific information(Bushman, Piotroski, Smith, 2004). The competitiveness nature can help companies to get a greater prominence in the minds of stakeholders and then build a strong reputation(Rindova et al, 2005), a good reputation can reduce stakeholders uncertainty, it can also help to gain buyers trust(Morgan & Hunt, 1994), therefore, competitiveness may improve a company's financial performance. A good responsibility management system provides credibility externally.

Even for the studies that did not support a significant correlation between sustainability reports and financial performance, they found sustainability activities can positively effect the corporate in some other ways. Sustainability reports can help to build brand loyalty and corporate reputation in the long term(Michael, Barry, Mohammad, 2011). Sustainability activities positively affect competitive advantage, i.t. corporate reputation, customer satisfaction and organizational commitment, these advantages is a second-stage mediator that positively contributes to financial performance(Silvia and Anessandro, 2018).

As there are so many incentives sustainability activities can bring to a company, why some previous studies didn't find a positive relationship between sustainability and financial performance? Apart from the environment difference between countries, there maybe other reasons. Based on the study by Gietl Simon et al(2012), the high cost of implementing GRI A level reporting may result in a negative and significant influence on the firm value of smaller or less profitable firms, but no significant impact is detected for larger and more profitable firms. Another study conducted by Eccles et al (2012) revealed that firms firms that are sustainable may have lower financial performance because of high labor costs. They may also have higher financial performance because they avoid costly controversies with nearby communities. Theoretically, the procedure of sustainability activities and the GRI reports should have a positive impact on corporate financial performance, it actually does according to studies conducted in related topic, but it is a long term issue. As the impact of sustainability activities on companies will take time to be manifested, and a company's financial performance can be effected by multiple factors. Corporate stakeholders do not need to be disappointed when the company's financial performance didn't improve significantly after taken actions for sustainability reports.

5.3 Limitations

This is an independent study should be finished in a limited time, within the time restriction, there are some limitations in this study.

1, The limitation of sample size. The Corporate Social Responsibilities development in Thailand was started from 2006, the number of GRI reports was only one at that year, along the years there are more and more listed companies that engaged in GRI reports, but when researcher select sample, the companies which disclosed GRI

reports for 5 years continually are not so many. Thus the GRI group and Non GRI group were both consisted by 30 companies only.

2, The limitation of Non GRI group sample. Just as described above, the sample companies this study can use was limited. After the list of GRI group companies decided, the researcher choose Non GRI group companies from SET list, based on the industry and market capitalization, as described in chapter 4.1, the mean and median value of market capitalization of GRI group are higher than Non GRI group, this difference may affect the results. But in this case it is difficult to eliminate the difference as the companies that disclosed GRI reports for more than 5 years are tend to have longer history in stock market with a larger market capitalization. This phenomenon is in accordance with the study conducted by Michelon and Giovanna(2013), their study found that a company with a good financial performance are more likely to use sustainability disclosure.

3, The limitation of financial performance indicator. Due to the limited time we have, and the Thai listed companies do not have the habit to disclosure EVA in their annual report, it took long time to collect data and calculate each sample companies' Economic Value Added. There were no time to analysis more indicators.

5.4 Recommendation for Future application

This study focus on the relationship between GRI and financial performance in Thai listed companies. As there were few previous studies researched this field, the result of this study could make abundant theoretical and practical significance in the following ways:

1, the result of this research revealed that GRI has a positive impact on corporate financial performance, it can be a guideline for Thai listed companies to value the impact of sustainability activities, gain confidence on sustainability development. Thus it would encourage more listed companies to engage in GRI then the sustainability development in Thailand can be accelerated.

2, the data collected in this study were from 2015 to 2019, it is a continually 5 years data, within the period, GRI group companies performed better than Non GRI group companies, but they may loss money too. The improvements in financial performance for GRI companies is a long term issue. This study can help listed companies that engaged GRI standards to value the GRI impact more objectively, it can be a reference for their future business strategy.

3, as there were not many studies researched the relationship between GRI and financial performance in Thailand, this study can fill the gap for GRI research in Thailand listed companies. It can be a reference for future studies to compare the difference of GRI impact at different developing environment.

4, this study provides evidence of GRI positive impact on corporate financial performance, it can be a good example for Thai governments and SET to promote sustainable development to listed companies, can help government to better encourage GRI reports.

5.5 Recommendation for Future research

1, The GRI group in this study included some big companies with very high market capitalization, there were no listed companies could match the market capitalization in Non GRI group. As market capitalization may effect the financial performance too, future research could use GRI companies with less value so can eliminate the deviation from company size or value.

2, The indicator for financial performance in main analysis is Economic Value Added, the data collection and calculation takes long time so there were no time to collect and analysis more financial indicators. Future research can analysis more indicators to reflect the financial performance.

3, As this study research the correlation between GRI and corporate financial performance, the quality of company's GRI reports can be added as new variable, so as to research the correlation between GRI and corporate financial performance more logically.

4, Among the four sustainability reports standard, GRI is the most widely used one, this study focus on GRI reports, but there are companies that disclosed sustainability reports for more than 5 years that never employ GRI standards, that population can be researched too in future research.

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APPENDIX

List of the analyzed companies

In this study the sample companies were split into two groups, GRI group consisted by 30 listed companies that disclosed GRI reports from 2015 to 2019.

List of GRI group companies

INDUSTRY	STOCK CODE	COMPANY NAME
Agro & Food	CFRESH	SEAFRESH INDUSTRY PCL
	CPF	CHAROEN POKPHAND FOODS PCL
	GFPT	GFPT PUBLIC COMPANY LIMITED
	MINT	MINOR INTERNATIONAL PUBLIC COMPANY LIMITED
Consumer Products	S&J	S & J INTERNATIONAL ENTERPRISES PUBLIC COMPANY LIMITED
Industrial	IRC	INOUE RUBBER(THAILAND)PCL
	IVL	INDORAMA VENTURES PUBLIC COMPANY LIMITED
	PTTGC	PTT GLOBAL CHEMICAL PUBLIC COMPANY LIMITED
	SAT	SOMBOON ADVANCE TECHNOLOGY PUBLIC COMPANY LIMITED
	TSC	THAI STEEL CABLE PUBLIC COMPANY LIMITED
Property & Construction	AMATA	AMATA CORPORATION PCL
	SCC	THE SIAM CEMENT PUBLIC COMPANY LIMITED
	LPN	L.P.N. DEVELOPMENT PUBLIC COMPANY LIMITED
	PSH	PRUKSA HOLDING PUBLIC COMPANY LIMITED
	SPALI	SUPALAI PUBLIC COMPANY LIMITED
Resources	BAFS	BANGKOK AVIATION FUEL SERVICES PCL
	BANPU	BANPU PCL
	BCP	BANGCHAK CORPORATION PCL
	EASTW	EASTERN WATER RESOURCES DEVELOPMENT AND MANAGEMENT PCL
	TTW	TTW PUBLIC COMPANY LIMITED
	TOP	THAI OIL PUBLIC COMPANY LIMITED
	SCG	SAHACOGEN (CHONBURI) PUBLIC COMPANY LIMITED

(continued)

List of GRI group companies

INDUSTRY	STOCK CODE	COMPANY NAME
Services	AOT	AIRPORTS OF THAILAND PUBLIC COMPANY LIMITED
	BWG	BETTER WORLD GREEN PUBLIC COMPANY LIMITED
	HMPRO	HOME PRODUCT CENTER PUBLIC COMPANY LIMITED
Technology	ADVANC	ADVANCED INFO SERVICE PUBLIC COMPANY LIMITED
	DELTA	DELTA ELECTRONICS (THAILAND) PUBLIC COMPANY LIMITED
	INTUCH	INTOUCH HOLDINGS PUBLIC COMPANY LIMITED
	THCOM	THAICOM PUBLIC COMPANY LIMITED
	PT	PREMIER TECHNOLOGY PUBLIC COMPANY LIMITED

The Non GRI group consisted by 30 listed companies that did not disclose sustainability reports from 2015 to 2019.

List of Non GRI group companies

INDUSTRY	STOCK CODE	COMPANY NAME
Agro & Food	ASIAN	ASIAN SEA CORPORATION PUBLIC COMPANY LIMITED
	KSL	KHON KAEN SUGAR INDUSTRY PUBLIC COMPANY LIMITED
	KTIS	KASET THAI INTERNATIONAL SUGAR CORPORATION PUBLIC COMPANY LIMITED
	TU	THAI UNION GROUP PUBLIC COMPANY LIMITED
Consumer Products	SIAM	SIAM STEEL INTERNATIONAL PUBLIC COMPANY LIMITED
Industrial	AJ	A.J. PLAST PUBLIC COMPANY LIMITED
	ALUCON	ALUCON PUBLIC COMPANY LIMITED
	ASEFA	ASEFA PUBLIC COMPANY LIMITED

(continued)

List of Non GRI group companies

INDUSTRY	STOCK CODE	COMPANY NAME
Industrial	BCT	BIRLA CARBON (THAILAND) PUBLIC COMPANY LIMITED
	INOX	POSCO-THAINOX PUBLIC COMPANY LIMITED
Property & Construction	ANAN	ANANDA DEVELOPMENT PUBLIC COMPANY LIMITED
	CGD	COUNTRY GROUP DEVELOPMENT PUBLIC COMPANY LIMITED
	FPT	FRASERS PROPERTY (THAILAND) PUBLIC COMPANY LIMITED
	LH	LAND AND HOUSES PUBLIC COMPANY LIMITED
	SIRI	SANSIRI PUBLIC COMPANY LIMITED
Resources	BCPG	BCPG PUBLIC COMPANY LIMITED
	DEMCO	DEMCO PUBLIC COMPANY LIMITED
	EGCO	ELECTRICITY GENERATING PUBLIC COMPANY LIMITED
	GPSC	GLOBAL POWER SYNERGY PUBLIC COMPANY LIMITED
	RATCH	RATCH GROUP PUBLIC COMPANY LIMITED
	SPCG	SPCG PUBLIC COMPANY LIMITED
	TSE	THAI SOLAR ENERGY PUBLIC COMPANY LIMITED
Services	AMARIN	AMARIN PRINTING AND PUBLISHING PUBLIC COMPANY LIMITED
	BDMS	BANGKOK DUSIT MEDICAL SERVICES PUBLIC COMPANY LIMITED
	CENTEL	CENTRAL PLAZA HOTEL PUBLIC COMPANY LIMITED
Technology	CCET	CAL-COMP ELECTRONICS (THAILAND) PUBLIC CO., LTD.
	DTAC	TOTAL ACCESS COMMUNICATION PUBLIC COMPANY LIMITED
	FORTH	FORTH CORPORATION PUBLIC COMPANY LIMITED
	HANA	HANA MICROELECTRONICS PUBLIC COMPANY LIMITED
	SIMAT	SIMAT TECHNOLOGIES PUBLIC COMPANY LIMITED

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