บทบาทของการให้ความเชื่อมั่นที่มีต่อการเพิ่มความมีประโยชน์ต่อการตัดสินใจของการเปิดเผยข้อมูลความรับผิดชอบต่อสังคม

นางสาวพิมลวรรณ ชยพรกุล

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ปีการศึกษา 2560

ROLE OF ASSURANCE ON THE ENHANCEMENT OF VALUE-RELEVANCE OF CORPORATE SOCIAL RESPONSIBILITY DISCLOSURE

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A Dissertation Submitted in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy Program in Accountancy
Department of Accountancy
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พิมลวรรณ ชยพรกุล : บทบาทของการให้ความเชื่อมั่นที่มีต่อการเพิ่มความมีประโยชน์ต่อการตัดสินใจของการเปิดเผยข้อมูลความรับผิดชอบต่อสังคม (ROLE OF ASSURANCE ON THE ENHANCEMENT OF VALUE-RELEVANCE OF CORPORATE SOCIAL RESPONSIBILITY DISCLOSURE) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: ผศ. ดร. เอมอร ใจเก่งกิจ, 92 หน้า.

นักลงทุนเริ่มตระหนักว่ารายงานทางการเงินประจำปีนั้นไม่อาจให้ข้อมูลที่สำคัญทั้งหมดของกิจการได้ ข้อมูลที่ไม่ใช่ข้อมูลทางการเงิน เช่น ข้อมูลความรับผิดชอบต่อสังคมขององค์กร ก็มีความสำคัญและมีประโยชน์เช่นเดียวกัน อย่างไรก็ตาม การเปิดเผยข้อมูลที่ไม่ใช่ข้อมูลทางการเงินโดยเฉพาะอย่างยิ่งรายงานความรับผิดชอบต่อสังคมขององค์กรยังเป็นไปตามความสมัครใจ นอกจากนี้ การให้ความเชื่อมั่นต่อการรายงานความรับผิดชอบต่อสังคมขององค์กรก็ยังคงเป็นตามความสมัครใจของกิจการเช่นกัน ดังนั้น งานวิจัยนี้จึงมีวัตถุประสงค์ของเพื่อศึกษาว่าการเปิดเผยข้อมูลความรับผิดชอบต่อสังคมขององค์กรมีประโยชน์ต่อการตัดสินใจของนักลงทุนหรือไม่ และศึกษาว่าการให้ความเชื่อมั่นสำหรับการเปิดเผยข้อมูลความรับผิดชอบต่อสังคมขององค์กรให้ข้อมูลที่มีประโยชน์ต่อการตัดสินใจหรือไม่ งานวิจัยนี้แตกต่างจากผลการศึกษาที่ผ่านมาซึ่งมุ่งเน้นที่การออกรายงานความเชื่อมั่น โดยงานวิจัยนี้ศึกษาว่านักลงทุนให้ความสำคัญกับเนื้อหาในรายงานความเชื่อมั่นหรือไม่ รวมทั้งการศึกษาถึงประเภทของผู้ให้บริการงานให้ความเชื่อมั่นและระดับของความเชื่อมั่นด้วย ตัวอย่างที่ใช้สำหรับงานวิจัยนี้ คือ บริษัทที่จดทะเบียนในตลาดหลักทรัพย์ลอนดอนในช่วงปี ค.ศ. 2011 ถึง 2015

ผลการวิจัยพบว่าการเปิดเผยข้อมูลความรับผิดชอบต่อสังคมขององค์กรซึ่งเป็นข้อมูลที่ไม่ใช่ข้อมูลทางการเงินมีความสัมพันธ์เชิงบวกกับมูลค่าตลาดของกิจการ สามารถอนุมานได้ว่านอกจากข้อมูลทางการเงินแล้ว นักลงทุนให้ความสำคัญกับข้อมูลที่ไม่ใช่ข้อมูลทางการเงินอย่างเช่นข้อมูลความรับผิดชอบต่อสังคมขององค์กรด้วย นอกจากนี้ การออกรายงานความเชื่อมั่นและเนื้อหาที่ระบุในรายงานความเชื่อมั่นให้ข้อมูลที่มีประโยชน์ต่อการตัดสินใจของนักลงทุน ซึ่งอนุมานได้ว่าการให้ความเชื่อมั่นช่วยเพิ่มคุณค่าของการเปิดเผยข้อมูลความรับผิดชอบต่อสังคมขององค์กรและนักลงทุนให้ความสำคัญต่อการออกรายงานความเชื่อมั่นรวมทั้งข้อเท็จจริงที่ระบุในรายงานความเชื่อมั่นด้วยเช่นกัน นอกจากนี้ ผลการศึกษายังพบว่าประเภทของผู้ให้บริการงานให้ความเชื่อมั่นมีความสัมพันธ์เชิงบวกกับมูลค่าตลาดของบริษัท ซึ่งอนุมานได้ว่านักลงทุนมีมุมมองว่ารายงานความเชื่อมั่นที่จัดทำโดยผู้ที่อยู่ในวิชาชีพบัญชี เช่น ผู้สอบบัญชี จะมีคุณค่ามากกว่า อย่างไรก็ตาม ผลการศึกษาไม่พบผลกระทบที่มีนัยสำคัญของระดับของความเชื่อมั่นที่มีต่อมูลค่าตลาดของกิจการ

ภาควิชา การบัญชี ลายมือชื่อนิสิต .....

สาขาวิชา การบัญชี ลายมือชื่อ อ.ที่ปรึกษาหลัก .....

ปีการศึกษา 2560

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KEYWORDS: CORPORATE SOCIAL RESPONSIBILITY DISCLOSURE / NON-FINANCIAL INFORMATION / ASSURANCE / VOLUNTARY DISCLOSURE / VALUE-RELEVANCE

PIMOLWAN CHAYAPORNKUL: ROLE OF ASSURANCE ON THE ENHANCEMENT OF VALUE-RELEVANCE OF CORPORATE SOCIAL RESPONSIBILITY DISCLOSURE. ADVISOR: ASST. PROF. AIM-ORN JAIKENGKIT, Ph.D., 92 pp.

Investors have become increasingly aware that annual financial reporting alone cannot provide all salient information about a firm. The non-financial information such as CSR information is also important and useful. However, the disclosure of non-financial information, especially the separate CSR report, is voluntary. In addition, the assurance for CSR reporting is also currently the firm's voluntary. Therefore, this research aims to investigate whether the disclosure of CSR represents the value-relevant information for investors and to investigate whether the assurance of CSR disclosure also represents the value-relevant information. Unlike prior studies which focused on the availability of assurance statement, this research further explores whether investors value the content of assurance statements. In addition, this research also investigates about the type of assurance providers and the level of assurance. The samples used in this research are the firms listed in the London Stock Exchange Market (FTSE) from 2011 to 2015.

The results reveal that the availability of CSR disclosure which is a type of non-financial information positively associated to a firm's market value. This implied that not only financial information, investors also value non-financial information such as CSR information. In addition, the results show that both the availability of assurance statements and the content indicated in assurance statements provided value-relevant information for investors. This implied that the assurance enhances value-relevance of CSR disclosure and investors value substance of CSR assurance statement as well as its form. Moreover, the result shows that type of assurance providers appeared to affect firm's market value. This implies that investors perceive the assurance statement as more valuable when it is provided by accounting professionals (e.g. auditors). However, the result does not show any significant effect of level of assurance to firm's market value.

Department: Accountancy Student's Signature .....
Field of Study: Accountancy Advisor's Signature .....
Academic Year: 2017

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ABBREVIATIONS

CSR	Corporate Social Responsibility
AA	The Institute of Social and Ethical AccountAbility
AS	Assurance Standard
ESG Rating	Environmental, Social and Governance Rating
FTSE Index	The Financial Times Stock Exchange Index, a share index of the companies listed on London Stock Exchange
GHG	Green House Gas
GRI	Global Reporting Initiative, an international independent organization who issues the standards and guideline for sustainability reporting
G250	250 largest companies based on Fortune Global 500 ranked by total revenue
IAASB	International Auditing and Assurance Standards Board
IFAC	International Federation of Accountants
ISAE	International Standard on Assurance Engagements
N100	Top 100 companies from each of 34 countries including certain companies listed in FTSE Index
OECD	The Organization for Economic Co-operation and Development

CHAPTER 1: INTRODUCTION

1.1 MOTIVATION

This research is motivated by both the academic and practical need to fulfill the gap in research that leaves several questions unanswered regarding the economic consequences of voluntary Corporate Social Responsibility ("CSR") reporting and assurances. The importance of environmental and social issues has significantly increased in the past decades, and companies are more concerned than ever before about the impact of their business operations on the environment and on society. The CSR concept has become widely adopted among organizations. Holder-Webb et al. (2009) argue that "it is not enough for corporations to simply engage in CSR activities but it is also important and desirable to make information about these activities available to stakeholders."

Moreover, stakeholders have become increasingly aware that annual financial reporting alone cannot provide all salient information about a firm. The primary purpose of financial reporting is to present a firm's financial information (i.e. financial performance, financial status, and cash flow), but in actuality, non-financial information (i.e. CSR activities and performance, governance policies, environmental policies and performance, business strategies, risk management policies) is also important and useful to stakeholders. Adrian King, Head of Sustainability Services at KPMG Global, declared in the KPMG 2015 Survey of Corporate Responsibilities Reporting that "non-financial reporting will become required business practice. Companies now need to focus on what they will report and how best to integrate their financial and non-financial information." This statement solidifies the growth trend and the increasing demand for CSR disclosure. However, the disclosure of non-financial information, especially the separate CSR report, is not generally mandatory, and each firm may choose whether to voluntarily disclose such information.

Voluntary disclosure is necessary for firms to compete successfully in the risk capital market. Signaling theory explains the incentives of voluntarily reporting useful information to the capital market. The disclosure of non-financial information essentially reduces the information asymmetry that exists between stakeholders and management, and non-financial information can help investors to better determine how to invest in a firm. Holder-Webb et al. (2009) performed a survey of 750 retail investors. Their results show that investors pay attention to non-financial information (i.e. industry cohort, governance, and CSR information), and that investors use such information in their decision-making processes. This implies that non-financial information is useful, and that it provides value to a firm. Berthelot et al. (2012) reveals that investors positively value CSR reporting. Several existing studies have found that there is an association between CSR disclosure and firm value (Plumlee et al., 2015; Luo et al., 2006). Clarkson et al. (2013) have also shown that voluntary environmental disclosures can increase firm value. As a result, the study of CSR disclosure and its value-relevance is a relevant topic to current research trends.

According to agency theory, an assurance statement reduces information asymmetry and its associated agency costs. Simnett et al. (2009) pointed out that "the effectiveness of achieving these desired outcomes hinges on the perceived and actual credibility of the information provided." In other words, to reduce the information asymmetry between principals and agents, corporate management or stakeholders appoint an assurance provider to ensure that reliable and accurate CSR information is released to stakeholders. According to GRI (2013), assurance increases the reliability of data relevant to investor decision-making. Assurance statements provide the information that "stakeholders are legally or morally entitled to receive, even if the company chooses not to disclose all" (Adams, 2004). Peters and Romi (2015) have also suggested that the value-relevance of CSR assurance is increasing over time.

However, Trotman (2015) finds that there is little evidence among companies of internal efforts to ensure high quality CSR disclosures. Therefore, assurance mechanisms are necessary. In light of this necessity, this paper aims to explore the role of assurance and to demonstrate its enhancement of the value-relevance of CSR reporting, contributing to both the academic and practical discussions of CSR disclosures.

1.2 RESEARCH OBJECTIVES

This research aims to explore the research on CSR disclosure by emphasizing the role of assurance in increasing the value-relevance of CSR disclosure.

The research framework is as follow:

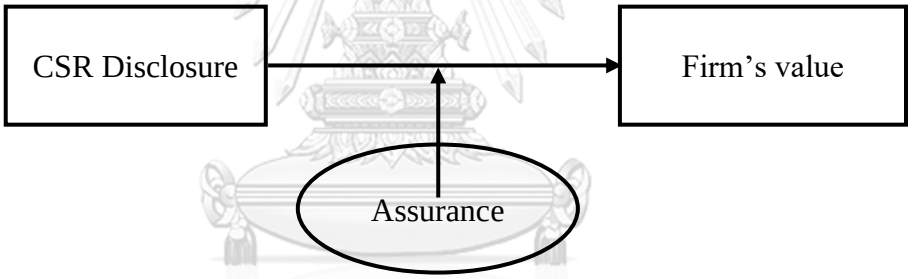

Figure 1: : Research Framework

The research objectives here are threefold: first, to investigate whether CSR disclosure is relevant to a firm's value; second, to investigate whether assurance enhances the relevance of CSR disclosure to a firm's value; and third, to further explore the content of assurance statements to determine whether the value investors place in the content of assurance statements includes the type of assurance provider and the level of assurance.

The research questions can be summarized as follows:

1) Does CSR disclosure provide value relevance to the firm's market value?

2) Does assurance statement enhance the value relevance of CSR disclosure to the firm's market value?

3) Do investors give value to the content in assurance statement?

4) Do investors give value to the assurance provided by accounting profession rather than consultants?

5) Do investors give more value to the higher level of assurance?

1.3 CONTRIBUTIONS AND LIMITATIONS

This research contributes to literature of non-financial information disclosure in several ways. First, this research contributes to the existing literature regarding the economic consequences of voluntary CSR reporting. Prior studies have primarily investigated the association between CSR disclosure and firm performance. This research extends and fills the gap of archival evidence.

Second, this research reveals that investors value substance as well as form. Unlike existing studies of CSR assurance, which use binary variables as a proxy for assurance statements, this research focuses on the content of assurance statements by using content analysis to score assurance statements. The content measurement method is also different from what was done to make it more appropriate and comprehensive, one condition is modified and two new conditions are added.

Third, this research explores CSR assurances in depth by investigating whether the type of assurance provider and the level of assurance provide any value-relevance to firms. Previous studies leave several questions unanswered regarding the attributes of CSR assurance. This research fulfills the lack of empirical evidence among extant research.

Lastly, this research provides several implications for practitioners. For regulators (i.e. standard-setters) in countries without mandatory CSR reporting and without the assurance of CSR reporting, these results can inform choices regarding which regulatory approach might be best applied to nonfinancial reporting. According to KPMG's 2015 survey, the percentage growth in CSR reporting in 2015 slightly increased from that of 2013. This trend suggests that future growth is likely to occur in smaller increments, and seems to be stable for CSR reporting, unless future CSR reporting is driven by mandatory legislation. Additionally, these results also provide implications for companies considering the benefits of CSR reporting regarding appropriate assurance providers.

Although this research provides several contributions to discussions in the field, there are also some limitations. The data set of CSR reports was hand-collected from the website of companies listed on the London Stock Exchange between 2011 and 2015. Therefore, certain samples were omitted due to the unavailable disclosure of the companies' website. Additionally, certain companies disclosed information or prepared their CSR report in other languages (e.g. in Chinese), and these samples have also been omitted.

1.4 STRUCTURE OF THE DISSERTATION

This dissertation is organized as follows: Chapter 1 presents an introduction of this dissertation, discussing motivation, research objectives, contributions and limitations; Chapter 2 presents the background of CSR and assurance, reviews theory relating to CSR disclosure and assurance; and discusses hypotheses development; Chapter 3 presents research design, providing details of sample selection, model specification, and variable measurement; Chapter 4 presents empirical results; and Chapter 5 concludes this dissertation.

CHAPTER 2: LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 CORPORATE SOCIAL RESPONSIBILITY ("CSR")

2.1.1 Definition of Corporate Social Responsibility ("CSR")

According to Carroll (1983), "corporate social responsibility involves the conduct of a business so that it is economically profitable, law abiding, ethical and socially supportive. To be socially responsible then means that profitability and obedience to the law are foremost conditions when discussing the firm's ethics and the extent to which it supports the society in which it exists with contributions of money, time and talent". Carroll (1999) has also stated that this is only one of countless definitions of the term that have proliferated since the 1950s.

Carroll presented the first CSR model as "The Pyramid of Corporate Social Responsibility" (Carroll, 1991). Carroll's pyramid consisted of 4 components, as figure 2 below:

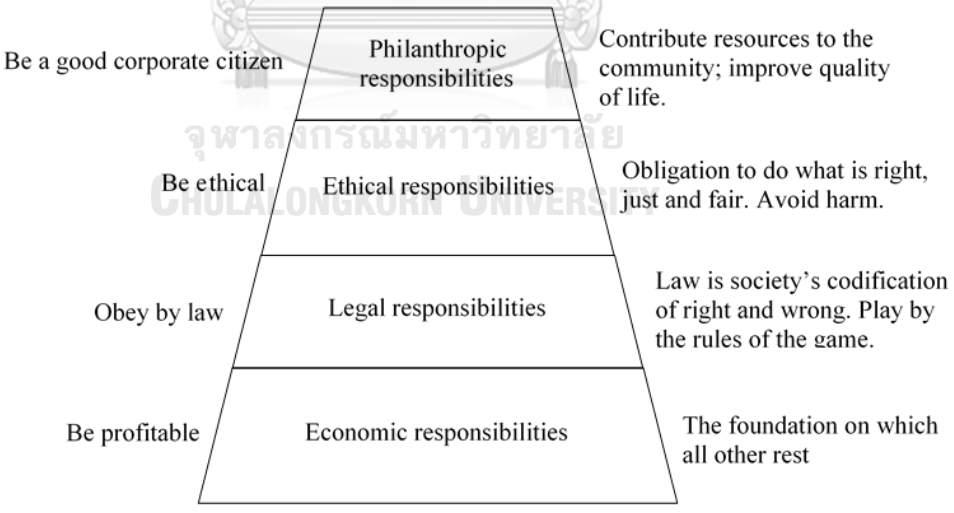

Figure 2: Carroll's Pyramid of Corporate Social Responsibility (Carroll, 1991)

Currently, the definitions of corporate social responsibility and corporate sustainability remain ambiguous. Montiel (2008) reviewed the various definitions of corporate social responsibility and corporate sustainability used over time, compiling titles and abstracts published between 1970 and 2005. This study showed that CSR research has a longer history than does corporate sustainability research. CSR articles began appearing in the 1970s, while articles regarding corporate sustainability, including sustainability development articles, appeared later, in the 1990s. It can be interpolated from Montiel (2008) that the concept of corporate sustainability marks the evolution of the original concept of corporate social responsibility.

CSR reporting currently appears in various names, formats, and contents because it is both voluntary and unregulated (Simnett et al., 2009; Zorio et al., 2013). According to Setthasakko (2016), the preparation and disclosure of CSR reports (also called sustainability reports, sustainability development reports, corporate responsibility reports, or environmental and social responsibility reports) is a tool by which companies communicate with their stakeholders regarding their environmental and social responsibility performance, which comprises both financial and non-financial data.

2.1.2 Development and Trends of CSR Disclosure

Over the past decade, stakeholders have demanded that companies provide true and fair reporting of triple bottom line information by issuing CSR reports (Tuybens, 2011). Previously, companies communicated this information to their stakeholders by disclosing CSR information on the company website. Later, most companies included CSR information and performance in their annual report. Recently, companies have presented CSR information in a separate CSR report. The publishing of a separate CSR report is currently voluntary, and there are no statutory or mandatory guidelines to govern the reporting process, although a series of well-known reporting guidelines have been released by an organization called “The Global Reporting Initiative” (or GRI).

Table 1: Historical development of CSR initiatives, regulations, and guidelines:[1]

Year	Development
1976	The OECD Guidelines for Multinational Enterprises were released (OECD 1976); they were revised in 2011, when the UN Guiding Principles on Business and Human Rights (UN 2011) were also incorporated into a revised set of OECD Guidelines for Multinational Enterprises (OECD 2011)
1987	The UN published the "Brundtland Report" (Our Common Future), which contains 22 principles for future legislation that will help to ensure sustainability (UN 1987)
1997	The Global Reporting Initiative (GRI) was established, and the GRI released the first Reporting Guidelines in 2000; the fourth generation of the GRI was released in 2013 (GRI 2013)
2000	The UN Global Compact (UNGC) was prepared in 1999 and released in 2000; the UNGC LEAD was released in 2011
2000	The Carbon Disclosure Project was established to encourage companies to report their greenhouse gas (GHG) emissions
2001	The Greenhouse Gas Protocol (GHG protocol): A Corporate Accounting and Reporting Standard was published (WRI 2001)
2003	The AccountAbility AA1000 Series of Standards was released, and was subsequently revised and expanded in 2008 and 2011 (SEA 2011)
2005	The UN invited different stakeholders to develop the Principles for Responsible Investments (PRI), which were released in 2006 (UNEP & UNGC 2006); in 2011, the Principles for Investors in Inclusive Finance (PIIF) were established (UNPRI et al. 2011); in 2012 the reporting was remodelled (UNPRI et al. 2012) and from 2013-14 it includes a second track for PIIF
2005	The International Organization for Standardization was initiated to establish a standard for social responsibility; in 2010, the first CSR standard, ISO 26000, was released (ISO 2010)
2010	The GRI and UNGC signed a memo showing commitment to combining their two initiatives

[1] Jagd, J. T. (2015). Investor Oriented Corporate Social Responsibility Reporting, Routledge.

(Continued):

Year	Development
2011	The International Integrated Reporting Council (IIRC) prepared a discussion paper for integrated reporting with a variety of stakeholders; the framework was released in 2013
2012	XBRL International in collaboration with Deloitte established the first GRI taxonomy; a collaboration between XBRL International, the Climate Disclosure Project (CDP), the Climate Disclosure Standards Board (CDSB), and Fujitsu developed a taxonomy for GHG reporting
2013	The International Accounting Standards Board (IASB) and the IIRC signed a Memorandum of Understanding

2.2 ASSURANCE

2.2.1 Assurance for CSR Disclosure

Much like the publication of a separate CSR report, assurance of these reports is largely voluntary (Jones & Solomon, 2010). The global growth of companies that publish separate CSR reports has been accompanied by a discernible increase in the external assurance of these reports (Owen, Chapple, & Urzola, 2009). According to O'Dwyer & Owen (2007), there is general consensus that assurance adds (or has the potential to add) to the perceived credibility and quality of CSR reports. External assurance contributes to improvements in the operations and risk management of both an organization's CSR and its sustainability practices (Mock, Strohm, & Swartz, 2007).

Simnett et al. (2009) identified 2,113 CSR reports (called CSR reports, sustainability reports, and corporate responsibility reports) from 31 countries, of which 655 (31%) contained independent assurance reports. The KPMG Survey (2015) also showed the growth of the independent assurance of CSR information among G250 and N100 companies. The percentage of assurance increased from 59% in 2013 to 63% in 2015 for G250 companies, and increased from 3% in 2013 to 42% in 2015 for N100 companies. This survey also revealed that 50% of companies with external assurance opted to assure the whole report, while 34% chose to assure specific indicators, and

the remainder chose to assure specific chapters or a combination of chapters and indicators.

2.2.2 Assurance Providers

Simnett, Vanstraelen, and Chua (2009) delineate assurance providers in two groups: (1) the "big four" firms of the accounting profession (Deloitte Touche Tohmatsu, PricewaterhouseCoopers, Ernst & Young, and Klynveld Peat Marwick Goerdeler), and (2) non-accounting profession specialists (e.g. SGS, Lloyd's Register Quality Assurance). O'Dwyer and Owen (2005) and O'Dwyer (2011) have demonstrated the difference in approach and perspective between accounting providers (both "big four" and non-"big four" firms) and specialist consultants. Accountants take a cautious and limited approach, while consultants employ a more evaluative approach and offer higher levels of assurance. Dillard (2011) notes that accountants tend to focus on technique and output (i.e. assurance provided by the numbers in the statements), while non-accountants focus on rendering client organizational practices more sustainable.

The KPMG Survey (2015) reveals the dominance of accounting providers in the global assurance market, as they provide assurances for 65% of G250 companies and 64% of N100 companies. However, the results of several surveys (i.e. Frost & Martinov-Bennie, 2010 and Owen & Chapple et al., 2009) showed that specialist consultants represent the main assurance provider category, providing assurances for 67% of the ASX100 (Australia) in 2009 and 48% of the FTSE100 (UK) in 2007.

2.2.3 Assurance Standards and Level of Assurance

Adams (2004) suggests that the availability of generally applicable assurance standards have the potential to enhance credibility assurance statements and to reduce the audit expectations gap. There are two acceptable standards for the assurance of CSR disclosure.

2.2.3.1 International Standard on Assurance Engagements (ISAE) 3000[2]

IAASB released the ISAE 3000 in December 2003 to provide mandatory guidance in the basic principles and essential procedures for professional accountants and accounting networks to perform assurance on non-financial engagements. This standard is not limited specifically to sustainability assurance engagements, although it has been indicated that there may be future developments specifically targeted at the assurance of sustainability reports (IFAC, 2004). The framework provides the definition and objective of assurance engagement, identifies the type of assurance engagement to which ISAE 3000 applies, offers engagement acceptance guidance, and provides the elements of assurance engagement (that is, the three-party relationship, subject matter criteria, evidence, and assurance report).

The ISAE 3000 provides guidance to accept the engagement, to agree to the terms of engagement, and to plan and perform the engagement (including engaging the work of an expert, obtaining evidence, and the documentation process). The framework and the ISAE 3000 maintain sufficiently broad guidance to accommodate the inherent complexities of the subject matter, criteria, and evidence in non-financial information assurance engagements. In the evaluation of the subject matter, the listed characteristics for suitable criteria are: relevance, completeness, reliability, neutrality, and understandability.

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[2] Source: International Standard on Assurance Engagement (ISAE) 3000 (Revised 2013), assurance engagements other than audits or reviews of historical financial information; Investor Oriented Corporate Social Responsibility Reporting (Jagd, 2015); Contemporary Issues in Sustainability Accounting, Assurance and Reporting (Jones, S., & Ratnatunga, J., 2012)

The ISAE 3000 provides two levels of assurance: reasonable (a positive form of expression in conclusion) and limited (a negative form of expression in conclusion), as well as two forms of communicating the assurance engagement report: short form (including only basic elements) and long form (an extended list including terms of engagement, findings, and recommendations). The basic elements to be included in the assurance report include: the identification and description of the subject matter, the identification of criteria, limitations, a summary of work performed, and a conclusion.

Only members of the IFAC may make statements according to this standard, which includes auditors. The ISAE 3000 is a standard that, in part, requires that auditors consider three principal questions: whether (1) the company has implemented the necessary quality process; (2) the review team holds the necessary professional qualifications; and (3) the auditor code of conduct has been applied.

However, this standard also involves many requirements concerning the level of understanding that the auditor must have achieved in order to make a statement. As the ISAE 3000 is subject to the general conceptual framework for audits, the review of the non-financial report must be evidence-based. Such evidence must define in relation to the ISA 500 standard: it should be sufficient, suitable, and reliable evidence from which the auditor may draw conclusions.

2.2.3.2 AA1000 Series[3]

The Institute of Social and Ethical AccountAbility (often called simply "AccountAbility," and which marks its standards with the abbreviation "AA") is a non-profit organization that was founded in 1996. AA releases the AA1000 Series, which contains suggestions for a review standard. The AA1000 is comprised by a series of three standards:

The AA1000 AccountAbility Principles Standard (APS): a framework for companies and organizations to identify, prioritize, and respond to CSR challenges. The APS provides three basic principles that a company must adhere to in order to put the AA1000 logo on its CSR report, these being involvement, materiality, and responsiveness.

The AA1000 Stakeholder Engagement Standard (SES): a framework to help companies and organizations ensure that they have performed a stakeholder engagement process that is purpose-driven, robust, and delivers results.

The AA 1000 Assurance Standard (AS): a standard for accountants and other CSR reviewers, which is used to evaluate the extent to which an organization is in compliance with the AA1000APS, whereby a stakeholder approach is ensured.

AccountAbility's AA1000AS (2003, 2008b) was first published in 2003 and subsequently updated in 2008. AA1000AS provides guidance on the issues related to accepting assurance engagements (suitable criteria, independence, competence), as well as planning and performing the engagement in adherence to the standards. The standards identify two types of engagements and two levels of assurance (high and moderate).

[3] Source: AccountAbility's AA1000AS (2008); Investor Oriented Corporate Social Responsibility Reporting (Jagd, 2015); Contemporary Issues in Sustainability Accounting, Assurance and Reporting (Jones, S., & Ratnatunga, J., 2012)

Types of AA1000AS (2008) engagement

There are 2 types of assurance engagement:

Type 1 – AccountAbility Principles

The assurance provider shall evaluate the nature and extent of the organization's adherence to all three AA1000 AccountAbility Principles. Assurance on the AA1000 AccountAbility Principles is intended to give stakeholders assurance on the way an organization manages sustainability performance, and how it communicates this in its sustainability reporting, without verifying the reliability of the reported information.

The assurance provider evaluates publicly disclosed information, the systems and processes the organization has in place to ensure adherence to the principles and the performance information that demonstrates adherence. For Type 1 assurance, the evaluation of performance information does not require the assurance provider to provide conclusions on the reliability of the performance information. Rather, it uses information on performance as a source of evidence when evaluating adherence to the principles.

An assurance provider is not restricted in the types of information it seeks as evidence. The evaluation does not need to be based on explicit management assertions about adherence to the Principles, although an assertion based approach to assurance accords with the AA1000AS (2008).

For assurance on adherence to the AA1000 AccountAbility Principles an assurance provider provides findings and conclusions relating to the nature and extent of an organization's adherence to the Principles.

Type 2 – AccountAbility Principles and Performance Information

The assurance provider shall evaluate the nature and extent of the organization's adherence to the AA1000 AccountAbility Principles, as for Type 1. When conducting a Type 2 engagement, the assurance provider shall also evaluate the reliability of specified sustainability performance information. Specified sustainability performance information is the information the assurance provider and the reporting organization agree to include in the scope of the assurance engagement. Specified information is selected based on the materiality determination and needs to be meaningful to the intended users of the assurance statement. An assurance engagement that only includes an evaluation of the reliability of specified publicly disclosed sustainability performance information is not in accordance with the AA1000AS (2008).

The evaluation of the reliability of specified sustainability performance information is based on explicit management assertions about sustainability performance and includes a review of their completeness and accuracy. For assurance on specified sustainability performance information an assurance provider provides - findings and conclusions relating to the reliability of the sustainability performance information.

If an organization provides in its report an assertion concerning compliance with a specified reporting framework, and compliance with this reporting framework is included with the scope of the specified sustainability performance information to be assured, the assurance provider provides findings and conclusions on compliance with the reporting framework.

Levels of AA1000AS (2008) assurance

An assurance engagement may be carried out to provide a high level of assurance or a moderate level of assurance. Since different subject matter may be addressed in one assurance engagement, a high level of assurance may be provided for some subject matter while a moderate level of assurance may be provided for

other subject matter in the same assurance statement. The characteristics of high and moderate assurance and the related assurance procedures are summarized as follows:

Table 2: Level of Assurance Characteristics (AA1000AS)

	Level of Assurance	
	High Level	Moderate Level
Objective	The assurance provider achieves high assurance where sufficient evidence has been obtained to support their statement such that the risk of their conclusion being in error is very low but not zero. High assurance will provide users with a high level of confidence in an organization's disclosures on the subject matter it refers to.	The assurance provider achieves moderate assurance where sufficient evidence has been obtained to support their statement such that the risk of their conclusion being in error is reduced but not reduced to very low. Moderate assurance will enhance the user's confidence in an organization's disclosures on the subject matter it refers to.
Evidence characteristics	Unrestricted For the principles: Evidence from internal and external sources and parties including stakeholders; evidence gathering at all levels of the organization. For the specified performance information: Extensive depth of evidence gathering including corroborative evidence and sufficient sampling at lower levels in the organization. Emphasis is on the reliability of the information.	Less extensive For the principles: Evidence from internal sources and parties; evidence gathering generally restricted to corporate/management levels in the organization. For the specified performance information: Limited depth of evidence gathering including inquiry and analytical procedures and limited sampling at lower levels in the organization as necessary. Emphasis is on the plausibility of the information.

	Level of Assurance	
	High Level	Moderate Level
Statement	For principles: Conclusion on the nature and extent of adherence relating to disclosures by the organization. For the specified performance information: Conclusion on reliability.	For principles: Conclusion, based on work undertaken, on the nature and extent of adherence relating to disclosures by the organization. For the specified performance information: Conclusion on reliability based on procedures undertaken.

2.2.3.3 Comparison of AA1000AS and ISAE3000

Table 3: Comparison of AA1000AS and ISAE3000

	AA1000AS	ISAE3000
Organization	AccountAbility	International Federation of Accountants (IFAC)
Framework	AA1000 Assurance Standard (AA1000AS) 2008	International Standard on Assurance Engagements (ISAE) 3000 (Revised 2013), “Assurance Engagements Other than Audits or Reviews of Historical Financial Information”
Provider	All assurance providers	Accountant assurance providers
Level of Assurance	High level	Reasonable
	Moderate	Limited

2.2.3.4 Summary of contents of assurance reports

Table 4: Summary of contents of assurance reports according to assurance standards – ISAE 3000

ISAE 3000 (IAASB, 2003)	A title that clearly indicates the report is an independent assurance report An address An identification and description of the subject matter Identification of the criteria Where appropriate, a description of any significant, inherent limitation A statement to identify the responsible party and to describe the responsible parties and the practitioner's responsibilities A statement that the engagement was performed in accordance with ISAEs Compliance with independent and IESBA code of ethics A summary of the work performed The practitioner's conclusion The assurance report date The name of the firm or the practitioner, and a specific location, which ordinarily is the city where the practitioner maintains the office that has responsibility for the engagement

Table 5: Summary of contents of assurance reports according to assurance standards – AA1000AS

AA1000AS (AccountAbility, 2008)	Intended users of the assurance statement The responsibility of the reporting organization and of the assurance provider Assurance standard(s) used, including reference to the AA1000AS (2008) Description of the scope, including the type of assurance provided Description of disclosures covered Description of methodology Any limitations with reference to criteria used Statement of level of assurance Findings and conclusions concerning adherence to the AA1000 AccountAbility Principles of inclusivity, materiality and responsiveness (in all instances) Findings and conclusions concerning the reliability of specified performance information (for type 2 assurance only) Observations and/or recommendations Notes on competencies and independence of the assurance provider Name of the assurance provider Date and place

2.3 THEORETICAL BACKGROUND

2.3.1 Legitimacy Theory

The concept of CSR reporting is primarily grounded in legitimacy theory, which explains why CSR disclosures are voluntarily provided. Deegan (2002) states that recent CSR studies have primarily relied on legitimacy theory, and several previous studies examine the applicability of legitimacy theory to CSR disclosure practices in both direct and indirect ways (e.g. Campbell, Craven, and Shrives, 2003; Deegan, Rankin, and Tobin, 2002; Guthrie and Parker, 1989).

Suchman (1995) defines legitimacy as "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions." Legitimacy theory relies upon the notion that there is a "social contract" between an organization and the society in which it operates (Deegan and Unerman, 2011).

Companies must be perceived as legitimate as the social license for their operation, as society has certain expectations regarding how an organization should conduct its operations (Deegan, 2002). Companies choose to disclose environmental and social responsibility information both to show their accountability and visibility, and to show that they act in a socially responsible manner. Omran (2015) has suggested that any business operation is subject to the greater acceptance granted or withheld by society, and the business faces a potential threat if society perceives that it is not operating in an acceptable way. As such, CSR reporting is a tool with which companies can reveal their actions regarding environmental and social responsibility to gain the approval of society.

2.3.2 Stakeholder Theory

In addition to legitimacy theory, the concept of CSR reporting is also grounded in stakeholder theory. This theory is similar to legitimacy theory in terms of its reliance on the concept of the "social contract" between an organization and the society in which it operates.

Stakeholder theory posits two views: moral and strategic (Frooman, 1999; Herremans et al., 2016). The moral view suggests that those impacted by an organization's operations have the right to be informed and to demand certain standards of performance, and indicates a balance of interests and benefits (Freeman, 1984; Herremans et al., 2016). The strategic view, described by Freeman (1984), argues that stakeholders provide benefits to an organization through legitimization, social license to operate, risk management, and learning.

According to stakeholder theory as defined by Freeman (1984), organizations are not only accountable to their shareholders, but should also consider the contrasting interests of all other stakeholders that could affect or be affected by the achievement of the organization's objectives. Stakeholder theory embraces that business organizations must play an active role in the societies in which they operate (Herremans et al., 2016). Therefore, a company should respond responsibly to stakeholders, who economically impact the organization, and to those who have an interest in the actions of a company and who can influence it.

A company should account for corporate social responsibility. All stakeholders have the right to know the social and environmental implications of an organization's operations at all times (Omran, 2015). Hence, CSR reporting is a tool with which companies may communicate their social accountability to stakeholders.

2.3.3 Signaling Theory

As CSR reporting is voluntarily disclosed, and as the external assurance of CSR is reported by the firm's choice of assurance provider, the key grounded theory for this research is signaling theory.

Voluntary disclosure is necessary for firms to compete successfully in the risk capital market. Signaling theory explains the incentives of voluntarily reporting useful information to the capital market. Insiders know a company and its future prospects more intimately than do investors; therefore, investors will protect themselves by offering a lower price for their investments in a company (Omran, 2015). Connelly et al. (2011) suggest that the value of a company can be increased if the firm voluntarily reports (signals) private information about itself (CSR) that is credible and that reduces outsider uncertainty.

Signaling theory suggests that, in situations of an asymmetric distribution of information, one party attempts to credibly convey information about itself to a second party. The CSR performance of a company can be regarded as such asymmetric information, since it is difficult for parties outside the company to gain credible information regarding these aspects of the company. Companies might attempt to reduce this information asymmetry by proactively reporting CSR activities to ensure the perceived legitimacy of the company.

Because of the information asymmetry issue, companies signal certain CSR information to investors to show that they are better than other companies in the market, to attract investments, and to enhance a favorable reputation (Verrecchia, 1983). CSR disclosure is one of these signaling means, by which companies disclose more CSR information than that required by law to signal that the company is better than its competitors (Mahoney, 2013).

Signaling theory also describes the role of external assurance for CSR reporting. For example, O'Dwyer (2011), Simnett et al. (2009), and Kolk and Perego (2010) use signaling theory to explain the perceived influence of assurance reporting quality and the influence of assurance on information asymmetry (Hahn, R., & Kühnen, M., 2013). This research mobilizes the concept of signaling theory to investigate the role of assurance as the signal by which a firm aims to convey its legitimacy to stakeholders.

2.3.4 Agency Theory

Based on the agency theory, an assurance statement reduces the information asymmetry and the associated agency costs. Simnett et al. (2009) pointed out that "the effectiveness of achieving these desired outcomes hinges on the perceived and actual credibility of the information provided". Figure 3 below shows the role of assurance to reduce the information asymmetry, based on agency theory.

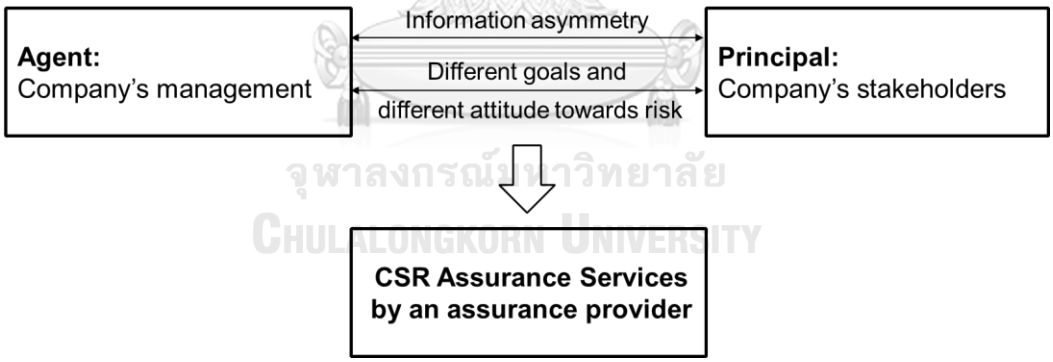

Figure 3: Role of assurance to reduce the information asymmetry

The initial agency relationship is defined as the relationship between an agent (company's management) and a principal (company's stakeholders). The company's management is delegated by the stakeholders to create economic and societal value, and granted the right to use the natural and social resources of the stakeholders. Agency theory proposes that an agency problem arises when the these two parties have different goals and different attitudes towards risk. Stakeholders have no immediate access to information about the performance of the company's management. Hence, in order to reduce information asymmetry, the corporate management or the stakeholders appoint an assurance provider to ensure that reliable and accurate financial and non-financial information are released to stakeholders. The stakeholder can verify the legitimacy of the company's performance with this information, and can subsequently act in accordance with its outcome (Tuybens, 2011).

2.4 HYPOTHESES DEVELOPMENT

2.4.1 Value Relevance Concept

Value-relevance studies are designed to examine the relationship between accounting information and a firm's market value. The theoretical concept of value-relevance predicts how accounting information (e.g. earnings and the book value of equity) and other information relates to the market value of a firm (Beaver, 2002). Riahi-Belkaoui (2000) indicates that accounting information is value-relevant if such information influences the decision-making processes of users whose decisions have an impact on the firm's value. This research applies the concept of value-relevance to examine whether CSR disclosures and the assurance of CSR reports influence investors' decisions by examining its relationship with firm market value.

2.4.2 Value Relevance of CSR Disclosure

RQ1: Does corporate social responsibility report provide value relevance to the firm's value?

CSR reports, sometimes also called sustainability reports or sustainable development reports, often contain qualitative non-financial information. Recently, CSR reports have widely replaced environmental reports, which present only information regarding the firm's environment policies and performance.

Based on legitimacy theory and stakeholder theory, the value of a firm depends on both its explicit claims and its implicit claims. If a firm fail to act in a socially-responsible manner, stakeholders may demand that their implicit agreements be made explicit agreements, which will incur higher costs to the firm. Cornell and Shapiro (1987) have indicated that firms with a high level of corporate social responsibility will have lower implicit claim costs than firms with low corporate social responsibility. Therefore, firms with a high level of corporate social responsibility will have higher financial performance, which will attract investors. Several scholars have recently shown a positive association between corporate social responsibility and firm performance (Orlitzky et al., 2003; Dhaliwal et al., 2012).

According to agency theory, the disclosure of non-financial information regarding a firm's environmental and corporate social responsibility and performance can reduce information asymmetry, and can reduce the agency cost of managers and investors. Evidence from previous studies demonstrates that CSR disclosure provides useful information to investors (Cahan et al., 2015; Clarkson et al., 2013). Berthelot et al. (2012) suggest that investors positively value sustainability reports, and in addition, Dhaliwal et al.'s (2011) examination of American firms found that CSR reports can reduce the cost of capital to a firm.

However, there are some studies that give unclear results. Cheung (2011) studied the companies included in the Dow Jones Sustainability World Index ("DJSWI") from 2002 to 2008 to analyze the impact of the index on stock return, risk, and liquidity. He found no strong evidence that the announcement of the DJSWI had any significant impact on stock return and risk.

Since the value-relevance of CSR disclosures, especially that of the separate CSR report, is still ambiguous, this research examines whether the disclosure of CSR reports is value relevant to firm market value. Unlike previous studies, which primarily use the index (e.g. GRI index, DJSW index) as a proxy for CSR disclosure, or which focus only on one part of disclosure, such as environmental information, this research focuses on the disclosure of the separate CSR report. In addition, since certain companies do not separately disclose this CSR report, but rather include the CSR information (i.e. policies, performance, and strategies) in their annual report (Setthasakko, 2016). Therefore, this research also investigates whether the disclosure of CSR information by including in annual report provides any value relevance to firm market value. The hypothesis is stated as follow:

H1: Among the firms listed in FTSE, CSR disclosure will relate to the firms' market value.

2.4.3 Value Relevance of CSR Assurance

RQ2: Does assurance statement enhance the value relevance of corporate social responsibility report to the firm's value?

O'Dwyer and Owen (2007) suggest that assurance can improve the credibility of reporting. According to signaling theory, firms adopt assurance to signal to investors both the firm's CSR performance and the credibility of the disclosure contents (Cheng et al., 2015; Connelly et al., 2011; Hodge et al., 2009). Adopting assurance of CSR reports seems to signal to investors that the company desires to reliably communicate with its investors. Kolk and Perego (2010) reveal that companies operating in

stakeholder-oriented countries with weaker governance enforcement are more likely to issue an assurance statement to accompany their reports.

Previous studies have shown that CSR reporting affects capital market responses (Dhaliwal et al., 2011; Dhaliwal et al., 2012). Dilla et al. (2014) found that assurance positively affected the judgment and decision-making processes of nonprofessional investors. In addition, the existing literature also reveals the role of assurances in reducing information asymmetry based on agency theory (Dhaliwal et al., 2011; Dhaliwal et al., 2012; Casey and Grenier, 2015). Most of these studies examine assurances for environmental disclosure (e.g. greenhouse gas disclosure), or focus on the index (e.g. the DJSWI) rather than focus on the whole CSR report (Clarkson et al., 2013; Clarkson et al., 2013; Bose et al., 2015). Unlike prior studies, which focus primarily on assurances of certain parts of CSR disclosures (e.g. environmental performance, GHG information, or carbon emission disclosure), this research aims to investigate whether the assurance of whole CSR reports is value relevant to the firm's market value. The hypothesis is stated as follow:

H2: Among the firms with CSR disclosure, CSR report with assurance statement will relate to the firm's market value.

RQ3: Do investors give value to the content in assurance statement?

The existing literature mostly examines the issuance of assurance statements, which uses a binary methodological approach (report/no report) as a proxy to measure the assurance of CSR reporting. In this research, I argue that investors not only pay attention to the issuance of assurance statements, but additionally, the content of assurance statements also provide useful information for investors. According to Frost & Martinov-Bennie (2010), there is a lack of consistent objectives among assurances for CSR engagements, as well as a variety of assurance providers, which has resulted in the diminution of the usefulness and comparability of assurance statements. Therefore, investors have begun to focus on the contents reported in assurance

statements, such as the assurer's opinion and recommendations, the standards used, the level of assurance, the scope, and the objectives.

O'Dwyer and Owen (2005) have developed a framework based on the requirements of AA1000AS and GRI to measure the content of assurance statements to reveal the importance of assurances to the credibility of a disclosure. However, their most important result is the descriptive analysis. Perego and Kolk (2012) and Zorio et al. (2013) also developed content analysis scores, and used these scores as a proxy to examine the quality of assurance statements.

Fuhrmann et al. (2013) investigated whether assurances enhanced the credibility of sustainability reports by using content analysis as a proxy to measure the assurance statements. Their results indicated that a high-quality assurance can reduce information asymmetry.

However, as far as I know, there is no previous research regarding the value-relevance of CSR assurance statements using quantitative scores as a proxy to measure the content of assurance statements. Therefore, this research will investigate whether the content of assurance statements provides useful information to investors to influence their decision-making processes. This would mean that the content of assurance statements would be value-relevant to firm market value. The hypothesis is stated as follow:

H3: Among the firms with CSR assurance, content of assurance statement will relate to the firm's market value.

RQ4: Do investors give value to the assurance provided by accounting profession rather than consultants?

Unlike assurances for financial reporting, which are regulated and can be undertaken only by accountants (external auditors), assurances for CSR reporting are unregulated and can be undertaken by both accountants and consultants.

The existing literature on CSR assurance and its value-relevance remains largely ambivalent, and evidence from previous studies of providers of CSR assurance is mixed. Bose et al. (2015) found that investors more highly value assurance statements provided by accountants. According to O'Dwyer and Owen (2005), firms primarily engage accountants to assure environmental reports, while social responsibility reports and sustainability reports are primarily assured by consultants. Accountants, however, seem to be the leader in the assurance provider market (Perego and Kolk, 2012). Zorio et al. (2013) have examined assurance statement quality and have concluded that accountants seem to be more expert at performing assurance procedures at a reasonable level, and that accountants are also highly skilled in the professional skepticism and independence required to adequately complete the task.

Based on signaling theory, firms tend to choose accountants (auditors) to assure their CSR reports to demonstrate the reliability of the firm (Connelly et al., 2011; Cheng et al., 2015). According to Simnett et al. (2009), because accountants are highly-skilled and independent, accountants are more highly trusted by the community than are consultants.

However, several studies failed to demonstrate evidence that assurances provided by accountants improve assurance quality (Moroney et al., 2012). Perego and Kolk (2012) examined the quality of assurance statements by using content analysis, and found that accountants and consultants (i.e. environmental specialists) utilize different scores for different criteria. Consultants provide better recommendations and conclusions, while accountants more effectively treat report format and procedures. Likewise, Clarkson et al. (2015) failed to demonstrate evidence that the type of

assurance provider plays a role in investors' decision-making processes. Ferguson and Pündrich (2015) examined market reactions to the non-financial assurances provided by consultants (non-accountants). These results show evidence of the value of assurances provided by specialist consultants for non-financial information (i.e. environmental reserve disclosures). However, they found weak evidence of greater abnormal returns when environmental reserve disclosures were provided by specialists.

The value-relevance of assurance providers to a firm's market value remains ambiguous. The outcome is ultimately an empirical question, and for this reason, this research examines whether the type of provider (accounting professional vs. consultant) is value relevant to a firm's market value. We expect to find that investors value the assurances provided by accounting professionals more highly than those provided by consultants. The hypothesis is stated as follows:

H4: Among the firms with CSR assurance, type of assurance providers will relate to the firm's market value.

RQ5: Do investors give more value to the higher level of assurance?

According to the survey research performed by Radley Yeldar, investors and analysts do not rely heavily on the content of limited assurance statements when it is in negative form. They rely more heavily on assurance statements with a positive form (i.e. the reasonable assurance of ISAE 3000 and the high level assurance of AA1000AS).

Zorio et al. (2013) examined assurance statement quality and discovered that the assurance standard is one factor that affects assurance statement quality. The AA1000AS standard may be adopted by both accountants and consultants. By contrast, the ISAE3000 standard can be adopted only by accountants, or by external auditors. According to AA1000AS, CSR reports can be assured at two levels: a high level and a moderate level. For ISAE3000, assurance can be also provided at two levels: a reasonable level and a limited level. The reasonable level of assurance requires extensive evidence-gathering procedures, so the reasonable level provides a higher

quality of assurance than do the other levels of assurance. The level of assurance varies with the level of audit risk used to design the procedures. A higher level of assurance results in a lower risk level; therefore, it provides a higher level of confidence for investors (AccountAbility, 2008). Simnett et al. (2009) and Zorio et al. (2013) revealed that the level of assurance is associated with assurance statement quality.

However, the association between the level of assurance of CSR reports and a firm's market value is still unconfirmed. Therefore, this research examines whether the level of assurance (reasonable/high versus limited/moderate) is value relevant to a firm's market value. The hypothesis is stated as follow:

H5: Among the firms with CSR assurance, level of assurance will relate to the firm's market value.

Table 6: Summary of research questions and hypotheses

Research Question	Hypothesis (null form for H1, H2, H3, H5)
RQ1: Does CSR disclosure provide value relevance to the firm's market value?	H1: Among the firms listed in FTSE, CSR disclosure will relate to the firm's market value.
RQ2: Does assurance statement enhance the value relevance of CSR disclosure to the firm's market value?	H2: Among the firms with CSR disclosure, CSR report with assurance statement will relate to the firm's market value.
RQ3: Do investors give value to the content in assurance statement?	H3: Among the firms with CSR assurance, content of assurance statement will relate to the firm's market value.
RQ4: Do investors give value to the assurance provided by accounting profession rather than consultants?	H4: Among the firms with CSR assurance, type of assurance providers will relate to the firm's market value.
RQ5: Do investors give more value to the higher level of assurance?	H5: Among the firms with CSR assurance, level of assurance will relate to the firm's market value.

CHAPTER 3: RESEARCH DESIGN

3.1 SAMPLE SELECTION

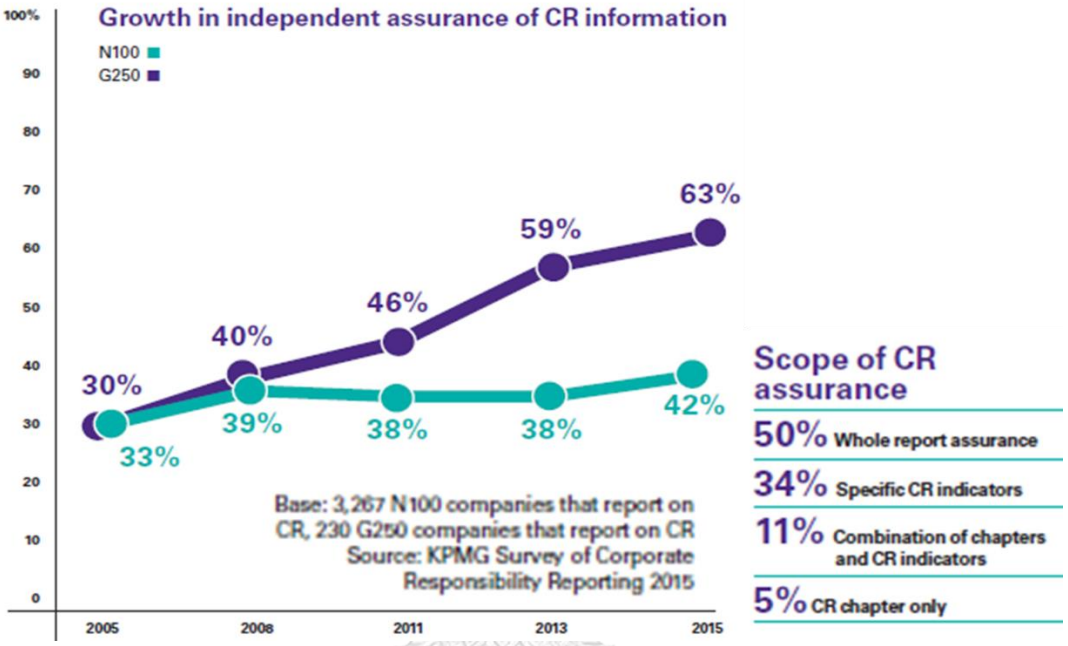

Figure 4: The KPMG survey of Corporate Responsibility Reporting 2015

According to the GRI survey (2013) and the KPMG survey (2015), the trend of commissioning assurances for CSR information has increased significantly since 2011. Figure 4 presents the KPMG survey of Corporate Responsibility Reporting 2015 which revealed that the percentage of assurances increased from 59% in 2013 to 63% in 2015 for G250 companies[4], and increased from 38% in 2013 to 42% in 2015 for N100 companies[5]. In addition, 50% of companies with external assurance assure the entire report. Therefore, this research aims to study the CSR and its assurances between the years 2011 and 2015, which will prove both interesting and appropriate.

[4] 250 largest companies based on Fortune Global 500 ranked by total revenue

[5] Top 100 companies from each of 34 countries

The initial sample used in this research consists of all firms listed in the London Stock Exchange Market (FTSE) from 2011 to 2015. This research uses a sample from the FTSE market because the FTSE motivates the listed firms to prepare and disclose a separate CSR report. In addition, over half of firms listed in the FTSE are the firms incorporated in the United Kingdom which is a leader in corporate social responsibility. Moreover, the AA1000 Assurance Standard, which is one standard examined in this study, is based in the United Kingdom.

Data for dependent variables and control variables were obtained from DataStream. Independent variables (i.e. CSR reports, assurance statements, assurance providers, and levels of assurance) were hand-collected from information disclosed on companies' website.

3.2 VALUE RELEVANCE MODEL

Accounting information for both financial and non-financial information will be value-relevant if it captures information that affects the total value of a firm's stocks. Like several previous studies (Xu et al., 2007; Al Jifri and Citron, 2009; and Bose et al., 2015), this research uses the Ohlson (1995) Model to examine the value-relevance of CSR reports and assurances.

Ohlson (1995) developed the residual income valuation model. Ohlson argues that market value is a function of accounting information from financial statements. His first assumption is that market value is the net present value of all future dividends. His second assumption is that all changes in book value are incorporated as either earnings or dividends. His last assumption relates to the behavior of abnormal earnings. This model assumes that abnormal earnings exist only temporarily, and will disappear over time. Earnings below normal earnings will dissolve when a firm leaves the market, and any above-normal earnings will reduce due to competition. In summary, this model demonstrates that market value (stock price) is determined by book value, current earnings, and other information that affects a firm's market value.

Ohlson's model is generally applied to demonstrate the effects of other accounting information that also affects a firm's market value (stock price).

The theoretical model of Ohlson (1995) is as follow:

$P_t = \alpha_0 + \beta_1 BV_t + \beta_2 e_t + \beta_3 (Other\ information) + \varepsilon_t$

where

P_t = market value, or price, of equity at date *t*

BV_t = book value at date *t*

e_t = earnings (net income) for the period (*t*-1, *t*)

$Other\ information$ = other information which affects the market value

ε_t = error term

3.2.1 Model for testing hypothesis 1 (H1)

To test the association between the CSR disclosure and a firm's market value, this research drew on an empirical version of Ohlson (1995) model. The model used in this research relates a firm's market value four months after the end of year to the book value of equity and earnings of the year. The factor "CSR" (issuing separate CSR report) and "ANNU" (the disclosure of CSR information in annual report) are added to the model as other information which affect a firm's market value. The model for hypothesis testing is expressed as follow:

$$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 CSR_{it} + \beta_4 ANNU_{it} + \beta_5 (Control\ V) + \varepsilon_{it} \quad (1)$$

where

MV_{it+4} = the market value four months after the end of year t of firm i

BV_{it} = book value of firm i at the end of year t

e_{it} = net earnings of firm i for year t

CSR_{it} = scale as 1 if firm i issue CSR report in year t

$ANNU_{it}$ = scale as 1 if firm i include CSR information in annual report in year t

$Control\ V.$ = set of control variables

ε_{it} = error term

The coefficient of CSR and ANNU are expected to be significant and positive.

3.2.2 Model for testing hypotheses 2 and 3 (H2 and H3)

To test the association between the assurance statement and a firm's market value (H2), the factor ASSUR (the issuance of an assurance statement) was added to the Ohlson model as other information which might affect a firm's market value. This hypothesis (H2) is tested using the sub-sample, only the firms disclosed CSR information. The model for hypothesis testing is expressed as follow:

$$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 ASSUR_{it} + \beta_4 (Control\ V)_{it} + \varepsilon_{it} \quad (2)$$

where

MV_{it+4} = the market value four months after the end of year t of firm i

BV_{it} = book value of firm i at the end of year t

e_{it} = net earnings of firm i for year t

$ASSUR_{it}$ = dummy variable, equal to 1 if firm i issue assurance statement in year t

$Control\ V.$ = set of control variables

ε_{it} = error term

The coefficient of the ASSUR term is expected to be significant and positive.

To test H3, the factor ASSUR_CONT, which is the quantitative variable measured as scores from the content analysis of assurance statements (content scores), was added to the model as other information. This hypothesis (H3) is tested using the sub-sample, only the firms disclosed assurance statements. The model for hypothesis testing is expressed as follow:

$$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 ASSUR\_CONT_{it} + \beta_4 (Control\ V)_{it} + \varepsilon_{it} \quad (3)$$

where

MV_{it+4} = the market value four months after the end of year t of firm i

BV_{it} = book value of firm i at the end of year t

e_{it} = net earnings of firm i for year t

$ASSUR\_CONT_{it}$ = content scores of firm i in year t

$Control\ V.$ = set of control variables

ε_{it} = error term

The coefficient of the ASSUR_CONT term is expected to be significant and positive.

3.2.3 Model for testing hypotheses 4 and 5 (H4 and H5)

To test the association between assurance attributes (i.e. assurance providers and level of assurance) and a firm's market value, the factor "PROV" was added as assurance providers for H4, and "LEVEL" was added as the level of assurance for H5 into the Ohlson model as other information which affects market value. These hypotheses (H4 and H5) are tested using the sub-sample, only the firms disclosed assurance statements. The models for hypotheses testing are expressed as follow:

For H4: $MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 PROV_{it} + \beta_4 Control\, V_{it} + \varepsilon_{it}$ (4)

For H5: $MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 LEVEL_{it} + \beta_4 Control\, V_{it} + \varepsilon_{it}$ (5)

where

MV_{it+4} = the market value four months after the end of year t of firm i

BV_{it} = book value of firm i at the end of year t

e_{it} = net earnings of firm i for year t

$PROV_{it}$ = dummy variable, equal to 1 if firm i use accountant as assurance provider in year t

$LEVEL_{it}$ = dummy variable, equal to 1 if firm i use reasonable or high level of assurance in year t

$Control\ V.$ = set of control variables

ε_{it} = error term

The coefficient of PROV and LEVEL are expected to be significant and positive.

Table 7: Summary of hypotheses, models and predicted results

Hypothesis (null form for H1, H2, H3, H5)	Model	Predicted result for variable coefficient
H1: Among the firms listed in FTSE, CSR disclosure will relate to the firm's market value.	$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 CSR_{it} + \beta_4 ANNU_{it} + \beta_5 (Control\ V) + \varepsilon_{it}$	Coefficient of CSR and ANNU are expected to be significant and positive.
H2: Among the firms with CSR disclosure, assurance statement will relate to the firm's market value.	$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 ASSUR_{it} + \beta_4 (Control\ V)_{it} + \varepsilon_{it}$	Coefficient of ASSUR is expected to be significant and positive.
H3: Among the firms with CSR assurance, content of assurance statement will relate to the firm's market value.	$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 ASSUR\_CONT_{it} + \beta_4 (Control\ V)_{it} + \varepsilon_{it}$	Coefficient of ASSUR_CONT is expected to be significant and positive.
H4: Among the firms with CSR assurance, type of assurance providers will relate to the firm's market value.	$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 PROV_{it} + \beta_4 Control\ V_{it} + \varepsilon_{it}$	Coefficient of PROV is expected to be significant and positive.
H5: Among the firms with CSR assurance, level of assurance will relate to the firm's market value.	$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 LEVEL_{it} + \beta_4 Control\ V_{it} + \varepsilon_{it}$	Coefficient of LEVEL is expected to be significant and positive.

3.3 VARIABLES MEASUREMENT

3.3.1 Dependent variable

Dependent variable of all models (model 1 to model 5) is log value of the firm's market value four months after the end of the fiscal year. According to the "Disclosure Guidance and Transparency Rules Sourcebook," also called the FCA handbook, the firms listed in the London Stock Exchange main market "must make public [the] annual financial report at the latest four months after the end of each financial year" (4.1.3). Therefore, using the market value four months after the end of the fiscal year ensures that CSR reports are available to investors, and that this information can be reflected in company valuation (Xu et al., 2007; Al Jifri and Citron, 2009; Berthelot et al., 2012). The market value of all firm-years can be collected from DataStream.

3.3.2 Independent variables

- Measurement of book value (BV) and earnings (e)

Book value and earnings (net income) are required to include in Ohlson's model. The term "BV" in this research is the log value of the firm's book value at the end of the year and term "e" is log value of the firm's net earnings for the year, which can be collected from DataStream.

- Measurement of CSR disclosure in separate reports (CSR)

The separate CSR report is also variably called the sustainability report, the sustainability development report, the corporate responsibility report, and the environmental and social responsibility report (Setthasakko, 2016). Therefore, in this research, this variable is measured as a dummy variable in which the scale value is 1 if a firm issues a separate CSR report (e.g. a sustainability report or a corporate

responsibility report) and the scale value is zero if otherwise. The collection of this variable is hand-collection method.

- Measurement of CSR disclosure included in annual report (ANNU)

Certain companies do not separately disclose CSR report, but rather include the CSR report or CSR information (i.e. policies, performance, and strategies) in their annual report (Setthasakko, 2016). Therefore, in order to investigate whether the disclosure of CSR information by including in annual report provides any value relevance to a firm's market value, this variable is included in the model (1) and measured as a dummy variable in which the scale value is 1 if a firm includes CSR information in an annual report, and the scale value is zero if otherwise. The collection of this variable is hand-collection method.

- Measurement of assurance statements (ASSUR)

To test Hypothesis no.2 (H2), the issuance of assurance statements was measured as a dummy variable, where a score of 1 indicates that the firm adopted an assurance for their CSR report, and a score of 0 indicates otherwise. This is consistent with previous studies (Casey & Grenier, 2015; Cheng et al., 2015; Dhaliwal et. al, 2014; Moroney et al., 2012; Zorio et al., 2013). The collection of this variable is hand-collection method.

- Measurement of content of assurance statements (ASSUR_CONT)

To test Hypothesis no.3 (H3), the content of assurance statements is hand-collection method and measured as quantitative scores using content analysis. This research adopts the coding rules developed by Perego and Kolk (2012)[6] to analyze assurance statement content. However, certain criteria have been revised and added to these coding rules. According to criteria no.17 of Perego and Kolk (2012), which regards the completeness of the assurance statement, the original criteria stipulated

[6] See in Appendix 1

that the assurance must contain a “statement expressing that all material aspects are covered by the report.” To comply with the revised AA1000AS (2008), the description of this criteria was revised in terms of inclusivity, stating that a “statement expressing that the firm accepts its accountability to those on whom it has an impact and to those who have an impact on it” would suffice.

In addition, two criteria have been added to this research. In view of stakeholder-orientation, the recommendations from assurance providers should be comprised of useful information for stakeholders, especially investors, that efficiently support their decision-making processes. Hence, recommendation criteria are included in the content analysis of this research. Assurance statements containing suggestions for the improvement of disclosure quality will be valued at 1 point for recommendations criteria. In terms of report quality, according to the International Standards on Auditing, an auditor should disclose any limitations of the work performed to the users of such a report. For this reason, criteria of limitation is included in the content analysis of this research. If an assurance statement indicated any limitations, restrictions, or drawbacks that might hinder the quality of the assurance statement, such statements will be valued at 1 point for limitations criteria. The coding rules use in this study are as below table:

Table 8: Coding rules for the content analysis, adapted from Perego, P., & Kolk, A. (2012):

Ranking criteria	Definition	Scale (Total = 29 points)
1. Title	Title of the assurance statement	0 No reference
		1 Reference
2. Addressee	Party to whom the assurance statement is formally addressed (either in title separate addressee line or within text)	0 No reference
		1 Addressee is internal or ''the readers''
		2 Stakeholder mentioned in the addressee
3. Name of assuror	Name of the firm that conducts the assurance engagement	0 No reference
		1 Reference
4. Location of assuror	Location of the office of the assurance provider	0 No reference
		1 Reference
5. Report date	Reference to the date at which the assurance exercise was finished	0 No reference
		1 Reference
6. Responsibilities of reporter	Explicit statement that reporter is responsible for preparation of report (keywords: responsible, responsibility)	0 No reference
		1 Reference
7. Responsibilities of assuror	Explicit statement that the reporter is responsible to express an (independent) opinion on the subject matter (the sustainability/environmental/social report)	0 No reference
		1 Reference

Ranking criteria	Definition	Scale (Total = 29 points)
8. Independence of assuror from reporting organization	Statement expressing the independence of the two parties involved (a 1 is assigned as soon as the word(s) independent or independence appear anywhere in the assurance statement or its title. Thus, remarks such as ‘‘this is an independent opinion...’’ already qualifies for a 1)	0 No reference
		1 Reference or mere statement expressing that independence can be looked up on the internet
9. Impartiality of assuror towards stakeholders	Assuror’s declaration of impartiality with respect to stakeholder interests	0 No reference
		1 Reference (a remark that such a declaration can be made available on request or reference to an internet site already qualifies for a 1)
10. Scope of the assurance engagement	Assurance statement coverage (a 1 is assigned if anywhere in the assurance statement the coverage of the assurance exercise is stated)	0 No reference
		1 Reference
11. Objective of the assurance engagement	Objective to be achieved through the engagement (indicating the level of assurance intended)	0 No reference
		1 Review, limited assurance, moderate assurance, independent opinion, independent assurance, external verification, external assurance or validation
		2 Reasonable Assurance or reasonable and limited assurance (e.g., two different levels of assurance for different parts of the report) or high level of assurance

Ranking criteria	Definition	Scale (Total = 29 points)
12. Competencies of assuror	Description of the professional skills that enable the engagement team to conduct the assurance exercise	0 No reference
		1 Statement claiming competency (but no explanatory note) or mere reference to an internet site
		2 Explanatory statement of competencies based on prior experience/engagements
13. Criteria used to asses evidence and reach conclusion	A statement that makes reference to particular criteria against which the sustainability report has been prepared (e.g. GRI and often internally developed standards)	0 No reference
		1 Reference to publicly unavailable criteria
		2 Reference to publicly available criteria (e.g., internally developed criteria that are published anywhere in the report or GRI)
14. Assurance standard used	Standards used which govern the work of the assurance provider (e.g. AA1000AS or ISAE3000)	0 No reference
		1 Reference to publicly unavailable criteria
		2 Reference to publicly available criteria
15. Summary of work performed	Statement explaining the actions taken to arrive at a conclusion	0 No reference
		1 Reference

Ranking criteria	Definition	Scale (Total = 29 points)
16. Materiality (from a stakeholder perspective)	Degree of information provision on materiality level. If the conclusion states that the report is in conformance with the AA1000 principles (Materiality, completeness, and responsiveness) this qualifies for a reference and thus a 1 is assigned	0 No reference
		1 Reference limited to a broad statement (e.g. ''covers all material aspects'' or ''...in all material respects...'') but also negative statements claiming that assuror has not undertaken any work to confirm that all relevant/ material issues are included
		2 Reference and explanation of materiality setting or reference limited to a broad statement and stakeholder perspective introduced (e.g. ''issues material to stakeholders have been considered'')
		3 Reference, explanation of materiality setting and stakeholder perspective introduced
17. Inclusivity	Statement expressing that the firm accepts its accountability to those on whom it has an impact and to those who have an impact on it	0 No reference
		1 Reference
18. Responsiveness to stakeholders	Statement referring to the organization's procedures (or lack of them) for identifying stakeholder interests and concerns.	0 No reference
		1 Reference

Ranking criteria	Definition	Scale (Total = 29 points)
19. General conclusion/opinion	Statement expressing the result of the assurance exercise.	0 No reference
		1 Mere statement expressing the opinion of the assuror (e.g., ‘‘XY’s report is a fair presentation of XY’s CSR performance’’). A 1 is assigned only if the conclusion consists only of one sentence
		2 Explanatory statement (more than one sentence, but recommendations for improvement are not considered part of the conclusion)
Criteria No.20 and No.21 are added for this study, as follow:		
20. Recommendations	Description of any suggestions raised to the management to improve the quality of their disclosure	0 No reference
		1 Reference
21. Limitations	Description of limitations, restrictions and drawbacks that may hinder the quality of the assurance engagement	0 No reference
		1 Reference

- Measurement of assurance providers (H4)

The type of assurance provider was assigned as a dummy variable in which a score of 1 represents accountants and a score of 0 represents consultants or specialists. This is consistent with previous studies (Brown-Liburd et al., 2015; Hodge et al., 2009). The collection of this variable is hand-collection method.

- Measurement of level of assurance (H5)

The level of assurance was assigned as a dummy variable in which a score of 1 represents a reasonable or high level of assurance, and a score of 0 represents a limited or moderate level of assurance. Similar to that measuring the type of assurance provider, this measurement is consistent with previous studies (Brown-Liburd et al., 2015; Hodge et al., 2009). The collection of this variable is hand-collection method.

3.3.3 Control variables

Following the previous literature on the value-relevance of financial and non-financial information, additional variables are added in this study as control variables.

- Leverage (LEV)

Leverage is calculated from an organization's total debt divided by its total assets at the end of the fiscal year. This variable is one of the most common control variables used in finance research (Cahan et al., 2015; Guidry and Patten, 2012; Roll et al., 2009). Firms with higher leverage have increased cash flows and, as a result, increased firm value. Therefore, leverage is included as a control variable for all models in this research, which can be collected from DataStream.

- Environmental, social and governance rating (ESG)[7]

The ESG rating is assessed by the FTSE Russell[8] for which the score ranges from 0.1 to 100, which measures the overall quality of a company's management of environmental, social, and governance issues. Investors also value the quality of CSR activities, rather than only the disclosure of CSR information, and CSR activities primarily consist of policies and performance related to the environment, social responsibilities, and governance. Therefore, this rating is included as a control variable. The ESG rating can be collected from DataStream.

- Independence of assurance provider (INDEP)

According to the auditing literature, the independence of external auditors received significant attention from investors after the Enron case, which demonstrated the lack of independence of so-called independent auditors (Tepalagul and Lin, 2015). In addition, investors grew concerned about the independence of auditors who also provide non-audit services to their clients (DeFond et al., 2002; Tepalagul and Lin, 2015). As a result, the independence of assurance providers is added as a control variable only for the model testing of Hypothesis 4, which involved the type of assurance providers. The score is equal to 1 if the financial statement auditor and CSR assurance provider are not the same firm. The collection of financial statement auditor and CSR assurance provider is hand-collection method.

[7] See Appendix 2 for the ESG index structure

[8] FTSE Russell is a unit of London Stock Exchange Group's (LSEG) information Services Division. FTSE Russell is a major provider of data solutions, from top down economic and demographic information, to detailed equity, debt and sustainability fundamental data analysis, to corporations, financial institutions, business academics and reference libraries.

- Industry (INDUS)

Some industries (i.e. companies in the oil and energy or mining industries) are sensitive to environmental issues, which comprise a part of CSR activities. Firms in these industries trend to disclose more information regarding CSR, especially regarding environmental policies and performance. As a result, this variable is included in this research as a dummy variable for which a score of 1 represents that a firm operates in the oil and energy industry or the mining industry. This is consistent with prior studies (e.g. Cho and Patten, 2007; Lourenco, 2011). A score of zero indicates that a firm does not operate in the oil and energy or mining industries. Industry information can be collected from DataStream.

Table 9: Summary of variables and sources of data collection

Variable	Definition	Source
Market value (MV)	the market value four months after the end of year	DataStream
Book value (BV)	the book value as of the end of the year	DataStream
Current earnings (e)	net earnings for the year	DataStream
CSR report (CSR)	scale as 1 if firm i issue CSR report in year t	Hand-collection
Annual Report (ANNU)	scale as 1 if firm i include CSR information in annual report in year t	Hand-collection
Assurance statement (ASSUR)	dummy variable which is equal to 1 if the firm has assurance statement for CSR report	Hand-collection
Content of assurance statement (ASSUR_CONT)	quantitative scores using the content analysis of assurance statement	Hand-collection, using content analysis to calculate scores
Assurance provider (PROV)	dummy variable which is equal to 1 if accountant is the assurance provider	Hand-collection
Level of assurance (LEVEL)	dummy variable which is equal to 1 if level of assurance is reasonable level or high level	Hand-collection
Leverage (LEV)	end-of-year total debt divided by end-of-year total assets	DataStream
Environmental, social and governance rating (ESG)	ESG rating score for the firms listed in FTSE main market, which evaluated by FTSE Russell	FTSE Russell website
Independence of assurance provider (INDEP)	dummy variable which is equal to 1 if the financial statement auditor and CSR assurance provider is not the same firm. (only for model testing of Hypothesis 4)	Hand-collection
Industry (INDUS)	dummy variable which is equal to 1 if the firm is in the environmental concerned industries (i.e. oil and energy industry, mining industry)	FTSE website, DataStream

CHAPTER 4: EMPIRICAL RESULTS

4.1 SAMPLE DESCRIPTION

Table 10: Sample Description

Panel A – Sample Selection of London Stock Exchange Market Firms from 2011 to 2015

Number of firm-years	2011	2012	2013	2014	2015	Total	%
Initial sample [1]	569	569	569	569	569	2,845	100%
Less							
Outliers	(14)	(16)	(14)	(36)	(13)	(93)	3%
Sample with unavailable / incomplete data	(282)	(128)	(131)	(130)	(118)	(789)	28%
Final sample	273	425	424	403	438	1,963	69%

Panel B – Sample Breakdown

Item	Description	2011	2012	2013	2014	2015	Total	%
CSR	Issue CSR Report	88	113	118	127	126	572	29%
Disclosure	Include in Annual Report	138	205	213	203	223	982	50%
	Total disclosed firms	226	318	331	330	349	1,554	79%
	None	47	107	93	73	89	409	21%
	Total sample	273	425	424	403	438	1,963	100%
Assurance	Assured	34	42	47	49	50	222	14%
	Not assured	192	276	284	281	299	1,332	86%
	Total disclosed firms	226	318	331	330	349	1,554	100%

[1] Samples consisted of the survival firms listed in London Stock Exchange Market from 2011 through 2015, excluded firms entered London Stock Exchange Market during 2011 to 2015.

Table 10 presents the detail of the study samples. Panel A presents a summary of how the final sample of this research was obtained. Starting with 2,845 firm-years, 93 firm-years or 3% of the initial sample were considered as the outliers[9] and removed. The 28% of the initial sample or 789 firm-years were further eliminated due to unavailable disclosure in company's website or incomplete financial data collected from DataStream. The final sample consists of 1,963 firm-years or 69% of the initial sample.

Panel B presents the sample breakdown, of a total 1,963 firm-years for the period of 2011-2015, approximately 79% and 21% provided CSR disclosure and non-disclosure for their CSR information, respectively. The proportion of CSR disclosure with assurance statement of the sampled firms, on average, is 14%, suggesting that firms prefer disclosing CSR information with non-assurance. Therefore, it is interesting to examine the role of assurance on how it provides any value relevance to firm market value.

4.2 DESCRIPTIVE STATISTIC

Table 11 presents the descriptive statistics of the quantitative variables. Panel A presents the number of firm-years, minimum amount, maximum amount, mean, and standard deviation of variables used in hypothesis 1. The number of firm-years for testing hypothesis 1 equals to 1,963 samples which are the survival firms listed in London Stock Exchange Market from 2011 through 2015, excluded firms entered London Stock Exchange Market during 2011 to 2015.

[9] Using R-student residuals to detect outliers

Panel B presents the number of firm-years, minimum amount, maximum amount, mean, and standard deviation of variables used in hypothesis 2. The number of firm-years for testing hypothesis 2 equals to 1,554 samples which are the firms voluntarily disclosed CSR information.

Panel C presents the number of firm-years, minimum amount, maximum amount, mean, and standard deviation of variables used in hypothesis 3, 4, and 5. The number of firm-years for testing these hypotheses equals to 222 samples which are the firms voluntarily provided assurance on their CSR disclosure. The average assurance content score (ASSUR_CONT) is 16.78 (out of 29.00) which is approximately 58% of total scores, suggesting that the average scores are over half of the total scores.

Another interesting point is that the average value of ESG rating for the firms disclosing CSR information and firms having CSR assurance is 53.58 and 78.54 (out of 100.00), respectively. This score measures the overall quality of a company's management of environmental, social, and governance issues. Thus, the high average score suggests that the voluntary firms having assurance for their CSR disclosure are the firms focused in their management performance of environment, social, and governance. This current research has thus treated ESG rating as a control variable.

Table 11: Descriptive statistics

Panel A: Variables for Hypothesis 1 - Full sample

Variable	N	Min	Max	Mean	SD
MV (pound)	1,963	-0.82	7.09	3.03	0.99
BV (pound)	1,963	0	9.93	5.80	1.03
e (pound)	1,963	0	9.03	4.18	2.05
LEV (times)	1,963	0	1.59	0.23	0.18
ESG (scores)	1,963	0	96.64	49.01	37.57

Panel B: Variables for Hypothesis 2 - Firms disclosed CSR information

Variable	N	Min	Max	Mean	SD
MV (pound)	1,554	-0.82	7.09	3.11	0.91
BV (pound)	1,554	0	9.93	5.84	0.97
e (pound)	1,554	0	9.03	4.23	2.03
LEV (times)	1,554	0	1.59	0.23	0.18
ESG (scores)	1,554	0	96.46	53.58	36.18

Panel C: Variables for Hypothesis 3, 4, 5 - Firms disclosed CSR Assurance Statement

Variable	N	Min	Max	Mean	SD
MV (pound)	222	1.8	7.09	3.84	0.76
BV (pound)	222	4.19	9.93	6.60	0.82
e (pound)	222	0	9.03	4.72	2.27
ASSUR_CONT (scores)	222	4	23	16.78	3.46
LEV (times)	222	0	0.67	0.28	0.13
ESG (scores)	222	0	96.46	78.54	26.40

Where:

MV = Log value of market value four months after the end of year t of firm i.

BV = Log value of book value of firm i at the end of year t.

e = Log value of net earnings of firm i for year t.

LEV = Leverage of firm i for year t measured by end-of-year total debt divided by end-of-year total assets.

ESG = ESG rating score of firm i for year t, which evaluated by FTSE Russell.

4.3 PAIRWISE CORRELATIONS BETWEEN VARIABLES

Table 12 presents the Pearson and Spearman correlation coefficients between variables which are respectively presented above and below the diagonal line. It could be observed that the market value and book value, and the market value and earnings are correlated by large magnitudes. The results are attributable to the fact that book value and earnings of a firm are relevant to its market value, implying that investors give value to a firm's book value and earnings which is consistent with the value relevance concept of Ohlson's model used in this research. Nonetheless, the correlations between independent variables are below 0.80 and thereby the correlation tests are satisfactory (Gujarati, 2009).

Panel A shows the Pearson and Spearman correlation coefficients between variables in Model 1 (Hypothesis 1). It could be observed that most variables are correlated by low and medium magnitudes, except for the correlation between book value and earnings of 0.500-0.716 could contribute to the multicollinearity problem. However, both variables are not excluded from the models which have been derived from Ohlson's model. The significant positive correlation between disclosure of CSR report (CSR) and firms' market value (MV) provides initial support for hypothesis 1. However, correlation between disclosure of CSR information in annual report (ANNU) and firms' market value (MV) is significant negative. This initially means that the disclosure of CSR information in annual report and firms' market value has association which needed further regression analysis to investigate the association.

Panel B shows the Pearson and Spearman correlation coefficients between variables in Model 2 (Hypothesis 2). The significant positive correlation between assurance (ASSUR) and firms' market value (MV) provides initial support for hypothesis 2.

Panel C shows the Pearson and Spearman correlation coefficients between variables in Model 3, 4, and 5 (Hypothesis 3, 4, and 5). The correlation results of variables are same as the results of Panel A and B described above. The additional variables in Panel C are assurance content score variable (ASSUR_CONT) which is the variable used for testing hypothesis 3, assurance provider (PROV) which is the variable used for testing hypothesis 4 and level of assurance (LEVEL) which is the variable used for testing hypothesis 5. However, this variable is correlated by low magnitudes with other variables. The significant positive correlation between assurance content score (ASSUR_CONT) and firms' market value (MV) provides initial support for hypothesis 3 and the significant positive correlation between assurance provider (PROV) and firms' market value (MV) provides initial support for hypothesis 4. However, the correlation between level of assurance (LEVEL) and firms' market value (MV) is not significant.

Moreover, a variance inflation factor (VIF) is tested to detect multicollinearity. As a rule of thumb, a VIF greater than ten suggests that the regressor variables are highly correlated. This study finds that the VIFs of the regressor variable in each model do not exceed the cut-off point (ten), suggesting that multicollinearity among the regressor variables is not strong in this data set.

Table 12: Pearson and Spearman Correlation Coefficients between Variables

$$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 CSR_{it} + \beta_4 ANNU_{it} + \beta_5 (Control\ V) + \varepsilon_{it} \quad (1)$$

$$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 ASSUR_{it} + \beta_4 (Control\ V)_{it} + \varepsilon_{it} \quad (2)$$

$$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 ASSUR\_CONT_{it} + \beta_4 (Control\ V)_{it} + \varepsilon_{it} \quad (3)$$

$$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 PROV_{it} + \beta_4 Control\ V_{it} + \varepsilon_{it} \quad (4)$$

$$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 LEVEL_{it} + \beta_4 Control\ V_{it} + \varepsilon_{it} \quad (5)$$

Panel A: Pearson (Upper Triangle) and Spearman (Lower Triangle) Correlation of Model 1

	MV	BV	e	CSR	ANNU	LEV	ESG	INDUS
N	1,963	1,963	1,963	1,963	1,963	1,963	1,963	1,963
MV		0.864**	0.609**	0.377**	-0.210**	0.085**	0.618**	0.049*
BV	0.859**		0.500**	0.373**	-0.265**	0.068**	0.464**	0.105**
e	0.793**	0.716**		0.176**	-0.123**	-0.042	0.352**	-0.071**
CSR	0.381**	0.390**	0.275**		-0.642**	0.051*	0.347**	0.073**
ANNU	-0.238**	-0.282**	-0.201**	-0.642**		-0.034	-0.123**	-0.010
LEV	0.161**	0.202**	0.098**	0.093**	-0.063**		0.057*	-0.104**
ESG	0.690**	0.576**	0.515**	0.368**	-0.163**	0.118**		0.038
INDUS	0.038	0.091**	-0.022	0.073**	-0.010	-0.113**	0.024	

Panel B: Pearson (Upper Triangle) and Spearman (Lower Triangle) Correlation of Model 2

	MV	BV	e	ASSUR	LEV	ESG	INDUS
N	1,554	1,554	1,554	1,554	1,554	1,554	1,554
MV		0.853**	0.577**	0.327**	0.097**	0.596**	0.028
BV	0.846**		0.454**	0.322**	0.076**	0.461**	0.109**
e	0.781**	0.693**		0.099**	-0.024	0.327**	-0.085**
ASSUR	0.342**	0.354**	0.213**		0.122**	0.282**	0.075**
LEV	0.181**	0.208**	0.125**	0.171**		0.060*	-0.139**
ESG	0.665**	0.562**	0.498**	0.334**	0.111**		0.020
INDUS	0.023	0.090**	-0.032	0.075**	-0.149**	0.005	

Panel C: Pearson (Upper Triangle) and Spearman (Lower Triangle) Correlation of Model 3, 4, 5

	MV	BV	e	ASSUR CONT	PROV	LEVEL	LEV	ESG	IND	INDUS
N	222	222	222	222	222	222	222	222	222	222
MV		0.845**	0.386**	0.214**	0.229**	0.043	-0.012	0.386**	0.058	0.074
BV	0.829**		0.198**	0.110	0.148*	0.167*	-0.144*	0.385**	0.038	0.120
e	0.667**	0.550**		-0.071	-0.019	-0.352**	0.041	0.124	0.021	-0.085
ASSUR CONT	0.284**	0.233**	0.048		0.268**	0.159*	0.073	-0.023	0.148*	0.117
PROV	0.202**	0.095	0.036	0.256**		0.066	-0.103	0.193**	0.026	0.186**
LEVEL	0.054	0.187**	-0.244**	0.161*	0.066		-0.057	-0.026	0.062	-0.118
LEV	-0.052	-0.201**	-0.004	0.034	-0.072	-0.103		-0.210**	0.038	-0.134*
ESG	0.412**	0.395**	0.392**	0.190**	0.034	0.017	-0.232**		0.096	0.048
IND	0.024	0.038	0.024	0.142*	0.026	0.062	0.071	0.132*		0.021
INDUS	0.081	0.105	-0.004	0.141*	0.186**	-0.118	-0.146*	-0.092	0.021	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

4.4 REGRESSION ANALYSIS

4.4.1 Main empirical results for H1

Table 13: Results from Ordinary Least Squares (OLS) Regression Examining the Value-Relevance of CSR Disclosure on Firms' Market Value

$$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 CSR_{it} + \beta_4 ANNU + \beta_5 (Control\ V) + \varepsilon_{it} \quad (1)$$

Model	1		
Partition	Full sample		
(Hypothesis)	(H1)		
	Coefficients		P-values
(Constant)	-1.437	***	.000
BV	0.628	***	.000
e	0.098	***	.000
CSR	0.101	***	.000
ANNU	0.093	***	.000
LEV	0.185	***	.000
ESG	0.006	***	.000
INDUS	-0.061		.154
N	1,963		
Adjusted R^2	0.838		

Note: *** significant at the 1% level (2-tailed) ** significant at the 5% level (2-tailed) * significant at the 10% level (2-tailed)

Where:

MV = Log value of market value four months after the end of year t of firm i.

BV = Log value of book value of firm i at the end of year t.

e = Log value of net earnings of firm i for year t.

CSR = 1 if firm i issue CSR report in year t and 0 otherwise.

ANNU = 1 if firm i include CSR information in annual report in year t.

LEV = Leverage of firm i for year t measured by end-of-year total debt divided by end-of-year total assets.

ESG = ESG rating score for firm i in year t, which evaluated by FTSE Russell.

INDUS = 1 if the firm is in the environmental concerned industries (i.e. oil and energy industry, mining industry).

Table 13 shows the regression of Model 1 which presents the effect of CSR disclosure (CSR) on the firm's market value variable (MV). The analysis was performed on full samples (N = 1,963) which represents the full sample. Model 1 yields a very high adjusted R^2 of 0.838 which indicates that 84% of market value (MV) variation can be explained by the model. CSR is a dummy variable, where a score of one indicates that a firm issues CSR report in year t and a score of 0 indicates otherwise. Result shows that coefficient of CSR equals to 0.101 which is positive and significant ($p < .01$). This implies that investors positively value CSR report. In addition, the coefficient of ANNU equals to 0.093 which is also positive and significant ($p < .01$). This reveals that the disclosure of CSR information by including in annual report also provides value-relevance to firm's market value. Therefore, hypothesis 1 is supported.

This is to confirm and add on the results from prior studies of value-relevance of CSR disclosure. Evidence from previous studies demonstrates that CSR disclosure provides useful information to investors (Berthelot et al., 2012; Cahan et al., 2015; Clarkson et al., 2013). In addition, coefficients of other independent variables (i.e. book value, earnings, leverage ratio, and ESG rating) are also positive and significant ($p < .01$).

4.4.2 Main empirical results for H2

Table 14 presents results for Model 2, which shows the effect of assurance statement (ASSUR) on the firm's market value variable (MV). The analysis was performed on sub-sample (N = 1,554) which represents the firm-years with CSR disclosure. CSR disclosure could be a separate CSR report or appeared as a part of the firm's annual report (CSR = 1 and ANNU = 1). Model 2 yields a very high adjusted R^2 of 0.817 which indicates that 82% of market value (MV) variation can be explained by the model. ASSUR is a dummy variable, where a score of one indicates that the firm adopted an assurance for their CSR report, and a score of 0 indicates otherwise. Result shows that coefficient of ASSUR is positive and significant ($p < .01$), which equals 0.084. Therefore, hypothesis 2 is supported. Assurance statement for CSR disclosure tends to have a significant positive impact on firm's market value. This implies that CSR

assurance provides value-relevance for investors. In addition, coefficients of other independent variables (i.e. book value, earnings, leverage ratio, and ESG rating) are also positive and significant ($p < .01$). Industry variable also significant ($p < .05$) but in negative sign.

Table 14: Results from Ordinary Least Squares (OLS) Regression Examining the Value-Relevance of Assurance Statement on Firms' Market Value

$$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 ASSUR_{it} + \beta_4 (Control\ V)_{it} + \varepsilon_{it} \quad (2)$$

Model	2		
Partition	CSR = 1, ANNU = 1		
(Hypothesis)	(H2)		
	Coefficients		P-values
(Constant)	-1.190	***	.000
BV	0.610	***	.000
e	0.093	***	.000
ASSUR	0.084	***	.006
LEV	0.164	***	.004
ESG	0.006	***	.000
INDUS	-0.106		.016
N	1,554		
Adjusted R^2	0.817		

Note: *** significant at the 1% level (2-tailed) ** significant at the 5% level (2-tailed) * significant at the 10% level (2-tailed)

Where:

MV = Log value of market value four months after the end of year t of firm i.

BV = Log value of book value of firm i at the end of year t.

e = Log value of net earnings of firm i for year t.

ASSUR = 1 if firm has assurance statement for CSR report.

LEV = Leverage of firm i for year t measured by end-of-year total debt divided by end-of-year total assets.

ESG = ESG rating score for firm i in year t, which evaluated by FTSE Russell.

INDUS = 1 if the firm is in the environmental concerned industries (i.e. oil and energy industry, mining industry).

4.4.3 Main empirical results for H3, H4 and H5

Table 15: Results from Ordinary Least Squares (OLS) Regression Examining the Value-Relevance of Assurance Contents, Assurance Providers and Level of Assurance on Firms' Market Value

$$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 ASSUR\_CONT_{it} + \beta_4 (Control\ V)_{it} + \varepsilon_{it} \quad (3)$$

$$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 PROV_{it} + \beta_4 Control\ V_{it} + \varepsilon_{it} \quad (4)$$

$$MV_{it+4} = \alpha_0 + \beta_1 BV_{it} + \beta_2 e_{it} + \beta_3 LEVEL_{it} + \beta_4 Control\ V_{it} + \varepsilon_{it} \quad (5)$$

	Panel A			Panel B			Panel C		
Model	3			4			5		
Partition (Hypothesis)	ASSUR = 1 (H3)			ASSUR = 1 (H4)			ASSUR = 1 (H5)		
	Coefficients		P-values	Coefficients		P-values	Coefficients		P-values
(Constant)	-2.089	***	.000	-1.772	***	.000	-1.687	***	.000
BV	0.707	***	.000	0.719	***	.000	0.726	***	.000
e	0.080	***	.000	0.077	***	.000	0.076	***	.000
ASSUR_CONT	0.032	***	.000						
PROV				0.210	***	.000			
LEVEL							0.012		.892
LEV	0.543	***	.003	0.652	***	.001	0.637	***	.001
ESG	0.002	***	.010	0.002	*	.089	0.002	**	.023
IND				0.032		.493			
INDUS	0.009		.909	-0.003		.970	0.049		.561
N	222			222			222		
Adjusted R^2	0.803			0.794			0.781		

Note: *** significant at the 1% level (2-tailed) ** significant at the 5% level (2-tailed) * significant at the 10% level (2-tailed)

Where: MV = Log value of market value four months after the end of year t of firm i.

BV = Log value of book value of firm i at the end of year t.

e = Log value of net earnings of firm i for year t.

ASSUR_CONT = quantitative scores using the content analysis of assurance statement.

PROV = 1 if accounting professional is the assurance provider.

LEVEL = 1 if level of assurance is reasonable level or high level.

LEV = Leverage of firm i for year t measured by end-of-year total debt divided by end-of-year total assets.

ESG = ESG rating score for firm i in year t, which evaluated by FTSE Russell.

IND = if the financial statement auditor and CSR assurance provider is not the same firm.

INDUS = 1 if the firm is in the environmental concerned industries (i.e. oil and energy industry, mining industry).

Table 15 presents results for Model 3, 4 and 5, which shows the effect of assurance contents (ASSUR_CONT), type of assurance providers (PROV) and level of assurance (LEVEL), respectively on the firm's market value variable (MV). The analysis was performed on sub-sample (N = 222) which represents the firm-years of CSR disclosure with assurance statement.

Panel A shows the regression of Model 3 which is the main focus of this research, presenting the effect of the content of assurance statement (ASSUR_CONT) on the firm's market value variable (MV). Model 3 yields a very high adjusted R^2 of 0.803 which indicates that 80% of market value (MV) variation can be explained by the model. ASSUR_CONT is measured as quantitative scores by adopting the coding rules developed by Perego and Kolk (2012) to analyze assurance statement content. The coefficient of ASSUR_CONT equals 0.032 which is positive and significant ($p < .01$). Therefore, hypothesis 3 is supported. This implies that not only the availability of assurance statement (as tested and discussed in H2), the contents of assurance statement also tend to have a significant positive impact on firm's market value. The investors not only value the availability of assurance statements, but that investors also value the content indicated in assurance statement. In addition, coefficients of book value (BV), earnings (e), leverage ratio (LEV) and ESG rating (ESG) are also positive and significant ($p < .01$).

Panel B shows the regression of Model 4, presenting the effect of type of assurance providers (PROV) on the firm's market value variable (MV). Model 4 also yields a very high adjusted R^2 of 0.794 which indicates that 79% of market value (MV) variation can be explained by the model. PROV is a dummy variable, where a score of one indicates that accounting professional is the assurance provider, and a score of 0 indicates otherwise. The coefficient of PROV equals 0.210 which is positive and significant ($p < .01$). Therefore, hypothesis 4 is supported. This is to confirm and add on the results from prior studies of value-relevance of assurance providers. Evidence from previous studies demonstrates that investors more highly value assurance statements provided by accountants who seem to be the leader in the assurance

provider market (Bose et al.,2015; Perego and Kolk, 2012). The result implies that investors positively react to the non-financial assurances provided by accounting professionals, rather than consultants. This is because accounting professionals seem to be more expert at performing assurance procedures at a reasonable level, and are also highly skilled in the professional skepticism and independence required to adequately complete the task (Zorio et al.,2013). In addition, coefficients of book value (BV), earnings (e), and leverage ratio (LEV) are also positive and significant ($p < .01$). Coefficients of ESG rating (ESG) is also positive and significant ($p < .10$).

Panel C shows the regression of Model 5, presenting the effect of the level of assurance statement (LEVEL) on the firm's market value variable (MV). Model 5 yields the adjusted R^2 of 0.781 which indicates that 78% of market value (MV) variation can be explained by the model. Adjusted R^2 of this model seems a bit lower than other models. LEVEL is a dummy variable, where a score of one indicates that the level of assurance is reasonable level (using ISAE3000 standards) or high level (using AA1000 standard), and a score of 0 indicates otherwise. Coefficients of book value (BV), earnings (e), and leverage ratio (LEV) are positive and significant ($p < .01$). Coefficient of and ESG rating (ESG) is also positive and significant ($p < .05$). However, no other significant result is obtained in this research. The coefficient of LEVEL is insignificant. Therefore, hypothesis 5 is not supported. It appears that investors not value the level of assurance used by assurance providers.

CHAPTER 5: CONCLUSION

This research aims to fulfill the gap in research that leaves several questions unanswered regarding the economic consequences of voluntary CSR disclosure and its assurance. Investors have become increasingly aware that annual financial reporting alone cannot provide all salient information about a firm. The primary purpose of financial reporting is to present a firm's financial information but in actuality, non-financial information such as CSR information is also important and useful. However, the disclosure of non-financial information, especially the separate CSR report, is voluntary disclose.

According to agency theory, an assurance is a tool to reduce information asymmetry. Assurance increases the reliability of data relevant to investor decision-making. However, assurance for CSR reporting is also the firm's voluntary. Therefore, this research aims to explore the research on CSR disclosure by emphasizing the role of assurance in increasing the value-relevance of CSR disclosure.

The first research objective is to investigate whether CSR disclosure is relevant to a firm's market value. The result shows that disclosure of CSR information by issuing separate report or including in annual report both provides value-relevance to firm's market value.

Second objective is to investigate whether the availability of assurance statement enhances the relevance of CSR disclosure to a firm's market value. In addition, this research aims to propose that the content of assurance statements provided useful information to investors for their decision-making. Thus, the third objective of this research is to determine whether investors give value to the content in assurance statement. The results reveal that both the availability of assurance statements and the content indicated in assurance statements provided value relevance to the firms' market value. This implied that the assurance enhances value-relevance of CSR disclosure. In addition, investors value substance of CSR assurance statement as well as its form. The results support the assumption of this study by

indicating that assurance is a signal influencing investors' perception. Investors could observe the signaling effect of the role of assurance statement for CSR disclosure.

Furthermore, this research also investigates about the type of assurance providers and the level of assurance. The result shows that type of assurance providers appeared to affect firm's market value. This implies that investors perceive the assurance statement as more valuable when it is provided by accounting professionals (e.g. auditors). However, there is no significant result to reveal the association of level of assurance and firm's market value.

This research contributes to the existing literature regarding the economic consequences of voluntary CSR reporting. The results also provide implications for regulators (i.e. standard-setters) in countries without mandatory CSR reporting and without the assurance of CSR reporting to consider choices regarding which regulatory approach might be best applied to nonfinancial reporting. Additionally, this research also provides implications for assurance providers and standard-setters to collaboratively develop assurance standards for non-financial reporting to increase the quality of assurance statements by improving the contents included in assurance statement.

There are several possible future studies extending from this research. Assurance for voluntary disclosure is currently an under-researched area. This research has provided evidence that assurance statement of CSR disclosure provides value-relevance to a firm's market value. The result also implied that value investors place in the content of assurance statement. In addition, future studies may investigate the association between the quality of assurance statement and assurance fee. However, the fee for CSR assurance is rarely publicly disclosed. Thus, it should be rather qualitative research (e.g. interviewing or surveying) because it may difficult to gather data for quantitative research. Moreover, future research may explore in depth for types of assurance engagements (i.e. integrated assurance, compliance assurance, formative assurance, and social assurance). Lastly, the investigation for value relevance of level of assurance is still unanswered. Contradictory result may be due to the lack

of knowledge regarding the assurance standard for CSR report which is a type of non-financial information. The lack of knowledge leads to the unclear investors' understanding and variation of investors' awareness about the level of assurance used by assurance providers. Future research may explore in depth to investigate and have analysis about the investors' perception and their understanding of assurance standards and the difference of level of assurance, as well as assurance providers and companies' management perspective.

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APPENDICES

Appendix 1: Coding Rules for Content Analysis of Perego, P., & Kolk, A. (2012)

Ranking criteria	Definition	Scale (Total = 27 points)
1. Title	Title of the assurance statement	0 No reference
		1 Reference
2. Addressee	Party to whom the assurance statement is formally addressed (either in title separate addressee line or within text)	0 No reference
		1 Addressee is internal or ''the readers''
		2 Stakeholder mentioned in the addressee
3. Name of assuror	Name of the firm that conducts the assurance engagement	0 No reference
		1 Reference
4. Location of assuror	Location of the office of the assurance provider	0 No reference
		1 Reference
5. Report date	Reference to the date at which the assurance exercise was finished	0 No reference
		1 Reference
6. Responsibilities of reporter	Explicit statement that reporter is responsible for preparation of report (keywords: responsible, responsibility)	0 No reference
		1 Reference
7. Responsibilities of assuror	Explicit statement that the reporter is responsible to express an	0 No reference

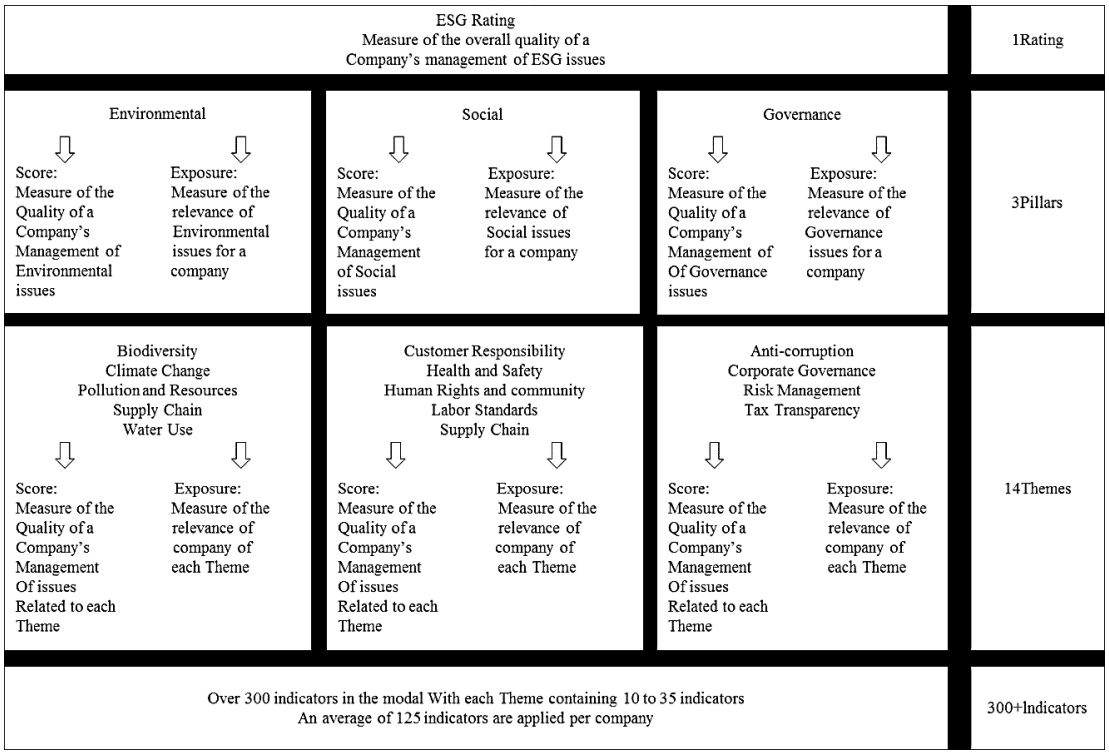
Ranking criteria	Definition	Scale (Total = 27 points)
8. Independence of assuror from reporting organization	Statement expressing the independence of the two parties involved (a 1 is assigned as soon as the word(s) independent or independence appear anywhere in the assurance statement or its title. Thus, remarks such as ''this is an independent opinion...'' already qualifies for a 1)	0 No reference
		1 Reference or mere statement expressing that independence can be looked up on the internet
9. Impartiality of assuror towards stakeholders	Assuror's declaration of impartiality with respect to stakeholder interests	0 No reference
		1 Reference (a remark that such a declaration can be made available on request or reference to an internet site already qualifies for a 1)
10. Scope of the assurance engagement	Assurance statement coverage (a 1 is assigned if anywhere in the assurance statement the coverage of the assurance exercise is stated)	0 No reference
		1 Reference
11. Objective of the assurance engagement	Objective to be achieved through the engagement (indicating the level of assurance intended)	0 No reference
		1 Review, limited assurance, independent opinion, independent assurance, external verification, external assurance or validation
		2 Reasonable Assurance or reasonable and limited assurance (e.g., two different levels of assurance for different parts of the report)
12. Competencies of assuror	Description of the professional skills that enable the engagement team to conduct the assurance exercise	0 No reference
		1 Statement claiming competency (but no explanatory note) or mere reference to an internet site
		2 Explanatory statement of competencies based on prior experience/engagements

Ranking criteria	Definition	Scale (Total = 27 points)
13. Criteria used to asses evidence and reach conclusion	A statement that makes reference to particular criteria against which the sustainability report has been prepared (e.g. GRI and often internally developed standards)	0 No reference
		1 Reference to publicly unavailable criteria
		2 Reference to publicly available criteria (e.g., internally developed criteria that are published anywhere in the report or GRI)
14. Assurance standard used	Standards used which govern the work of the assurance provider (e.g. AA1000AS or ISAE3000)	0 No reference
		1 Reference to publicly unavailable criteria
		2 Reference to publicly available criteria
15. Summary of work performed	Statement explaining the actions taken to arrive at a conclusion	0 No reference
		1 Reference
16. Materiality (from a stakeholder perspective)	Degree of information provision on materiality level. If the conclusion states that the report is in conformance with the AA1000 principles (Materiality, completeness, and responsiveness) this qualifies for a reference and thus a 1 is assigned	0 No reference
		1 Reference limited to a broad statement (e.g. ''covers all material aspects'' or ''...in all material respects...'') but also negative statements claiming that assuror has not undertaken any work to confirm that all relevant/ material issues are included
		2 Reference and explanation of materiality setting or reference limited to a broad statement and stakeholder perspective introduced (e.g. ''issues material to stakeholders have been considered'')
		3 Reference, explanation of materiality setting and stakeholder perspective introduced

Ranking criteria	Definition	Scale (Total = 27 points)
17. Completeness	Statement expressing that all material aspects are covered by the report. If the conclusion states that the report is in conformance with the AA1000 principles (Materiality, completeness, and responsiveness) this qualifies for a reference and thus a 1 is assigned	0 No reference
		1 Reference
18. Responsiveness to stakeholders	Statement referring to the organization's procedures (or lack of them) for identifying stakeholder interests and concerns. If the conclusion states that the report is in conformance with the AA1000 principles (Materiality, completeness. and responsiveness) this qualifies for a reference and thus a 1 is assigned	0 No reference
		1 Reference
19. General conclusion/opinion	Statement expressing the result of the assurance exercise. If there is no general conclusion but the conclusion solely refers to the 3 principles of AA1000 (Materiality, completeness, and responsiveness) a 0 is assigned	0 No reference
		1 Mere statement expressing the opinion of the assuror (e.g., ''XY's report is a fair presentation of XY's CSR performance''). A 1 is assigned only if the conclusion consists only of one sentence
		2 Explanatory statement (more than one sentence, but recommendations for improvement are not considered part of the conclusion)

Appendix 2: ESG Ratings: Data Structure, by FTSE Russell

The ESG Ratings and data model allows investors to understand a company's exposure to, and management of, ESG issues in multiple dimensions. The ESG Ratings are comprised of an overall Rating that breaks down into underlying Pillar and Thematic Exposures and Scores. The Pillars and Themes are built on over 300 individual indicator assessments that are applied to each company's unique circumstances.[10]



[10] Source: ESG Ratings and data model, www.ftserussell.com

Appendix 3: Linear Regression Assumptions

This paper uses ordinary least squares (OLS) or linear regression to test hypotheses. The sample of this study includes 1,963 firm-year observations which provided enough samples and degree of freedom to perform cross-sectional multiple regression analysis for all models. The F-test ANOVA of all regression results are significant at 1% level, confirming the validity of the models. The following assumption tests are performed when regressing all models.

Normality Check

Normality of residuals assures that the p-values for t-test is valid for hypothesis testing. This study uses Standardized Normal Probability Plot (P-P plot) and Normal Q-Q Plot of Unstandardized Residual to illustrate indications of non-normality. Figure 5 to 9 show Standardized Normal P-P Plot for all models and Figure 10 to 14 show Normal Q-Q Plot of all models. The graphs show deviation from normality.

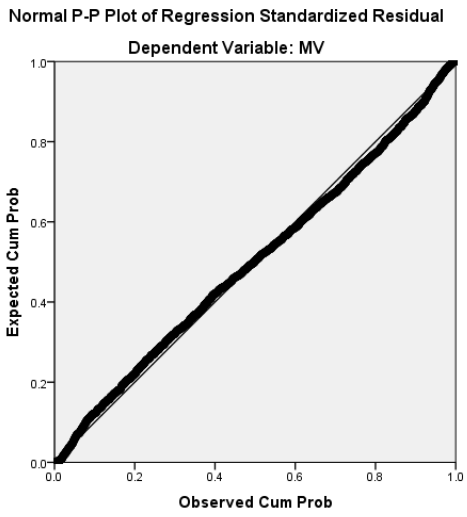


Figure 5: Standardized Normal P-P plots of Model 1

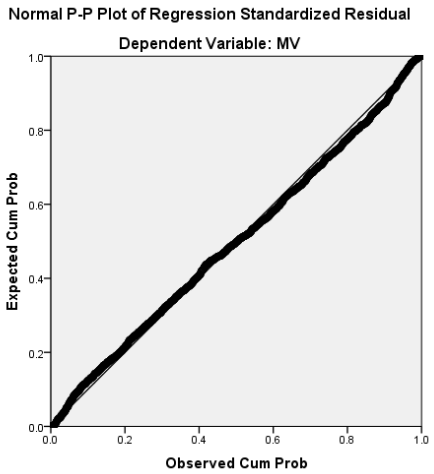


Figure 6: Standardized Normal P-P plots of Model 2

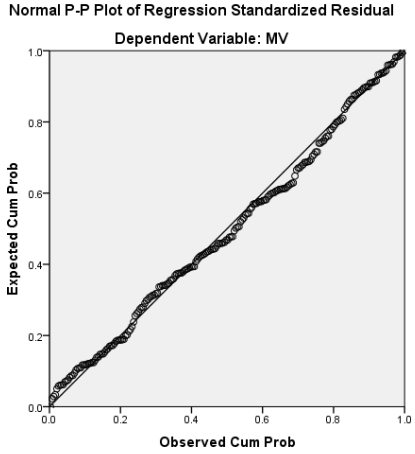


Figure 7: Standardized Normal P-P plots of Model 3

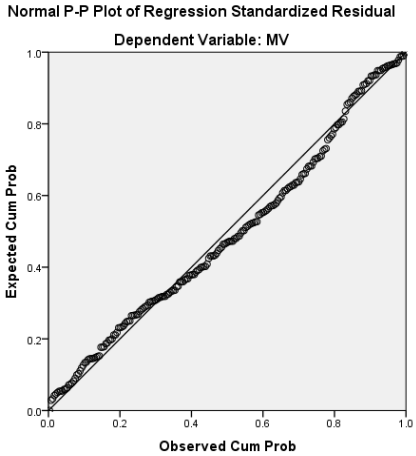


Figure 8: Standardized Normal P-P plots of Model 4

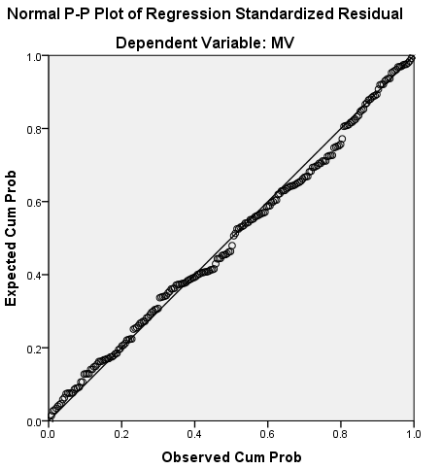


Figure 9: Standardized Normal P-P plots of Model 5

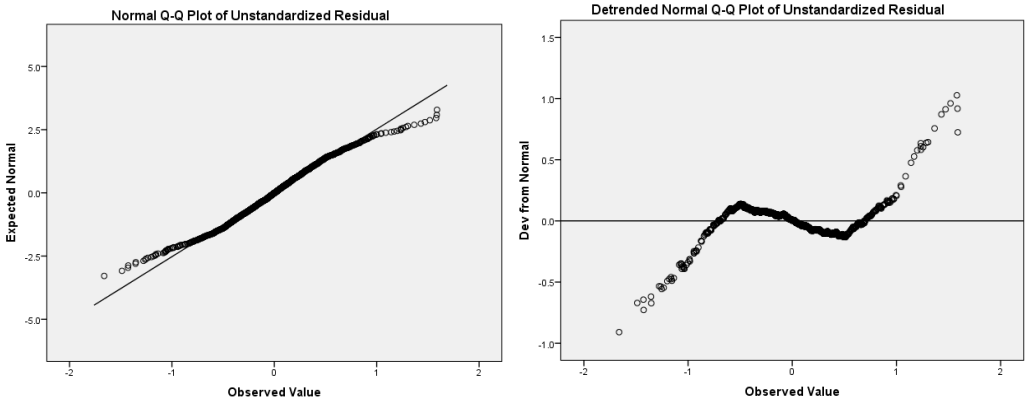


Figure 10: Normal Q-Q Plot of Unstandardized Residual of Model 1

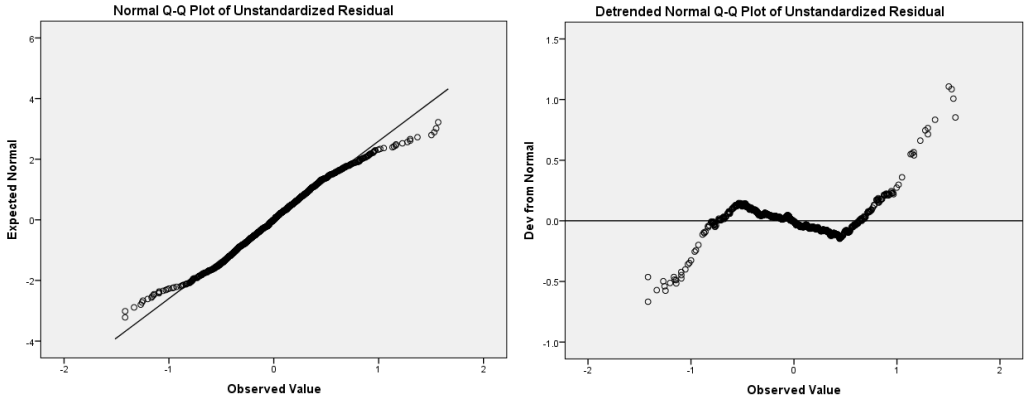


Figure 11: Normal Q-Q Plot of Unstandardized Residual of Model 2

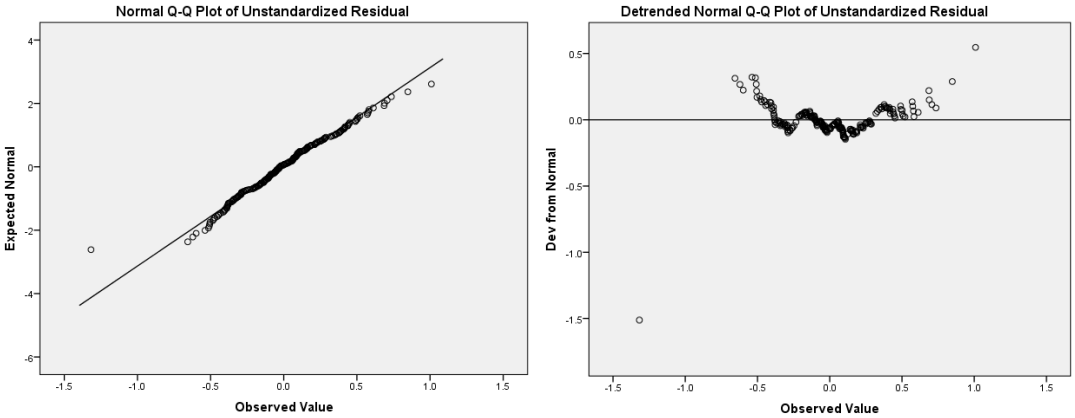


Figure 12: Normal Q-Q Plot of Unstandardized Residual of Model 3

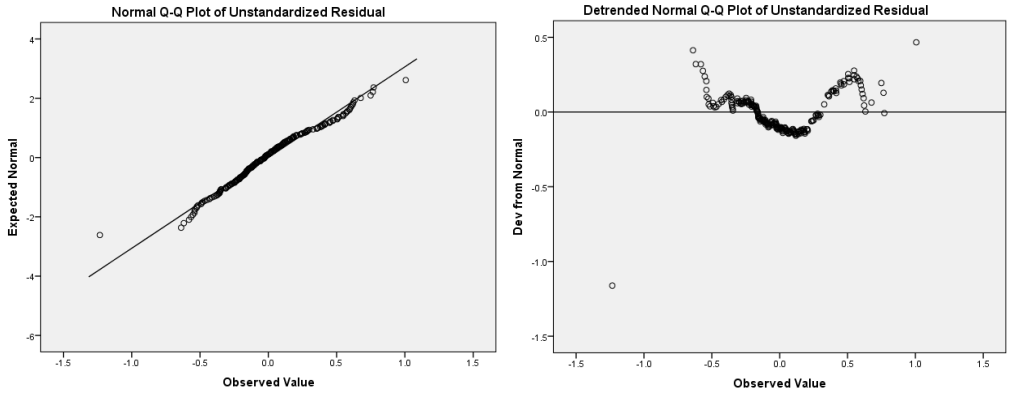


Figure 13: Normal Q-Q Plot of Unstandardized Residual of Model 4

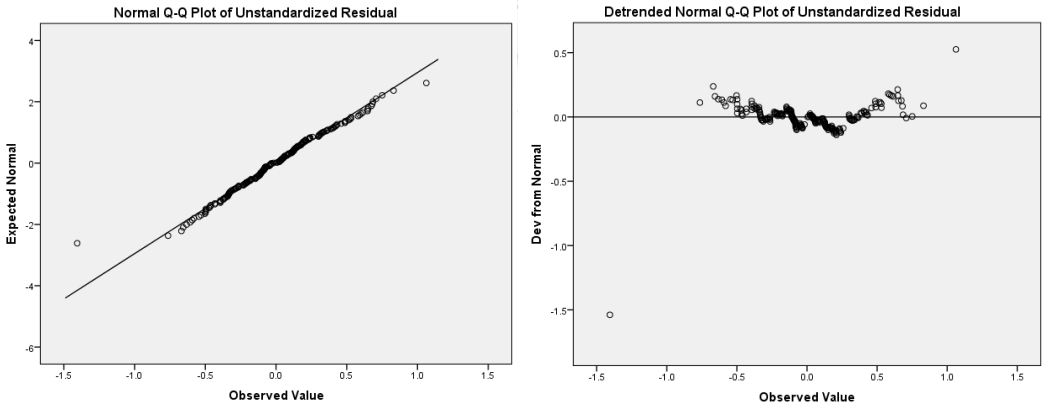


Figure 14: Normal Q-Q Plot of Unstandardized Residual of Model 5

Homoscedasticity

This assumption assumes that the variance in residuals has to be homoscedastic or constant. If the model is well-fitted, the residuals plotted on the fitted values should be no pattern. Heteroscedasticity occurs when the variance of residuals is not constant, leading to distortion of findings and weaken the regression analysis (unreliable P-value). Figure 15 to 19 show scatter plots of residual from all models.

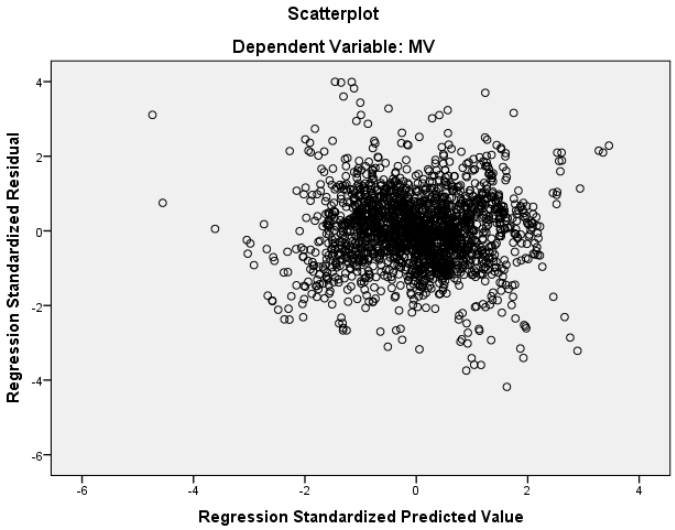


Figure 15: Scatter plot of residual from Model 1

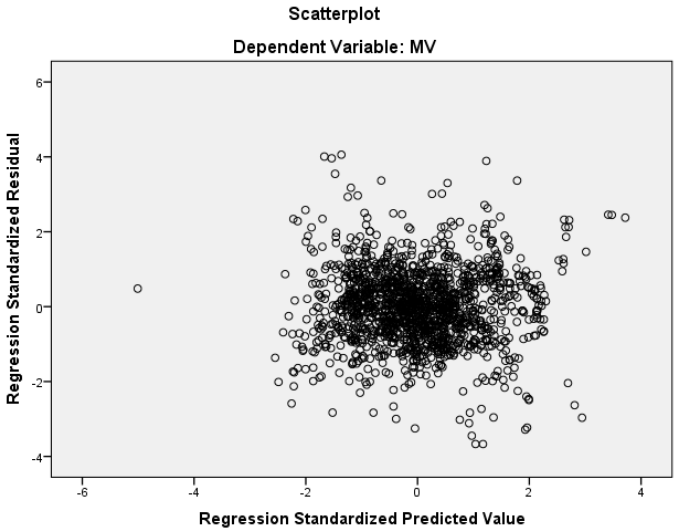


Figure 16: Scatter plot of residual from Model 2

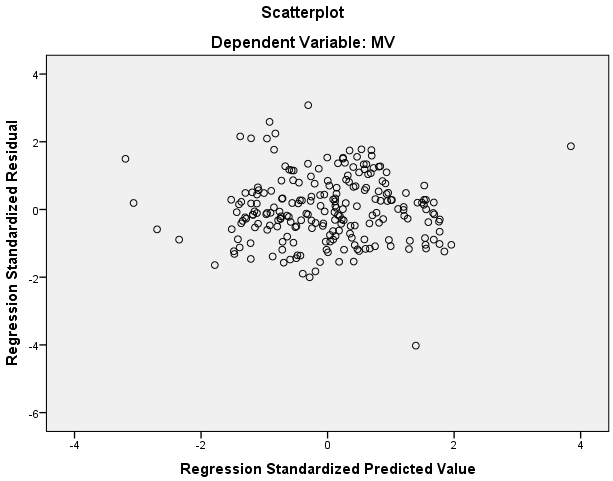


Figure 17: Scatter plot of residual from Model 3

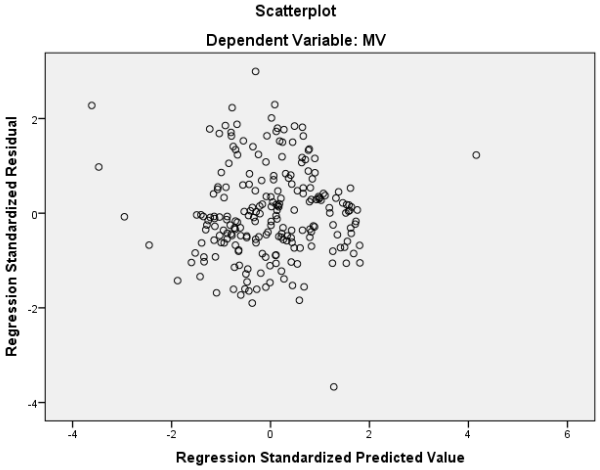


Figure 18: Scatter plot of residual from Model 4

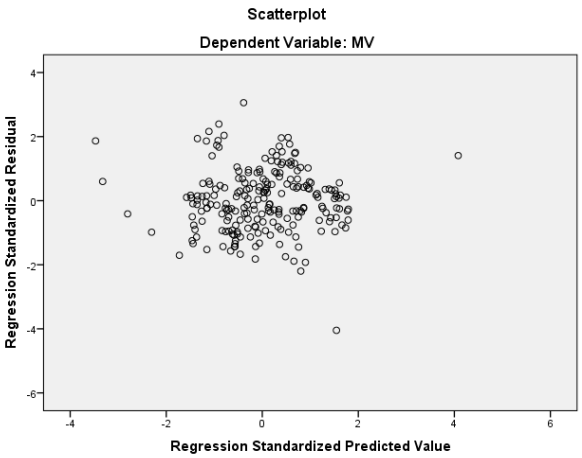


Figure 19: Scatter plot of residual from Model 5

Multicollinearity

Multicollinearity occurs when two or more independent variables are closely correlated to one another in multiple regression. Multicollinearity causes unstable estimated coefficients and inflated standard errors. In this research, a variance inflation factor (VIF) is tested to detect multicollinearity. As a rule of thumb, a VIF greater than ten suggests that the regressor variables are highly correlated. This study finds that the VIFs of the regressor variable in each model do not exceed the cut-off point (ten), suggesting that multicollinearity among the regressor variables is not strong in this data set.

Conclusion

In conclusion, the models used in these analyses are passed the goodness of fit test and are in line with the conditions of the ordinary least square (OLS) estimators and best linear unbiased estimator assumption (BLUE). Thus, the results from this study can be confirmed that there is no econometric issue which can affect or deviate the results.

VITA

Pimolwan Chayapornkul was born in Bangkok, Thailand. She completed her primary education from Prasertthan Wittaya School and then she completed her secondary education from Mahapruttaram Girls' School and Saipanya Girls' School in 1995 and 1998, respectively. She received a Bachelor of Accountancy, majoring in accounting from Chulalongkorn University in March 2002. In May 2011, she graduated the Master of Accountancy from Chulalongkorn Business School.

She had one-year experience with Toyota Motor (Thailand) Company Limited as an officer in Financial Planning Department. She has over 10 years' experience with Deloitte Touche Tohmatsu Jaiyos Audit Company Limited in the audit profession. She has become a Certified Public Accountant of Thailand since 2007. Since 2017, she has started being a member of sub-committee of the Federation of Accounting Professions, Thailand, and being a guest lecturer and speaker for leading universities and the Federation of Accounting Professions.