Towards Mandatory International Corporate Social Responsibility Standards

Takumi Nomura
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Takumi Nomura

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Abstract

This research examines the effect of multiple global corporate social responsibility (CSR) frameworks/standards/guidelines (hereafter, CSR pronouncements) on various consequences using data of EU firms. Understanding the effects of global CSR pronouncements is important for foreseeing the future of CSR reporting. This study is organised into three different research essays: (i) agency cost; (ii) harmonisation of CSR reporting; and (iii) market liquidity.

Essay One examines effects of using multiple CSR pronouncements on agency problems/agency costs. A sample of 2,605 firm-year observations that voluntarily use CSR pronouncements is drawn from across 24 European Union (EU) countries. Firms that apply more CSR pronouncements are found to be associated with lower levels of agency costs. These results are robust after testing for endogeneity arising from omitted variables and reverse causality. Findings suggest that use of multiple CSR pronouncements has a disciplining role for managers, and hence should be of interest to preparers and users of CSR reports, regulators, standard-setters, and academics.

Essay Two examines whether use of multiple CSR pronouncements mitigates this i.e., promotes harmonisation of CSR reporting. A sample of 2,085 firm-year observations is drawn from 17 EU countries to test voluntary CSR reporters. These tests provide evidence that upward harmonisation in CSR reporting increases as firms apply more CSR pronouncements. The results suggest that use of multiple global CSR pronouncements reduces selective reporting and promotes harmonisation of CSR reports. These results are robust after controlling for endogeneity arising from omitted variables and reverse causality. These findings should be of interest to preparers and users of CSR reports, as well as to regulators, standard-setters, and academics.

Essay Three investigates the effects of CSR pronouncements on market information asymmetry for 2,200 firms from 14 EU countries for the years 2015-2019. The results suggest that usage of multiple CSR pronouncements is negatively associated with bid-ask spread. These results are robust after testing for endogeneity arising from omitted variables and reverse causality. The results support voluntary disclosure theory and suggest that use of multiple CSR pronouncements improves market liquidity. These findings should be of interest to preparers and users of CSR reports, regulators, standard-setters, and academics.

Keywords: CSR; Agency cost; Agency theory; Harmonisation; Market liquidity; Information asymmetry

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Table of Contents

List of tables

List of abbreviations

2SLS	Two-stage Least Squares
AA1000	AccountAbility
AC	Agency cost
CDP	Carbon Disclosure Project
CSR	Corporate Social Responsibility
ESG	Environmental, Social and Governance
EFRAG	European Financial Reporting Advisory Group
ESRS	European Sustainability Reporting Standards
EU	European Union
GRI	Global Reporting Initiatives
IASB	International Accounting Standards Board
IFC	International Financial Corporation
IMR	Inverse Mills Ratio
ISO	International Organisation for Standardisation
IR	Integrated Reporting
ISSB	International Sustainability Standards Board
IV	Instrumental Variable
MNE	Multinational enterprise
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
PCA	Principal Component Analysis
PSM	Propensity Score Matching
SDG	Sustainable Development Goals
SIC	Standard Industry Classification Codes
TBL	Triple Bottom Line
UN	United Nations
UNGC	United Nations Global Compact

CHAPTER ONE

INTRODUCTION

This thesis begins with the motivations for this research as well as the background of this study, particularly in using multiple corporate social responsibility (CSR) pronouncements on CSR reporting. It is followed by the unique characteristics of the European Union (EU) because the three aspects of this research share the EU as a common setting. It includes a brief description of multiple CSR pronouncements and how those pronouncements are likely to be associated with various consequences. This section concludes with an overview of the study and the main findings from the three essays, followed by the contribution of this thesis.

1.1 Motivations for the Research

In today's global environment companies are required to consider not only financial goals but also other issues such as environmental, social, and governmental (ESG) matters. This is due to increased public awareness and stakeholder pressure arising from various events over past decades that have had worldwide ripple effects e.g., the collapse of Enron, the global financial crisis, BP's Deepwater Horizon Disaster, and more recently, climate related crises like floods and fires, as well as the COVID-19 pandemic (Bratspies, 2011; Hasan et al., 2024).

Such events have fuelled a rise in socially responsible investment and increased the demand for non-financial information to better equip investors to assess the risks and opportunities of their investments (Tschopp & Nastanski, 2014). The information required is distinct from and complementary to traditional financial reporting and is generally referred to

as CSR reporting[1]. The importance of CSR reporting is highlighted in a KPMG (2017, p. 6) report, which suggests that "reporting integration is the new normal and non-financial is the new financial", and that such reporting should consider the impact of corporate behaviour as well as relevant statistics.

CSR reporting has been criticised as lacking in relevant and comparable data, often because it was manipulated for marketing purposes, rather than for supporting investors' decision-making processes. Historically, this has been possible due to the absence of regulation regarding CSR reporting (Tschopp & Nastanski, 2014). Einwiller et al. (2016) note that in the absence of regulation regarding CSR reporting, companies may selectively report on favourable topics, which leads to heterogeneity in disclosure practices[2]. Various bodies responded by developing CSR frameworks/standards/guidelines[3] to improve the quality of CSR reporting (Tschopp & Nastanski, 2014). Previous literature has, therefore, often focussed on examining the consequence of using such CSR pronouncements, as is discussed in the next section. In this thesis, CSR pronouncements are defined as an all-inclusive term of CSR frameworks/standards/guidelines that are covered in the Global Reporting Initiative (GRI) database. For example, ENGIE, a French multinational utility company, uses multiple pronouncements: GRI, Organisation for Economic Co-operation and Development (OECD),

[1] ESG report and sustainability report are also commonly used in the literature as those definitions are very close to that of CSR reporting (Christensen, 2021). Although those two names are increasingly used in the literature, this study uses the word CSR reporting.

[2] This problem is gradually in the process of being resolved through the development of international CSR reporting standards such as IFRS S1, and ESRS.

[3] Ligteringen and Zadek (2005)suggest there are significant differences between each of these terms (frameworks, standards, and guidelines). However, for parsimonious reasons, they will hereafter be referred to collectively as 'CSR pronouncements'.

International Organization for Standardization (ISO), and United Nations Global Compact (UNGC).

Past literature examines, inter alia, various consequences of using CSR pronouncements for agency costs, harmonisation, and market information asymmetry. These studies (Barth et al., 2017; Obeng et al., 2021; Seele, 2015) tend to use a dummy variable to capture the quality or quantity of CSR reporting e.g., when a company publishes CSR reports, or adopts a particular CSR pronouncement. These studies predominantly centre on using a single CSR pronouncement as a proxy for quality of CSR reporting, although some studies extend to two (Einwiller et al., 2016). Different CSR pronouncements tend to suit different stakeholders or objectives and this is reflected in the diversity of topics that CSR reporting covers. Arguably, relying on a particular CSR pronouncement may make it difficult to comprehensively address the concerns/expectations of the wide range of stakeholders most firms have (Tschopp & Nastanski, 2014). Consistent with this contention, the International Accounting Standard Board (IASB, 2020) report notes that firms are increasingly opting to report using multiple CSR pronouncements. Investigating the consequences of using multiple CSR pronouncements is interesting, particularly if it is informative about which combinations appear to address multiple stakeholders' expectations most effectively.

The lack of studies investigating the use of multiple CSR pronouncements in a cross-country context is an important motivation for this thesis. A cross-country setting offers opportunities to understand how the use of CSR pronouncements at the firm-level affects agency costs, harmonisation, and market information asymmetry. The EU setting is a particularly interesting area to explore, as it is characterised by its unique institutional

background, including the EU directive 2014/95 that requires big companies to prepare CSR reports.

Agency problems may arise from CSR related behaviour, such as BP's Deepwater Horizon Disaster, in which BP caused a major oil spill because they did not take reasonable precautions against such accidents. Their share price dropped significantly after the disaster, which is not in line with the interest of shareholders (Bratspies, 2011). Stakeholders, especially investors, seek to ensure managers' acts are consistent with their own expectations. Managers and investors (shareholders) can both suffer loss due to conflicts of interest. One way to minimise such losses (agency costs) is through monitoring, which can be enhanced by increased transparency (Jensen & Meckling, 1976). This argument gives rise to the first research question and extends the literature by examining the effects of multiple CSR pronouncements on agency costs. Considering various CSR pronouncements in this study has the potential to contribute to enhanced CSR reporting by considering a broader scope of topics and stakeholders.

This thesis covers nine global CSR pronouncements, which are GRI, Integrated Reporting (IR), Sustainable Development Goals (SDG), Carbon Disclosure Project (CDP), International Finance Corporation (IFC), OECD, UNGC, AccountAbility (AA1000), and ISO. Each pronouncement should contribute to effective consideration of key stakeholders that leads to an improved information environment through better CSR reporting. GRI offers a global common language for CSR reporting to enhance transparency (GRI, 2020). IR combines both financial and non-financial information to increase transparency regarding firms' value creation and allocation of capital (Foundation, 2024). Elalfy et al. (2020) suggest that the SDGs offer a shared vision that firms can strategically align firm-level CSR activities with both

national and international sustainable development goals. Elalfy et al. (2021) show that the SDGs can serve as a framework of strategic CSR that enables provision of more forward-looking CSR reporting. The CDP is a United Kingdom based organisation that promotes sustainable economy by providing the gold standard of environmental reporting (Carbon Disclosure Project, 2024). IFC performance standards include the disclosure of key indicators and are expected to improve stakeholder engagement (International Finance Corporateion, 2012). The OECD developed key environmental indicators to increase transparency and provide more relevant information to the public (OECD, 2020). The UN Global Compact provides a framework including ten principles to be used as a guide by corporations to encourage socially responsible action and reporting. The principles encompass issues relating to human rights, labour, the environment, and anti-corruption (UNGC, 2020). The AA1000 framework is used to promote CSR efforts by assuring the quality of CSR reporting (AccountAbility, 2018). ISO provides common standards for CSR reporting (ISO, 2024). Prior literature, such as García-Sánchez et al. (2019) and Zinenko et al. (2015), suggest the complementary nature of CSR pronouncements, which means using multiple CSR pronouncements would increase the quality of information environment.

CSR pronouncements play a significant role in mitigating information asymmetry and agency costs between firms and stakeholders (Barth et al., 2017; Obeng et al., 2021; Rashid, 2016). CSR pronouncements can work as a mechanism for improving firms' governance, in combination promoting transparency by developing a common language for CSR reporting and reducing selective reporting. This in turn empowers those responsible for governance to better structure contracting arrangements to align managers' incentives with those of stakeholders and reduce opportunities for managers to prioritise their own self-interest. Therefore, this study

predicts that as more CSR pronouncements are used, agency costs reduce, because managers are encouraged to use firms' resources more efficiently and effectively when incentives between stakeholders and managers are aligned.

As CSR information is relevant for stakeholders, firms are required to consider stakeholder demands and expectations, to understand what is material to stakeholders' assessments and decisions. These demands and expectations will be diverse across countries, as understandings of CSR are influenced by a country's historic-cultural background, cultural values, institutional norms, and governmental policies (Matten & Moon, 2008; Neu et al., 1998). This suggests clear country-of-origin effects (Chen & Bouvain, 2009; Einwiller et al., 2016; Fortanier et al., 2011; Mazboudi et al., 2020) in CSR reporting, which hinders harmonisation of CSR reporting. Kolk (2010) finds that such effects result in reports with significant differences in length, approach, and scope. Einwiller et al. (2016) further note that CSR reporting might be less comparable when firms prioritise demands of certain stakeholders as this may lead to bias in the scope and depth of topics. However, harmonisation is of interest to various users of CSR reports in assessing CSR performance of multiple companies. Such users include financial and sustainability analysts, investors, regulators, and global NGOs, who seek transparent, comparable, and consistent CSR information (Hockerts & Moir, 2004).

Levy and Kolk (2002) note two kinds of pressure on firms that may promote harmonisation, namely divergent and convergent pressures. These arise from stakeholders' demands and expectations based on different institutional backgrounds. Divergent pressure arises in a home country institutional context, while convergent pressure arises through exposure to a common global norm. Such convergent pressures tend to predominate as firms within the global industry develop a more sophisticated understanding of CSR issues. Firms'

actions and strategies within such a global industry tend to become homogeneous once common action is created. Past literature, such as Fortanier et al. (2011) and Einwiller et al. (2016), suggest that employing multiple global CSR pronouncements creates convergent pressure for CSR reporting and promotes harmonisation. Supporting organisations towards achieving comparable and transparent CSR reporting is a declared objective of international initiatives like the GRI (GRI, 2016). With limited requirements regarding CSR reporting, companies have discretion to focus on particular stakeholders (e.g., those who are local) or favourable topics while deliberately ignoring unfavourable topics (Seele, 2015). Harmonisation through multiple global CSR pronouncements may limit opportunities for biased selective reporting because such issues would become more visible if most companies reported on the same range of topics in the same manner. Compliance with global CSR pronouncements may therefore help to reduce country-of-origin effects in CSR reporting by promoting common actions and strategies regarding CSR activity and leading to better harmonisation of CSR reporting.

Stakeholders value CSR information, as CSR performance is associated with financial consequences, including effects on profitability, firm risks, and market liquidity. Firms with superior CSR performance face lower risks as firms are less subject to CSR shocks (Christensen et al., 2021). Higher quality and quantity of information increases transparency of companies' performance and supports stakeholders' decision making (Biddle et al., 2009). An improved information environment influences the usefulness of CSR reporting and affects the perceptions and behaviour of stakeholders, ultimately leading to better liquidity of securities (Barth et al., 2017; Dhaliwal et al., 2012; Kothari et al., 2009). Enhanced disclosure, therefore, increases market liquidity by assisting investors and stakeholders in comparing and

evaluating firms with less cost and effort. This in turn contributes to improved investment efficiency (Michaels & Grüning, 2017; Siew et al., 2016).

This study, therefore, aims to explore the relationship between use of multiple global CSR pronouncements and market information asymmetry. Use of multiple global CSR pronouncements is expected to reduce market information asymmetry (Michaels & Grüning, 2017; Siew et al., 2016).

1.2 European setting

The European Union (EU) is an area commonly explored in the CSR literature (Doh & Guay, 2006; Lock & Seele, 2016; Mittelbach-Hörmanseder et al., 2021). Unique characteristics of the EU include greater and more advanced awareness of, and support for CSR. The EU has been promoting a policy on CSR as part of its basic sustainable development strategy for Europe since the beginning of the 21st century (European Commission, 2001, 2002).

To achieve sustainable development and to enhance CSR reporting, the EU directive 2014/95 was developed by the European Commission (2011), which requires certain large companies from the EU to prepare a non-financial statement including information relating to, at least, environmental, social, and employee-related matters to improve the consistency and comparability of non-financial information published throughout the EU. This comprehensive CSR reporting legislation is likely to influence CSR reporting in EU countries and promote more reliable information (Dhaliwal et al., 2014; Dhaliwal et al., 2012).

Furthermore, past literature shows that stakeholder-oriented countries, such as those from the EU, are more likely to have advanced CSR disclosure (Bottenberg et al., 2017). Countries from stakeholder-oriented, rather than shareholder-oriented, countries tend to have

severe institutional environments that impact in four distinct ways: the level of CSR awareness; the level of employee protection; the degree of enforcement; and the strength of the legal environment. This influences the degree of companies' corporate governance. The CSR disclosures from such countries tends to be more reliable because stakeholders are able to better monitor a company's CSR activities.

These unique characteristics make the EU an interesting setting to explore, and promotes the likelihood that CSR from EU will be associated with various consequences (agency costs, harmonisation, and market liquidity).

1.3 Study overview and main findings

This thesis investigates the effects of using multiple global CSR pronouncements in three areas: agency cost; harmonisation; and market liquidity. Waddock and Graves (1997) argue the need for a multidimensional measure to capture quality of CSR. Therefore, throughout this thesis, usage of CSR pronouncements is measured by taking the average usage of CSR pronouncements for a particular company in a sample year.

Past literature suggests that global events such as the global financial crisis can significantly affect normal behaviour (Karaibrahimoglu, 2010). Similarly, COVID-19, can be expected to influence CSR disclosure (Carroll, 2021; Humphreys & Trotman, 2022). Humphreys and Trotman (2022) note that firms that are financially constrained due to COVID-19 might be reluctant to invest in CSR initiatives as well as CSR reporting. Furthermore, updates to the GRI database, our main source of data, ceased at the end of the year 2020, followed by closure of the database in 2021 (Schwery, 2021). This made it preferable to

exclude data from the year 2020 onwards for the three essays since they share the same setting (EU firms between 2015 and 2019).

The Ordinary Least Squares (OLS) method is used to conduct multiple regression tests that examine the effects under investigation in each of the three essays described below. The findings are robust after addressing self-selection bias concerns using Heckman two-stage analysis, propensity score matching (PSM) analysis, as well as reverse causality using instrumental variables.

1.3.1 Essay one

The first essay of this thesis examines the effects of using multiple global CSR pronouncements (GRI, IR, SDG, CDP, IFC, OECD, UNGC, AA1000, and ISO) on agency costs, using 2,605 firm-year observations from 2015-2019 from 24 EU countries. This study employs the OLS method to conduct multivariate regressions to test these effects.

To address concerns that the relevance of the resulting findings may be compromised by unobservable and observable selection bias, this study applies Heckman two-stage analysis and PSM analysis respectively. Furthermore, instrumental variable analysis is also conducted to address reverse causality concerns. Finally, this study controls for the effects of several firm-level and country-level variables on agency costs, following prior studies relating to CSR reporting (Obeng et al., 2021; Rashid, 2016). This study provides evidence that use of multiple global CSR pronouncements is negatively associated with agency costs.

1.3.2 Essay two

This essay investigates the effects of using multiple global CSR pronouncements on harmonisation, following prior literature (Fortanier et al., 2011; Mazboudi et al., 2020). A sample of 2,085 firm-year observations that voluntarily use CSR pronouncements is drawn from 17 EU countries from 2015 to 2019. The number of observations is slightly reduced as compared with Essay one, mainly because the Eikon database is used for measuring harmonisation and it tends to cover only relatively larger firms. This study estimates the degree of harmonisation by using the average number of relevant CSR policies adopted by a particular firm. This study finds that as usage of multiple global CSR pronouncements increases, so too does harmonisation of CSR reports.

1.3.3 Essay three

This essay examines the effects of using multiple global CSR pronouncements on market information asymmetry measured through bid-ask spread, following prior literature (Barth et al., 2017; Michaels & Grüning, 2017). A sample of 2,200 firm-year observations that voluntarily use CSR pronouncements is drawn from 14 EU countries for the years 2015-2019. The number of observations is different from Essays One and Two as this essay uses different control variables in the regression analysis. Past literature tends to indicate that CSR reporting is negatively associated with bid-ask spread. The main regression analysis finds that as usage of CSR pronouncements increases, so bid-ask spread reduces, hence supporting improved market liquidity.

1.4 Contribution

The findings of this thesis add to the literature on how CSR information is associated with important capital market outcomes (Dhaliwal et al., 2012; Plumlee et al., 2015). The three essays explore different facets of CSR reporting that improve the information environment, which leads to capital market benefit. Essay One contributes to research relating to the governance role of CSR reporting and how it influences transparency and monitoring of firms. According to Agency Theory (Jensen & Meckling, 1976), managers may prioritise their self-interest especially when monitoring abilities are limited. This might lead to various problematic situations such as adverse selection and moral hazard. Unless required specifically by law, CSR reporting has been largely discretionary, which may encourage opportunistic managerial behaviour and biased reporting to distort stakeholders' perceptions of corporate achievements (Bernow et al., 2019; Coombs & Holladay, 2013).

Evidence on the use of multiple global CSR pronouncements may contribute to limiting such opportunistic behaviour by managers and signal to the market which firms are more stakeholder-oriented (as opposed to purely shareholder-oriented) and less exposed to short-term, opportunistic managers.

Essay Two contributes further, by analysing the role of multiple global CSR pronouncements in relation to harmonisation effects. To the best of this researcher's knowledge, this is the first study to examine harmonisation effects using multiple global CSR pronouncements in a longitudinal setting. CSR reporting reflects strong country-of-origin effects, in that reporting content is influenced by the institutional environment in which a firm operates (Lock & Seele, 2016). Institutional theory expects CSR reporting to become more homogeneous when a common global language emerges, as it is likely promoted by the global

CSR pronouncements employed in this study. Such pronouncements may create additional pressure to reduce country-of-origin effects, but this is constrained where firms face other diverse local and global pressures. Essay Two addresses this complex relationship between country-of-origin effects and institutional pressures (Fortanier et al., 2011; Mazboudi et al., 2020). Findings from this study support the expectation that increased usage of multiple global CSR pronouncements does signal more harmonised CSR reporting.

Essay Three adds to the contributions of the first two essays by providing evidence on the role of multiple global CSR pronouncements in reducing market information asymmetry. Voluntary disclosure theory expects companies who actively commit to CSR activities, to report more in order to distinguish themselves from companies who do not commit CSR activities (Verrecchia, 1983). More usage of global CSR pronouncements may contribute to higher quality and quantity of CSR reports, which cover a broader range of topics and address a wider range of stakeholders' demands more comprehensively. For instance, governments can use CSR pronouncements for regulatory purposes and NGOs promoting sustainability can decide to seek increased disclosure of non-financial risks (Tschopp & Nastanski, 2014). This in turn supports stakeholders' decision-making processes, hence promoting market liquidity (Bushman & Smith, 2001; Lambert et al., 2007).

Understanding the implications of using multiple global CSR pronouncements is important for managers and regulators. Conducting three such interrelated studies brings useful and interesting insights on consequences for agency cost, harmonisation, and market information asymmetry. Lower agency costs represent more efficient and effective use of firms' resources by managers (due to the increased transparency arising from the use of multiple global CSR pronouncements). Harmonisation of CSR reporting promotes comparability.

Lower market information asymmetry promotes efficiency and quality of stakeholders' decision making. In combination, these findings have the potential to promote better firm governance, increased comparability of CSR reporting, and improved investment efficiency and market liquidity. Managers can use CSR pronouncements to improve the quality of their CSR reporting and to send positive signals to investors and other stakeholders.

Regulators and standard-setters issue guidelines and standards designed to support investors to better comprehend information and to facilitate a more efficient capital allocation process (FASB, 2024). The European Financial Reporting Advisory Group (EFRAG) and International Sustainability Standards Board (ISSB) are currently developing global CSR reporting standards to improve quality of CSR reporting. EFRAG developed the European Sustainability Reporting Standards (ESRS), and large-listed companies will be required to report under these for the financial year 2024. The ISSB issued its initial IFRS sustainability disclosure standards on 26 June 2023, which are effective for financial years beginning on or after 1 January 2024. The findings from this research should assist bodies such as these in understanding the role of multiple global CSR pronouncements, as they consider future updates to CSR reporting standards.

1.5 Organisation of the thesis

The remainder of the thesis proceeds as follows: Chapter Two contains Essay One, Chapter Three contains Essay Two, and Chapter Four contains Essay Three. Each chapter sets out the research literature, development of hypotheses, discussion of research methods, and sample selection specific to the topic studied. Essay One is titled "Multiple Global CSR Pronouncements and Agency Cost – Evidence from European Union"; Essay Two is titled

"Multiple Global CSR Pronouncements and CSR Harmonisation in Europe"; and the third essay is titled "Multiple Global CSR Pronouncements and Market Liquidity – Evidence from European Union". Chapter Five concludes the thesis with its implications and limitations and describes the scope for future related research.

Chapter Two

Multiple Global CSR Pronouncements and Agency Cost – Evidence from European Union

2.1 Introduction

CSR concerns society's expectations of corporate behaviour and it reflects the social imperatives and consequences of business success (Matten & Moon, 2008). A main rationale for publishing CSR reporting is to address such expectations, to legitimise corporate behaviour, and to demonstrate accountability for the impacts of corporate activity on society. By addressing such expectations from stakeholders, CSR reporting works as a tool of governance to monitor managers' actions, as managers have discretion over strategic decision-making regarding CSR disclosure. Due to separation of ownership and control between managers (agents) and shareholders (principals), agency problems might arise because of conflict of interests between the two (e.g., managers commit to projects to gain private benefits). This separation of duty provides managers with better access to information about the firm's affairs, which they may exploit to misapply firm resources to serve their own self-interest. According to Jensen and Meckling (1976), agency costs arise from managers who use firms' resources inefficiently and ineffectively. Agency costs reflect the conflicting incentives between shareholders and managers. Such conflicts might detract from performance of capital markets, because shareholders cannot distinguish between "good" and "bad" business actions. Managers who commit "bad" actions will try to defend themselves by claiming "good" actions, and shareholders will value both "bad" and "good" actions at the same level. Healy and Palepu (2001) suggest that capital market participants will undervalue some "good" actions and

overvalue “bad” actions, which leads to an adverse selection problem. Such problems might be addressed by improving the quality of information provided to stakeholders, which includes CSR reporting. This study examines whether CSR reporting is associated with lower agency costs.

Recent events related to the formation of the ISSB have emphasised the importance of CSR reporting. The IR framework is one of the concepts embedded in the new ISSB standards, the key objectives of which include providing comprehensive sustainability information to global capital markets (IASB, 2023). The current study has the potential to inform and support the work of the ISSB because it examines effects of multiple global CSR pronouncements (including the IR) on agency costs.

This thesis focuses on the European setting, as covered in Section 1.2. Matuszak and Różańska (2017) note that since the Global Financial Crisis, Europe has become the most active region in promoting transparency and disclosure of CSR. The EU issued a summary report (European Commission, 2011) that revealed high levels of heterogeneity in disclosure requirements amongst member states, which in turn led to fragmentation in the EU legislative framework. Some member states made the disclosure of non-financial information mandatory, while others adopted a “comply or explain” approach. The scope of requirements also varied. Some member states referred to international reporting guidelines[4] while others established their own national reporting guidelines. Given this heterogeneity in reporting, the European Commission (2011) report suggests that demand had grown in the EU for improving the

[4] The development of key international CSR reporting pronouncements over the timeline is available in the appendix B.

comparability, reliability, and relevance of information published by companies, including issues relating to social and environmental aspects.

According to the European Commission (2011), in order to improve the consistency and comparability of non-financial information published throughout the EU, certain large companies should be required to prepare a non-financial statement including information relating to at least environmental, social, and employee-related matters. In October 2014, Directive 2014/95/EU was issued, which requires large companies to disclose non-financial and diversity information. However, the Directive did not specify what global CSR pronouncements to use when creating CSR reports. Macuda et al. (2015) note that companies' CSR reports still differed in form and extent. Adams (2020) suggests that the European Commission had an opportunity to lead the world in refocussing corporate CSR efforts in a post-COVID-19 world. At the time of writing, companies that are required to comply with Directive 2014/95/EU will have to shift to ESRS in the 2024 financial year, with the first sustainability statements to be published in 2025 (European Commission, 2023).

The diversity in form and extent of CSR reports, which the ISSB and EFRAG seek to address, could be due to the unique characteristics of non-financial reporting. Tschopp and Nastanski (2014) suggest that CSR reports have a wider audience than that for financial reports. Consequently, CSR reports have more diverse objectives for a wider range of interests and preferences, both within and beyond the firm. This is reflected in the large number of CSR pronouncements available as those pronouncements may seek to address different audiences or objectives. One central point of criticism regarding CSR reporting is that of selectivity in what is reported. Lack of balance regarding what to report reduces comparability and transparency; the choice of pronouncements may contribute to this lack of balance.

Regardless of importance in using multiple CSR pronouncements, prior literature tends to focus on the effect of using a single CSR pronouncement, for instance, Abdelqader et al. (2024) and Rezaee and Tuo (2019) examine the effect of using GRI guidelines and standards while Barth et al. (2017), Obeng et al. (2021), and Pavlopoulos et al. (2017) use IR for their research. Furthermore, these articles tend to use international settings. Miller (2004) notes the importance of focusing on a particular region of the world because the more focused approach allows more in-depth understanding of the phenomenon. This research, therefore, uses the EU setting with multiple CSR pronouncements to fill the gap in the literature.

Examining voluntary CSR raises unique challenges, particularly in terms of self-selection since firms that expect to derive benefits from using global CSR pronouncements are more likely to choose to adopt them. This study therefore employs several econometric approaches including PSM, a Heckman approach, instrumental variables, and lagged analysis. Following Obeng et al. (2021) and Rezaee and Tuo (2019), data about firms' usage of global CSR pronouncements is collected from the GRI database for the period 2015-2019. Using this data and the aforementioned method, this study finds that firms that use multiple global CSR pronouncements have lower agency costs. The model includes several control variables to promote reliable results in seeking to answer the research question: does use of multiple global CSR pronouncements in reporting contribute to reducing agency costs? Financial reporting quality is controlled for, to reduce the possibility that this study's measure of CSR captures the tendency of some firms to provide higher quality or more credible information. In addition, other firm characteristics, including country, industry, and year fixed effects, are also controlled for in the models. Furthermore, the results are robust when addressing endogeneity.

Addressing this research question makes several contributions to the literature. First, this study contributes to extant research on the governance role of accounting and non-financial information. Huang and Zhang (2012) point out that empirical evidence on the disciplinary function of extensive disclosure is scarce. According to Obeng et al. (2021), most studies examining the disciplining role of disclosure have focused on capital market effects. However, disclosures can influence capital market outcomes through channels not directly related to agency costs. Previous studies, such as Huang and Zhang (2012) and Obeng et al. (2021), use a measure of traditional disclosure quality based on industry-level scores and quality of IR based on the ASSET4 database, respectively, to examine the relation between disclosure and agency costs. Past literature focuses largely on examining the effect of applying a particular CSR pronouncement, such as IR or GRI standards (Rezaee & Tuo, 2019; Yang et al., 2021). However, the IASB notes that firms were potentially opting to report using multiple global CSR pronouncements (IASB, 2020). Given these developments and recent trends in reporting (KPMG, 2022), this study examines the effect of using multiple global CSR pronouncements on agency costs.

Second, this study's findings extend the literature on the incremental benefits of non-financial disclosure, such as Dhaliwal et al. (2011), He et al. (2019), Obeng et al. (2021) and Plumlee et al. (2015). Those studies focus on a single global CSR pronouncement, while Obeng et al. (2021) focuses on IR that combines both financial and non-financial information. Arguably, it may be difficult for firms to comprehensively address all concerns/expectations of a wide range of stakeholders by relying on a single global CSR pronouncement. This is emphasised in past literature, such as Vitolla et al. (2019) and Flower (2015), which criticises the integration of financial and non-financial information into a single report. Flower (2015)

notes that the IR framework is unlikely to encourage renewed, broader, or integrated thinking of value, because providers of financial capital remain the primary users of corporate reports. Flower (2015) claims that the IR framework proposes a non-innovative CSR framework that results in the same limitations as those of the traditional financial reporting regime, which are clearly focused on investors. Relying only on IR or a single global CSR pronouncement might not fully reveal the disciplining role of disclosure. Brown and Dillard (2014) suggest that IR barely promotes more sustainable behaviour by companies due to limited attention to political, economic, and social aspects that leads to smaller scope of stakeholders (i.e., providers of capital). Maniora (2017) notes that businesses do not benefit from switching from a stand-alone CSR report to an integrated report. Furthermore, since ESRS, which refers to multiple CSR pronouncements, is under development, any studies focused on multiple CSR pronouncements are important. However, past literature rarely addresses this question, therefore this study uses multiple CSR pronouncements to fill the gap in the literature.

Using multiple, rather than single, pronouncements could contribute to higher quality of CSR reporting. Elalfy et al. (2021) show that SDGs can serve as a framework of strategic CSR and provide an opportunity to improve quality of CSR reporting. Firms employing both SDGs and GRI standards tend to integrate the SDGs into their CSR reports, and thus provide a holistic view of CSR activities. This could be similar for other international standards such as the OECD, CDP, IFC, ISO, and UNGC. García-Sánchez et al. (2019) find that firms using both the GRI's guidelines and the IFC's Performance Standards promote accurate representation of managerial commitments and approaches in CSR reports. Multiple pronouncements should therefore lower agency cost (AC) by providing more information to stakeholders. For example, Enel, a multinational manufacturer and distributor of electricity and

gas currently uses seven pronouncements. Furthermore, although Obeng et al. (2021) examine how extensiveness of IR contributes to lower agency cost, they do not consider other global CSR pronouncements, including GRI standards, the most commonly used standards (KPMG, 2020), so they may not comprehensively capture quality and quantity of CSR reporting.

In spite of the possible benefits of multiple pronouncements mentioned above, managers often rely on a single pronouncement. Durand et al. (2019) suggest that substantive CSR requires significant resource mobilisation and tangible, costly, and non-easily reversible actions. Perez-Batres et al. (2012) suggest that implementing GRI standards is an example of substantive CSR. In addition, the benefits that can be obtained from CSR tend to be long-term and might not be measurable in monetary terms (Christensen et al., 2021). These would make managers reluctant to employ global CSR pronouncements. Therefore, although employing multiple global CSR pronouncements could reduce AC, some firms may decide against doing so due to cost constraints. This study considers multiple global CSR pronouncements to fill this gap in the literature.

The remainder of this study is organised as follows. Section 2.2 covers the theoretical framework, followed by the literature review of relevant articles in Section 2.3. Section 2.4 then describes the sample and research methods. Section 2.4.2.3 provides the main findings and Section 2.4.3 shows the results of additional analyses, including tests designed to address endogeneity concerns. Section 2.5 provides a summary and conclusion.

2.2. Theoretical framework

Agency theory could be applied to explain how CSR is likely to be linked to agency costs. Jensen and Meckling (1976) describe how the separation of ownership and control creates an agency problem due to conflicting incentives between shareholders and managers. Managers,

therefore, tend to behave opportunistically to maximise their self-interest. Jensen and Meckling (1976) discuss the need to institute mechanisms that can reduce managers' self-interested behaviour and improve incentive alignment between managers and outside investors. DeAngelo (1988) and Eisenhardt (1989) note that these corporate control mechanisms may include various monitoring and contracting activities undertaken within the agency relationship. Prior studies, such as Bushman and Smith (2001) and Kothari (2001), recognise the relevance of accounting disclosure as a governance mechanism. Accounting disclosure can be used by outside investors to monitor the behaviour of management. Furthermore, accounting information can be used as direct or indirect inputs into corporate control mechanisms, such as compensation contracts that align the interests of managers and shareholders in order to reduce agency costs.

Stiglitz and Weiss (1981) suggest that in theory, when a reporting system promotes a high level of transparency, shareholders' monitoring ability is strengthened. They contend that incentives to expropriate corporate resources are reduced as managers' behaviour becomes more visible. In this study setting, CSR reporting can improve transparency because firms with better CSR performance are more likely to disclose their CSR activities to market participants. The increase in transparency due to greater information or better presentation could reduce managers' misbehaviour by aligning incentives. For example, Bushman and Smith (2001) show that more specific information about a firm's valuation creation process could support shareholders to write compensation contracts that are based on a wider range of metrics than the traditional accounting measures, which can be noisy. Eccles et al. (2014) show that superior CSR performance is associated with better stakeholder engagement, which reduces the

likelihood of short-term opportunistic behaviour by managers. Two complementary mechanisms are activated as explained below.

First, Jones (1995) contends that superior CSR performance captures a firm's commitment to engagement with stakeholders, based on mutual trust and cooperation. He notes that ethical solutions to address problems are more efficient than other measures designed to curb opportunism, because firms experience reduced agency costs, transaction costs, and costs associated with team production, by contracting with stakeholders on the basis of mutual trust and cooperation. Furthermore, Choi and Wang (2009) suggest that superior engagement with stakeholders could improve a firm's revenue or profit generation through higher quality relationships with customers and new product development. In other words, superior stakeholder engagement may reduce the incentives for short-term opportunistic behaviour (Eccles et al., 2014). It also implies a more efficient form of contracting with key stakeholders that could improve revenue or profit generation as long-term benefits are ultimately rewarded by the markets.

Second, Dhaliwal et al. (2011) show that firms with superior CSR performance are more willing to publicly disclose their CSR strategies by issuing CSR reports, while Simnett et al. (2009) find firms are more likely to obtain assurance for such reports from third parties. This promotes the credibility of such reports. CSR reporting that is assured therefore: (1) increases transparency regarding the social and environmental impact of companies and their governance structure; and (2) may improve governance and internal control systems, hence also compliance with regulations. This, in turn, decreases information asymmetry/increases information transparency. Ioannou and Serafeim (2017) also contend that changes in internal managerial practices might reduce the likelihood of agency costs in the form of short-termism.

Jo and Harjoto (2011) further suggest that managers use CSR engagement to resolve conflicts among stakeholders leading to decreased agency costs. Similarly, Becht et al. (2003) suggest that a systematic approach to reducing agency costs is to develop effective internal corporate governance mechanisms that encourage firms to be directed and controlled as expected by principals. Other prior literature, such as Cheng et al. (2014), El Ghoul et al. (2011), and Abdelqader et al. (2024), also supports this logic. In sum, higher quality CSR reporting is likely to reduce agency costs and align management incentives through increased stakeholder engagement and transparency.

Fields et al. (2001) distinguish between the following types of agency costs: bonus hypothesis (managers and shareholders), debt hypothesis (managers and debtholders), and political cost (managers and regulators, as well as other powerful groups like trade unions). CSR reporting tends to address demands of stakeholders beyond those of shareholders, so detailed CSR reporting may not necessarily be aligned with the interests of shareholders. However, Herz et al. (2017) suggest that investors increasingly look beyond financial statements to include sustainability measures (i.e. beyond traditional financial measures). CSR information, therefore, allows investors to more comprehensively examine matters, such as companies' value creation processes and climate risk management, and hence make better-informed capital allocations. Richer reporting of CSR information may, therefore, increasingly align with the interests of shareholders in addition to satisfying other stakeholders.

This study expands on prior research by examining the effects of adopting multiple global CSR pronouncements on transparency, appropriate resource allocation, and better alignment of incentives.

2.3. Literature review and hypothesis development

A primary benefit of corporate disclosure is to mitigate information asymmetries between a firm and its stakeholders. The effect of CSR reporting on firm-level accounting variables has been explored from several perspectives in the literature. Prior literature, such as Dhaliwal et al. (2014) and Muslu et al. (2019), conduct studies using cross-country samples. Similarly, Dhaliwal et al. (2014) provide evidence on the informativeness of standalone CSR reports by showing a reduction of information asymmetry after CSR reporting. Muslu et al. (2019) develop a disclosure score based on the tone, readability, length, and numerical and horizontal content of CSR report narratives. They also examine the relationship between CSR disclosure scores and analyst forecasts. Muslu et al. (2019) find that CSR reports with higher disclosure scores are associated with more accurate forecasts, which implies better quality CSR reports reduce information asymmetry. Analyses of CSR report quality show similar results. Plumlee et al. (2015) suggest that firm value proxied by cost of equity (future cash flows) are negatively (positively) associated with CSR report quality. Similarly, Rezaee and Tuo (2019) show that the extent and quality of CSR reports measured against GRI guidelines and standards are positively associated with earnings quality, enhancing the role of CSR reports in investors' decision-making processes. Disclosure about a firm's CSR performance can potentially reduce information asymmetry to the extent that CSR performance has an effect on a firm's risk and value. This is similar for cost of debt. Uyar, Ben Arfa, et al. (2024) and Uyar, Gerged, et al. (2024) find that CSR reporting is negatively associated with the cost of debt, and positively associated with access to debt in emerging markets. CSR disclosure works as a tool in reducing information asymmetry, improving transparency of companies' CSR practices and stakeholder engagement which ultimately improve firms' access to debt capital. Furthermore, Chiu and Lin

(2024) find that greater CSR activities are associated with lower agency problems measured through asset utilisation.

Research focusing on IR has reached similar conclusions. According to Zhou et al. (2017), higher levels of alignment with the IR framework leads to improved analyst forecast accuracy for listed firms on the Johannesburg Stock Exchange during 2009-2012. Barth et al. (2017) find that high-quality IR supports investor decision-making processes and increases firm liquidity. Caglio et al. (2020) confirm these findings by analysing the textual attributes of integrated reports. They find that readability of reports contributes to greater market value, conciseness contributes to greater stock liquidity, and a balanced tone improves analyst forecast accuracy. According to Obeng et al. (2020), stakeholders might use IR to evaluate the quality of CSR management and related firm risks. If stakeholders are convinced that the management strategy is effective and if they expect a low probability of greenwashing, they tend to reward firms with a lower risk premium due to lower information asymmetry issues. Similarly, Bui et al. (2020) find that extensive carbon disclosure helps reduce cost of capital, which shows that stakeholders reward firms with a lower risk premium.

Some prior literature does not use financial performance proxies, but instead focuses on specific components of firm value. Stock liquidity is one of these subgroups, according to Velte (2022). Numerous studies, including Zúñiga et al. (2020), Barth et al. (2017), Obeng et al. (2021), and Pavlopoulos et al. (2017), find a positive impact of IR quality on liquidity. Zúñiga et al. (2020) and Barth et al. (2017) find support for this relationship in a South African context, while Obeng et al. (2021) and Pavlopoulos et al. (2017) find evidence in international settings. IR quality also leads to lower agency costs, which leads to better stock liquidity in voluntary IR settings. Investors are especially interested in future cash flows. Barth et al. (2017)

study the impact of IR on the ability of investors to forecast cash flows. They suggest that IR improves investors' ability to estimate future cash flows, in comparison to classical financial reports.

Overall, prior literature suggests that an increased CSR information set and improved CSR information quality can enhance monitoring by investors, allowing them to better assess the actions of management and constrain opportunism. However, this study has not identified any prior studies that have examined the effect of the use of multiple global CSR pronouncements. Previous literature usually focuses on measuring the adoption or quality of the CSR pronouncements using a particular framework or set of standards (e.g., IR or GRI). This study differs from the previous literature because it attempts to examine the effect of using multiple global CSR pronouncements on information asymmetry/agency costs.

Christensen et al. (2021) describe key features contributing to differences between CSR reporting and financial reporting. These include diversity of users, topics, objectives, measurement, the voluntary nature of CSR activities, and short versus long-term horizons. According to Christensen et al. (2021), the potential audience for CSR reporting is broader than for financial reporting. Although both the financial report and the CSR report can be read by anyone once they are disclosed, the users of CSR information may include groups that have relatively little experience in reading corporate disclosures (e.g., consumers). In addition, these groups could use CSR information for a variety of purposes beyond traditional financial analysis, such as to check whether a firm adheres to policies that are consistent with sustainability norms and ethical values.

As CSR and sustainability are not sharply defined, they include a broad range of ESG topics, activities, and policies. According to Christensen et al. (2021), the topics differ

significantly across firms, industries, and countries. CSR reporting is, therefore, multidimensional, leading to a broad variety of disclosures, reporting formats, standards, and reporting frameworks, which makes comparison difficult. In their global qualitative survey, Amel-Zadeh and Serafeim (2018) concur, suggesting that the greatest challenges investors face in integrating ESG information into their decision-making process are the lack of cross-company comparability and the lack of standards governing the reporting of ESG information. CSR reporting's diversity of users and topics, makes it difficult to meet the expectations of all stakeholders. Over time, different global CSR pronouncements have evolved to suit differing key users, and objectives.[5] Due to the diversity of users and topics, CSR reporting has several objectives and responds to a wide range of interests and preferences from within and outside the firm. For instance, Ehalaiye et al. (2024) find that companies in seaports disclose climate change information commonly enough to satisfy the interests of their stakeholders. Furthermore, these interests and preferences can change quickly over time. For example, Baron (2001) shows that when a firm becomes the target of a social activist campaign this will have a direct effect on costs and strategy due to changed competitive positions of firms in that industry. Changes in interests are also found by Bonetti et al. (2015), who find that Japanese firms bear a lower increase in the cost of capital after the Fukushima Nuclear Disaster, if they issue stand-alone CSR reports.

Many CSR activities show observable and measurable behaviours or outputs (e.g., CO2 emissions, number of trees saved), but they are not necessarily measurable in monetary terms (Kitzmueller & Shimshack, 2012). According to Cohen and Simnett (2015), it is challenging to apply typical accounting conventions, such as double-entry bookkeeping or basic accounting

[5] Ligteringen and Zadek (2005) confirm that approximately 300 CSR pronouncements exist globally.

principles, like materiality and relevance, to CSR reporting. One reason may be that many CSR activities and policies are voluntary and go beyond legal, regulatory, and contractual requirements. For instance, a firm may reduce pollution beyond what is required by law, or it might offer a public good to the local community. Consequently, what firms report under a mandate may be a function of their underlying CSR choices (or lack thereof). According to Bénabou and Tirole (2010), CSR is often viewed as a "strategic" activity that prioritises the firms' long-term benefits and foregoes short-term profits for the firm. CSR reporting thus frequently has to deal with long-term prospects that are difficult to quantify and are intangible in nature (e.g., consumer goodwill or employee relations). This could make it difficult for firms to implement CSR; as Kim et al. (2020) suggest, the benefit of CSR tends to be a long-term focus with stakeholders. Furthermore, Durand et al. (2019) note that substantive CSR needs large resources and tangible, costly, and non-easily reversible actions to gain those benefits. Implementing CSR pronouncements, such as GRI standards, is an example of substantive CSR. Therefore, managers may not be willing to employ CSR pronouncements due to cost constraints although multiple global CSR pronouncements could reduce AC.

The use of global CSR pronouncements should promote a firm's ability to address multiple stakeholders' expectations while still enabling reporting, which is comparable (Hąbek & Wolniak, 2016). KPMG (2020) note that leading global firms tend to use multiple global CSR pronouncements and their behaviour usually predicts future reporting. Prior literature suggests that this tends to improve the quality and quantity of information, which leads to lower information asymmetry. If companies are applying multiple global CSR pronouncements effectively, their stakeholders should have lower information asymmetry than firms using only

one type of CSR pronouncement or non-CSR firms. This study therefore proposes the following hypothesis:

H1: Firms using multiple global CSR pronouncements are associated with lower agency costs.

2.4. Sample and results

2.4.1.1. Sample

This section provides empirical evidence relating to the effects of CSR disclosure quality on agency cost by using longitudinal data on global CSR pronouncements in an international setting. The study's sample consists of all EU firms covered by the GRI database, Compustat Global, Bloomberg, Worldscope, DataStream, Eikon, and World Bank. The year 2015 is selected as the first year of data collection because the European Parliament and Council issued Directive 2014/95/EU, which dealt with the disclosure of non-financial environmental and social information and imposed mandatory disclosure of non-financial information for public interest entities with more than 500 employees (European Union, 2014). Directive 2014/95/EU was enforced on December 2014, and therefore the year 2015 is selected as the first year of data collection because companies' disclosures are expected to be affected 2014 onwards. The year 2019 is selected as the final year for data collection to avoid the potentially significant influence of COVID-19 on CSR disclosures as discussed in the section 1.3.

Following Rezaee and Tuo (2019), the study identifies voluntary adopters of global CSR pronouncements from the GRI database. The sample consists of all EU firm-years recorded in the GRI database. The GRI database also tracks other sustainability reporting information, which is used to ascertain what other CSR pronouncements firms may use in addition to the GRI standards/guidelines. A key advantage of using the GRI database to collect

data on global CSR pronouncements is that it includes numerous types of global CSR pronouncements, including GRI, IR, SDGs, CDP, IFC, the OECD guidelines, the UNGC, ISO, and AccountAbility (AA1000). Firm level financial and stock return data is obtained from Compustat Global and Bloomberg, non-financial data from Refinitiv Worldscope (previously Thomson Reuters ASSET4), DataStream, and Eikon, and country-level data is obtained from the World Bank.

This results in a total sample size of 2,605 firm-year observations from 770 unique firms from 24 EU countries. Table 1 details the sample selection process.

Table 1: Sample selection

Sample selection process		
	Firms	N
Firms/observations on the GRI database from EU countries (2015-2019)	1375	4729
Less: Firms with no data on accounting or corporate governance on DataStream and Eikon for the study period	605	2124
Final sample	770	2605

2.4.1.2. Measurement of Agency Cost (AC)

Following Ang et al. (2000); Easterbrook (1984); Henry (2010); Jurkus et al. (2011); Obeng et al. (2021), this study uses six proxies to capture agency cost: free cash flows (FREE_CF), selling, general, and administrative expense ratio (SGA_EXP), dividend payout ratio (DIV_PAYOUT), asset utilisation (ASSET_UTL), cash holdings (CASH_HOLD), and capital expenditure (CAPEX).

According to Jensen (1986), when a corporation has funds that exceed those required for positive net present value projects, a conflict of interest may arise which leads to inefficiencies when the funds are not properly utilised by managers. Jensen (1986) contends

that this has been characterised as the agency cost of free cash flow. Following Ferrell et al. (2016), the first AC proxy is therefore (FREE_CF), being free cash flow divided by total assets, where FREE_CF equals earnings before interest and taxes plus change in net assets. A higher value indicates greater AC associated with free cash flows.

The second proxy for AC is the selling, general, and administrative expenses ratio (SGA_EXP). Ang et al. (2000) contend that this expense ratio shows excessive spending on the part of management. Following Florackis (2008), SGA_EXP is measured as the ratio of selling, general, and administrative expenses to annual sales. According to Florackis (2008), a higher value indicates higher AC because greater expenses relative to sales is likely to include managers' consumption of perquisites.

Following John et al. (2015), the third proxy for AC is the ratio of cash dividends to the sum of dividends and interest (DIV_PAYOUT). They contend that the payment of dividends works as a mechanism for preventing possible overinvestment as excess funds are made available to shareholders. AC is therefore high when DIV_PAYOUT is low.

Following Ang et al. (2000), this study uses the ratio of annual sales to total assets, or asset turnover ratio (ASSET_UTL) as a fourth proxy for AC. Ang et al. (2000) suggest that self-interested managers may make poor investments that generate less revenue or simply produce less effort in generating revenue. AC is high when ASSET_UTL is low.

Furthermore, following Obeng et al. (2021), cash holdings (CASH_HOLD) and capital expenditures (CAPEX), the fifth and sixth proxies, are also used to measure AC. CASH_HOLD is measured as the ratio of cash holdings to total assets, and CAPEX is calculated as capital expenditures scaled by total assets. AC is high when CASH_HOLD is high because it represents inefficient funds that are not properly utilised by managers. AC is

also high when CAPEX is high because a higher value is likely to include managers' consumption of perquisites.

Following Obeng et al. (2021), this study multiplies ASSET_UTL and DIV_PAYOUT by −1 to ensure consistent interpretation. This translates to high values representing high AC. In addition, following Obeng et al. (2021), this study uses Principal Component Analysis (PCA) of six ACs into a single, parsimonious measure of agency costs. This study uses the score from the first factor of this analysis as a main dependent variable and labels it as AC.

2.4.1.3. Measurement of CSR pronouncements

In this thesis, CSR pronouncements are defined as an all-inclusive term of CSR frameworks/standards/guidelines that are covered in the GRI database. Following Ioannou and Serafeim (2012), this study creates a dummy variable for each type of CSR pronouncement. It equals 1 when a firm is using a particular CSR pronouncement and 0 otherwise. The GRI Sustainability Disclosure Database[6] is used to collect this data.

Prior CSR literature using international samples occasionally employs aggregated CSR measures to capture a holistic dimension of CSR. Waddock and Graves (1997, p. 304) emphasise the "need for a multidimensional measure applied across a wide range of industries and larger samples of companies". Therefore, this study uses a total of nine global CSR pronouncements for this study, which are GRI, IR, SDG, CDP, IFC, OECD guidelines, UNGC, ISO, and AA1000. The variable FRAMEWORK is calculated as the average of these, which is

[6] Available on 18 November 2020 at https://database.globalreporting.org/

obtained from the GRI database. The average, rather than aggregate, value is used throughout this thesis because it provides equal weight for the FRAMEWORK, and past literature tends to use the average score for measuring CSR related scores (Jitmaneeroj, 2018).

2.4.1.4. Empirical models

Following Jurkus et al. (2011) and Obeng et al. (2021), this study employs an OLS regression estimation to test the hypothesis. To test H1, the following model is used:

$AC_{it} = \beta_0 + \beta_1 FRAMEWORK_{it} + \Sigma\beta_{1+k} Controls_{it} + \text{fixed effects} + \varepsilon_{it}$

where AC represents the first principal component of six agency costs, as described above, and FRAMEWORK represents the average score for nine types of global CSR pronouncements. Following prior literature (Barth et al., 2017; Jurkus et al., 2011; Rashid, 2016), several control variables are likely to be associated with AC. This study controls for firm diversification, as Barth et al. (2017) suggest that diversified firms are more likely to have agency issues due to communication and control problems. Following Mazboudi et al. (2020), this study measures diversification (FOREIGN_SALES) as the ratio of foreign sales to total sales. Furthermore, following Jurkus et al. (2011); Obeng et al. (2021); Rashid (2016), this study controls for a number of other firm characteristics, namely leverage (LEV), profitability (PROFIT), firm size (SIZE), growth opportunities (MTB), intangibility intensity (INTANGIBLE), financial reporting quality (FRQ), and stock price volatility (PRICE_VOL). LEV is expected to be negatively associated with AC, because Harvey et al. (2004) find that debt lessens the agency problem of overinvestment. According to Michaels and Grüning (2017), PROFIT and SIZE are expected to be negatively associated with AC as these characteristics are negatively related with information asymmetry. Michaels and Grüning (2017) suggest that MTB reflects the

expectations of market participants compared to accounting valuation. Higher MTB might imply the anticipation of short-term growth, so MTB is expected to be negatively associated with AC. INTANGIBLE is expected to be positively associated with AC as intangible assets are positively related to information opaqueness (Jin et al., 2022). Shahzad et al. (2019) find that FRQ reduces information asymmetry and agency problems by reducing the over- and under-investment problems. They suggest that higher FRQ allows principals to sign efficient contracts that align interest between principals (shareholders) and agents (managers). Jensen and Meckling (1976) suggest that the overinvestment problem tends to be more severe in riskier firms, so a higher price volatility (PRICE_VOL) is expected to be associated with higher AC.

Since this study has an international setting, country factors that might be associated with AC are also added, namely country-level investor protection (INVPRO), GDP, and an indicator variable that is equal to 1 if a country has a civil law base, otherwise 0 (CIVIL). INVPRO represents a degree of country governance, and following Lu and Wang (2021), it equals the average of six dimensions of Worldwide Governance Indicators: voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption. Higher value indicates greater country-level investor protection, and is expected to be negatively associated with AC. GDP is the natural log of GDP per capita. Ferrell et al. (2016) find that GDP is negatively associated with AC, as GDP is a measure of the financial openness of an economy and represents financial integration. According to Porta et al. (2008), countries with a civil law framework have a more stakeholder-oriented approach than those which rely on common law. A civil law framework approach is more likely to enforce legal requirements for firms in relation to CSR. The objective of such an approach is that the law should protect the interests of various stakeholders

such as employees, consumers, and the wider community. Porta et al. (2008) suggest that CSR is more likely to be a mandatory regulatory requirement rather than a voluntary action in civil law countries. Similarly, Jo et al. (2016) find the average CSR score of firms in civil law countries is significantly higher than in common law countries. To control unspecified, invariant effects related to years, industries, and countries, this study includes year, industry, and country fixed effects in all the models. All variables are defined in Appendix A. Based on H1, β_1 is expected to be negative and significant. It represents the contribution towards reducing AC through use of multiple global CSR pronouncements.

2.4.2. Empirical results

2.4.2.1. Descriptive statistics

Panel A, Table 2 shows the descriptive statistics of the variables used in the regression analysis. The descriptive statistics reveal a mean firm-level AC of -0.0016 and median of -0.1255, but all other statistics indicate that there is considerable variation in the AC of sample firms. The FRAMEWORK statistics show that sample firms use up to seven types of global CSR pronouncements, but the mean (0.2753 or 27.53%) and median (0.2222 or 22.22%) suggest that most firms use around two types of global CSR pronouncements.

The mean (median) of FOREIGN_SALES, LEV, PROFIT, SIZE, MTB, INTANGIBLE, FRQ, and PRICE_VOL are 55.9003% (64.27%), 19.24% (18.04%), 8.12% (6.10%), 8.4067 (8.3345), 2.5557 (1.7707), 23.15% (18.58%), -0.0047 (-0.0104), and 0.6595 (0.7374), which are consistent with previous literature (e.g., Cowan et al. (2013)) FOREIGN_SALES are close to that of Cowan et al. (2013), who find an average of 50% of foreign sales to total sales. The mean value of LEV suggests that, on average, sample firms have 19.24% debt in their capital structure. This value is consistent with Li Li Minor (2016)

who find a mean leverage of 0.190. The mean of PROFIT represents 8.12% of total sales are net income. This value is relatively lower than what Julian and Ofori‐Dankwa (2013) find (0.13), potentially due to a different sample situation, which is based on the years between 2003 to 2005 in an African setting. The mean of SIZE is 8.4067 while the median is 8.3345. This value is lower than Bansal et al. (2018) find. The mean of MTB is 2.5557, which implies that, on average, sample firms' stocks are traded at prices above their book values. This value is relatively higher than what Michaels and Gruning (2017) find, which is 2.15. The mean and median of INTANGIBLE is 0.2315 and 0.1858 respectively, which indicates that, on average, sample firms have 23.15% intangible assets out of total assets. This value is relatively lower than what Obeng et al. (2021) find (0.3545). The mean of FRQ is -0.0047, and this value is lower than findings from Obeng et al. (0.0082). The mean value of PRICE_VOL is 0.6595, which is lower than what Hong and Kacperczyk (2009) find (3.75). This might be due to using the standard deviation value without transferring to a natural logarithm (their mean value becomes 1.3218 by converting to natural logarithm value), and a different sample period and sample country.

The mean and median of INVPRO is 1.2831 and 1.4138 respectively. These values are in line with Lu and Wang (2021). The mean value of the natural logarithm of GDP is US$10.5935, implying that, on average, the sample countries have US$38,648 GDP per capita. This value is close to what Yu et al. (2018) find, which is US$10.5370. On average, 78.50% of sample firms are based in civil-law countries.

Panel B, Table 2 provides sample distribution by year. Year-wise distribution shows that the year 2017 accounts for the largest number of observations (554 = 21.27%), followed by 2015 (552 = 21.19%), while 2019 has the lowest number of observations (428 = 16.43%).

The low number of observations in 2019 is mainly due to the absence of data in the GRI database. Companies using GRI guidelines/standards are not necessarily using the GRI database as its use is voluntary. The large decrease in 2019 is likely due to a decision to discontinue updating the GRI database in December 2020, followed by its closure in April 2021 (Schwery, 2021).

Panel C, Table 2 provides country distributions of sample firms. The sample covers 24 EU countries and is dominated by firms from the United Kingdom (UK) (19.96%), followed by France (14.59%), while Cyprus and Latvia have the lowest number of observations (0.04%).

Panel D, Table 2 provides sample distribution by industry. The sample consists of companies in a variety of industries as classified using the Standard Industry Classification Codes (SIC). The industry distribution reveals that the sample is dominated by firms operating in the manufacturing industry (47.33%), followed by the transportation and communications industry (16.51%), while the agriculture, forestry, and fishing industry has the lowest number of observations (0.38%).

Table 2: Descriptive statistics

Panel A: Full sample

Variable(s)	N	Mean	SD	p25	p50	p75	Min	Max
AC	2605	-0.0016	1.2231	-0.9186	-0.1255	0.7164	-2.4867	3.5174
FRAMEWORK	2605	0.2753	0.1910	0.1111	0.2222	0.4444	0.0000	0.7778
FOREIGN_SALES	2605	55.9003	34.6609	23.3900	64.2700	86.7000	0.0000	100
LEV	2605	0.1924	0.1323	0.0912	0.1804	0.2778	0.0000	0.5529
PROFIT	2605	0.0812	0.1008	0.0292	0.0610	0.1107	-0.1926	0.5567
SIZE	2605	8.4067	1.6068	7.2319	8.3345	9.6081	4.8073	12.0537
MTB	2605	2.5557	2.7954	0.8831	1.7707	3.2317	0.0570	17.2334
INTANGIBLE	2605	0.2315	0.2011	0.0504	0.1858	0.3883	0.0004	0.7457
FRQ	2605	-0.0047	0.0610	-0.0398	-0.0104	0.0290	-0.1828	0.1904
PRICE_VOL	2605	0.6595	1.5489	-0.2443	0.7374	1.7572	-3.8531	3.7448
INVPRO	2605	1.2831	0.3953	1.0905	1.4138	1.5239	0.1825	1.7937
GDP	2605	10.5935	0.3123	10.5204	10.6487	10.7535	9.4397	11.2786
CIVIL	2605	0.7850	0.4109	1.0000	1.0000	1.0000	0.0000	1.0000

Note: All variable definitions are in Appendix A

Panel B: Sample distribution by year

Year	N	%	AC	FRAMEWORK
2015	552	21.19	0.0803	0.2321
2016	543	20.84	-0.0034	0.2468
2017	554	21.27	0.1175	0.2690
2018	528	20.27	0.0414	0.2948
2019	428	16.43	-0.3123	0.3512
Total	2605	100		

Note: All variable definitions are in Appendix A

Panel C: Sample distribution by country

Country	N	%	AC	FRAMEWORK
Austria	80	3.07	-0.0788	0.3556
Belgium	65	2.5	-0.0258	0.3214
Croatia	4	0.15	-0.4160	0.1389
Cyprus	1	0.04	-0.7365	0.2222
Czech Republic	10	0.38	0.3888	0.1111
Denmark	91	3.49	0.8361	0.1990
Finland	177	6.79	0.1700	0.3057
France	380	14.59	-0.1353	0.2637
Germany	334	12.82	-0.1318	0.3393
Greece	63	2.42	-0.3346	0.3192
Hungary	4	0.15	1.3313	0.1667
Ireland	39	1.5	-0.2531	0.1339
Italy	188	7.22	-0.3679	0.3032
Latvia	1	0.04	-0.4698	0.0000
Lithuania	3	0.12	-0.6373	0.0741
Luxembourg	19	0.73	-0.5710	0.0760
Netherlands	99	3.8	-0.0619	0.3322
Poland	63	2.42	0.2290	0.1922
Portugal	46	1.77	-0.1869	0.2923
Romania	6	0.23	-0.4069	0.2778
Slovenia	13	0.5	0.0152	0.1624
Spain	150	5.76	-0.6412	0.3993
Sweden	249	9.56	0.2141	0.3664
United Kingdom	520	19.96	0.2786	0.1579
Total	2605	100		

Note: All variable definitions are in Appendix A

Panel D: Sample distribution by industry

Industry	N	%	AC	Framework
Construction	140	5.37	0.0020	0.2706
Mining	61	2.34	-0.5725	0.3206
Retail trade	153	5.87	0.7280	0.2004
Wholesale trade	74	2.84	0.6050	0.2042
Agriculture, forestry and fishing	10	0.38	-0.9454	0.1444
Financial industries	186	7.14	-0.9724	0.2951
Manufacturing	1,233	47.33	0.2214	0.2869
Other	36	1.38	-0.4863	0.2562
Services	282	10.83	0.1420	0.2124
Transportation and communications service	430	16.51	-0.5371	0.3132
Total	2605	100		

Note: All variable definitions are in Appendix A

2.4.2.2. Correlation analysis

Table 3 describes the correlation matrix of the variables used in the regression model. According to the correlation matrix, firms that issue CSR reports (FRAMEWORK) are significantly and negatively associated with AC, which is in line with expectation. This implies that firms employing global CSR pronouncements tend to be efficient and effective in allocating resources. Enhanced efficiency and effectiveness could arise from a higher level of transparency through CSR reporting, which possibly improves shareholders' monitoring ability. Consistent with Obeng et al. (2021) and Ferrell et al. (2016), LEV, FRQ, and GDP are statistically and negatively associated with AC while PRICE_VOL is statistically and positively associated with AC. Further, the correlation matrix shows that the potential for multicollinearity in the regression models is unlikely. Gujarati and Porter (2009) note that correlations between variables with values below 0.80 do not create any multicollinearity issues in regression models. Therefore, there is no observable multicollinearity issue in the regression models.

Table 3: Correlation Matrix

Variable(s)	1	2	3	4	5	6	7	8	9	10	11	12	13
AC(1)	1												
FRAMEWORK(2)	-0.20***	1											
	(<0.01)												
FOREIGN_SALES(3)	0.09***	0.16***	1										
	(<0.01)	(<0.01)											
LEV(4)	-0.38***	0.10***	-0.10***	1									
	(<0.01)	(<0.01)	(<0.01)										
PROFIT(5)	0.07***	-0.03	-0.13***	0.02	1								
	(<0.01)	0.17	(<0.01)	0.35									
SIZE(6)	-0.11***	0.46***	0.25***	0.04*	-0.21***	1							
	(<0.01)	(<0.01)	(<0.01)	(<0.1)	(<0.01)								
MTB(7)	0.31***	-0.16***	0.03*	0.07***	0.17***	-0.19***	1						
	(<0.01)	(<0.01)	(<0.1)	(<0.01)	(<0.01)	(<0.01)							
INTANGIBLE(8)	-0.03*	-0.06***	0.13***	0.18***	-0.08***	0.06***	0.16***	1					
	(<0.1)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)						
FRQ(9)	-0.14***	0.07***	-0.08***	0.07***	0.37***	-0.07***	-0.15***	-0.39***	1				
	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)					
PRICE_VOL(10)	0.10***	0.11***	0.19***	-0.09***	0.02	0.11***	0.12***	0.01	-0.04**	1			
	(<0.01)	(<0.01)	(<0.01)	(<0.01)	0.27	(<0.01)	(<0.01)	0.78	(<0.05)				
INVPRO(11)	0.15***	-0.01	0.24***	-0.08***	-0.01	0.12***	0.05**	0.11***	-0.07***	0.08***	1		
	(<0.01)	0.53	(<0.01)	(<0.01)	0.73	(<0.01)	(<0.05)	(<0.01)	(<0.01)	(<0.01)			
GDP(12)	0.09***	0.01	0.26***	-0.01	0.04**	0.11***	0.08***	0.18***	-0.09***	0.14***	0.77***	1	
	(<0.01)	0.61	(<0.01)	0.70	(<0.05)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)		
CIVIL(13)	-0.10***	0.33***	0.03	0.00	-0.03	0.15***	-0.31***	-0.12***	0.01	0.20***	-0.17***	-0.18***	1
	(<0.01)	(<0.01)	0.11	0.88	0.18	(<0.01)	(<0.01)	(<0.01)	0.60	(<0.01)	(<0.01)	(<0.01)	

Note: All variable definitions are in Appendix A. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

2.4.2.3. Regression results

This study applies the OLS to examine the relationship between FRAMEWORK and ACs in multivariate regression tests. Table 4 shows evidence for the main hypothesis. It provides the relation between FRAMEWORK and ACs. The coefficient of FRAMEWORK is negative and statistically significant (Coefficient -0.4089, p value<0.001), supporting the hypothesis. Furthermore, the R-square of the model is 43.31%. This suggests that using multiple global CSR pronouncements is associated with lower information asymmetry measured through AC. The results of the OLS regression, therefore, support the hypothesis. In terms of economic significance, on average, a one standard deviation (0.1910) increase in FRAMEWORK is associated with a 7.81% reduction in AC.

The finding is in line with Agency theory's propositions that better information quality and quantity lead to less information asymmetry between principals and managers. The finding also suggests that firms using multiple global CSR pronouncements use their resources more effectively and efficiently, and that their incentives are more closely aligned with stakeholders' expectations, possibly through better stakeholder engagement. Among the remaining control variables, the results show that firm profit, market to book ratio, and price volatility are positively and significantly related to AC. This suggests that firms with greater profit, market to book ratio, and volatile price have a higher level of AC. On the other hand, foreign sales, leverage, firm size, intangible, FRQ, and GDP are negatively associated with AC. The FRQ's coefficient tends to be high and strongly significant. Foreign sales, leverage, intangible, and GDP have significant explanatory power in reducing firm AC.

According to Obeng et al. (2021), AC could be correlated period-to-period. Table 5, therefore, shows results for a lagged analysis. AC is negatively associated with

FRAMEWORK(t-1). This shows that the past variables have little significant impact on future AC. The main findings therefore still hold after controlling for lagged variables. Table 6 provides results for the regression analysis with firm fixed effects and the main result still holds. AC has significant negative coefficients with FRAMEWORK. Table 7 provides results for the regression analysis excluding Germany, France, and UK as this study's sample is dominated by those three countries and the main result still holds.

To conclude this sub-section, AC remains negatively associated with FRAMEWORK after controlling for lag effects and firm fixed effects as well as after excluding dominant samples from Germany, France, and UK. Overall, this provides evidence consistent with the hypothesis: use of multiple global CSR pronouncements is negatively associated with AC. This suggests that use of multiple global CSR pronouncements contribute to improved information quality, which supports monitoring by investors, allowing them to better assess the actions of management and constrain opportunism.

Table 4: Main regression
Agency cost and multiple global CSR pronouncements

Variable(s)	DEP=AC
	Coefficient (t-value)
FRAMEWORK	-0.4089***
	(-3.25)
FOREIGN_SALES	-0.0012*
	(-1.73)
LEV	-2.6591***
	(-17.50)
PROFIT	2.9005***
	(11.85)
SIZE	-0.0159
	(-1.02)
MTB	0.1013***
	(12.81)
INTANGIBLE	-1.3962***
	(-12.04)
FRQ	-4.6649***
	(-12.15)
PRICE_VOL	0.0342**
	(2.43)
INVPRO	0.9476
	(1.57)
GDP	-1.0309*
	(-1.77)
CIVIL	0.0322
	(0.25)
CONSTANT	10.1764*
	(1.72)
YEAR_FE	Yes
INDUSTRY_FE	Yes
COUNTRY_FE	Yes
N	2605
F	43.32
Adj.R2	0.4331

Note: Table 4 reports the OLS regressions result of testing the relationship between agency cost and multiple global CSR pronouncements. The dependent variable is agency cost, which is calculated by the principal component of six agency costs: ASSET_UTL (ratio of annual sales and total asset); DIV_PAYOUT (cash dividend divided by the sum of cash dividend and interest and related expense); SGA_EXP (ratio of sales, general, and administrative expense and annual sales); FREE_CF (earnings before interest and taxes plus change in net asset); CASH_HOLD (ratio of cash and total asset); and CAPEX (ratio of capital expenditure and total asset). All variable definitions are in Appendix A.
***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

Table 5: Lagged analysis
Agency costs and multiple global CSR pronouncements with lagged variables.

Variable(s)	DEP=AC
	Coefficient (t-value)
FRAMEWORK(t-1)	-0.4448***
	(-2.85)
FOREIGN_SALES(t-1)	-0.0006
	(-0.7)
LEV(t-1)	-2.619***
	(-13.84)
PROFIT(t-1)	1.876***
	(6.11)
SIZE(t-1)	-0.0226
	(-1.17)
MTB(t-1)	0.1056***
	(10.85)
INTANGIBLE(t-1)	-0.9269***
	(-6.5)
FRQ(t-1)	-3.4761***
	(-7.35)
PRICE_VOL(t-1)	0.0403**
	(2.31)
INVPRO(t-1)	-0.6988
	(-1.16)
GDP(t-1)	-0.4173
	(-0.98)
CIVIL(t-1)	0.0311
	(0.21)
CONSTANT	6.0387
	(1.29)
YEAR_FE	Yes
INDUSTRY_FE	Yes
COUNTRY_FE	Yes
N	1843
F	27.31
Adj.R2	0.3913

Note: Table 5 reports the OLS regressions result of testing the relationship between agency cost and multiple global CSR pronouncements. The dependent variable is agency cost, which is calculated by the principal component of six agency costs: ASSET_UTL (ratio of annual sales and total asset); DIV_PAYOUT (cash dividend divided by the sum of cash dividend and interest and related expense); SGA_EXP (ratio of sales, general, and administrative expense and annual sales); FREE_CF (earnings before interest and taxes plus change in net asset); CASH_HOLD (ratio of cash and total asset); and CAPEX (ratio of capital expenditure and total asset). The all independent and control variables are one year lagged. All variable definitions are in Appendix A.
***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

Table 6: Firm fixed effect
Agency costs and multiple global CSR pronouncements with firm fixed effect.

Variable(s)	DEP=AC
	Coefficient
	(t-value)
FRAMEWORK	-0.4089**
	-2.51
FOREIGN_SALES	-0.0012
	-1.22
LEV	-2.6591***
	-10.13
PROFIT	2.9005***
	5.77
SIZE	-0.0159
	-0.6
MTB	0.1013***
	5.93
INTANGIBLE	-1.3962***
	-7
FRQ	-4.6649***
	-7.43
PRICE_VOL	0.0342**
	2.09
INVPRO	0.9476*
	1.7
GDP	-1.0309**
	-2.05
CIVIL	0.0322
	0.19
CONSTANT	10.1764*
	2
YEAR_FE	Yes
INDUSTRY_FE	Yes
COUNTRY_FE	Yes
FIRM_FE	Yes
N	2605
F	-
Adj.R2	0.4433

Note: Table 6 reports the OLS regressions result of testing the relationship between agency cost and multiple global CSR pronouncements with firm fixed effects. The dependent variable is agency cost, which is calculated by the principal component of six agency costs: ASSET_UTL (ratio of annual sales and total asset); DIV_PAYOUT (cash dividend divided by the sum of cash dividend and interest and related expense); SGA_EXP (ratio of sales, general, and administrative expense and annual sales); FREE_CF (earnings before interest and taxes plus change in net asset); CASH_HOLD (ratio of cash and total asset); and CAPEX (ratio of capital expenditure and total asset). All variable definitions are in Appendix A.
***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

Table 7: Excluding samples
Agency cost and multiple global CSR pronouncements excluding Germany, France, and UK

Variable(s)	DEP=AC
	Coefficient (t-value)
FRAMEWORK	-0.4361***
	-2.64
FOREIGN_SALES	0.0008
	0.76
LEV	-1.7729***
	-8.43
PROFIT	2.9685***
	8.68
SIZE	0.0470**
	2.19
MTB	0.1083***
	7.97
INTANGIBLE	-2.1834***
	-13.2
FRQ	-4.8241***
	-9.24
PRICE_VOL	0.0048
	0.24
INVPRO	1.5058*
	1.84
GDP	-1.2909
	-1.35
CIVIL	-0.5016
	-1.14
CONSTANT	11.9042
	1.1
YEAR_FE	Yes
INDUSTRY_FE	Yes
COUNTRY_FE	Yes
N	1371
F	32.39
Adj.R2	0.4963

Note: Table 7 reports the OLS regressions result of testing the relationship between sgency cost and multiple global CSR pronouncements excluding sample firms from Germany, France, and UK. The dependent variable is agency cost, which is calculated by the principal component of six agency costs: ASSET_UTL (ratio of annual sales and total asset); DIV_PAYOUT (cash dividend divided by the sum of cash dividend and interest and related expense); SGA_EXP (ratio of sales, general, and administrative expense and annual sales); FREE_CF (earnings before interest and taxes plus change in net asset); CASH_HOLD (ratio of cash and total asset); and CAPEX (ratio of capital expenditure and total asset). All variable definitions are in Appendix A.
***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

2.4.3. Additional analysis and robustness tests

The major empirical challenge this research question faces is the endogenous relationship between the voluntary adoption of global CSR pronouncements and AC. Specifically, omitted variables and reverse causality could violate the validity of the results. For instance, AC and CSR pronouncements could affect each other and cause reverse causality (i.e., firms with lower AC tend to use more CSR pronouncements rather than CSR pronouncements reduce AC). Consequently, this study conducts a series of additional tests to address endogeneity concerns.

2.4.3.1 Propensity score matching

First, to address concerns that firms self-select into the superior CSR reporting group, this study uses PSM to form a matched control sample of lower CSR reporting firms (Tucker, 2010). For example, firms that actively engage in CSR are usually those firms with financial advantages, or reputable firms. Small firms or financially weaker firms are less capable of bearing the additional costs of engaging in CSR. Consequently, firm size or reputation may correlate with the CSR of the firm, which raises an endogeneity concern. The first stage of PSM models the probability of being a superior CSR reporting firm using a logit model that contains firm, governance, and country-level variables. Specifically, this study models the high/low CSR choice as a function of the extent of diverse sales, leverage, profitability, firm size, market to book ratio, intangible, financial reporting quality, price volatility, country level investor protection, GDP, and civil law. This study divides the sample into two groups based on the application of GRI guidelines/standards (a binary variable that equals 1 if a company adopts GRI guidelines/standards, 0 otherwise). The objective of this model is not to identify the

determinants of CSR adoption, but rather to identify a wide range of variables that can be applied to match the low and high CSR firms.

Using the estimated coefficients from the probit model, this study computes the expected probability of being a high CSR firm for each firm-year observation and uses these propensity scores to match each high CSR observation to a low CSR observation using a caliper matching method with distance of 0.001 without replacement. After matching, 426 firm-year observations related to 213 treatment (high CSR) and 213 control (low or no CSR) firms are identified. The t-test shows the differences in means between the matched firms for the AC and 11 variables included in the first stage model are not significant except for AC (see Table 8, Panel A for details). Panel B of Table 8 provides the regression results for the matched sample. The results show a result consistent with the main regression analysis, i.e., that FRAMEWORK is significantly and negatively associated with AC (coefficient= -0.5632, p-value <0.1).

Table 8: Propensity Score Matching (PSM) analysis

Panel A: Matching

Variable(s)	Treatment firms	Control firms	Difference	t-statistics
AC	0.0734	0.3710	-0.2976	-2.41**
FOREIGN_SALES	56.9120	55.7740	1.1380	0.34
LEV	0.1905	0.1881	0.0025	0.19
PROFIT	0.0883	0.0902	-0.0020	-0.18
SIZE	8.1017	8.2960	-0.1943	-1.31
MTB	2.6961	2.7707	-0.0746	-0.27
INTANGIBLE	0.2592	0.2476	0.0115	0.59
FRQ	-0.0015	-0.0074	0.0058	0.92
PRICE_VOL	0.5900	0.6249	-0.0349	-0.22
INVPRO	1.3968	1.3554	0.0414	1.55
GDP	10.6580	10.6460	0.0120	0.49
CIVIL	0.6620	0.6432	0.0188	0.41

Note: Panel A shows the mean of the treatment and control firms dependent and control variables after PSM procedure. The dependent variable is agency cost, which is calculated by the principal component of six agency costs: ASSET_UTL (ratio of annual sales and total asset); DIV_PAYOUT (cash dividend divided by the sum of cash dividend and interest and related expense); SGA_EXP (ratio of sales, general, and administrative expense and annual sales); FREE_CF (earnings before interest and taxes plus change in net asset); CASH_HOLD (ratio of cash and total asset); and CAPEX (ratio of capital expenditure and total asset). All variable definitions are in Appendix A.

***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

Table 8: Propensity Score Matching (PSM) analysis (continued)

Panel B: PSM regression

Agency cost and multiple global CSR pronouncements with matched samples

Variable(s)	DEP=AC
	Coefficient (t-value)
FRAMEWORK	-0.5632*
	-1.77
FOREIGN_SALES	-0.0026
	-1.29
LEV	-3.1269***
	-7.63
PROFIT	2.6164***
	3.74
SIZE	0.0650
	1.41
MTB	0.1279***
	5.00
INTANGIBLE	-1.3483***
	-4.07
FRQ	-4.9836***
	-4.87
PRICE_VOL	0.0232
	0.7
INVPRO	2.0044
	0.89
GDP	-1.7695
	-1.09
CIVIL	0.9645
	1.54
CONSTANT	15.9429
	1.04
YEAR_FE	Yes
INDUSTRY_FE	Yes
COUNTRY_FE	Yes
N	426
F	-
Adj.R2	0.4952

Note: Panel B Table 8 reports the OLS regressions result of testing the relationship between agency cost and multiple global CSR pronouncements with matched samples (213 treated firms and 213 control firms). The dependent variable is agency cost, which is calculated by the principal component of six agency costs: ASSET_UTL (ratio of annual sales and total asset); DIV_PAYOUT (cash dividend divided by the sum of cash dividend and interest and related expense); SGA_EXP (ratio of sales, general, and administrative expense and annual sales); FREE_CF (earnings before interest and taxes plus change in net asset); CASH_HOLD (ratio of cash and total asset); and CAPEX (ratio of capital expenditure and total asset). All variable definitions are in Appendix A.

***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

2.4.3.2. Heckman two-stage model

Second, this study employs a Heckman two-stage model. As Tucker (2010) explains, while PSM controls for selection bias due to observable differences, the Heckman two-stage method could be used to address selection bias due to unobservable differences. It is critical to consider the possibility of unobservable self-selection bias as the sample of this study consists of only those firms that voluntarily issue CSR reports. To further address concerns about selection bias for this research question, the Heckman approach is therefore employed to develop a probit model for the CSR practice level (i.e., GRI/framework score). In the first stage of the Heckman model, this study uses GRI standards as a dummy variable that equals to 1 if the firm prepares CSR reports with GRI standards, and 0 otherwise (GRI). The sample size in the first-stage model is 2,590 firm-year observations. The first-stage model should include a variable that satisfies the exclusion restriction. In this study, such a variable should be related to the choice of GRI/framework score, but unrelated to AC. The Inverse Mills Ratio (IMR), estimated from the first-stage model as an additional independent variable in the equation is then used. This study's first-stage probit model is specified below:

$$CSRHigh = a_0 + a_1 Env_{it} + \Sigma a_2 Controls_{it} + fixed\ effects + \varepsilon_{it}$$

Env is a measure of environmental performance score, being an average score of country i in year t, which is obtained from Eikon. *Env* is used to satisfy the exclusion restriction. Specifically, firms in countries with superior environmental performance are likely to have a higher demand for non-financial information, and firms would have more incentives to report more regarding their performance (Dhaliwal et al., 2011). These firms would be more likely to use global CSR pronouncements to report effectively and efficiently. However, environmental performance is unlikely to be directly related to agency costs, which emanate from the

principal-agent relationship except when reported through or via CSR reporting pronouncements. If there is no separation of ownership and conflict of interest between stakeholders and managers, environmental performance should directly influence AC. When a conflict of interest between the two exists, CSR reporting acts as a conflict-resolution device between stakeholders and managers. Even if a company has superior environmental performance, stakeholders are unlikely to be notified if that information is not published. In addition, this study includes several variables following Obeng et al. (2021).

Table 9 presents the results of the Heckman two-step model. In column 1, *Env* is positively and significantly ($p<0.01$) associated with a higher level of CSR practice, which is consistent with expectations, suggesting that *Env* is an exogeneous variable to satisfy the exclusion restriction criteria. Other variables are also significantly related to the CSR level, such as leverage firm size, country-level investor protection, GDP, and civil law, and the model has a pseudo-R^2 of 37.87%. In the second stage for the level test, the coefficients of FRAMEWORK remain negative and significant (coefficient= -0.4012, p-value <0.01), consistent with firms adopting multiple global CSR pronouncements having lower AC. The results are therefore consistent after controlling for unobservable differences between high CSR and low CSR firms.

Table 9: Heckman Selection Bias Analysis

Variable(s)	1st stage	2nd stage
	DEP= GRI	DEP= AC
	Coefficient (t-value)	Coefficient (t-value)
ENV	1.0946***	
	6.55	
FRAMEWORK		-0.4012***
		-3.18
FOREIGN_SALES	-0.0005	-0.0012*
	-0.41	-1.69
LEV	0.7725***	-2.5631***
	2.88	-16.01
PROFIT	0.2687	2.9081***
	0.62	11.81
SIZE	0.2611***	0.0051
	10.41	0.24
MTB	-0.0120	0.0994***
	-0.88	12.46
INTANGIBLE	0.0320	-1.3929***
	0.16	-12.03
FRQ	0.3839	-4.6025***
	0.58	-11.97
PRICE_VOL	0.0324	0.0375***
	1.34	2.63
INVPRO	7.9910***	1.4394**
	6.62	2.13
GDP	-3.2714***	-1.2412**
	-3.14	-2.07
CIVIL	-11.4539***	0.2378
	-5.78	1.29
LAMBDA		0.1796
		1.59
CONSTANT	-38.3131***	11.2350*
	-2.73	1.88
YEAR_FE	Yes	Yes
INDUSTRY_FE	Yes	Yes
COUNTRY_FE	Yes	Yes
N	2590	2590
F	1267.02	47.34
Adj.R2	0.3787	0.4349

Note: Table 9 reports the Heckman Selection Bias result of testing the relationship between agency cost and multiple global CSR pronouncements. The first stage dependent variable is GRI (Indicator variable equal to 1 for firms that uses GRI guidelines/standards, 0 otherwise). The second stage dependent variable is agency cost, which is calculated by the principal component of six agency costs: ASSET_UTL (ratio of annual sales and total asset); DIV_PAYOUT (cash dividend divided by the sum of cash dividend and interest and related expense); SGA_EXP (ratio of sales, general, and administrative expense and annual sales); FREE_CF (earnings before interest and taxes plus change in net asset); CASH_HOLD (ratio of cash and total asset); and CAPEX (ratio of capital expenditure and total asset) controlling inverse mail ratio obtained in first stage. All variable definitions are in Appendix A.

***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

2.4.3.3. Two-stage least squares instrumental variable

Third, since the Heckman two-step model only considers endogeneity due to sample selection bias, this study also employs a two-stage least squares (2SLS) instrumental variable (IV) approach to address other sources of endogeneity such as omitted variables and simultaneity. IVs that are related to CSR practice, but which have not been identified as a determinant of AC are needed. In line with Ferrell et al. (2016); Lin et al. (2011); Obeng et al. (2021); Sun et al. (2020), this study uses two peer scores for the instruments. Specifically, country-industry mean FRAMEWORK (INDCOUN_FRAMEWORK) and country-year mean FRAMEWORK (YEARCOUN_FRAMEWORK) are selected. These variables are the mean score of FRAMEWORK by country and year, and mean score of FRAMEWORK by country and industry. These instruments represent the average FRAMEWORK score of firms within the same industry, and across years, in a given country.[7]

This variable is useful because peer effect is likely to dictate a firm's CSR practice and thus would be correlated with CSR pronouncements. However, the peer CSR score should not be correlated with the AC of a particular firm, except through the global CSR pronouncements channel. INDCOUN_FRAMEWORK and YEARCOUN_FRAMEWORK are expected to be positively and significantly associated with FRAMEWORK. This study conducts the analysis using the first stage of the 2SLS model as follows:

[7] This study acknowledges the limitation inherent in using industry-average as the instrument. Larcker and Rusticus (2010) suggest that accounting researchers often use regulatory changes to address endogeneity concerns. However, this study could not identify a universal regulatory shock due to the international nature of the study.

$$FRAMEWORK_{i,t} = a + \beta_1 \text{ INDCOUN\_FRAMEWORK}_{it} + \beta_2 \text{ YEARCOUN\_FRAMEWORK}_{it} + Controls_{i,t} + \text{fixed effects} + \varepsilon_{it}$$

where FRAMEWORK is an average of CSR pronouncements and the control variables are the same as those used in the main regression analysis. The sample size in the model with IV is 2,605 firm-year observations.

Table 10 provides the results of the IV model. In column 1, the first stage model shows that INDCOUN_FRAMEWORK and YEARCOUN_FRAMEWORK are positively and significantly associated with FRAMEWORK (coefficient=0.7711, p value<0.001, coefficient=0.7937, p value<0.001). This shows that a firm's choice of global CSR pronouncements is determined by both industry and country characteristics. In column 2, for the second stage model that uses the predicted value, the coefficient for the predicted CSR level is -1.1548, which is significant at the 1% level, consistent with the main results. Similar to Sun et al. (2020), this study conducts three tests to check the validity of the instruments in Table 10. First, the under-identification test, or Kleibergen-Paap rk LM statistic shows that this model is identified (p= 0.0000). Second, the result of the weak identification test or Kleibergen-Paap rk Wald F statistic (Kleibergen & Paap, 2006) shows that the F-statistic is very high in the sample (127.881), suggesting that the instruments are relevant and strong. Third, Sargan statistic or the Hansen's J statistic (Hansen, 1982) is used to test the over-identification concern. The p-value of the Hansen's J statistic is high for this test (0.7931), suggesting that we cannot reject the null hypothesis that the instruments are exogeneous. This shows that other sources of endogeneity, such as omitted variables or simultaneity issues, are unlikely in the model.

Overall, the post-estimation tests confirm both the relevance and the exclusion restrictions of the instruments.

Table 10: Instrumental Variable analysis

Variable(s)	1st stage	2nd stage
	DEP=FRAMWORK	DEP=AC
	Coefficient (t-value)	Coefficient (t-value)
FRAMEWORK		-1.1548***
		-2.77
FOREIGN_SALES	0.0002*	-0.0010
	1.98	-1.46
LEV	0.0697***	-2.6166***
	3.07	-17.07
PROFIT	0.1090***	2.9671***
	2.98	12.03
SIZE	0.0522***	0.0261
	24.85	0.96
MTB	-0.0001	0.1011***
	-0.1	12.82
INTANGIBLE	-0.0001	-1.3811***
	-0.01	-11.91
FRQ	0.0808	-4.5355***
	1.4	-11.65
PRICE_VOL	0.0041*	0.0378***
	1.95	2.66
INVPRO	0.0080	1.2583*
	0.07	2.02
GDP	0.0214	-1.1677*
	0.23	-1.99
CIVIL	-0.1225***	0.1621
	-3.91	1.1
INDCOUN_FRAMEWORK	0.7711***	
	14.35	
YEARCOUN_FRAMEWORK	0.7937***	
	6.81	
CONSTANT	-0.7819	10.9094*
	-0.86	1.84
Year	Yes	Yes
Industry	Yes	Yes
Country	Yes	Yes
N	2605	2605
F	50.92	42.67
Uncentered R2	0.8339	0.4357
Underindentification		236.955
Weak identification test		127.881
Sargan statistic		0.069(0.7931)

Note: Table 10 reports the results on the first stage of instrumental variable using FRAMEWORK as a dependent variable. Panel B shows the second stage results on the effect of agency cost and multiple global CSR pronouncements, controlling for predicted FRAMEWORK score obtained in first stage. All variable definitions appear in Appendix. ***, ** and * represent statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed tests).

2.5. Conclusion

This study investigates the relationship between global CSR pronouncements and AC using a sample of 2,605 firm-year observations in a cross-country setting (24 EU countries). Due to the unique characteristics of CSR reporting, such as diversity of users and objectives, it was expected that employing multiple global CSR pronouncements could help restrain managerial opportunism by providing a more complete information set that would improve monitoring and allow for the design of better incentive-alignment mechanisms. This finding is consistent with past articles, such as Zinenko et al. (2015) and García-Sánchez et al. (2019), who suggest the complementary nature of CSR pronouncements. As Christensen et al. (2021) suggest, CSR reporting has a diverse range of topics, objectives, and users. Therefore, a broad range of stakeholders is important to reduce information asymmetry and multiple CSR pronouncements may contribute to this.

This study finds that firms that comply with a greater number of global CSR pronouncements have lower AC. These results suggest that relying on a single CSR pronouncement does not necessarily serve the needs of all stakeholders and that stakeholders reward firms that use multiple global CSR pronouncements.

Endogeneity is a major concern that could diminish the relevance of the findings. This study addresses this concern in multiple ways. First, a lagged analysis is performed. Second, regression analysis with firm fixed effects is applied. Third, propensity score matching (PSM) is used to test whether results for firms adopting CSR pronouncements are similar to those of firms that do not adopt CSR pronouncements. Fourth, a two-stage Heckman analysis is used to control for unknown factors that may be influencing the decision to adopt CSR pronouncements. Fifth, instrumental variable analysis is adopted to address concerns about

omitted variables and causality. While none of these tests by themselves rule out endogeneity, combined, they increase confidence that the results are not driven by self-selection, omitted variables, or reverse causality.

For future study, it would be relevant to explore this relationship further, beyond EU countries. Although the EU does represent a large proportion of global market capitalisation, the inclusion of other large economies, such as China, India, and the USA, may shed additional light on the relationships examined in this study. Furthermore, future study could focus post COVID-19 to examine whether this relationship will persist.

Past studies, such as Adams (2020), suggest that the EU Commission has an opportunity to lead the world in refocussing corporate efforts in a post-COVID-19 world. More recent developments include the ISSB and EFRAG progress towards more unified international sustainability standards. Implications of this study include that is timely to support such bodies by providing empirical evidence on the benefits of using multiple CSR pronouncements. For instance, it might be worth considering employing additional CSR pronouncements or considering broader stakeholders in developing standards. The setting for this study is perhaps more relevant to the ESRS situation (e.g., EU jurisdiction, GRI base, and inclusion of SDGs). Consequently, future studies could build on the results of this study to facilitate comparison of ISSB standards and ESRS. For instance, future studies could perform a similar analysis using ISSB standards to explore which standards reduce AC more. Such questions may shed further light on the AC literature. This study's evidence on the role of multiple CSR pronouncements as a disciplining mechanism should be of interest to both parties, as well as in general to preparers and users of CSR reports, regulators, standard-setters, and academics.

Chapter Three

Essay Two

Multiple Global CSR Pronouncements and CSR Harmonisation in Europe

3.1 Introduction

Economic globalisation increased social and environmental awareness of stakeholders, and pressure from multiple stakeholder groups emphasise how important it has become for corporates to look beyond just profit maximisation. Such responses are referred to as CSR, which requires that firms recognise their economic, legal, ethical, and social responsibilities to address pressures and expectations of stakeholders (Carroll, 1999). Growing attention on firms' CSR activities has led to increased voluntary CSR reporting on their progress and results relating to environmental and social activities.

According to institutional theory, a company operates within the bounds and norms of society (Guler et al. (2002) and CSR reporting can work as a mechanism to address pressures from stakeholders in the company's environment (Neu et al., 1998). However, societal bounds and norms, as well as stakeholder expectations and pressures vary between countries and regions. Past literature, such as Matten and Moon (2008) and Neu et al. (1998), have emphasised that a country's historic-cultural background, cultural values, differing institutional norms, and varying governmental policies and resources will impact how business ethics and CSR are understood. This promotes strong country-of-origin effects in CSR reporting (Chen & Bouvain, 2009; Einwiller et al., 2016; Fortanier et al., 2011; Mazboudi et al., 2020). Kolk (2010) notes that such effects result in a wide variety of reports with significant differences in length, approach, scope, and depth of accountability. Non-financial reports may range from

health and safety to CSR to global citizenship to sustainability. Given these backgrounds, Afolabi et al. (2022) contend that CSR reporting is still far away from harmonisation.

Proper consideration of stakeholder demands and expectations in CSR reporting requires consideration of materiality[8], i.e., what will significantly influence the assessments and decisions of stakeholders in terms of a firm's economic, environmental, and social impacts (GRI, 2016). Furthermore, Einwiller et al. (2016) suggest that if companies address demands of certain stakeholders deliberately, e.g., those in their home country, this may impair comparability.

Voluntary standardisation of CSR reporting has, therefore, gradually been evolving to address significant differences in approach to such issues. Over time, various organisations have developed many different CSR frameworks/guidelines/standards/formats that firms could voluntarily adopt.[9] Selsky and Parker (2005, p. 858) note that firms may acquire knowledge and skills such as "interpersonal and administrative skills, technical skills in issue areas (e.g., how to deal with environmental deterioration), reflective skills that can modify mind-sets and habits, and social learning that can lead to needed innovations", by adopting such pronouncements. Firms may also gain credibility for such efforts and influence the shaping of such pronouncements. Prior literature, such as Fortanier et al. (2011), Einwiller et al. (2016), and Ehalaiye et al. (2024) suggest that adhering to the same ground rules in preparing CSR reports could improve harmonisation and comparability of these reports. The diverse content of CSR reporting arises mainly from country-of-origin effects, that is, it is subject to the institutional context of the particular country that a company operates within. Past literature,

[8] Materiality is still one of the key concepts in emerging CSR standards, such as the ISSB and ESRS.
[9] I acknowledge that there are subtle differences between each of these terms (frameworks, standards, and guidelines), as shown by Ligteringen and Zadek (2005), and they confirm that approximately 300 CSR framework/standards/guidelines exist globally, and those are used for different purpose for different audiences.

such as Fortanier et al. (2011) and Einwiller et al. (2016), suggest that using CSR pronouncements promotes harmonisation by reducing the country-of-origin effect. This is because global CSR pronouncements create a common rule for CSR reporting and understanding of CSR issues that support complying companies.

Recent events related to the formation of the ISSB and development of the EFRAG task force further highlight the importance of harmonising CSR reporting. Matuszak and Różańska (2017) note that after the Global Financial Crisis, Europe became the most active region in promoting transparency and disclosure of CSR. Since Directive 2014/95/EU, requirements for large companies to disclose non-financial and diversity information have sought to improve the consistency and comparability of non-financial information. Adams (2020) suggests that the EU Commission has an opportunity to lead the world in refocussing corporate CSR efforts in a post-COVID-19 world. At the time of writing, companies that are required to comply with Directive 2014/95/EU will have to shift to ESRS in financial year 2024, with the first resulting sustainability statements to be published in 2025 (European Commission, 2023). Given this unique setting, a study of harmonisation effects in the EU is particularly interesting. Based on our findings, ESRS could promote harmonisation of CSR reporting by developing unified standards for CSR reporting.

Similar to many empirical studies examining CSR reporting in a voluntary setting, this raises inevitable challenges, particularly in terms of self-selection, since firms that expect to gain benefits from using CSR pronouncements are more likely to choose to adopt them. This study, therefore, employs a number of econometric approaches including instrumental variables and lagged analysis. The results are robust when addressing endogeneity. Following Obeng et al. (2021) and Rezaee and Tuo (2019), data about firms' usage of CSR

pronouncements from the GRI database is collected for the period 2015-2019. Although the GRI database is mainly for the GRI standards, it covers numerous CSR pronouncements. This study finds that firms' use of multiple CSR pronouncements has a positive and harmonising effect on CSR reporting across countries. The model includes several control variables based on prior literature to promote reliable results in seeking to answer the research question: Does use of multiple CSR pronouncements contribute to reduced country-of-origin effects and increased harmonisation of CSR reporting? Firm characteristics including year, country, and industry fixed effects are also controlled for in the model.

Addressing this research question makes several contributions to the literature. First, the international business literature has mixed results and scarce evidence on harmonisation of firms' CSR reporting in an international setting (Einwiller et al., 2016). This study contributes to the literature by examining how global CSR pronouncements reduce country-of-origin effects, which in turn enriches understanding of how firms' reporting becomes harmonised.

Second, this study's findings extend the literature on the harmonisation effects of firms using multiple global CSR pronouncements. Prior studies examining harmonisation effects tend to focus on a single year (Fortanier et al., 2011) and with relatively few countries (Einwiller et al., 2016). This study expands on prior research by examining harmonisation effects using longitudinal data across 17 EU countries over 5 years in the EU. Tschopp and Nastanski (2014) suggest that CSR reports have a wider audience than that for financial reports. Consequently, CSR reports have diverse objectives for a wide range of interests and preferences within and beyond the firm. This is reflected in the large number of CSR pronouncements made available over past decades, as each of these may have different audiences or objectives to address. Einwiller et al. (2016) note that if companies give more

weight to the demands of certain stakeholders, possibly through solely employing a particular CSR pronouncement, comparability of CSR reporting might deteriorate. Therefore, assessing the effects of firms using multiple global CSR pronouncements should shed additional light on the literature. This includes IR, a relatively new and important framework that combines both financial and non-financial information, and which was not considered in prior studies such as Fortanier et al. (2011).

The IASB published a consultation paper on sustainability reporting in 2020. The IASB (2020) suggests that firms are making the decision to use one vs multiple CSR pronouncements. As explained further in the following sections, the current study has the potential to inform and support the work of entities, like the ISSB and EFRAG task force, to address this issue, because it examines the harmonisation effects of using multiple CSR pronouncements, which is consistent with recent trends in reporting (KPMG, 2022). Efforts towards harmonisation are emphasised by recent progress, which includes a signed Memorandum of Understanding between the GRI and EFRAG, and a partnership between the GRI and ISSB (GRI, 2023a, 2023b).

The remainder of this study is organised as follows. Section 3.2 provides a literature review of relevant articles explaining country-of-origin effects and how global CSR pronouncements influence CSR reporting. Section 3.3 then describes the sample and research methods. Section 3.4 provides the main findings and Section 3.5 provides the results of additional analysis including tests designed to address endogeneity issues. Section 3.6 provides a summary and conclusion.

3.2 Literature review

3.2.1. Country of origin effects

According to Fortanier et al. (2011), historically there were no agreed-upon terms for the status and content of non-financial reports. Research across this range shows clear differences in the quantity and type of non-financial information, which reflects a strong country-of-origin effect. Kolk (2005) identifies two approaches to environmental reporting - an internal environmental accounting orientation, and reporting with a more external, broader sustainability orientation. An internal environmental accounting orientation focuses on accounting and performance evaluation for the internal dimensions of environmental management policies and practices. Reporting with a broader sustainability orientation focuses on the international sustainability discussion, such as involvement in international corporate responsibility policy developments, which represent a more external approach. Kolk (2005) finds such an internal environmental accounting orientation with Japanese firms, while US and European firms have a broader focus, illustrating country-of-origin effects. Further examples of country-of-origin effects include external verification and reliance on third parties being prevalent for European firms, but highly exceptional for US firms, with Japanese firms somewhere in between.

Sethi and Elango (1999) explain country-of-origin effects as being the impact of a country's physical and human resources, political institutions, and culturally based characteristics on the competitive position of a firm from this particular country. Neu et al. (1998) finds country-of-origin effects for CSR reporting arise mainly from institutional pressures. Similarly, Buhr and Freedman (2001) and Kolk (2005) show that the extent of a firm's susceptibility to such pressures differs between firms in relation to the cultural, political,

and legal peculiarities of their respective home countries. Meek et al. (1995) suggest that national differences in legal requirements for reporting affect voluntary disclosures because strict requirements, or strong institutional environments, may restrain disclosure innovations and thus also voluntary reporting. Holland and Foo (2003) confirm this argument holds in relation to environmental management.

Institutional differences that derive from country-of-origin also affect the influence on a firm of its stakeholders. Pressure from stakeholders is relevant for CSR reporting, because Meek et al. (1995) contend that non-financial information addresses issues of social accountability. This is valuable for a wider group of stakeholders than a firm's shareholders alone. According to stakeholder theory, Van der Laan Smith et al. (2005) contend that institutional differences between countries (particularly differences in corporate governance systems and ownership structure) impact how the role of a firm and its stakeholders is defined in each country. Their comparison between firms from Norway/Denmark and the US (based on 1998 and 1999 annual reports) suggests that the extent and quality of CSR disclosures differs significantly between these countries. Firms from countries with a stakeholder orientation (Norway/Denmark) have higher levels and quality of CSR disclosures than firms in countries with a shareholder orientation (US). Based on these findings, Van der Laan Smith et al. (2005) contend that non-financial reporting is used as a way to address stakeholder pressure, but in distinctive ways for each of these countries. Similarly, Chapple and Moon (2005) and Bernow et al. (2019) reveal that the scope and depth of reporting differs significantly due to the subjective choices companies make about their approaches to sustainability reporting. This discretion includes consideration of which pronouncements to follow, which stakeholders to address, and which information to release to the public.

In some cases, local or regional institutional forces necessitate continuous adherence to local demands to maintain local legitimacy (Park & Cave, 2018). According to Gruber and Schlegelmilch (2015), CSR activities act as a compromise between stakeholder demands and business interests in the absence of effective governmental mechanisms to support societal aims. The need for such a compromise diminishes in those countries where governments fill societal gaps. For instance, CSR in Sweden has been embedded within institutional norms and regulations such as codified laws and/or consensual agreements between the government and the private sector. Corporate behaviour relating to CSR is mostly derived from state regulations that are negotiated, and so is not voluntary. For instance, air pollution regulations were passed only after consulting various stakeholders (Campbell, 2007). Consequently, firms in Sweden tend not to have much discretion over CSR reporting. Mazboudi et al. (2020) find that firms in Sweden show lower adoption of external CSR policies due to the role and power of various institutional arrangements that drive them to prioritise local demands. The government makes stakeholders to assume a more significant role in protecting social welfare. Firms in the private sector in Sweden have reduced incentives to gain legitimacy through adopting external CSR policies because they have smaller marginal legitimacy gains due to the role of institutional arrangements in protecting social welfare. This leads to a lower level of international harmonisation in their CSR reports. In contrast, Mazboudi et al. (2020) note that firms in Brazil, a less developed country than Sweden, have more corporate discretion because the state/public sector has a relatively smaller role in guiding corporate CSR activity. Their weak regulatory environment or absence of infrastructure and supporting institutions motivates Brazilian firms to gain local legitimacy by adopting CSR policies that reflect their commitment to the welfare of their stakeholders. Occasionally, firms may find it better to conform to global practices,

rather than local practices to attain global legitimacy. For instance, Mazboudi et al. (2020) find that Swedish firms' CSR policies are more harmonised for firms that internationalise more. In other words, global legitimacy surpasses local legitimacy (i.e., country-of-origin) as firms move to internationalise, so as to be more competitive in the international market. This in turn leads to harmonisation of CSR reports.

Besides the effects of local institutional arrangements and internationalisation, the content of reporting could become more similar if there is a common format for the reporting or standards. For instance, in the financial reporting context, Tarca (2004) confirms that International Accounting Standards (IAS) were introduced to improve comparability and transparency of financial statements in countries around the world. Similarly, Tschopp and Nastanski (2014) note that GRI standards support company to company comparisons through creation of a common set of topics for CSR reporting. The wave of global CSR frameworks/standards/guidelines that have continued to emerge, including the nine global CSR pronouncements that are the focus of this study, are promoting similar initiatives relating to non-financial reporting. This study focuses on the initiatives that are recorded in the GRI database: GRI, IR, SDG, CDP, IFC, OECD guidelines, UNGC, AA1000, and ISO's guidance on how to implement and manage non-financial (in particular environmental) commitments within the organisation (ISO 14001). This study will review how these pronouncements affect CSR reporting next.

3.2.2. Influence of Global CSR pronouncements on CSR reporting

The literature on firms' adherence to CSR pronouncements and adoption of organisational practices draws heavily on Institutional Theory and Legitimacy Theory. For example, Guler et

al. (2002) use panel data on ISO 9000 quality certification in 85 countries between 1993 and 1998 to examine the cross-national diffusion of an organisational practice. They find that organisational practices diffuse across the world in contingent ways, depending on the extent to which firms in each country are exposed to three isomorphic pulls (coercive, mimetic, and normative effects). According to Meyer and Rowan (1977), institutional theory explains that firms homogenise organisational practices because they start to resemble the institutions within their organisational context in order to compete for power and legitimacy. According to DiMaggio and Powell (1983), the process of homogenisation is reflected in individual firms becoming structured in organisational fields, as a result of the isomorphic pulls, which arise out of pressures from factors on which firms depend. These include pressure from stakeholders, obtaining competitive advantage in terms of legitimacy, and pressures arising from group norms to adopt particular institutional practices. Park and Ghauri (2015) contend that firms have been reported to mimic the behaviours of other firms, closely tracking their competitors' CSR activities in order to determine changes in their own CSR behaviour and policy adoption. According to Ioannou and Serafeim (2015), CSR implementation has been an area of growing interest. Firms perform CSR activity voluntarily for a variety of reasons, mainly to enhance their legitimacy. They use CSR to create bridges with various stakeholders. Legitimacy is gained through a degree of fit between a firm and its institutional context. Therefore, the institutional context is considered an important factor in shaping a corporate's behaviour in its use of CSR activity as a mechanism to support legitimacy.

According to Matten and Moon (2008), the development of global CSR pronouncements seems to have created an additional coercive pull, explicitly operating on a global level under the influence of international governmental or non-governmental

organisations. The nine global CSR pronouncements are initiatives of such international organisations that tend to have been developed through a process of multi-stakeholder engagement with a wide variety of governmental, non-governmental, and corporate actors. According to Levy and Kolk (2002), global CSR pronouncements make firms less responsive to their country of origin. Levy and Kolk (2002) investigate how global companies respond to global climate change, and they find two kinds of pressure, namely divergent and convergent pressure. Divergent pressure consists of home country institutional context and individual company histories while convergent pressure is related to exposure to a common global industry and to the global nature of the climate change issue. They also find that convergent pressures at the global industry and issue level tend to predominate as the issue matures because companies within the global industry develop a more sophisticated understanding regarding the climate change issue. Once common action is created, other companies' strategies within the global industry are likely to be similar. Fortanier et al. (2011) contend that global CSR pronouncements create this convergent pressure for CSR reporting and firms become less responsive to their country of origin because they conform to these pronouncements.

On the other hand, global CSR pronouncements might not create enough convergent pressure for CSR reporting. Firms differ in their CSR practices reflecting their exposure to various social and economic systems. Levy and Kolk (2002) suggest that isomorphic pulls can be very diffuse because the organisational field is not a homogeneous construct. In addition, Westney (1993) contends that the boundary of a field is often difficult to establish. Furthermore, Westney (1993) notes that their activities cross industries and national borders, because some firms, especially multinational enterprises (MNE), belong to multiple fields. Therefore, Westney (1993) argues that a MNE is subject to sometimes incompatible or inconsistent

isomorphic pulls because it tries to conform to a wide variety of geographically disparate institutional pressures. Sometimes the powers of convergence are not enough to counter the powers of national institutions. Gooderham et al. (1999) also contend that variations in institutional structures are more likely to generate divergent management practices, which limits convergence efforts. Previous literature (Brammer et al., 2012; Campbell, 2007; DiMaggio & Powell, 1983) shows that dominant local institutions contribute to sustaining implicit, taken-for-granted norms and practices. This discourages harmonisation of CSR reporting.

According to Elkington (1997), the influence of globalisation and growing powers of MNE's have contributed to the diffusion of certain practices across the globe. McGaughey and Cieri (1999) point out convergence is further promoted by developments in communication channels and growth in inter-organisational interdependency and collaboration across countries. Matten and Moon (2008) suggest that institutional isomorphism promotes diffusion due to various forces, which cause firms to converge their CSR reporting. According to Husted et al. (2016), whether the power of convergence supersedes divergence has been an area of recent research attention. Firms may seek global legitimacy rather than mere local legitimacy to address forces of globalisation. Scherer and Palazzo (2011) find an increase in firms adopting strategies to gain global rather than local legitimacy. Fortanier et al. (2011) find that global standards lead to harmonisation of CSR reporting across national contexts. Globalisation of markets and innovations in technology and communication have impacted corporate behaviours. The changes in CSR approaches are attributed to forces related to corporate motivations to earn more legitimacy in the global arena (Lopez & Fornes, 2015). These forces support the harmonisation of the CSR reporting. Dowell et al. (2000) point out that the

competitive effect of globalisation encourages firms to adhere to severe environmental standards. In doing so firms could avoid potential clean-up costs, and create competitive advantage compared to local firms that merely comply with (less stringent) local standards. The forces also encourage firms to adopt "best practice" at a global level, e.g., following each other in joining international coalitions for socially responsible behaviour. Furthermore, normative pressures that are derived from professional associations and educational institutions push firms in the direction of greater adoption of CSR policies, which improves harmonisation of CSR reports. Global reporting pronouncements, such as the GRI and the UNGC, are likely to play an increasing role in shaping CSR reporting adoption at a global level.

Previous studies have attempted to examine the effect of global CSR reporting pronouncements on harmonisation, but overall, results are inconclusive. Fortanier et al. (2011) conduct content analysis of non-financial reports of Fortune Global 250 firms for the year 2004 by measuring five binary items indicating if a firm reported on a particular issue in its CSR report. They find harmonisation effects in reporting for those companies that adhere to global CSR pronouncements (GRI G2 and UNGC, among others) concerning issues on the social and environmental dimension of CSR reporting. On the other hand, Chen and Bouvain (2009) find similarities in the content of CSR reports as a result of companies' membership in the UNGC only in the areas of environment and employees. Their samples are based on companies headquartered in the US, UK, Australia, and Germany for the year 2006. Seele (2015) also conducts content analysis with a focus on GRI reports for 2012 that hold the highest reporting level (G3.1, A+), but finds significant differences regarding the frequency with which GRI specified indicators are reported. Furthermore, Sherman and DiGuilio (2010) compare two companies each for four different industries (automotive, financial services, pharmaceuticals,

and sporting goods). They compare the reports for two discrete periods (2006-2007 and 2008-2009) across the US, Germany, and UK. Their findings are inconclusive as to whether GRI reports become more comparable due to a lack of common measures for reporting. According to Einwiller et al. (2016), inconclusive findings might also be due to different samples, years of reporting and different methods applied. For instance, Fortanier et al. (2011) deductively align their variables with the Triple Bottom Line (TBL) using manual coding to check CSR report content, while Chen and Bouvain (2009) derive the variables inductively using the software Leximancer. Seele (2015) base its analysis on the coding of indicators specified in the GRI guidelines. In addition, their analysis focuses on a comparison within GRI G3.1 reports with application-level A+; it was not their objective to test whether adherence to the standard leads to relatively more comparability than not adhering to it. The same holds for a study by Sherman and DiGuilio (2010). For more recent literature, Pizzi et al. (2024) find that GRI standards contribute to encouraging harmonisation of CSR reporting.

According to Einwiller et al. (2016), despite these inconsistencies in previous findings, there seems to be at least some evidence that adherence to global CSR pronouncements promotes harmonisation. Coombs and Holladay (2013) suggest companies have significant discretion in their CSR reporting given limited requirements. Consequently, companies could choose to define CSR as various activities, from simple philanthropy to employee volunteering to more complex issues such as evaluating environmental impacts and their supply chain. Corporate reporting may focus on favourable topics while intentionally omitting areas where they are much less effective or even operating in irresponsible ways (Seele, 2015). Such obfuscation could become more apparent if most companies report on the same range of topics with common reporting standards. Using similar CSR pronouncements and adhering to the

same ground rules in preparing the reports should encourage greater comparability and prevent the problems raised previously (Einwiller et al., 2016; Fortanier et al., 2011; Sherman & DiGuilio, 2010). Einwiller et al. (2016) also point out that harmonisation through reporting standards might reduce biased selective reporting. This is similar to GRI's aim to encourage transparency and to enhance comparability over time and across companies by creating a global common language for organisations with its extensive reporting framework (GRI, 2020). A recent article finds support for this idea. Pizzi et al. (2024) reveal that the GRI standards contribute to a higher degree of harmonisation for Italian companies.

Relying on a single pronouncement might impede harmonisation (De George et al., 2016; Jarolim & Öppinger, 2012) and Sunder (2011) suggests that adoption of IFRS as a single set of high-quality, principles-based standards eliminates the opportunity to compare alternative practices and learn from them. Sunder (2011) also points out that a single pronouncement set is less likely to cater for local variations in legal, auditing, regulatory and governance regarding the reporting across the globe. CSR reporting pronouncement sets tend to target different objectives and users. Similarly, a single pronouncement might reduce harmonisation of CSR reporting due to such limitations.

Zinenko et al. (2015) expand on this, finding that CSR pronouncements should not be treated as separate alternatives, but rather as complementary to each other due to theirdifferent objectives and features. They note that CSR pronouncements could be divided into three categories: codes of conduct; CSR/sustainability reports; and management systems and certification schemes. Codes of conduct are CSR pronouncements, such as UNGC, which is based on widely shared principles and codes of practice applicable to all sectors and organisations. They may be seen as a good starting point for implementing CSR practices

(Rasche & Esser, 2006).The objective of the UNGC is to guide policy to meet fundamental responsibilities in the areas of human rights, labour, environment and anti-corruption (Kell, 2005).

The UNGC faces criticism for being too lenient (Gjølberg, 2009), indicating only symbolic commitment (Perez-Batres et al., 2012), and offering weak compliance mechanisms (Gjølberg, 2011). Nevertheless, it can be seen as a force shaping the design, assessment and practice of reporting on CSR (Schneider & Meins, 2012). Also, the UNGC does require "communication on progress" (COP) reports from reporting entities every year. Failure to comply is penalised by noting this on the UNGC website. Amer (2018) find that such entities are penalised in the financial markets (lower average cumulative abnormal return).

Pronouncements relating to CSR/sustainability reports provide more visibility and accountability than the codes of conduct because they reflect a company's real public commitment to CSR activities (Guidry & Patten, 2010). The GRI was initially established due to the lack of a common sustainability reporting standard and increasing demand for companies to report CSR information (Kolk, 2008). The goal of the GRI is to provide reporting organisations with a global common language to communicate CSR activities (GRI, 2024a). The GRI features a multi-stakeholder process, and also provides a series of supplements to address sector-specific circumstances and challenges (GRI, 2024b).

However, the GRI has been criticised by scholars for being too focused on the reporting process rather than improving social and environmental performance outcomes (Levy et al., 2010). Levy et al. (2010) suggest that the GRI has proved to be more successful in gaining corporate acceptance than in empowering NGOs and contributing to sustainable development. Arguably, use of the UNGC could complement and compensate for such shortcomings.

ISO standards could further complement the aforementioned pronouncements by providing more practical steps in managing CSR activities. ISO is one of the most internationally prominent, standard setting organisations and supports organisations dealing with the ambiguities resulting from the pressures of society on private enterprises (Hahn, 2012). Two ISO series that are commonly used for CSR reporting are ISO 26000 and ISO14000. The goal of ISO 26000 is to provide guidance to those organisations who consider that respect for society and environment is a critical success factor. The goal of the ISO 14000 series is to provide practical tools for organisations to manage their environmental responsibilities.

Mion and Loza Adaui (2019) note that both provide management process schemes, which promote continuous improvement such as Plan-Do-Check-Act. However, one critical concern raised by scholars is that ISO only standardises processes and definitions, rather than focusing on the results of CSR performance (Schwartz & Tilling, 2009).

These three CSR pronouncements (UNGC, GRI, and ISO) have the same overall objective in common: to support and encourage all types of organisations to act in a socially and environmentally responsible way (Rasche, 2009). However, they do thisin different ways, which complement each other. Prior literature, such as García-Sánchez et al. (2019) and Zinenko et al. (2015) suggests that the complementary nature of such CSR pronouncements and use of multiple CSR pronouncements increases the quality of the information environment.

Therefore, this study expects that the adoption of global pronouncements will moderate the country-of-origin effect: for firms that adhere to more of the above-mentioned global pronouncements, this study expects domestic institutions to play a less important role in explaining variation of CSR disclosures. This leads to the following hypothesis:

Hypothesis1: Adherence to more global CSR pronouncements reduces cross-country differences in CSR disclosures and improves harmonisation of CSR reporting.

3.3 Sample and results

3.3.1. Sample

This section provides empirical evidence relating to the effects of CSR pronouncements on harmonisation by using longitudinal data in an international setting. The study draws from the following databases: GRI database, Compustat Global, Bloomberg, Worldscope, DataStream, Eikon, and World bank. The sample consists of all EU-firm-years recorded in the GRI database. The year 2015 is selected as the first year of data collection because the European Parliament and Council issued Directive 2014/95/EU, which imposed mandatory disclosure of non-financial environmental and social information for public interest entities with more than 500 employees (European Union, 2014). Directive 2014/95/EU was enforced on December 2014, so 2015 is the first year firms' disclosures are expected to be influenced. The year 2019 is the final year of data collection to avoid the influence of COVID-19 because this is an unusual global event, which could significantly disrupt normal patterns of behaviour[10].

Following Rezaee and Tuo (2019), the study identifies voluntary adopters of global CSR pronouncements from the GRI database. The GRI database also tracks other sustainability reporting information, which is used to ascertain what other CSR pronouncements firms may use in addition to the GRI standards/guidelines. A key advantage of using the GRI database to collect data on global CSR pronouncements is that it includes numerous types of global CSR

[10] See the section 1.3 for details.

pronouncements, including GRI, IR, SDG, CDP, IFC, OECD guidelines, UNGC, ISO, and AA1000.

Firm level financial data is obtained from Compustat Global and Bloomberg, non-financial data from Refinitiv Worldscope (previously Thomson Reuters ASSET4), DataStream, and Eikon, and country-level data is obtained from the World Bank. A total of 2,085 firm-year observations from 583 unique firms from 17 EU countries are collected**.** Table 11 details the sample selection process for sample firms.

Table 11: Sample selection

	Firms	N
Firms/observations on the GRI database from EU countries (2015-2019)	1375	4729
Less: Firms with no data on accounting or corporate governance on DataStream and Eikon for the study period	792	2644
Final sample	583	2085

3.3.2. Measurement of harmonisation

CSR could be understood in relation to how firms address needs of stakeholders through CSR practices. Following Mazboudi et al. (2020) and Fortanier et al. (2011), this study examines various CSR policies addressing needs identified as being important for a range of stakeholders such as community, employees, and consumers. This study refers to Mazboudi et al. (2020) on measuring harmonisation of CSR reporting. They measure harmonisation as the extent of adoption of particular CSR topic or CSR policy, which are key to understanding CSR activity. For example, community policies imply a firm's commitment towards maintaining the firm's reputation within the general community by being a good citizen. Employment quality policies reflect a firm's explicit commitment towards, for instance, ensuring good employee relations within the supply chain and maintaining long-term employment growth and stability. Product

responsibility policies reflect a firm's explicit commitment to protecting consumer health and safety by ensuring quality of products and services. The Eikon database covers public firms listed in major stock indices and collects CSR data from typical sources such as stock exchange filings, sustainability reports, and news sources. Checking a particular topic of CSR reporting rather than relying on Eikon's ESG score could provide a more accurate picture of CSR harmonisation. Eikon's ESG score provides industry and country benchmarks at the data point scoring level, and percentile rank scoring methodology. Since those scores are based on the relative performance score of ESG factors, it could be subject to other factors such as industry, and country, which might not provide enough information regarding CSR harmonisation.

This study measures the extent of harmonisation (HARMONISATION) as the average score for ten questions concerning CSR policy adoption. Those questions include various social issues that are related to employment quality, health and safety, training and development, diversity, human rights, and product responsibility. The list of all questions obtained from the Eikon database is available in Appendix C. The answer to each question is equal to 1 if the firm has a related policy, and 0 otherwise. To get an average value between 0 and 1, the answers of all questions are then summed and divided by ten. Thus, HARMONISATION is an ordinal discrete variable that ranges from low CSR harmonisation (value=0) to high CSR harmonisation (value=1). A higher value reflects greater harmonisation in CSR reporting. For instance, HARMONISATION takes the value of 0.1 (1/10) if a company adopts only one policy out of the 10 policies identified as being important.

3.3.3. Measurement of CSR reporting pronouncements usage

Following Ioannou and Serafeim (2012), this study creates a dummy variable for each type of CSR pronouncement used. It equals 1 when a firm is using a particular CSR pronouncement and 0 otherwise. Data is collected from the GRI Sustainability Disclosure Database.[11] Prior CSR literature using international samples occasionally uses aggregated CSR measures to study a holistic dimension of CSR. Waddock and Graves (1997, p. 304) suggest the "need for a multidimensional measure applied across a wide range of industries and larger samples of companies". Therefore, this study uses a total of nine global CSR pronouncements. The variable FRAMEWORK is calculated as the average of these, and it is an ordinal discrete variable that ranges from low FRAMEWORK (value=0) to high FRAMEWORK (value=1). For instance, FRAMEWORK takes the value of 0.1111 (1/9) if a company adopts only one out of the nine CSR pronouncements identified as being important. A higher value represents higher adoption of CSR pronouncements.

3.3.4. Empirical model

This study follows prior studies (Fortanier et al., 2011; Mazboudi et al., 2020), and uses the OLS regression model to test the hypothesis. To test the hypothesis, the following model is used:

$$CSR\ Harmonisation_{it} = \alpha + \beta FRAMEWORK_{it} + \sum \theta_i Controls_{it} + \Sigma\ fixed\ effects + \varepsilon$$

[11] Available on 18 November 2020 at https://database.globalreporting.org/

Where CSR_HARMONISATION represents the average of ten CSR policies as described above and FRAMEWORK is the average score for nine types of CSR pronouncements. This study includes several control variables to study the effect of using multiple CSR pronouncements on harmonisation. Following Mazboudi et al. (2020), this study measures the degree of internationalisation (FOREIGN_SALES) because they find higher harmonisation of CSR policy adoption as firms internationalise because firms are motivated to gain global legitimacy and keep competitive in the global market. Furthermore, following Cai et al. (2012); Fortanier et al. (2011); Mazboudi et al. (2020) this study controls for a number of other firm characteristics, namely leverage (LEV), profitability (PROFIT), firm size (SIZE), and growth opportunities (MTB). LEV is expected to be positively associated with harmonisation because Mazboudi et al. (2020) find that debt enhances the harmonisation of CSR policy. Fortanier et al. (2011) and Mazboudi et al. (2020) suggest that higher PROFIT contributes to higher levels of harmonisation, and expect a positive relationship between PROFIT and CSR_HARMONISATION. Following Fortanier et al. (2011), SIZE is expected to be positively associated with harmonised CSR reports because bigger firms become more visible and have more impact on society and environment. Increased public pressure because of these factors leads to increased CSR disclosure. In line with Mazboudi et al. (2020) findings, this study expects MTB is positively associated with CSR_HARMONISATION as firms would be more motivated to adopt CSR_HARMONISATION to gain legitimacy further. This study controls for the number of analysts (ANALYSTS) because Cai et al. (2012) suggest that firms with higher analyst followings gain more public attention and receive greater scrutiny, hence are more likely to engage in CSR.

This study also controls corporate governance variables that might be associated with CSR reporting. According to Appuhami and Tashakor (2017), audit committee independence (AC_INDEPENDENCE) is positively associated with CSR disclosure. Director independence is an important characteristic of audit committees in the monitoring of managers' actions and improving the level of financial and non-financial disclosures. Dobbs and Van Staden (2016) suggest that shareholder rights (SH_RIGHT) are an important factor in firms' decisions to prepare CSR reporting. Firms that care about shareholder rights (e.g. protections for minority shareholders) are likely to be encouraged to publish CSR reporting. Existence of a CSR committee (CSR_COMMITTEE) supports enhanced firm CSR performance and reporting by aligning corporate objectives and improving communication with internal and external stakeholders (Kuzey et al., 2021). Arena et al. (2018) find that CSR awards (AWARDS) are associated with higher disclosure.

Consistent with Kendo and Tchakounte (2022), Mazboudi et al. (2020), and Mollagholamali and Rao (2022), following country-level variables affects CSR reporting, namely institutional environment (INSTITUTION), economic development GDP, and legal tradition (CIVIL). Following Mollagholamali and Rao (2022), this study measures the degree of institutional environment (INSTITUTION) using the revised anti-director index from Djankov et al. (2008). This is widely used in international studies (Byrne & O'Connor, 2012; Mollagholamali & Rao, 2022; Rakestraw, 2022) and a higher value indicates that a country has stronger institutional environment. GDP is the natural log of GDP per capita. Kendo and Tchakounte (2022) find that GDP is a measure of the financial openness of an economy and represents financial integration, and thus is associated with reporting quality. Porta et al. (2008) contend that countries with a civil law framework have a more stakeholder-oriented approach

than those which rely on common law. A civil law framework approach is likely to enforce legal requirements for firms regarding CSR. The objective of such an approach is that the law protects the interests of various stakeholders such as employees, consumers, and the wider community. Porta et al. (2008) suggest that CSR is more likely to be a mandatory regulatory requirement rather than a voluntary action in civil law countries. Similarly, Jo et al. (2016) find that firms in civil law countries have higher quality of CSR reporting than in common law countries.

To control unspecified, invariant effects related to years, industries, and countries, this study also includes year, industry, and country fixed effects in all the models. All variables are defined in Appendix D. β_1 is expected to be positive and significant. It represents the contribution towards harmonisation of CSR reports by adopting CSR policy through using multiple global CSR pronouncements. This model is used for testing the main objective of this essay, which is to examine the relationship between harmonisation of CSR reporting and the global CSR pronouncements.

3.4. Empirical results

3.4.1. Descriptive statistics & univariate tests

Table 12, Panel A displays the descriptive statistics of the variables used in the regression analysis. This study winsorises all variables except dummy variables at the 1st and the 99th percentiles to avoid the influence of extreme values. The descriptive statistics reveal that CSR_HARMONISATION has a mean of 0.7828, median of 0.8000, minimum of 0.3000, and maximum of 1.000. These indicate that sample firms satisfy at least three CSR policy focus areas, with most firms satisfying around eight such areas. This value is relatively lower than

what Mazboudi et al. (2020) find, and this might potentially be due to the different settings (EU vs Sweden and Brazil). The FRAMEWORK statistics show that sample firms use up to seven CSR pronouncements, but the mean (0.3134) and the median (0.3333) suggest that most firms use around three.

The mean of FOREIGN_SALES (51.4885), median (57.96), and maximum (99.47) all suggest that foreign sales indeed have significant potential to affect the harmonisation of most firms. The mean value is relatively higher than what Mazboudi et al. (2020) and Fortanier et al. (2011) find. The LEV mean value indicates that, on average, sample firms have 18.70% debt in their capital structure. This value is close to the 19% Li et al. (2016) finds. The mean of PROFIT indicates that 4.08% of total assets are net income, which is consistent with Mazboudi et al. (2020) finding of 5.40%. The mean of SIZE is 8.3004, somewhat higher than Rashid (2016) finds. The mean and median of MTB are 1.9616 and 1.5158. Both statistics indicate that sample firms' stocks are traded at prices above their book values, consistent with what Michaels and Grüning (2017) find (2.15). The next line reports mean (15.8993) and median (16) values, which indicate that around 16 analysts follow each of the sample companies. This value is consistent with what Roulstone (2003) finds (16.91). The mean and the median of AC_INDEPENDENCE are 94.29% and 100%, consistent with Appuhami and Tashakor (2017), who contend that audit committees should consist only of non-executive directors. The mean value of SH_RIGHT (0.9396) indicates that 93.96% of sample firms employ shareholder rights policies. Similarly, the mean value of CSR_COMMITTEE (0.8317) indicates that 83% of sample firms have established a CSR committee. This is higher than what Kuzey et al. (2021) find, possibly due to different sample situations (theirs is focussed on the tourism, healthcare, and financial sectors). The mean value of AWARDS (0.5137) indicates

that 51.37% of sample firms received awards on their CSR reports. The median of INSTITUTION is 3.5. A higher index value represents stronger institutional influence, and this value is relatively lower than what Byrne and O'Connor (2012) find (4). This may potentially be due to different sample situations as they cover more countries characterised as having strong institutional influence such as countries from Asia. The mean of the natural logarithm of GDP is US$10.5856, which means that, on average, the sample countries have US$39,500 GDP per capita. This value is consistent with what Yu et al. (2018) find, which is US$37,700 (natural logarithm of US$10.5370). Finally, on average, 80.91% of sample firms are based in civil-law countries.

Panel B, Table 12 provides sample distribution by year. Year-wise distribution shows that the year 2018 accounts for the largest number of observations (475=22.78%), followed by 2019 (441=21.15%), while 2015 has the lowest number of observations (375=17.99%). The low number of observations in 2015 and increasing observation towards 2019 is consistent with KPMG (2022) report that shows companies are increasingly publishing CSR reports and employing global CSR pronouncements. The main dependent variable, CSR_HARMONISATION tends to increase over time, which implies firms' CSR reporting is gradually harmonising. CSR_HARMONISATION in the year 2015 has the lowest value across the sample period while the year 2019 has the highest value. Similarly, FRAMEWORK tends to increase over time, which shows firms are employing more CSR pronouncements. The mean for FRAMEWORK in 2015 is 0.2933, while it is 0.3547 in 2019, which means on average, firms increase to using three types of CSR pronouncements in 2019.

Panel C, Table 12 shows country distributions of sample firms. The sample consists of 17 EU countries and is dominated by firms from the UK (19.09%), followed by France

(15.88%), while Luxembourg has the lowest number of observations (0.1%). Country-wise descriptive stats reveal that Poland has the lowest CSR_HARMONISATION (0.6774) while Luxembourg has the highest CSR_HARMONISATION (0.9000). The high value of Luxembourg's CSR_HARMONISATION might be driven by small sample size (only three observations). The countries that have a high mean value of FRAMEWORK tend to have higher CSR_HARMONISATION, such as Finland, Germany, Italy, Luxembourg, and Spain, with Hungary the highest FRAMEWORK (0.5). The exception to this is Sweden, which has the third highest FRAMEWORK (0.4034) while having relatively lower CSR_HARMONISATION.

Panel D, Table 12 provides sample distribution by industry. The sample includes companies in a variety of industries classified using the SIC. The industry distribution shows that the sample is dominated by firms from the Manufacturing industry (40.58%), followed by the Transportation and Communications industry (18.75%), while the Mining industry has the lowest number of observations (1.92%). The industry-wise descriptive statistics show that industries that have higher FRAMEWORK tend to have higher CSR_HARMONISATION, similar to the year-wise and country-wise descriptive statistics. An exception to this pattern is the retail trade industry with the highest mean CSR_HARMONISATION and second lowest mean for FRAMEWORK. Regarding the mean of FRAMEWORK, the wholesale industry has the highest mean value across the industry, which is 0.3360.

Table 12: Descriptive statistics

Panel A: Full sample

Variable(s)	N	Mean	SD	p25	p50	p75	Min	Max
CSR_HARMONISATION	2085	0.7828	0.1544	0.7	0.8	0.9	0.3	1
FRAMEWORK	2085	0.3134	0.1769	0.2222	0.3333	0.4444	0	0.7778
FOREIGN_SALES	2085	51.4885	34.9372	14.38	57.96	83.68	0	99.47
LEV	2085	0.1870	0.1326	0.0835	0.1713	0.2711	0	0.5492
PROFIT	2085	0.0408	0.0452	0.0119	0.0354	0.0619	-0.0990	0.1868
SIZE	2085	8.3004	1.5228	7.1933	8.1944	9.4354	5.1679	11.6816
MTB	2085	1.9616	1.5128	0.8469	1.5158	2.8267	0.0497	6.3710
ANALYSTS	2085	15.8993	8.3431	9	16	22	0	34
AC_INDEPENDENCE	2085	94.2863	11.0736	91	100	100	50	100
SH_RIGHT	2085	0.9396	0.2383	1	1	1	0	1
CSR_COMMITTEE	2085	0.8317	0.3743	1	1	1	0	1
AWARDS	2085	0.5137	0.4999	0	1	1	0	1
INSTITUTION	2085	3.6122	0.9934	3	3.5	5	2	5
GDP	2085	10.5856	0.2967	10.5093	10.6487	10.7535	9.4809	10.9984
CIVIL	2085	0.8091	0.3931	1	1	1	0	1

Note: All variable definitions are in Appendix D

Panel B: Sample distribution by year

Year	N	%	CSR_HARMONISATION	FRAMEWORK
2015	375	17.99	0.748	0.2933333
2016	393	18.85	0.7615776	0.2920554
2017	401	19.23	0.778803	0.3164312
2018	475	22.78	0.7913684	0.3059649
2019	441	21.15	0.8256236	0.3547493
Total	2085	100		

Note: All variable definitions are in Appendix D

Panel C: Sample distribution by country

Country	N	%	CSR_HARMONISATION	FRAMEWORK
Austria	55	2.64	0.7855	0.3697
Belgium	62	2.97	0.7968	0.3315
Czech Republic	4	0.19	0.8750	0.2778
Denmark	84	4.03	0.7095	0.2288
Finland	95	4.56	0.8063	0.3836
France	331	15.88	0.8483	0.3122
Germany	293	14.05	0.8259	0.3542
Greece	42	2.01	0.7786	0.3492
Hungary	12	0.58	0.8917	0.5000
Italy	159	7.63	0.8006	0.3550
Luxembourg	2	0.1	0.9000	0.4444
Netherlands	100	4.8	0.7460	0.3733
Poland	62	2.97	0.6774	0.2473
Portugal	32	1.53	0.8031	0.3507
Spain	151	7.24	0.8755	0.3878
Sweden	203	9.74	0.7384	0.4034
United Kingdom	398	19.09	0.7038	0.1667
Total	2085	100		

Note: All variable definitions are in Appendix D

Panel D: Sample distribution by industry

Industry	N	%	CSR_HARMONISATION	FRAMEWORK
Construction	130	6.24	0.7654	0.2915
Mining	40	1.92	0.7675	0.3056
Retail trade	70	3.36	0.8543	0.2841
Wholesale trade	41	1.97	0.8098	0.3360
Financial industries	392	18.8	0.6852	0.2781
Manufacturing	846	40.58	0.8226	0.3306
Services	175	8.39	0.7440	0.2914
Transportation and communications service	391	18.75	0.8036	0.3325
Total	2085	100		

Note: All variable definitions are in Appendix D

3.4.2. Correlation analysis

Table 13 provides the correlation matrix of the variables used in the regression models. The correlation matrix shows that firms with higher usage of global CSR pronouncements (FRAMEWORK) are significantly and positively associated with CSR_HARMONISATION, which is consistent with the hypothesis. This implies that firms employing global CSR pronouncements tend to have more harmonised CSR reports. Using global CSR pronouncements supports harmonisation of CSR reports by reducing selective reporting (Einwiller et al., 2016) and supporting the user to build a reporting system (Hąbek & Wolniak, 2016). Consistent with prior literature (Arena et al., 2018; Cai et al., 2012; Mazboudi et al., 2020), SIZE, ANALYSTS, and AWARDS are significantly and positively associated with CSR_HARMONISATION while INSTITUTION is statistically and negatively associated with CSR_HARMONISATION. Further, the correlation matrix shows that the potential for multicollinearity in the regression models is unlikely. Gujarati and Porter (2009) suggest that correlations between variables with values below 0.80 do not create any multicollinearity issues in regression models. Therefore, there is no observable multicollinearity issue in the regression models.

Table 13: Correlation Matrix

Variable(s)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CSR_HARMONISATION (1)	1														
FRAMEWORK (2)	0.40***	1													
	(<0.01)														
FOREIGN_SALES (3)	0.27***	0.16***	1												
	(<0.01)	(<0.01)													
LEV (4)	0.12***	0.10***	-0.09***	1											
	(<0.01)	(<0.01)	(<0.01)												
PROFIT (5)	-0.05**	-0.12***	0.06***	-0.17***	1										
	(<0.05)	(<0.01)	(<0.05)	(<0.01)											
SIZE (6)	0.25***	0.40***	0.11***	-0.02	-0.16***	1									
	(<0.01)	(<0.01)	(<0.01)	0.28	(<0.01)										
MTB (7)	0.07***	-0.17***	0.09***	-0.01	0.32***	-0.43***	1								
	(<0.01)	(<0.01)	(<0.01)	0.77	(<0.01)	(<0.01)									
ANALYSTS (8)	0.35***	0.27***	0.20***	0.00	0.01	0.56***	0.15***	1							
	(<0.01)	(<0.01)	(<0.01)	0.92	0.65	(<0.01)	(<0.01)								
AC_INDEPENDENCE (9)	0.05**	0.00	-0.05**	0.02	-0.07***	0.02	0.07***	0.08***	1						
	(<0.05)	0.91	(<0.05)	0.26	(<0.01)	0.39	(<0.01)	(<0.01)							
SH_RIGHT (10)	-0.03	0.01	-0.04*	-0.02	-0.02*	-0.01*	-0.02	0.05**	0.01	1					
	0.22	0.55	(<0.1)	0.32	0.46	0.71	0.45	(<0.05)	0.65						
CSR_COMMITTEE (11)	0.33***	0.23***	0.04*	0.08***	-0.09***	0.23***	-0.02	0.26***	0.03	0.00	1				
	(<0.01)	(<0.01)	(<0.1)	(<0.01)	(<0.01)	(<0.01)	0.48	(<0.01)	0.17	0.96					
AWARDS (12)	0.26***	0.24***	-0.11***	0.06**	-0.05*	0.22***	-0.04	0.23***	0.07***	0.08***	0.23***	1			
	(<0.01)	(<0.01)	(<0.01)	(<0.05)	(<0.05)	(<0.01)	(<0.1)	(<0.01)	(<0.01)	(<0.01)	(<0.01)				
INSTITUTION (13)	-0.07***	-0.26***	0.09***	-0.03	0.18***	-0.13***	0.21***	0.12***	-0.03	0.04*	0.05**	-0.05***	1		
	(<0.01)	(<0.01)	(<0.01)	0.23	(<0.01)	(<0.01)	(<0.01)	(<0.01)	0.12	(<0.1)	(<0.05)	(<0.05)			
GDP (14)	-0.05***	-0.02	0.27***	-0.05***	0.17***	-0.03	0.07***	0.03	-0.10***	-0.04***	0.04**	-0.18***	0.27***	1	
	(<0.01)	0.42	(<0.01)	(<0.05)	(<0.01)	0.15	(<0.01)	0.17	(<0.01)	(<0.05)	(<0.1)	(<0.01)	(<0.01)		
CIVIL (15)	0.25***	0.40***	0.08***	0.08***	-0.18***	0.22***	-0.22***	0.09***	-0.14***	-0.12***	0.01	0.04**	-0.68***	-0.13***	1
	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	0.55	(<0.1)	(<0.01)	(<0.01)	

Note: All variable definitions are in Appendix D. ***,**, and * represent statistical significance at the 1%, 5% and 10% levels, respectively (two-tailed test)

3.4.3. Main results

This study applies OLS to examine the relationship between FRAMEWORK and CSR_HARMONISATION. In Table 14, the coefficient of FRAMEWORK is positive and statistically significant (Coefficient 0.1093, p value<0.001). The adjusted R^2 of the model is 47.18%. This suggests that use of multiple global CSR pronouncements is associated with better harmonisation of CSR reports. Therefore, the results support the hypothesis. In terms of economic significance, on average, a one standard deviation (0.1769) increase in FRAMEWORK is associated with a 1.952% increase in harmonisation.

Among the control variables, FOREIGN_SALES, LEVERAGE, SIZE, ANALYSTS, CSR_COMMITTEE, and AWARDS are positively and significantly related to CSR_HARMONISATION. This suggests that firms with greater internationalisation, leverage, size, analysts following, existence of CSR committee, and receiving awards on CSR reporting are positively associated with harmonisation. INSTITUTION is negatively and significantly associated with CSR_HARMONISATION, which means stronger institutional environment is associated with lower CSR_HARMONISATION. This is consistent with Mazboudi et al.'s (2020) findings that firms in stronger institutional environments need to address local stakeholders' demands first, which makes firms reluctant to adopt CSR_HARMONISATION.

CSR_HARMONISATION could be correlated period-to-period. To address the issue of reverse causality, this study employs lagged analysis by using one-year lagged variables. Table 15 provides results for a lagged analysis. Consistent with the main regression analysis, CSR_HARMONISATION has a significant positive association with $FRAMEWORK_{(t-1)}$ (Coefficient 0.0884, p value<0.001). The results are robust when I examine the effect of one-

year lagged variables. The main findings therefore still hold after controlling for lagged variables.

Overall, this provides evidence consistent with the hypothesis: use of multiple CSR pronouncements is positively associated with CSR_HARMONISATION. This suggests that use of multiple global CSR pronouncements contributes to reduced country-of-origin differences, and thus promotes harmonisation of CSR reporting.

Table 14: Main regression
Multiple global CSR pronouncements and CSR harmonisation

Variable(s)	DEP=CSR HARMONISATION
	Coefficient (t-value)
FRAMEWORK	0.1093*** (6.02)
FOREIGN_SALES	0.0004*** (3.46)
LEVERAGE	0.0543*** (2.64)
PROFIT	0.0108 (0.17)
SIZE	0.0143*** (4.6)
MTB	0.0027 (1.15)
ANALYSTS	0.0022*** (4.25)
ACNONEX	-0.0004 (-1.48)
SHRIGHT	0.0055 (0.48)
CSRCOMMITTEE	0.0675*** (9.18)
AWARDS	0.0445*** (8.08)
INSTITUTION	-0.0966*** (-4.9)
GDP	0.1053 (1.33)
CIVIL	-0.1946*** (-4.43)
CONSTANT	-0.1920 (-0.24)
YEAR_FE	YES
INDUSTRY_FE	YES
COUNTRY_FE	YES
N	2085
F	48.73
Adj.R^2	0.4718

Note: Table 14 reports the OLS regressions result of testing the relationship between multiple global CSR pronouncements and CSR harmonisation. The dependent variable is CSR Harmonisation, which is average of 10 questions related to CSR policy adoption. All variable definitions are in Appendix D.

***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

Table 15: Lagged analysis
Multiple global CSR pronouncements and CSR harmonisation with lagged analysis

Variable(s)	DEP=CSR HARMONISATION
	Coefficient (t-value)
FRAMEWORK(t-1)	0.0884*** (4.37)
FOREIGN_SALES(t-1)	0.0003** (2.34)
LEVERAGE(t-1)	0.0740*** (3.22)
PROFIT(t-1)	0.0292 (0.42)
SIZE(t-1)	0.0167*** (4.79)
MTB(t-1)	0.0032 (1.20)
ANALYSTS(t-1)	0.0013** (2.25
ACNONEX(t-1)	-0.0005 (-1.57)
SHRIGHT(t-1)	0.0013 (0.11)
CSRCOMMITTEE(t-1)	0.0541*** (6.79
AWARDS(t-1)	0.0369*** (6.04)
INSTITUTION(t-1)	-0.0808*** (-3.59)
GDP(t-1)	0.0201 (0.25)
CIVIL(t-1)	-0.1479*** (-3.00)
CONSTANT	0.6705 (0.81)
YEAR_FE	YES
INDUSTRY_FE	YES
COUNTRY_FE	YES
N	1502
F	36.03
Adj.R2	0.4700

Note: Table 15 reports the OLS regressions result of testing the relationship between multiple global CSR pronouncements and CSR harmonisation with lagged variables. The dependent variable is CSR Harmonisation, which is average of 10 questions related to CSR policy adoption. All variable definitions are in Appendix D.

***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

3.5. Additional Analysis

3.5.1. Excluding smaller observations from countries and industries

Table 16 shows results for the regression analysis excluding observations from countries or industries that hold less than 1% of total observations. This is in line with prior literature such as Tomas and Wang (2019) and Nguyen et al. (2019). Dropping observations from Czech Republic (4 observations), Hungary (12 observations), and Luxembourg (3 observations) still provides results consistent with the main regression. CSR_HARMONISATION has a significant positive association with FRAMEWORK (Coefficient 0.1074, p value<0.001).

3.5.2. Excluding financial industry

Table 17 provides results for the regression analysis excluding the financial industry. Prior accounting disclosure research often excludes the financial industry because of unique regulatory requirements and operating environments associated with this sector (Leung & Horwitz, 2004). The result is still consistent with the main results after removing financial the industry. CSR_HARMONISATION is positively and significantly associated with FRAMEWORK (Coefficient 0.1224, p value<0.001).

In summary, CSR_HARMONISATION remains positively and significantly associated with FRAMEWORK, after excluding samples from small observations, and the financial industry.

Table 16: Excluding smaller countries

Multiple global CSR pronouncements and CSR harmonisation excluding small countries.

Variable(s)	DEP=CSR HARMONISATION
	Coefficient (t-value)
FRAMEWORK	0.1074*** (5.87)
FOREIGN_SALES	0.0004*** (3.50)
LEVERAGE	0.0550*** (2.67)
PROFIT	0.0165 (0.26)
SIZE	0.0145*** (4.61)
MTB	0.0026 (1.14)
ANALYSTS	0.0022*** (4.21)
ACNONEX	-0.0004 (-1.47)
SHRIGHT	0.0056 (0.49)
CSRCOMMITTEE	0.0664*** (8.98)
AWARDS	0.0439*** (7.93)
INSTITUTION	-0.009*** (-4.59)
GDP	0.0368 (0.45)
CIVIL	-0.1726*** (-3.88)
CONSTANT	0.5067 (0.61)
YEAR_FE	YES
INDUSTRY_FE	YES
COUNTRY_FE	YES
N	2067
F	51.77
Adj.R^2	0.4694

Note: Table 16 reports the OLS regressions result of testing the relationship between multiple global CSR pronouncements and CSR harmonisation excluding small countries. The dependent variable is CSR Harmonisation, which is average of 10 questions related to CSR policy adoption. All variable definitions are in Appendix D.
***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

Table 17: Excluding financial industry

Multiple global CSR pronouncements and CSR harmonisation excluding financial industry

Variable(s)	DEP=CSR HARMONISATION
	Coefficient (t-value)
FRAMEWORK	0.1224*** (6.05)
FOREIGN_SALES	0.0005*** (4.17)
LEVERAGE	0.0748*** (3.00)
PROFIT	0.0758 (1.06)
SIZE	0.0112*** (3.21)
MTB	0.0031 (1.25)
ANALYSTS	0.0023*** (3.86)
ACNONEX	-0.0006** (-2.15)
SHRIGHT	0.0107 (0.89)
CSRCOMMITTEE	0.0658*** (8.13)
AWARDS	0.0471*** (7.73)
INSTITUTION	-0.0878*** (-3.91)
GDP	0.0959 (1.11)
CIVIL	-0.1627*** (-3.26)
CONSTANT	00.1135 (-0.13)
YEAR_FE	YES
INDUSTRY_FE	YES
COUNTRY_FE	YES
N	1693
F	33.84
Adj.R2	0.4245

Note: Table 17 reports the OLS regressions result of testing the relationship between multiple global CSR pronouncements and CSR harmonisation excluding financial industry. The dependent variable is CSR Harmonisation, which is average of 10 questions related to CSR policy adoption. All variable definitions are in Appendix D.

***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

3.5.3 Endogeneity

The major empirical challenge this study faces is the endogenous relationship between voluntary adoption of CSR policy (harmonisation of CSR reports) and CSR pronouncements. Specifically, omitted variables and reverse causality could violate the validity of the results. Consequently, to address endogeneity concerns this study conducts a series of additional tests.

3.5.3.1. Firm fixed effects analysis (address possible endogeneity affected by unobservable variables)

To address possible endogeneity arising from unobserved, unit-specific confounders in the model, this study performs regression analysis with firm fixed effects. According to Imai and Kim (2019), past literature also employs unit fixed effects regression models for estimating causal effects with longitudinal data. Table 18 shows results for the regression analysis with firm fixed effects and the main result still holds. FRAMEWORK has significant positive coefficients with CSR_HARMONISATION (Coefficient 0.1093, p value<0.001).

Table 18: Firm fixed effects

Multiple global CSR pronouncements and CSR harmonisation with firm fixed effects.

Variable(s)	DEP=CSR HARMONATION
	Coefficient (t-value)
FRAMEWORK	0.1093***
	(4.30)
FOREIGN_SALES	0.0004**
	(2.10)
LEVERAGE	0.0543
	(1.60)
PROFIT	0.0108
	(0.11)
SIZE	0.0143***
	(2.80)
MTB	0.0027
	(0.76)
ANALYSTS	0.0022***
	(2.65)
ACNONEX	-0.0004
	(-0.88)
SHRIGHT	0.0055
	(0.30)
CSRCOMMITTEE	0.0675***
	(5.58)
AWARDS	0.0445***
	(5.67)
INSTITUTION	-0.0966***
	(-3.20)
GDP	0.1053
	(1.44)
CIVIL	-0.1946***
	(-3.06)
CONSTANT	-0.1920
	(-0.25)
YEAR_FE	YES
INDUSTRY_FE	YES
COUNTRY_FE	YES
FIRM_FE	YES
N	2085
F	-
Adj.R2	0.4817

Note: Table 2.8 reports the OLS regressions result of testing the relationship between multiple global CSR pronouncements and CSR harmonisation with firm fixed effects. The dependent variable is CSR Harmonisation, which is average of 10 questions related to CSR policy adoption. All variable definitions are in Appendix D.

***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

3.5.3.2. Two-stage least squares instrumental approach

This study employs a two-stage least squares (2SLS) instrumental variable (IV) approach to address other sources of endogeneity such as omitted variables and simultaneity. IV that is related to adopting CSR practice but has not been identified as a determinant of harmonisation is needed. In line with Sun et al. (2020), this study uses country-industry mean FRAMEWORK (INDCOUN_FRAMEWORK) and country-year mean FRAMEWORK (YEARCOUN_FRAMEWORK) as instruments. These variables are the mean score of FRAMEWORK by country and year, and the mean score of FRAMEWORK by country and industry. These instruments represent the average FRAMEWORK score of firms within the same industry, and across years, in a given country.[12] This variable is useful because peer effect is likely to shape a firm's CSR practice and thus would be correlated with CSR pronouncements. However, the peer CSR score should not be correlated with the CSR_HARMONISATION of a particular firm, except through the global CSR pronouncements channel. INDCOUN_FRAMEWORK and YEARCOUN_FRAMEWORK are expected to be positively and significantly associated with FRAMEWORK. This study conducts the analysis using the first stage of the 2SLS model as follows:

$$FRAMEWORK_{i,t} = a + \beta_1 INDCOUN\_FRAMEWORK_{it} + \beta_2 YEARCOUN\_FRAMEWORK_{it} + \sum \theta_i Controls_{it} + \Sigma\, fixed\ effects + \varepsilon$$

[12] This study acknowledges the limitation inherent in using industry-average as the instrument. Larcker and Rusticus (2010)suggest that accounting researchers often use regulatory changes to address endogeneity concerns. However, this study could not identify a universal regulatory shock due to the international nature of the study.

Table 19 shows the results of the IV model. In Column 1, the first stage model shows that INDCOUN_FRAMEWORK and YEARCOUN_FRAMEWORK are positively and significantly associated with FRAMEWORK (coefficient=0.7957, p value<0.001, coefficient=0.8011, p value<0.001). This means that a firm's choice of global CSR pronouncements is determined by both industry and country characteristics. The second stage model shows that CSR_HARMONISATION is significantly and positively associated with FRAMEWORK, controlling for the predicted FRAMEWORK score from the first stage (coefficient=0.1980, p value<0.01). Similar to Sun et al. (2020), this study performs three tests to check the validity of the instruments in Table 19. First, the underidentification test, or Kleibergen-Paap rk LM statistic reveals that both models are identified (p= 0.0000). Second, the result of the weak identification test or Kleibergen-Paap rk Wald F statistic (Kleibergen & Paap, 2006) shows that the F-statistic is very high in my sample (103.73), which suggests the instruments are relevant and strong. Third, Sargan statistic or the Hansen's J statistic (Hansen, 1982) is used to check the over-identification concern. The p-value of the Hansen's J statistic is high (0.1612), suggesting that this study cannot reject the null hypothesis that the instruments are exogeneous. This means that other sources of endogeneity, such as omitted variables or simultaneity issues, are unlikely in the model. Overall, the post-estimation tests confirm both the relevance and the exclusion restrictions of the instruments.

Table 19: Instrumental Variable analysis

Variable(s)	1st stage	2nd stage
	DEP=FRAMEWORK	DEP=CSR HARMONISATION
	Coefficient (t-value)	Coefficient (t-value)
FRAMEWORK		0.1980*** (3.32
FOREIGN_SALES	0.0001 (0.52)	0.0003*** (3.44
LEVERAGE	0.0468** (1.96)	0.0502** (2.43)
PROFIT	-0.1376* (-1.87)	0.0186 (0.29)
SIZE	0.0310*** (8.73)	0.0110*** (2.93)
MTB	0.0005 (0.18)	0.0026 (1.12)
ANALYSTS	0.0013** (2.10)	0.0022*** (4.17)
ACNONEX	-0.0001 (-0.43)	-0.0004 (-1.43)
SHRIGHT	0.0218 (1.63)	0.0039 (0.34)
CSRCOMMITTEE	0.0490*** (5.78)	0.0623*** (7.73)
AWARDS	0.0399*** (6.31)	0.0402*** (6.57)
INSTITUTION	-0.0682*** (-2.86)	-0.0971*** (-4.95)
GDP	0.0791 (0.83)	0.1151 (1.46)
CIVIL	-0.3041*** (-4.43)	-0.2137*** (-4.71)
INDCOUN_FRAMEWORK	0.7957*** (12.60)	
YEARCOUN_FRAMEWORK	0.8011*** (6.57)	
CONSTANT	-0.9145 (-0.94)	-0.2746 (-0.34)
YEAR_FE	YES	YES
INDUSTRY_FE	YES	YES
COUNTRY_FE	YES	YES
N	2085	2085
F	45.11	47.53
Uncentered R2	0.8717	0.9804
Underindentification		192.122
Weak identification test		103.73
Sargan statistic		1.963(0.1612)

Note: Table 19 reports the results on the first stage of instrumental variable using FRAMEWORK as a dependent variable. The second stage results on the effect of harmonisation and multiple global CSR pronouncements, controlling for predicted FRAMEWORK score obtained in first stage. All variable definitions appear in Appendix D.

***, ** and * represent statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed tests).

3.5.3.3 Heckman selection bias

To address selection bias due to unobservable differences, this study employs a Heckman two-stage model (Tucker, 2010). The unobservable self-selection bias could violate the relevance of the main findings because the sample of this study consists of only those firms that voluntarily issue CSR reports. Therefore, to address concerns about selection bias, the Heckman approach is employed to develop a probit model for CSR practice level (i.e., GRI/framework score). In the first stage of the Heckman model, this study uses GRI standards as a dummy variable that equals to 1 if the sample firm prepares CSR reports with GRI standards, and 0 otherwise (GRI). The sample size in the first-stage model is 2,079 firm-year observations. The first-stage model should include a variable that satisfies the exclusion restriction. That is, such a variable should be related to the choice of GRI/framework score, but unrelated to CSR_HARMONISATION. Then this study uses the IMR estimated from the first-stage model as an additional independent variable in the equation. This study's first-stage probit model is specified below:

$$CSRHigh_{i,t} = a + \beta_1 Env_{it} + \sum \theta_i Controls_{it} + \Sigma\, fixed\ effects + \varepsilon$$

where Env is a measure of environmental performance score for firm i in year t, which is obtained from Eikon. Env is used to satisfy the exclusion restriction and Env is then converted into country-level, average. Specifically, firms with good environmental performances are likely to face a greater demand for non-financial information, and firms would be more willing to report more regarding their performance (Dhaliwal et al., 2011). These firms would be more likely to use global CSR pronouncements to get the most benefit

out of them. However, environmental performance is unlikely to be directly related to harmonisation except when reported through or via CSR reporting pronouncements. This study includes several variables following Fortanier et al. (2011) and Mazboudi et al. (2020).

Table 20 shows the results of the Heckman two-step model. In column 1, Env is positively and significantly (coefficient=0.3603, p value<0.01) associated with a higher level of CSR practice, which is consistent with expectations, suggesting that Env is reasonable exogeneous variables to satisfy the exclusion restriction criteria. Other variables are also significantly related to the CSR level such as leverage, size, awards, and GDP, and the model has a Pseudo R^2 of 39.21%.

In the second stage for the level test, the coefficients of FRAMEWORK remain positive and significant (Coefficient=0.1054, p value<00.01), consistent with firms adopting multiple global CSR pronouncements having higher harmonisation. Therefore, the results are consistent after controlling for unobservable differences between high CSR and low CSR firms.

Table 20: Heckman Selection Bias Analysis

Variable(s)	1st stage	2nd stage
	DEP=GRI	DEP=CSR HARMONISATION
	Coefficient (t-value)	Coefficient (t-value)
ENV	0.3603*** (2.97)	
FRAMEWORK		0.1054*** (5.81)
FOREIGN_SALES	-0.0026* (-1.67)	0.0004*** (4.05)
LEVERAGE	0.05349* (1.73)	0.0391* (1.88)
PROFIT	-0.9645 (-1.07)	0.0414 (0.65)
SIZE	0.1904*** (4.24)	0.0086** (2.55)
MTB	-0.009 (-0.27)	0.0027 (1.17)
ANALYSTS	-0.0081 (-1.02)	0.0026*** (4.86)
ACNONEX	-0.0037 (-0.90)	-0.0003 (-0.98)
SHRIGHT	-0.2312 (-1.46)	0.0120 (1.04)
CSRCOMMITTEE	0.4945 (4.57)	0.0537*** (6.73)
AWARDS	0.3768*** (4.64)	0.0334*** (5.51)
INSTITUTION	-0.8786** (-2.52)	-0.0819*** (-4.11)
GDP	2.1070* (1.84)	0.1013 (1.28)
CIVIL	-3.3454* (-1.93)	-0.2256*** (-5.07)
LAMBDA		-0.0662 (-4.17)
CONSTANT	-40.3968** (-2.33)	-0.0911 (-0.11)
YEAR_FE	YES	YES
INDUSTRY_FE	YES	YES
COUNTRY_FE	YES	YES
N	2079	2079
F	971.88	50.58
Adj.R2	0.3921	0.4755

Note: Table 20 reports the results of the Heckman Selection Bias regarding the relationship between Harmonisation and multiple global CSR pronouncements. The first stage dependent variable is GRI (Indicator variable equal to 1 for firms that uses GRI guidelines/standards, 0 otherwise). The second stage results on the effect of harmonisation and multiple global CSR pronouncements, where dependent variable is CSR_HARMONISATION. All variable definitions appear in Appendix D. ***, ** and * represent statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed tests).

3.6. Conclusion

This study examines the harmonisation effects of using multiple global CSR pronouncements (i.e., frameworks/set of standards/guidelines) on firms' CSR reporting. This study expects that firms using more global CSR pronouncements will result in smaller cross-country differences and fewer country-of-origin effects in CSR reporting. The research, conducted across 17 EU countries with a total sample of 2,085 firm-year observations, collects data on CSR policies and the utilisation of global CSR pronouncements. Using OLS regression analysis, the results support the hypothesis: use of more global CSR pronouncements is associated with better harmonisation in CSR reporting across firms from different countries. This is consistent with Fortanier et al. (2011) findings that the power of convergence supersedes the power of local institutions in explaining CSR reporting among firms that have adopted global CSR pronouncements. Consistent with Einwiller et al. (2016), use of more global CSR pronouncements reduces selective reporting in CSR reports, which promotes harmonisation of CSR reports. Endogeneity is a major concern that could adversely affect the relevance of the findings. This study addresses this concern through a lagged analysis, firm fixed effects, instrumental variable analysis, and Heckman selection bias test. While none of these tests by themselves can remove risk of endogeneity, combined they increase confidence that the results are consistent with the expectations.

For future studies, it would be relevant to further explore this relationship beyond EU countries. Although the EU represents a large proportion of global market capitalisation, and has significant impact on international business, the inclusion of other large economies, such as China, India, and the US may shed additional light on the relationships examined in this

study. Another area that may shed further light on the literature is to cover firms that are smaller, as this study used Eikon, which tends to cover firms with relatively large market capitalisation.

From a managerial perspective, use of multiple global CSR pronouncements may improve CSR performance and reporting. The resulting increased access to related networks concerning CSR reporting is likely to increase knowledge transfers on CSR management, implementation, and reporting. It is also likely to improve the handling of international demands, hence addressing Mazboudi et al. (2020) findings, that firms placed in countries with strong institutional environments (e.g., Sweden) focus on addressing local demands rather than international demands.

Recent developments concerning the ISSB and EFRAG provide hope for more unified progress towards harmonised international sustainability standards. This study's findings offer potential support to such entities by providing empirical evidence on harmonisation of CSR reporting. The setting for this study is perhaps more relevant to the ESRS situation (e.g., EU jurisdiction, GRI base, and inclusion of SDGs). Consequently, future studies could build on the results of this study to facilitate comparison of ISSB standards and ESRS. Amel-Zadeh and Serafeim (2018) contend that the lack of quantification and the lack of standardisation governing the reporting of environmental, social, and governance (ESG) information are the greatest challenges investors face in integrating ESG information into their decision-making process. The ISSB and EFRAG could use the findings from this paper to support their investments in collaborating widely with other entities involved with CSR pronouncements. This study's evidence on the role of multiple CSR pronouncements in harmonising reporting should also be of wider interest to preparers and users of CSR reports, as well as to academics, and to other regulators and standard setters.

Chapter Four

Essay Three

Multiple Global CSR Pronouncements and Market Liquidity – Evidence from European Union

4.1. Introduction

Over the last three decades, stakeholders have started to care more about non-financial matters, such as environmental issues. Such responses relate to CSR, which requires that firms recognise their economic, legal, ethical, and social responsibilities to meet demands of stakeholders. Consequently, companies increasingly release CSR reports that attract significant attention from academic researchers. Prior literature suggests that CSR disclosure is value relevant and associated with improved firm value, higher forecast accuracy, and higher market liquidity. In sum, evidence suggests positive economic benefits for companies with increased CSR disclosure, and therefore stakeholders of reporting firms value such information.

Dhaliwal et al. (2011) and Michaels and Grüning (2017) contend that CSR disclosure can be regarded as an example of voluntary non-financial disclosure that reduces information asymmetry between managers and investors. Investors are able to better evaluate firms' performance and make appropriate decisions when they have relevant and reliable information about a company's activities and performance (Diamond & Verrecchia, 1991). The improvement in the information environment encourages financial benefit for companies. Kim et al. (2014) find that higher CSR performance is negatively associated with crash risk. Similarly, Plumlee et al. (2015) provide evidence that voluntary CSR disclosures contribute to

improved firm value and the cost of equity. According to Verrecchia (1983), voluntary disclosure theory expects that voluntary disclosure is used by companies with superior performance to distinguish themselves from low performers to avoid adverse selection problems. Widiarto Sutantoputra (2009) finds that companies with superior CSR performance disclose more CSR information, using GRI guidelines. Reporting companies expect to benefit on the market as disclosing more information based on their performance makes it more difficult for competitors to match them. Supporting these findings, Michaels and Grüning (2017) find that firms disclosing more CSR information face lower information asymmetry as measured by bid-ask spread. Firms could gain more benefit through market liquidity by employing multiple CSR pronouncements. Those pronouncements could support reporting companies to prepare more structured, quantified, and reliable CSR reporting that improves the information environment.

The EU has unique requirements regarding CSR reporting, namely Directive 2014/95/EU that requires certain large companies to prepare a statement disclosing information relating to non-financial and diversity information. This was implemented by the European Commission (2011) to improve the consistency and comparability of non-financial reports published throughout the EU. Before the development of Directive 2014/95/EU, the European Commission (2011) was concerned about high levels of heterogeneity in non-financial disclosure practice within the EU, so the Directive was implemented to address this issue. However, the Directive did not specify what global CSR frameworks/standards/guidelines to employ in preparing CSR reports. In spite of this development, Caputo et al. (2019) find that companies' CSR reports still showed diversity in form and extent. Matuszak and Różańska (2017) contend that since the Global Financial Crisis, Europe has become the most active

region in promoting transparency and disclosure of CSR. In line with this, Doh and Guay (2006) find that CSR in Europe is relatively more aware compared to other areas such as the United States (US). Recent events related to the formation of the ISSB and development of the EFRAG Task Force further emphasise the importance of CSR reporting and unified standards for CSR reporting.

Adams (2020) suggests that the EU Commission had an opportunity to lead the world in refocussing corporate CSR efforts in a post-COVID-19 world. After establishment of the EFRAG Task Force, a report that included detailed recommendations for the future EU sustainability reporting standards was submitted to the European Commission in February 2021 (EFRAG, 2022). At the time of writing, companies that are required to comply with Directive 2014/95/EU will have to shift to European Sustainability Reporting Standards (ESRS) in financial year 2024, with first sustainability statements published in 2025 (European Commission, 2023). Given this unique setting, a study of capital market effects, CSR reporting, and market information asymmetry in the EU is particularly interesting. The findings of this study implies that a greater number of CSR pronouncements supports investors' decision-making process. Since ESRS considers broader stakeholders as well as seeking sustainable development through a greater number of CSR pronouncements, standard-setters might be better to refer to ESRS for future development.

The diversity in form and extent of CSR reports, which the ISSB and EFRAG seek to address, could be due to the unique characteristics of non-financial reporting. Tschopp and Nastanski (2014) contend that CSR reports have a wider audience than that for financial reports. Consequently, CSR reports have more diverse objectives for a wider range of users. This was emphasised by the large number of CSR pronouncements available as those pronouncements

may have sought to address different audiences or objectives. One central point of criticism regarding CSR reporting was that of selectivity in what was reported. Due to limited requirements relating to CSR reporting, Coombs and Holladay (2013) contend that companies had significant discretion, including what topics to report on, and what CSR pronouncements to follow. Consequently, companies could report only favourable topics while intentionally omitting areas where they are much less effective (Seele, 2015). Lack of balance regarding what to report reduces comparability and transparency. Choice of CSR pronouncements may contribute to such a lack of balance. These concerns could be addressed through using CSR pronouncements conforming to common rules (Einwiller et al., 2016). This study, therefore, considers multiple CSR pronouncements rather than focuses on a particular CSR pronouncement because Waddock and Graves (1997) contend the need for a multidimensional measure for CSR reporting. Effectively employing more CSR pronouncements would imply firms are respectful to a broad range of stakeholders, which means they can deal with stakeholders' demands, and is thus less risky.

Empirical research in a voluntary CSR reporting setting raises unique challenges, specifically in terms of self-selection, since firms that expect to derive benefits from using CSR pronouncements are more likely to choose to adopt them. To address these challenges, this study employs several econometric approaches including lagged analysis, propensity score matching (PSM), a Heckman selection bias approach, and instrumental variables. Following Rezaee and Tuo (2019), data regarding firms' usage of CSR pronouncements between the year 2015 and 2019 is collected from the GRI database.

This study finds that firms that use multiple CSR pronouncements have higher market liquidity (through lower bid-ask spread). The model includes several control variables to

enhance reliability of results in seeking to answer the research question: does use of multiple CSR pronouncements in reporting contribute to improved market liquidity? Various firm characteristics and other variables including country, industry, and year fixed effects are also controlled for in the models. Furthermore, the results are robust after addressing endogeneity.

This research builds upon several other significant studies. First, this study extends the prior literature on voluntary CSR disclosures, specifically how stakeholders value CSR information and how it contributes to reducing market information asymmetry. Most studies examining the relationship between CSR information and market information asymmetry measured through bid-ask spread have focused on a few countries or in a limited sample period. For instance, Michaels and Grüning (2017) employ restrictive sampling of companies in a German setting in the 2013-2014 period. The current study is broader - it includes companies in EU countries between the year 2015 and 2019. The need of longitudinal research is emphasised by Pisani et al. (2017), to enrich understanding of how international CSR practices develop over time. Furthermore, De Villiers and Van Staden (2011) suggest that the potential benefits of CSR pronouncements tend to be captured in the long-term. Therefore, a study focused on the short-term might capture limited information. Second, this study uses numerous global CSR pronouncements to examine the relationship between CSR disclosure and market liquidity. Past literature tends to focus on examining the effect on bid-ask spread of publishing CSR reporting (Michaels & Grüning, 2017), ESG scores (Siew et al., 2016), or by employing a particular CSR pronouncement (Grassmann et al., 2021). Arguably, a single CSR pronouncement might be insufficient to address all concerns/expectations of a wide range of stakeholders comprehensively (Tschopp & Nastanski, 2014). Einwiller et al. (2016) also suggest that comparability of CSR reporting potentially lowers market liquidity if companies

solely employ a particular CSR pronouncement that possibly gives more weight to the demands of certain stakeholders. Focusing on a single CSR pronouncement, therefore, might not show a complete picture of companies' CSR activities. Consequently, this study uses multiple global CSR pronouncements to shed additional light on the literature. The IASB highlights that firms are increasingly opting to report using multiple CSR pronouncements (IASB, 2020). Consistent with recent trends in CSR reporting (KPMG, 2022), this study potentially informs and supports the work of the ISSB and EFRAG Task Force because it provides useful insights into the effects on market liquidity of using multiple CSR pronouncements. This study's setting of the voluntary disclosure mainly reflects firms' private cost-benefit trade-offs. It is necessary for those regulatory bodies to consider both the cost and benefit of CSR reporting for developing CSR standards as costs related to disclosure could offset benefit (i.e., market liquidity). To implement effective CSR standards, understanding such an effect should be of interest to those bodies.The remainder of this study is organised as follows. Section 4.2: Theoretical framework of how CSR is associated with market liquidity. Section 4.3 then provides a literature review of relevant research. Section 4.4 describes the sample and research methods. Section 4.5 provides the main findings and the results of robustness tests to address endogeneity issues. Section 4.6 provides a summary and conclusion.

4.2. Theoretical framework

According to Akerlof (1970), information asymmetry is a situation where one party in a relationship has better access to information than the other party. Jensen and Meckling (1976) describe how information asymmetry occurs because of the separation between managers (the agents) and investors (the principals). Agency theory can then be used to explain the

opportunities and challenges of information asymmetry. This theory is based on the principal-agent relationship, in which shareholders (principals) appoint managers (agents) to act on behalf of shareholders. This separation of duty provides managers with better access to information about the firm's affairs, which they exploit to misapply firm resources to serve their own self-interest. Shareholders and managers have conflicting interests, which leads to a moral hazard problem. Such conflicts might detract from performance of capital markets, because shareholders cannot distinguish between "good" and "bad" business actions. Managers who commit "bad" actions will try to defend themselves by claiming "good" actions, and shareholders will value both "bad" and "good" actions at the same level. Healy and Palepu (2001) suggest the capital market will undervalue some "good" actions and overvalue "bad" actions, which leads to an adverse selection problem. Leuz and Verrecchia (2000) note that information asymmetry could create costs due to adverse selection, because investors need additional time to gather information, an expense which could lead to raised opportunity costs.

Stiglitz and Weiss (1981) suggest that in theory, when a reporting system promotes a high level of transparency, shareholders' monitoring ability is strengthened. They contend that managers' incentives to expropriate corporate resources are reduced as their behaviours become more visible. CSR reporting can improve transparency because firms with better CSR performance are more likely to disclose their CSR activities to market participants. The increase in transparency due to greater information or better presentation could reduce managers' misbehaviour by aligning their incentives with those of shareholders. For instance, Bushman and Smith (2001) suggest that more specific information about a firm's value creation process could support shareholders to write compensation contracts that are based on a wider range of metrics than the traditional accounting measures, which can be noisy.

The relationship between CSR reporting and information asymmetry can be explained using voluntary disclosure theory. Under this theory, corporate reporting is relevant for investors and reduces information asymmetry. Verrecchia (1983) suggests that voluntary disclosure is used by firms with superior performance to differentiate themselves from low performers to avoid an adverse selection problem. Corporate disclosure, specifically CSR reporting, can play several roles in this setting. First, Verrecchia (2001) notes that voluntary disclosure can reduce the adverse selection problem and level the playing field among investors. In the context of CSR, Widiarto Sutantoputra (2009) finds that companies with superior CSR performance disclose more CSR information to access benefits on financial markets. Eventually, this should increase the liquidity of secondary securities markets and lower the return that investors require for investing in firm stock (Amihud & Mendelson, 1986). Second, prior literature, such as Easley and O'hara (2004), Lambert et al. (2007); Lambert et al. (2012), find that disclosure can make it easier for investors to estimate future cash flows and covariances between them, which decreases the cost of capital. Third, Diamond and Verrecchia (1991) note that disclosure can raise investor awareness or their willingness to hold securities, which encourages risk sharing in the economy. Fourth, Bushman and Smith (2001) and Lambert et al. (2007) contend that disclosure promotes the monitoring of managers by corporate outsiders, such as analysts or institutional investors. This will improve managerial decision making and lead to more efficient corporate investments. Prior literature, therefore, suggests that more and better disclosure could improve market efficiency in the form of improved liquidity, lower cost of capital, higher asset prices (or firm value), and potentially better corporate decisions.

The improved market efficiency can be further promoted by adopting CSR pronouncements. GRI is one of the major CSR pronouncements, and its aim is to promote transparency and improve comparability across companies by creating a global common language for CSR reporting (GRI, 2020). This idea is supported by Einwiller et al. (2016), Fortanier et al. (2011), and Sherman and DiGuilio (2010), who find that firms preparing CSR reports under the same ground rules have greater comparability and reduce biased selective reporting. Information environment will be improved through CSR pronouncements, and hence improve market liquidity, which is supported by Muslu et al. (2019) who find that higher disclosure scores of CSR reports improve analysts' forecasts, implying reducing information asymmetry.

4.3. Literature review and hypothesis development

Prior literature reveals that CSR activities can affect financial performance through sales, profitability, operational efficiency, and cost of capital. Lev et al. (2010) suggest that a better CSR reputation can lead to increased sales. They find that charitable contributions are significantly associated with future revenue of US companies between 1989 and 2000, especially for firms that are highly sensitive to consumer perception. Consistent with the finding of a relationship between potential economic benefits and superior CSR performance, several studies report a positive association between CSR performance and improved financial performance. Firms that invest in the welfare of their employees by implementing CSR programs attract more talent and better motivate their employees to improve productivity. Edmans (2011) uses "100 Best Companies to Work for in America" that embraces two principal sources: two-thirds of the score from employee responses and the remainder from the

Institute's evaluation. Employing this list, they find that employee satisfaction is positively associated with shareholder returns. Banker and Mashruwala (2007) conduct a study to examine the relationship between employee satisfaction and financial performance in a retail business setting. They provide evidence that greater employee satisfaction, measured through a survey, is associated with improved future financial performance.

According to Christensen et al. (2021), there are two ways CSR activities can manifest in the cost of capital. One way is when certain business activities cause CSR-related-risks (e.g., fossil fuel producers face risks from the transition to carbon neutrality). To the degree that these risk exposures are not diversifiable for investors, it affects firms' cost of capital. Firms that are less subject to CSR or ESG shocks offer lower returns, and vice versa. According to Luo and Bhattacharya (2009), engaging in certain CSR activities could reduce these risks or risk exposures. Their sample is based on firms listed in Fortune's Most Admired Companies between 2002 and 2003. They measure CSR performance as a company's overall performance in CSR programs relative to its leading competitors in the industry, which is rated by various groups of people including executives, directors, and financial securities analysts. They find that CSR generates "moral capital", for example, through customer trust, employee loyalty, lower price elasticities, or goodwill with regulators. Such moral capital provides insurance-like protection against future adverse events and the reactions of stakeholders to such events, which leads to a lower volatility of future cash flows. A similar finding is available from Houqe et al. (2024), suggesting that enhanced reputation leads to lower cost of capital and debt through lower risks.

The second way to influence the cost of capital through CSR activities is via investor preferences. Fama and French (2007) and Friedman and Heinle (2016) suggest that investors

with non-financial CSR preferences are willing to accept lower expected returns from firms. This results in a lower cost of capital for those firms that are satisfying such preferences. Pástor et al. (2021) confirm this conclusion and also show that investors enjoy holding green assets that have low expected returns because green assets hedge climate risk in addition to satisfying investors' preferences.

Albuquerque et al. (2019) investigate the relationship between CSR performance and systematic risk. Their sample is based on US firms between 2003 and 2015 and use MSCI's ESG research database. They measure CSR performance as the difference between the number of strengths and that of concerns for each firm year. They note that CSR performance decreases systematic risk using beta estimates. Furthermore, Bolton and Kacperczyk (2021) examine the relationship between carbon emissions and carbon premiums. A carbon premium is the extra return required by investors for firms with higher carbon emissions, as it implies higher risks. Using an international setting, and a sample period between 2005 and 2018, they find that total emissions are positively associated with individual stock returns required, which suggests that higher-emissions firms are riskier.

A primary benefit of corporate disclosure is to reduce information asymmetries between a firm and its stakeholders. Past literature focusing on effects of CSR reporting on cost of capital provides evidence of a negative relationship through reduced information asymmetry. Matsumura et al. (2017) examine the relationship between CSR disclosures (specifically climate-change risk) and cost of capital. They show evidence that the cost of equity is lower for disclosing firms in S&P 500 firms between 2008 and 2014. This implies that disclosure reduces uncertainty for investors by improving the information environment. Furthermore, Rezaee and Tuo (2019) suggest that the extent and the quality of CSR reports

measured against GRI guidelines/standards are positively associated with earnings quality, which reinforces the role of CSR reports in investor decision-making processes.

According to Leuz and Wysocki (2016) and Roychowdhury et al. (2019), extant research in accounting shows that disclosure can promote comparability and affect firm investment behaviour and other real activities. They point out that not only does reporting provide information to investors and other stakeholders, but their responses to reported information also influences how firms allocate resources. Past literature provides evidence and potential explanations for why corporate disclosures can have real effects. Shroff et al. (2014) employ international data from 2000 to 2009 and show that the investment decisions of foreign subsidiaries of multinational corporations are more responsive to local growth opportunities in country-industries with more transparent information environments. This suggests that disclosure can reduce information asymmetry and agency costs and promote comparability. Comparable reports support investors and stakeholders in comparing and evaluating firms with lower costs and efforts. This in turn leads to improved investment efficiency. Biddle et al. (2009) note too that transparency improves firms' investment efficiency.

Diamond and Verrecchia (1991) show that more disclosures of public information tend to reduce the degree of information asymmetry between insiders and outsiders of a firm and among various groups of current and potential investors of a firm. Past literature, such as Dhaliwal et al. (2011) and Dhaliwal et al. (2012) suggest a positive association between issuance of CSR disclosures and improved transparency, which in turn leads to improved analyst forecast accuracy. Dhaliwal et al. (2011) also suggest that greater transparency reduces the information asymmetry between firms and investors. Dhaliwal et al. (2012) use international data for the period 1994-2007 and find the negative relationship between CSR

disclosure and analyst forecast error is stronger for firms and countries with more opaque financial disclosure. This implies that CSR reports play a complementary role to financial disclosures. However, studies that solely focus on *issuance* of CSR reports do not consider the *content* of these reports. Therefore, they cannot control for CSR disclosure quantity or quality. To address the effect of CSR disclosure quantity, several studies measure CSR disclosures by using a company's GRI application level. Cuadrado-Ballesteros et al. (2017) find CSR disclosure quantity, as measured by the adherence level of GRI guidelines, is positively associated with forecast accuracy. Their data is based on the world's largest 2000 listed firms provided by Forbes for the period 2007-2014. Similarly, Muslu et al. (2019) find that CSR reports with higher disclosure scores are associated with more accurate forecasts, which further reinforces that they result in better quality CSR reports and reduced information asymmetry.

According to Christensen et al. (2021), there is relatively scarce evidence on the liquidity effects of CSR reporting. Barth et al. (2017) is one such study, examining stock liquidity effects using bid-ask spreads as an inverse proxy. Bid-ask spreads are taken as implying the degree of information asymmetry on capital markets. Their study provides evidence that, following the 2010 integrated reporting mandate for companies listed on the Johannesburg Stock Exchange, investors are more willing to reward a firm when information asymmetry is low, as proxied by lower bid-ask-spreads. Similar findings are reported by Grewal et al. (2021), who use materiality standards developed by the SASB. They suggest that SASB-identified sustainability information is associated with greater price informativeness than non-SASB information for US firms between 2007 and 2015. They also show a negative relationship between material SASB-identified information and bid-ask spreads. Recent articles confirm the role of CSR reports as a promoting factor of stock liquidity. Lin et al.

(2024) and Zhang and Li (2024) find that CSR reports boost stock liquidity in China. Clancey-Shang and Fu (2024) find that better CSR performance mitigates the market quality deterioration following the outbreak of the Russia-Ukraine conflict, supporting that better CSR performance is associated with improved information transparency. Zhang et al. (2024) find that better ESG ratings can enhance the quality of corporate disclosure and expand the information set for investors by indicating higher-quality firm development that communicates positive information to investors and reduce information asymmetry. This signifies lower CSR risks, which affects the asset allocation decisions of investors, and ultimately improves stock liquidity.

According to Kothari et al. (2009), the quality of the disclosure can influence its usefulness and affect the perceptions and behaviour of investors and financial analysts - improved usefulness leads to better liquidity of securities. This benefit can be enhanced by improving CSR performance as well. Cho et al. (2013) find that CSR performance scores, as measured by KLD STATS, is negatively associated with market information asymmetry, which is measured through bid-ask spread. Cho et al. (2013, p. 73) emphasise the importance of CSR information and suggest "to the extent that CSR performance is relevant for equity valuation, transparency with regard to CSR performance should be no different than financial information presented in the traditional financial reports".

Further research focusing on IR has reached similar conclusions. Salvi et al. (2020) and Vena et al. (2020) provide evidence that IR contributes to reduced cost of capital. Salvi et al. (2020) analyse the integrated reports for 2016 in an international setting and suggest that IR supports higher quality intellectual capital disclosures, reduces information asymmetries, and also cost of capital. Such disclosure increases investors' expectations of future cash flows, as

it emphasises the relevance of tangible and intangible resources in the value-creation process. Vena et al. (2020) suggest that cultural dimensions, such as low power distance, strong collectivism values, and high levels of masculinity, have similar effects. Using an international sample between 2009 and 2017, they find that IR effectiveness is promoted by these cultural features. This leads to reduced information asymmetries between companies and stakeholders and increased transparency in communicating company risks and risk aversion of managers. According to Turzo et al. (2022), regardless of the quality of non-financial reporting and assurance, IR improves stakeholders' perceptions of corporate non-financial performance compared to reporting without IR. Reimsbach et al. (2018) explain this might be due to a halo effect because integrated reports include financial information that is subject to mandatory audit.

Christensen et al. (2021) suggest key features contributing to differences between CSR reporting and financial reporting. These include diversity of users, topics, objectives, measurement, the voluntary nature of CSR activities, and short versus long-term horizons. As CSR and sustainability are not clearly defined, they include a broad range of ESG topics, activities, and policies. According to Christensen et al. (2021), the topics differ significantly across firms, industries, and countries. The broad range of ESG topics makes the potential audience of CSR reporting broader than for financial reporting. These users may include groups that have relatively little experience in reading corporate disclosures (e.g., consumers). CSR information could be used for purposes beyond traditional financial reporting by these groups, such as to check whether a firm's policies are consistent with sustainability norms and ethical values. CSR reporting is, therefore, multidimensional, leading to a broad variety of disclosures, reporting formats, standards, and reporting frameworks, which makes comparisons more

difficult. This is reflected by Ligteringen and Zadek (2005), who suggest there were then approximately 300 CSR reporting pronouncements globally. Amel-Zadeh and Serafeim (2018) concur, in their global qualitative survey, suggesting that the greatest challenges investors face in integrating ESG information into their decision-making process are the lack of cross-company comparability and the lack of standards governing the reporting of ESG information. Over time, different CSR pronouncements have evolved to better suit differing key users and objectives. However, the diversity of users and topics continue to make it difficult to meet the expectations of all stakeholders as this involves different and sometimes conflicting objectives. CSR reporting responds to a wide range of interests and preferences from within and outside the firm and these interests and preferences can change quickly over time. For example, Baron (2001) shows that when a firm becomes the target of a social activist campaign this will have a direct effect on costs and strategy due to changed competitive positions of firms in that industry. Changes in interests are also found by Bonetti et al. (2015) who find that if Japanese firms issue stand-alone CSR reports, they bear a lower increase in the cost of capital after the Fukushima Nuclear Disaster.

Another factor that impedes comparison of CSR reporting is that many CSR activities are not necessarily measurable in monetary terms (Kitzmueller & Shimshack, 2012). Although those activities could show in observable and measurable behaviours or outputs (e.g., CO2 emissions, number of trees saved), it is challenging to apply typical accounting conventions to CSR reporting. This includes double-entry bookkeeping, or basic accounting principles like materiality and relevance (Cohen & Simnett, 2015). Also, many CSR activities and policies are voluntary and go beyond legal, regulatory, and contractual requirements (e.g., a firm may reduce pollution beyond what is required by law or offer a public good to the local community).

Consequently, what firms report under a mandate may be a function of their underlying CSR choices (or lack thereof). According to Bénabou and Tirole (2010), CSR is often viewed as a "strategic" activity that prioritises the firms' long-term benefits and foregoes short-term profits. This view is confirmed by Dhaliwal et al. (2011) who find firms are likely to publish CSR reports to signal their long-term focus and gain competitive advantage when their CSR performance is sufficiently high. Thus, CSR reporting frequently has to deal with long-term prospects that are difficult to quantify and that are intangible in nature (e.g., consumer goodwill or employee relations).

As emphasised by Mishra and Modi (2013), firms tend to focus on the positive aspects and ignore the negative aspects of CSR performance (US setting between the year 2000 and 2009). This is because positive CSR performance lowers risk of firms while negative CSR performance can cause adverse events such as consumer boycotts, which increase the risk. Muslu et al. (2019) contend that opportunistic incentives of managers to positively skew CSR reporting may arise from a lack of enforced CSR reporting pronouncements. Biased information may then increase information asymmetry between managers and investors about firms' CSR performance and financial consequences, which impairs the effectiveness of CSR reports. However, CSR pronouncements, including GRI, have developed, modified, and evolved over time in accordance with the information needs of stakeholders. According to Deegan et al. (2006), CSR reports compliant with global CSR pronouncements, such as GRI standards, are more measurable and comparable, while those that are not, are likely to be seen as less standardised, less comparable, and less comprehensive in coverage of material information. Therefore, adoption of CSR pronouncements to some extent may provide a signal that companies have a higher commitment to better CSR reporting.

Overall, the prior literature suggests that an increased CSR information set and improved CSR information quality can constrain opportunism of managers, improve the information environment, and effect various financial consequences such as firm value, forecast accuracy, and market liquidity. This implies that investors value non-financial disclosures such as those concerning CSR activities. However, this study has not identified any prior studies that have examined the effect of the use of multiple global CSR pronouncements. Prior literature usually focuses on measuring the adoption or quality of the CSR reporting using a particular CSR pronouncement (e.g., IR or GRI). This study differs from prior literature because it examines the effects of using multiple global CSR pronouncements on bid-ask spread.

Use of global CSR pronouncements should promote a firm's ability to address multiple stakeholders' expectations while still enabling comparable reporting (Hąbek & Wolniak, 2016). KPMG (2020) note that leading global firms tend to use multiple CSR pronouncements and that their behaviour usually predicts future reporting. Prior literature suggests that this also tends to improve quality and quantity of CSR reports, which leads to lower information asymmetry as they contain quantified and comparable data. If companies are applying multiple CSR pronouncements effectively, their stakeholders should have lower information asymmetry than firms using only one type of CSR pronouncement or none, which lowers bid-ask spreads. This study therefore proposes the following hypothesis:

H1: Firms using multiple global CSR pronouncements are associated with lower bid-ask spreads.

4.4. Sample and Models

This section provides empirical evidence relating to the effects of CSR pronouncements on market liquidity through reduced market information asymmetry by using longitudinal data on global CSR pronouncements in an international setting.

4.4.1. Sample

The sample consists of all firms covered by the GRI database, Compustat Global, Bloomberg, Worldscope, DataStream, Eikon, and World Bank. This study selects 2015 as the first year of data collection because the European Parliament and Council issued Directive 2014/95/EU in December 2014. This dealt with the disclosure of mandatory non-financial information and companies' disclosures are expected to be affected 2014 onwards. The final year of data collection period is 2019 to avoid the influence of COVID-19, because this is an unusual global event, which could significantly disrupt normal patterns of behaviour[13].

Following Rezaee and Tuo (2019), this study identifies voluntary adopters of global CSR pronouncements from the GRI database. The sample consists of all EU firm-years recorded in the GRI database. The GRI database also tracks other sustainability reporting information, which is used to ascertain what other CSR pronouncements firms may use in addition to the GRI standards/guidelines. A key advantage of using the GRI database to collect data on global CSR pronouncements is that it does include numerous types of global CSR pronouncements, including GRI, IR, SDG, CDP, IFC, OECD guidelines, UNGC, ISO and AA1000. Firm level financial data is obtained from Compustat Global and Bloomberg, and

[13] See the section 1.3 for details.

non-financial data from Refinitiv Worldscope (previously Thomson Reuters ASSET4), DataStream, and Eikon. Country-level data is obtained from the World Bank. A total of 2,200 firm-year observations from 638 unique firms and 14 EU countries is used for this study. Table 21 details the sample selection process for sample firms.

Table 21: Sample selection

Sample selection process		
	Firms	N
Firms/observations on the GRI database from EU countries (2015-2019)	1375	4729
Less: Firms with no data on accounting or corporate governance on DataStream and Eikon for the study period	737	2529
Final sample	638	2200

4.4.2. Measurement of market liquidity

Following Michaels and Grüning (2017) and Elbadry et al. (2015), this study uses daily bid-ask spread as a measure of market liquidity. Bid–ask spread is a commonly used proxy for market information asymmetry literature (Cho et al., 2013; Grassmann et al., 2021; Kothari et al., 2009; Michaels & Grüning, 2017; Siew et al., 2016).

The bid and ask prices are affected by market information asymmetry, and the bid-ask spread is positively associated with the degree of information asymmetry (Coller & Yohn, 1997). Bid, ask, and closing prices are collected from Datastream. Consistent with Michaels and Grüning (2017), this study uses proportional quoted half-spread, which Grüning (2011) contends is a suitable one-dimensional proxy for market information asymmetry. In line with previous literature, such as Cho et al. (2013), Kothari et al. (2009), and Michaels and Grüning

(2017), the proportional quoted half-spread is then converted into a natural logarithm and averaged over the year, with lower values representing higher market liquidity and vice versa.

4.4.3. Measurement of CSR pronouncements

Following Ioannou and Serafeim (2012), a dummy variable for each type of CSR pronouncement is created. It equals 1 when a firm is using a particular CSR pronouncement and 0 otherwise. The GRI Sustainability Disclosure Database[14] is used to collect this data. Prior CSR literature using international samples occasionally employs aggregated CSR measures to capture holistic dimensions of CSR. Waddock and Graves (1997, p. 304) emphasise the "need for a multidimensional measure applied across a wide range of industries and larger samples of companies". CSR pronouncements are calculated in the same manner as previously. See section 3.3.3 for details.

4.4.4. Empirical model

Following Michaels and Grüning (2017) and Elbadry et al. (2015), the following baseline model is used to test H_1:

$$SPREAD_{it} = \beta_0 + \beta_1 FRAMEWORK_{it} + \Sigma\beta_{1+k} Controls_{it} + fixed\ effects + \varepsilon it$$

where SPREAD represents bid-ask spread as described above, and this study's main variable of interest FRAMEWORK represents the average score for nine types of CSR pronouncements.

Following prior literature (Elbadry et al., 2015; Michaels & Grüning, 2017; Obeng et al., 2021; Roy et al., 2022), several control variables are included for the regression analysis.

[14] Available on 18 November 2020 at https://database.globalreporting.org/

Roy et al. (2022) suggest that firms with higher foreign sales tend to have higher market liquidity. Following Mazboudi et al. (2020), this study measures FOREIGN_SALES as the ratio of foreign sales to total sales. According to Siew et al. (2016), leverage (LEV) is positively associated with market liquidity because higher LEV represents higher uncertainty for whether firms could meet their debt obligations. Consequently, firms with higher levels of LEV might be motivated to hide information from getting to the public, which leads to higher information opaqueness. PROFIT and SIZE are expected to be negatively associated with SPREAD, which is in line with prior literature (Michaels & Grüning, 2017; Siew et al., 2016). Siew et al. (2016) explain that larger firms have greater pressure as they are exposed to larger stakeholders. Michaels and Grüning (2017) suggest that MTB represents a better measure compared to an accounting-based measure. Higher MTB may imply short-term growth, so MTB is expected to negatively associate with SPREAD. INTANGIBLE is expected to be positively associated with SPREAD because higher INTANGIBLE is positively related to information opaqueness (Jin et al., 2022). Siew et al. (2016) contend that PRICE_VOL is positively associated with bid-ask spread because market makers are likely to take advantage of the changes by charging higher premiums. Michaels and Grüning (2017) suggest that DPS is expected to be negatively associated with SPREAD because dividend payments imply future earnings growth to investors. Following Rezaee and Tuo (2019), ANALYSTS is expected to be negatively associated with SPREAD because it reflects stronger pressure that management would face regarding the information environment.

Since this study has an international setting, country factors that might be associated with market liquidity are also added, namely country-level investor protection (INVPRO), GDP, and legal tradition. Following Mollagholamali and Rao (2022), this study measures

country-level investor protection using the revised anti-director index from Djankov et al. (2008), widely used in international studies (Huang et al., 2020; Kobbi-Fakhfakh et al., 2020; Mollagholamali & Rao, 2022; Rakestraw, 2022). It ranges from 2 to 5, and a higher value indicates that a country has a stronger investor protection environment and vice versa.

GDP is the natural log of GDP per capita. Ferrell et al. (2016) find that GDP is associated with information asymmetry, as GDP is a measure of the financial openness of an economy and represents financial integration. According to Porta et al. (2008), countries with a civil law framework have a more stakeholder-oriented approach than those which rely on common law. A civil law framework approach is likely to enforce legal requirements for firms relating to CSR. The objective of such an approach is that the law should protect the interests of various stakeholders such as employees, consumers, and the wider community. Porta et al. (2008) suggest that CSR is more likely to be a mandatory regulatory requirement rather than a voluntary action in civil law countries. Similarly, Jo et al. (2016) find the average CSR score of firms in civil law countries is significantly higher than in common law countries. It is an indicator variable that is equal to 1 if a country has a civil law base, otherwise 0 (CIVIL). To control for unspecified, invariant effects related to industries, and years, this study includes industry and year fixed effects in all models. All variables are defined in the Appendix E. Based on H_1, β_1 is expected to be negative and significant i.e., represent a contribution towards enhancing market liquidity by using multiple global CSR pronouncements.

4.5. Empirical results

4.5.1. Descriptive statistics

Panel A, Table 22 shows the descriptive statistics of the variables used in the regression analysis. The descriptive statistics include the mean, standard deviation, p25, median, p75, minimum, and maximum. This study winsorises all variables except dummy variables at the 1st and the 99th percentiles to avoid this study's results being driven by extreme values. The descriptive statistics reveal that the mean and median of SPREAD are -6.9487 and -7.0883. This value is relatively lower than what Michaels and Grüning (2017) find, which might potentially be due to the different jurisdiction of study. The FRAMEWORK statistic shows that sample firms use up to seven types of CSR pronouncements, but the mean (0.2826) and the median (0.2222) suggest that most firms use around two types of CSR pronouncements.

The FOREIGN_SALES' mean (50.4695) and median (56.1950) suggest that foreign sales indeed have significant potential to influence the market liquidity of most firms. The mean value is close to what Cowan et al. (2013) find (50). The mean and median of LEV are 0.2990 and 0.2566 respectively. This is lower than Obeng's (2021) finding of a mean of 0.6772. This might be due to the different sample period and different jurisdiction. PROFIT has the mean and median of 0.0701 and 0.0539. This value is relatively lower than what Julian and Ofori‐Dankwa (2013) find (0.13). The mean and median of SIZE are 3.8683 and 3.8039. The mean value is consistent with what Siew et al. (2016) find. The mean and median of MTB are 2.0954 and 1.5801. Both show that sample firms' stocks tend to trade at prices above their book value, which implies short-term growth. This is consistent with what Michaels and Grüning

(2017) find (2.15). INTANGIBLE has the mean and median of 0.2219 and 0.1715, and this value is relatively lower than what Obeng et al. (2021) find (0.3545). PRICE_VOL's mean and median are -2.4524 and -2.3906, which shows relatively higher value compared to what Grassmann et al. (2021) find. DPS has the mean and median of 0.6943 and 0.45, which is relatively lower than what Michaels and Grüning (2017) find (1.6). ANALYSTS has the mean and median of 13.7427 and 13respectively (relatively lower than Rezaee and Tuo (2019) find). The mean and the median value of INVPRO are 3.5550 and 3.5. GDP has the mean of US$10.6046, which is consistent with Yu et al. (2018) findings (US$10.5370). 82.45% of the sample firms are based in civil-law countries.

Table 22 Panel B reveals sample distribution by year. Year-wise distribution shows that the year 2017 holds the largest number of observations (477=21.68%), followed by 2016 (467=21.23%), while 2019 is the lowest number of observations (378=17.18%). The low number of observations in 2019 is mainly due to the absence of data in the GRI database. Use of the GRI database is voluntary, therefore companies are not necessarily using it. The large decrease in 2019 is likely due to a decision to discontinue updating the GRI database in December 2020, follow by its closure in April 2021 (Schwery, 2021). The value of SPREAD varies over time. This study's main variable of interest, FRAMEWORK, shows an upward trend for using CSR pronouncements over time. The average for FRAMEWORK in 2015 is 0.2488 while it is 0.3501 in 2019.

Table 22 Panel C provides country distributions of sample firms. The sample covers 14 EU countries and is dominated by firms from the UK (16.73%), followed by France (15.69%), while Ireland has the lowest number of observations (0.82%). Country-wise descriptive stats shows that the Netherlands has the lowest mean SPREAD (-7.5492), while

Greece has the highest (-5.7704). The countries with high average of FRAMEWORK tend to have lower SPREAD such as Belgium, France, the Netherlands, and Spain, with Sweden having the highest FRAMEWORK (0.3753). The exception to this trend is Greece that has the highest average of SPREAD (-5.7704) while having relatively high FRAMEWORK.

Table 22 Panel D shows sample distribution by industry. The sample consists of companies in a variety of industries as classified using the SIC. According to the table, the sample is dominated by firms operating in the Manufacturing industry (42.41%), followed by the Transportation and Communications industry (16.77%), while the Agriculture, Forestry, and Fishing industry has the lowest number of observations (0.41%). Similar to the pattern of the country-wise descriptive statistics, the industry-wise has a negative relationship between FRAMEWORK and SPREAD. Again, an exception to this pattern is 'Other' industries that have the second highest average value of SPREAD while having relatively high average of FRAMEWORK. Regarding the number of CSR pronouncements (FRAMEWORK), the Mining industry has the highest average value across the industry, which is 0.3472.

The high value of FRAMEWORK for the Mining industry might arise from pressures from a range of institutions including government, customers, community, and environmental groups, as well as industry (Delmas & Toffel, 2004). Jenkins and Yakovleva (2006) contend that the mining industry faces increasing criticism due to the extraction of non-renewable resources, as it is widely regarded as one of the most environmentally and socially disruptive activities undertaken by companies. Dobele et al. (2014) find that Australian businesses in the mining industry are increasingly concerned about the environment and face pressure to implement CSR, particularly in relation to environmental sustainability. Consequently, they

need to communicate their CSR activity to the relevant stakeholder groups, and CSR pronouncements could be used to address those pressures.

Table 22: Descriptive statistics

Panel A: Full sample

Variable(s)	N	Mean	SD	p25	p50	p75	Min	Max
SPREAD	2200	-6.9487	0.9399	-7.6964	-7.0883	-6.2749	-8.5218	-4.3739
FRAMEWORK	2200	0.2826	0.1829	0.1111	0.2222	0.4444	0.0000	0.7778
FOREIGN_SALES	2200	50.4695	34.2331	17.0850	56.1950	81.6350	0.0000	99.4400
LEV	2200	0.2990	0.2249	0.1149	0.2566	0.4377	0.0006	0.8657
PROFIT	2200	0.0701	0.0813	0.0239	0.0539	0.0996	-0.1310	0.3598
SIZE	2200	3.8683	0.8027	3.3120	3.8039	4.4067	2.1206	6.0041
MTB	2200	2.0954	1.7413	0.8528	1.5801	2.8935	0.0961	8.2457
INTANGIBLE	2200	0.2219	0.1996	0.0474	0.1715	0.3736	0.0004	0.7590
PRICE_VOL	2200	-2.4524	1.0649	-3.1637	-2.3906	-1.6477	-5.3521	-0.5931
DPS	2200	0.6943	0.7746	0.1400	0.4500	1.0100	0.0000	3.8000
ANALYSTS	2200	13.7427	8.6665	6.0000	13.0000	21.0000	0.0000	32.0000
INVPRO	2200	3.5550	0.9725	3.0000	3.500	4.0000	2.0000	5.0000
GDP	2200	10.6046	0.2550	10.5093	10.6487	10.7670	9.8028	11.0283
CIVIL	2200	0.8245	0.3804	1.0000	1.0000	1.0000	0.0000	1.0000

Note: All variable definitions are in Appendix E

Panel B: Sample distribution by year

Year	N	%	SPREAD	FRAMEWORK
2015	443	20.14	-6.9471	0.2488
2016	467	21.23	-6.9089	0.2508
2017	477	21.68	-6.9932	0.2814
2018	435	19.77	-6.9311	0.2937
2019	378	17.18	-6.9640	0.3501
Total	2,200	100		

Note: All variable definitions are in Appendix E

Panel C: Sample distribution by country

Country	N	%	SPREAD	FRAMEWORK
Austria	75	3.41	-6.5112	0.3319
Belgium	59	2.68	-7.3258	0.3107
Denmark	77	3.50	-7.1816	0.1804
Finland	148	6.73	-7.0722	0.3183
France	345	15.687	-7.2703	0.2399
Germany	306	13.91	-5.9630	0.3243
Greece	82	3.73	-5.7704	0.3089
Ireland	18	0.82	-6.7423	0.2469
Italy	209	9.50	-7.1050	0.2903
Netherlands	102	4.54	-7.5492	0.3660
Portugal	53	2.41	-6.9256	0.2893
Spain	133	6.05	-7.4907	0.3475
Sweden	225	10.23	-7.1667	0.3753
UK	368	16.73	-7.0890	0.1676
Total	2,200	100		

Note: All variable definitions are in Appendix E

Panel D: Sample distribution by industry

Industry	N	%	SPREAD	FRAMEWORK
Agriculture, forestry and fishing	9	0.41	-5.6664	0.1358
Construction	135	6.14	-7.0778	0.2889
Financial industries	264	12.00	-7.1674	0.2702
Manufacturing	933	42.41	-6.9234	0.2924
Mining	24	1.09	-6.9933	0.3472
Other	26	1.18	-6.3630	0.3120
Retail trade	131	5.95	-6.9409	0.2087
Services	241	10.95	-6.8205	0.2370
Transportation and Communication service	369	16.77	-7.0354	0.3267
Wholesale trade	68	3.09	-6.5687	0.2337
Total	2,200	100		

Note: All variable definitions are in Appendix E

4.5.2 Correlation analysis

Table 23 shows the correlation matrix of the variables used in regression models. According to the correlation matrix, firms that use CSR pronouncements (FRAMEWORK) are significantly and negatively associated with SPREAD, which is in line with expectation. This implies that firms using global CSR pronouncements tend to have a better information environment and lower market information asymmetry and have higher market liquidity. Diamond and

Verrecchia (1991) contend that more disclosures of public information support reducing the degree of information asymmetry between insiders and outsiders of a firm and among various groups of current and potential investors of a firm. Consistent with Michaels and Grüning (2017) and Ferrell et al. (2016), PROFIT, SIZE, MTB, ANALYSTS, and GDP are statistically and negatively associated with SPREAD as are all other variables. Further, the correlation matrix shows that the concern for multicollinearity in the regression models is unlikely. Gujarati and Porter (2009) suggest that correlations between variables with values below 0.80 do not create any multicollinearity issues in regression models. Therefore, there is no observable multicollinearity issue in the regression models.

Table 23: Correlation Matrix

Variable(s)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SPREAD (1)	1													
FRAMEWORK (2)	-0.28**	1												
	(<0.01)													
FOREIGN_SALES (3)	-0.14***	0.18***	1											
	(<0.01)	(<0.01)												
LEV (4)	0.03	0.20***	-0.08***	1										
	0.17	(<0.01)	(<0.01)											
PROFIT (5)	-0.25***	0.00	-0.16***	-0.04**	1									
	(<0.01)	0.91	(<0.01)	(<0.05)										
SIZE (6)	-0.48***	0.45***	0.07***	0.42***	0.12***	1								
	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)									
MTB (7)	-0.16***	-0.15***	0.02	-0.56***	0.19***	-0.27***	1							
	(<0.01)	(<0.01)	0.31	(<0.01)	(<0.01)	(<0.01)								
INTANGIBLE (8)	-0.10***	-0.00	0.15***	-0.11***	-0.03	-0.07***	0.18***	1						
	(<0.01)	0.87	(<0.01)	(<0.01)	0.18	(<0.01)	(<0.01)							
PRICE_VOL (9)	-0.22***	0.11***	0.24***	-0.26***	0.10***	0.12***	0.21***	0.10***	1					
	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)						
DPS (10)	-0.23***	0.20***	0.08***	-0.13***	0.15***	0.22***	0.09***	0.05**	0.65***	1				
	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.05)	(<0.01)					
ANALYSTS (11)	-0.49***	0.36***	0.19***	-0.04*	0.14***	0.62***	0.18***	0.11***	0.29***	0.29***	1			
	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)				
INVPRO (12)	-0.12***	-0.19***	0.06***	-0.12***	0.03	0.01	0.17***	0.08***	0.01	-0.06***	0.16	1		
	(<0.01)	(<0.01)	(<0.01)	(<0.01)	0.18	0.73	(<0.01)	(<0.01)	0.58	(<0.01)	(<0.01)			
GDP (13)	-0.08***	0.02	0.24***	0.00	0.06***	0.15***	-0.02	0.15***	0.31***	0.17***	0.08***	0.27***	1	
	(<0.01)	0.38	(<0.01)	0.88	(<0.01)	(<0.01)	0.37	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)		
CIVIL(14)	0.06***	0.28***	0.07***	0.19***	-0.06***	0,06***	-0.25***	-0.05**	0.19***	0.19***	-0.04**	-0.69***	-0.14***	1
	(<0.01	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.05)	(<0.01)	(<0.01)	(<0.05)	(<0.01)	(<0.01)	

Note: All variable definitions are in Appendix E. ***,**, and * represent statistical significance at the 1%, 5% and 10% levels, respectively (two-tailed test).

4.5.3. Regression results

This study applies the OLS technique to examine the relationship between FRAMEWORK and SPREAD in the multivariate regression tests. Table 24 shows evidence for the main hypothesis. It shows the relationship between FRAMEWORK and SPREAD is negative and statistically significant (Coefficient -0.4014, p-value<0.001), supporting the hypothesis. Furthermore, the Adj. R^2 of the model is 72.76%. The higher usage of multiple global CSR pronouncements is associated with higher market liquidity and ultimately lower market information asymmetry. Regarding the economic significance of FRAMEWORK, a one standard deviation (0.1829 or 18.29%) increase in FRAMEWORK is associated with, on average, a 7.34% reduction in SPREAD.

The finding is in line with voluntary disclosure theory i.e., that an improved information environment through higher quality and quantity of information contributes to reduced market information asymmetry. Benefits could therefore include a reduced adverse selection problem and eventually increased liquidity of secondary securities markets. Among the control variables, results show that leverage, dividend per share, and GDP are positively but insignificantly associated with SPREAD. On the other hand, foreign sales, firm profitability, firm size, market to book ratio, intangible asset, price volatility, investor protection, and civil law are negatively associated with SPREAD.

According to Obeng et al. (2021), information asymmetry could be correlated period-to-period. To address the concern of reverse causality, this study employs lagged analysis. Table 25 provides results for a lagged analysis. SPREAD continues to be negatively associated with FRAMEWORK (t-1) (Coefficient -0.4746, p-value<0.001). This shows that the past

variables have little significant impact on future SPREAD. The main findings, therefore, still hold after controlling for lagged variables. In addition, possible endogeneity from unobserved and unit-specific confounders could be included in the model.

Following Imai and Kim (2019), this study includes unit fixed effects in the regression model to address the concern. Table 26 provides results for the regression analysis with firm fixed effects and the main result still holds. SPREAD has significant negative coefficients with FRAMEWORK (Coefficient -0.4014, p-value<0.001).

Tables 27 to 29 provide results for the regression analysis excluding particular groups within the sample that might bias results. Table 27 provides results for the regression analysis excluding France, Germany, and the UK because the sample is dominated by those three countries. The regression analysis is consistent with the main result (Coefficient -0.5625, p-value<0.001). Table 28 shows results for the regression analysis, excluding the financial industry. Prior accounting disclosure research, such as Leung and Horwitz (2004), excludes the financial industry because of unique regulatory requirements and operating environments associated with this industry. The result is consistent with the main results after removing the financial industry (Coefficient -0.3473, p-value<0.001). Table 29 provides results for the regression analysis, excluding the manufacturing industry, the most dominant group within the sample (Coefficient -0.2933, p-value<0.01). The main regression result still holds.

To conclude this sub-section, SPREAD remains negatively associated with FRAMEWORK, after controlling for lag effects and firm fixed effects as well as after excluding dominant samples and financial industry. Overall, this provides evidence consistent with the hypothesis: use of multiple CSR pronouncements is negatively associated with

SPREAD. This suggests that use of multiple global CSR pronouncements increases market liquidity by improving the information environment.

Table 24: Main regression
Market liquidity and multiple global CSR pronouncements

Variable(s)	DEP=SPREAD
	Coefficient (t-value)
FRAMEWORK	-0.4014*** (-5.36)
FOREIGN_SALES	-0.0009** (-2.19)
LEV	0.4034*** (6.03)
PROFIT	-1.062*** (-6.87)
SIZE	-0.3893*** (-13.75)
MTB	-0.0482*** (-5.81)
INTANGIBLE	-0.069 (-1.11)
PRICE_VOL	-0.2531*** (-14.67)
DPS	0.0194 (1.00)
ANALYSTS	-0.0277*** (-12.52)
INVPRO	-0.7048*** (-8.80)
GDP	0.0859 (0.24)
CIVIL	-1.1110*** (-5.92)
CONSTANT	-3.3376 (-0.93)
YEAR_FE	YES
INDUSTRY_FE	YES
COUNTRY_FE	YES
N	2200
F	159.75
Adj R^2	0.7276

Note: Table 24 reports the OLS regressions result of testing the relationship between market liquidity and multiple global CSR pronouncements. The dependent variable is SPREAD, which is the natural logarithm of annual average of daily bid-ask spread. All variable definitions are in Appendix E.
***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

Table 25: Lagged analysis
Market liquidity and multiple global CSR pronouncements with lagged variables

Variable(s)	DEP=SPREAD
	Coefficient (t-value)
FRAMEWORK(t-1)	-0.4746*** (-5.30)
FOREIGN_SALES(t-1)	-0.0000* (-1.76)
LEV(t-1)	0.2720*** (3.35)
PROFIT(t-1)	-0.9761*** (-5.21)
SIZE(t-1)	-0.3391*** (-9.74)
MTB(t-1)	-0.0425*** (-4.11)
INTANGIBLE(t-1)	-0.0896 (-1.20)
PRICE_VOL(t-1)	-0.2315*** (-10.84)
DPS(t-1)	-0.0112 (-0.48)
ANALYSTS(t-1)	-0.0264*** (-10.01)
INVPRO(t-1)	-0.7498*** (-8.61)
GDP(t-1)	-0.3152 (-1.21)
CIVIL(t-1)	-1.0954*** (-5.98)
CONSTANT	1.0790 (0.40)
YEAR_FE	YES
INDUSTRY_FE	YES
COUNTRY_FE	YES
N	1563
F	101.54
Adj R^2	0.7043

Note: Table 25 reports the OLS regressions result of testing the relationship between market liquidity and multiple global CSR pronouncements with lagged variables. The dependent variable is SPREAD, which is the natural logarithm of annual average of daily bid-ask spread. All variable definitions are in Appendix E. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

Table 26: Firm fixed effect
Market liquidity and multiple global CSR pronouncements with firm fixed effect.

Variable(s)	DEP=SPREAD
	Coefficient (t-value)
FRAMEWORK	-0.4014***
	(-3.46)
FOREIGN_SALES	-0.0009
	(-1.24)
LEV	0.4034***
	(3.62)
PROFIT	-1.0620***
	(-4.75)
SIZE	-0.3893***
	(-6.89)
MTB	-0.0482***
	(-3.84)
INTANGIBLE	-0.0690
	(-0.75)
PRICE_VOL	-0.2531***
	(-8.15)
DPS	0.0194
	(0.72)
ANALYSTS	-0.0277***
	(-7.11)
INVPRO	-0.7048***
	(-5.28)
GDP	0.0859
	(0.31)
CIVIL	-1.1110***
	(-4.21)
CONSTANT	-3.3376
	(-1.17)
YEAR_FE	YES
INDUSTRY_FE	YES
COUNTRY_FE	YES
FIRM_FE	YES
N	2200
F	78.06
Adj R^2	0.7322

Note: Table 26 reports the OLS regressions result of testing the relationship between market liquidity and multiple global CSR pronouncements with firm fixed effects. The dependent variable is SPREAD, which is the natural logarithm of annual average of daily bid-ask spread. All variable definitions are in Appendix E. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

Table 27: Excluding France, Germany, and UK
Market liquidity and multiple global CSR pronouncements excluding France, Germany, and UK

Variable(s)	DEP=SPREAD
	Coefficient (t-value)
FRAMEWORK	-0.5625*** (-6.06)
FOREIGN_SALES	-0.0006 (-1.05)
LEV	0.5653*** (7.13)
PROFIT	-0.7531*** (-3.90)
SIZE	-0.5883*** (-14.47)
MTB	-0.0547*** (-4.69)
INTANGIBLE	0.0541 (0.67)
PRICE_VOL	-0.1274*** (-6.05)
DPS	-0.0280 (-0.94)
ANALYSTS	-0.0239*** (-8.37)
INVPRO	-0.6712*** (-6.88)
GDP	0.166* (1.66)
CIVIL	-1.2960 (-7.62)
CONSTANT	-12.7606* (-1.89)
YEAR_FE	YES
INDUSTRY_FE	YES
COUNTRY_FE	YES
N	1181
F	105.79
Adj R^2	0.7456

Note: Table 27 reports the OLS regressions result of testing the relationship between market liquidity and multiple global CSR pronouncements excluding France, Germany, and UK. The dependent variable is SPREAD, which is the natural logarithm of annual average of daily bid-ask spread. All variable definitions are in Appendix E.
***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

Table 28: Excluding financial industry
Market liquidity and multiple global CSR pronouncements excluding financial industry

Variable(s)	DEP=SPREAD
	Coefficient (t-value)
FRAMEWORK	-0.3473*** (-4.51)
FOREIGN_SALES	-0.0007 (-1.57)
LEV	0.4248*** (5.65)
PROFIT	-1.1096*** (-5.99)
SIZE	-0.4976*** (-15.24)
MTB	-0.0557*** (-6.47)
INTANGIBLE	-0.0073 (-0.12)
PRICE_VOL	-0.2575*** (-14.10)
DPS	0.0521** (2.46)
ANALYSTS	-0.266*** (-11.14)
INVPRO	-0.7131*** (-8.34)
GDP	0.0905 (0.25)
CIVIL	-1.0840 (-5.45)
CONSTANT	-3.0350 (-0.82)
YEAR_FE	YES
INDUSTRY_FE	YES
COUNTRY_FE	YES
N	1936
F	162.44
Adj R^2	0.7502

Note: Table 28 reports the OLS regressions result of testing the relationship between market liquidity and multiple global CSR pronouncements excluding financial industry. The dependent variable is SPREAD, which is the natural logarithm of annual average of daily bid-ask spread. All variable definitions are in Appendix E.
***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

Table 29: Excluding manufacturing industry
Market liquidity and multiple global CSR pronouncements excluding manufacturing industry

Variable(s)	DEP=SPREAD
	Coefficient (t-value)
FRAMEWORK	-0.2933*** (-2.88)
FOREIGN_SALES	0.0005 (0.80)
LEV	0.3620*** (4.34)
PROFIT	-1.1260*** (-6.10)
SIZE	-0.3560*** (-9.76)
MTB	-0.0508*** (-4.47)
INTANGIBLE	-0.0487 (-0.56)
PRICE_VOL	-0.2137*** (-9.56)
DPS	-0.0359 (-1.33)
ANALYSTS	-0.0311*** (-10.62)
INVPRO	-0.5818*** (-5.27)
GDP	-0.2909 (-0.63)
CIVIL	-0.9601*** (-3.81)
CONSTANT	0.1667 (0.04)
YEAR_FE	YES
INDUSTRY_FE	YES
COUNTRY_FE	YES
N	1267
F	88.11
Adj R^2	0.7124

Note: Table 29 reports the OLS regressions result of testing the relationship between market liquidity and multiple global CSR pronouncements excluding manufacturing industry. The dependent variable is SPREAD, which is the natural logarithm of annual average of daily bid-ask spread. All variable definitions are in Appendix E.
***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

4.5.4. Additional analysis and robustness tests

The major empirical challenge this research question faces is the endogenous relationship between voluntary adoption of global CSR pronouncements and market liquidity. Specifically, omitted variables and reverse causality could violate the validity of the results. Consequently, this study conducts a series of additional tests to address endogeneity concerns.

4.5.4.1. Propensity Score Matching

First, propensity score matching (PSM) is used to create a matched control sample of lower CSR reporting firms to address concerns that firms self-select into the superior CSR reporting group (Tucker, 2010). For example, firms that have superior CSR reporting tend to have more financial advantages or be reputable firms. Small firms or financially weaker firms are less capable of bearing the additional costs of engaging in CSR. Consequently, firm size or reputation may correlate with the CSR of the firm, which raises concerns regarding the endogeneity issue. The first stage of PSM models the probability of being a superior CSR reporting firm using a probit model that contains firm, governance, and country-level variables. Specifically, this study models the high/low CSR choice as a function of foreign sales, leverage, profitability, firm size, market to book ratio, intangible, price volatility, dividend per share, number of analysts, investor protection, GDP, and civil law. This study divides the sample into two groups based on applying global CSR pronouncements. The objective of this model is not to identify the determinants of CSR adoption, but rather is to identify a wide range of variables that can be applied to match the low and high CSR firms.

Using the estimated coefficients from the probit model, this study calculates the expected probability of being a high CSR firm for each firm-year observation and uses these propensity scores to match each high CSR observation to a low CSR observation using a caliper matching method with distance of 0.001 without replacement. After matching, 276 firm-year observations related to 138 treatment (high CSR) and 138 control (low or no CSR) firms are identified. The differences in means between the matched firms for the 13 variables included in the first stage model are not significant (see Table 30, Panel A for details). Table 30 Panel B shows the regression results using the matched sample. The results show a consistent result

with the main regression analysis, i.e., that FRAMEWORK is significantly and negatively associated with SPREAD (coefficient= -0.4442, p-value <0.05).

Table 30: Propensity Score Matching (PSM) analysis
Panel A: Matching

Variable(s)	Treatment firms	Control firms	Difference	t-statistics
SPREAD	-6.7503	-6.6651	-0.0852	-0.80
FOREIGN_SALES	44.1240	41.9830	2.1410	0.49
LEV	0.2370	0.2418	-0.0048	-0.19
PROFIT	0.0721	0.0775	-0.0055	-0.54
SIZE	3.3244	3.3755	-0.0511	-0.75
MTB	2.2265	2.2221	0.0044	0.02
INTANGIBLE	0.2444	0.2415	0.0029	0.11
PRICE_VOL	-2.5134	-2.6420	0.1286	1.08
DPS	0.5016	0.4969	0.0047	0.07
ANALYSTS	9.4928	9.3478	0.1450	0.18
INVPRO	3.7790	3.9457	-0.1667	-1.46
GDP	10.6010	10.6020	-0.0010	-0.03
CIVIL	0.7246	0.6377	0.0870	1.55

Table 30: PSM analysis (continued)
Panel B: regression analysis

Variable(s)	DEP=SPREAD
	Coefficient (t-value)
FRAMEWORK	-0.4442** (-2.55)
FOREIGN_SALES	-0.0010 (-0.92)
LEV	0.3357* (1.72)
PROFIT	-1.9943*** (-5.46)
SIZE	-0.6684*** (-7.32)
MTB	-0.0825*** (-4.43)
INTANGIBLE	-0.1720 (-1.13)
PRICE_VOL	-0.2810*** (-6.61)
DPS	-0.0443 (-0.69)
ANALYSTS	-0.0201*** (-2.71)
INVPRO	-0.4181** (-1.98)
GDP	1.0760 (1.48)
CIVIL	-0.4959 (-1.15)
CONSTANT	-14.4118* (-1.95)
YEAR_FE	YES
INDUSTRY_FE	YES
COUNTRY_FE	YES
N	276
F	-
Adj R^2	0.8121

Note: **:** Panel A shows the mean of the treatment and control firms dependent and control variables after PSM procedure. Panel B Table 30 reports the OLS regressions result of testing the relationship between market liquidity and multiple global CSR pronouncements with matched samples (184 treated firms and 184 control firms for the model. The dependent variable is SPREAD, which is the natural logarithm of annual average of daily bid-ask spread. All variable definitions are in Appendix E.
***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

4.5.4.2. Heckman two-stage model

Second, this study employs a Heckman two-stage model. Tucker (2010) contends that while PSM controls for selection bias due to observable differences, the Heckman two-stage method could be used to address selection bias due to unobservable differences. It is crucial to consider the possibility of unobservable self-selection bias, as the sample of this study consists of only those firms that voluntarily issue CSR reports. Therefore, to further address concerns about selection bias for this research question, the Heckman approach is employed to develop a probit model for CSR practice level (i.e., GRI/framework score). In the first stage, this study uses GRI standards as a dummy variable that equals to 1 if the firm prepares CSR reports with GRI standards, and 0 otherwise (GRI). The sample size in the first-stage model is 2,200 firm-year observations. The first-stage model should include a variable that satisfies the exclusion restriction. In this study, such a variable should be related to the choice of GRI/framework score, but unrelated to SPREAD. Then this study uses the IMR estimated from the first-stage model as an additional independent variable in the equation. The first-stage probit model is specified below:

$$CSRHigh = a_0 + a_1 Env_{it} + \Sigma a_2 Controls_{it} + \text{fixed effects} + \varepsilon_{it}$$

where Env is a measure of environmental performance score for firm i in year t, which is obtained from Eikon. Env is then converted into a country-level average. Env is used to satisfy the exclusion restriction. Specifically, firms with good environmental performance are likely to face a higher demand for non-financial information, and firms would have more incentives to report more regarding their performance (Dhaliwal et al., 2011). These firms would be more likely to use global CSR pronouncements to report effectively and efficiently.

However, environmental performance is unlikely to be directly related to market liquidity except when reported through or via CSR reporting pronouncements. If users of CSR reports have perfect information, environmental performance should directly influence SPREAD. In addition, this study includes several variables following Elbadry et al. (2015); Michaels and Grüning (2017); Obeng et al. (2021); Roy et al. (2022).

Table 31 shows the results of the Heckman two-step model. In column 1, Env is positively and significantly (Coefficient= 0.5018, p-value<0.001) associated with a higher level of CSR practice, which is consistent with expectations, suggesting that Env is a reasonable exogeneous variable to satisfy the exclusion restriction criteria. Other variables are also significantly related to the CSR level such as leverage, size, price volatility, GDP, and civil law, and the model has a Pseudo R^2 of 36.81%.

In the second stage, the coefficients of FRAMEWORK remain negative and significant (coefficient=-0.4114, p-value<0.001), consistent with firms adopting multiple global CSR pronouncements having higher market liquidity. Therefore, the results are consistent after controlling for unobservable differences between high CSR and low CSR firms.

Table 31: Heckman Selection Bias Analysis

Variable(s)	1st stage	2nd stage
	DEP=GRI	DEP=SPREAD
	Coefficient (t-value)	Coefficient (t-value)
ENV	0.5018*** (3.92)	
FRAMEWORK		-0.4114*** (-5.49)
FOREIGN_SALES	-0.0013 (-0.93)	-0.0009** (-2.09)
LEV	-0.1066 (-0.48)	0.4079*** (6.10)
PROFIT	0.0382 (0.07)	-1.07701*** (-6.97)
SIZE	0.4540*** (5.14)	-0.4283*** (-13.23)
MTB	-0.0129 (-0.49)	-0.0467*** (-5.61)
INTANGIBLE	0.0554 (0.27)	-0.0730 (-1.18)
PRICE_VOL	0.0399 (0.69)	-0.2575*** (-14.87)
DPS	0.0894 (1.36)	0.0135 (0.69)
ANALYSTS	0.0037 (0.51)	-0.0276*** (-12.52)
INVPRO	-0.3228 (-1.57)	-0.6509*** (-7.85)
GDP	3.6904*** (3.35)	-0.1444 (-0.40)
CIVIL	-5.0469*** (-2.86)	-1.1365*** (-6.05)
LAMBDA		-0.1861** (-2.48)
CONSTANT	-67.2064*** (-3.77)	-0.7666 (-0.21)
YEAR_FE	YES	YES
INDUSTRY_FE	YES	YES
COUNTRY_FE	YES	YES
N	2200	2200
F	1002.01	156.07
Adj.R^2	0.3681	0.7282

Note: Panel A Table 31 reports the result of the Heckman Selection Bias regarding the relationship between market liquidity and multiple global CSR pronouncements. The first stage dependent variable is GRI (Indicator variable equal to 1 for firms that uses GRI guidelines/standards, 0 otherwise). The second stage dependent variable is SPREAD, which is the natural logarithm of annual average of daily bid-ask spread. All variable definitions are in Appendix E.
***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests)

4.5.4.3. Two-stage least squares instrumental variable

Third, this study also employs a two-stage least squares (2SLS) instrumental variable (IV) approach to address other sources of endogeneity such as omitted variables and simultaneity. This is an important robustness test because the Heckman two-step model only considers endogeneity due to sample selection bias. IVs that are related to CSR reporting practice, but that have not been identified as a determinant of SPREAD are required. In line with Ferrell et al. (2016), Lin et al. (2011), and Sun et al. (2020), this study employs two peer scores for the instruments. Specifically, country-industry mean FRAMEWORK (INDCOUN_FRAMEWORK) and country-year mean FRAMEWORK (YEARCOUN_FRAMEWORK) are employed. These variables are mean score of FRAMEWORK by country and year, and mean score of FRAMEWORK by country and industry. This study excludes the focal firm's observations (excluding a current observation) to eliminate the firm's influence on both instrumental variables. These instruments represent the average FRAMEWORK score of focal firms within the same industry and across years, in a given country.[15] This variable is relevant because peer effect is likely to shape a firm's CSR practice and thus would be correlated with CSR pronouncements. However, the peer CSR score should not be correlated with the SPREAD of a particular firm, except through the global CSR pronouncements channel. INDCOUN_FRAMEWORK and YEARCOUN_FRAMEWORK are expected to be positively and significantly associated with FRAMEWORK. This study performs the analysis using the first stage of the 2SLS model as follows:

[15] This study acknowledges the limitation inherent in using industry-average as the instrument. Larcker and Rusticus (2010)suggest that accounting researchers often use regulatory changes to address endogeneity concerns. However, this study could not identify any universal regulatory changes due to the international nature of the study.

$$FRAMEWORK_{it} = a_0 + \beta_1 INDCOUN\_FRAMEWORK_{it} + \beta_2 YEARCOUN\_FRAMEWORK_{it} + Controls_{it} + \text{fixed effects} + \varepsilon it$$

where FRAMEWORK is an average of CSR pronouncements as described above and the same control variables are used in the main regression analysis. The sample size in the model with IV is 2,199 firm-year observations.

Table 32 shows the results of the IV model. Column 1 provides the result of the first stage model and shows that INDCOUN_FRAMEWORK is positively and significantly associated with FRAMEWORK (coefficient=0.7791, p value<0.001). This represents that a firm's choice of global CSR pronouncements is determined by both industry and country characteristics. Column 2 shows the second stage model that uses the predicted value from the first stage mode (Coefficient -1.7755, p-value<0.001), and provides consistent results with the main findings. Following prior literature, such as Sun et al. (2020), this study performs three tests to check the validity of the instruments in Table 32. First, the under-identification test, or Kleibergen-Paap rk LM statistic, provides that the model is identified (p= 0.0000). Second, the result of the weak identification test or Kleibergen-Paap rk Wald F statistic (Kleibergen & Paap, 2006) shows that the F-statistic is very high in the sample (89.441). This implies that the instruments are relevant and strong. Third, Sargan statistic or the Hansen's J statistic (Hansen, 1982) is used to test the over-identification concern. The p-value of the Hansen's J statistic is high for this test (0.1056). Therefore, this study cannot reject the null hypothesis that the instruments are exogeneous. This shows that other sources of endogeneity, such as omitted

variables or simultaneity issues, are unlikely in the model. Overall, the post-estimation tests confirm both the relevance and the exclusion restrictions of the instruments.

Table 32: Instrumental Variable analysis

Variable(s)	1st stage	2nd stage
	DEP=FRAMEWORK	DEP=SPREAD
	Coefficient (t-value)	Coefficient (t-value)
FRAMEWORK		-1.7755*** (-6.16)
FOREIGN_SALES	0.0001 (1.29)	-0.0007* (-1.65)
LEV	-0.0028 (-0.15)	0.4110*** (5.77)
PROFIT	-0.0247 (-0.58)	-1.0677*** (-6.48)
SIZE	0.0809*** (10.60)	-0.2627*** (-6.69)
MTB	-0.0031 (-1.33)	-0.0521*** (-5.87)
INTANGIBLE	-0.0150 (-0.88)	-0.0758 (-1.15)
PRICE_VOL	0.0029 (0.61)	-0.2510*** (-13.66)
DPS	0.0137** (2.56)	0.0425** (2.00)
ANALYSTS	0.0033*** (5.35)	-0.0236*** (-9.42)
INVPRO	-0.0492** (-2.13)	-0.6940*** (-8.13)
GDP	-0.0625 (-0.64)	-0.0370 (-0.10)
CIVIL	-0.1195*** (-1.80)	-0.8739*** (-4.27)
INDCOUN_FRAMEWORK	0.7791*** (13.29)	
YEARCOUN_FRAMEWORK	0.1709 (1.16)	
CONSTANT	0.5786 (0.58)	-2.3991 (-0.63)
YEAR_FE	YES	YES
INDUSTRY_FE	YES	YES
COUNTRY_FE	YES	YES
N	2199	2199
F	48.46	138.27
Uncentered R^2	0.8409	0.9945
Under identification test		168.183
Weak identification test		89.441
Sargan statistic		2.619(0.1056)

Note: Table 32 reports the results on the first stage of instrumental variable using FRAMEWORK as a dependent variable. The second stage results on the effect of market liquidity and multiple global CSR pronouncements, controlling for the predicted FRAMEWORK score obtained in first stage. The dependent variable of the second stage is SPREAD, which is the natural logarithm of annual average of daily bid-ask spread. All variable definitions are in Appendix E.
***, ** and * represent statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively (two-tailed tests).

4.6. Conclusion

Using a sample of 2,200 firm-year observation from EU companies, consisting of 14 EU countries from 2015 to 2019, this study examines the relationships between CSR disclosure, using global CSR pronouncements and market liquidity. It was expected that employing multiple global CSR pronouncements could improve the information environment and potentially support stakeholder decision-making processes by providing higher quality and quantity information that is reliable and relevant. This study finds evidence that there is a negative relationship between global CSR pronouncements and market liquidity.

Endogeneity is a major concern that could diminish the relevance of the findings. This study uses multiple econometric techniques to address this concern. First, a lagged analysis is performed. Second, regression analysis with firm fixed effects is employed. Third, PSM is used to test whether results for firms adopting CSR pronouncements are similar to those of firms that do not adopt CSR pronouncements. Fourth, a two-stage Heckman analysis is operated to control for unknown factors that may be shaping the decision to adopt CSR pronouncements. Fifth, instrumental variable analysis is used to address concerns about omitted variables and reverse causality. While none of these tests by themselves reject endogeneity, combined, they increase confidence that the results are not driven by self-selection, omitted variables, or reverse causality.

This provides support for voluntary disclosure theory, emphasising that capital market participants value CSR information, and that using a single CSR pronouncement may not be sufficient to serve the needs of all stakeholders. Consequently, stakeholders reward firms using multiple global CSR pronouncements, possibly because their CSR reports contain more

reliable and relevant information. This should support their decision making and assist them to evaluate and distinguish "good" and "bad" firms. This finding is consistent with past literature, such as Siew et al. (2016), and Michaels and Grüning (2017), both of whom find that CSR disclosure is negatively associated with market information asymmetry measured through bid-ask spread. The recent developments of the ISSB and EFRAG in progressing towards more unified international sustainability standards further emphasise the relevance of this study's findings. This essay supports their progress by providing empirical evidence on the use of multiple CSR pronouncements. The setting for my study is perhaps more relevant to the ESRS situation (e.g., EU jurisdiction, GRI base, and inclusion of SDGs). Consequently, future studies could develop the results of this study to facilitate comparison of ISSB standards and ESRS. Furthermore, it would be interesting to analyse the most effective and efficient combination of CSR pronouncements and assess whether this aligns with further collaboration and progress by the ISSB, EFRAG, GRI, and other important actors in this field. This study's evidence on the role of multiple CSR pronouncements in improving market liquidity should be of interest to preparers and users of CSR reports, regulators, standard-setters, and academics. For instance, managers may consider employing more global CSR pronouncements to improve the quality of their CSR reports.

For future study, it might be interesting to explore this relationship beyond EU countries. Although the EU does represent a large proportion of global market capitalisation, the inclusion of other large economies, such as China, India, and the US, may shed additional light on the relationships examined in this study. Furthermore, this study's objective is focused on global CSR pronouncements, and not focused on particular CSR topics or content of CSR reporting. Consequently, how attributes of reporting quality outside CSR pronouncements

affect market liquidity and other financial consequences are still unexplored (e.g., in terms of length and readability). In addition, it would be interesting to explore what kind of CSR topics are valued most by different stakeholder groups (e.g., through content analysis).

Chapter Five

5.1 Conclusion

Important recent developments in CSR include the initial issues of ESRS and ISSB standards, as well as commitment of the GRI and ISSB to coordinate standard-setting activities. These bodies employ CSR pronouncements for their CSR standards and hence the findings from this research are relevant for future CSR reporting. Consequently, this thesis explores the effects of CSR pronouncements, specifically with regard to the effects of using multiple global CSR pronouncements. Three such effects are investigated: first, the effects on agency cost; second, the effects on harmonisation; third the effects on market information asymmetry. The sample is drawn from the years 2015 to 2019 and concerns the EU jurisdiction.

As managers have more inside information about firms compared to stakeholders (principals), they might exploit this advantage and misuse firms' resources for their own self-interest (Jensen & Meckling, 1976). This agency problem can be mitigated by enhancing monitoring abilities of stakeholders. In this respect, Essay One contributes to the literature on agency theory and CSR reporting. Evidence from this study suggests that use of multiple global CSR pronouncements is associated with decreased agency costs, through improved monitoring abilities so managers use firms' resources more efficiently and effectively. Consistent with Obeng et al. (2021) and Abdelqader et al. (2024), this study shows that decisions made by managers using multiple global CSR pronouncements are less opportunistic and less information asymmetric. Investors should consider the use of multiple global CSR pronouncements as a signal of efficient management. Other stakeholders also benefit, as they can place increased trust in firms that use multiple global CSR pronouncements because of the

associated monitoring benefits. The managerial implication of Essay One findings is that managers should consider employing multiple global CSR pronouncements in the interests of improved information quality.

CSR reporting reflects strong country-of-origin effects, which leads to diverse content, scope, and metrics of CSR reporting (Neu et al., 1998). Following institutional theory, this country-of-origin effect becomes weaker when firms use multiple global CSR pronouncements, as this creates convergent pressure for firms within the global industry (Meyer & Rowan, 1977). Essay Two findings emphasise the role of multiple global CSR pronouncements in reducing country-of-origin effects in CSR reporting. This appears to be the first study to examine such harmonisation effects in a longitudinal setting, so promotes understanding of the development of international CSR practices over time. Important implications for investors include that the usage of multiple global CSR pronouncements promotes similar content and scope of reports, across firms and countries, and discourages selective reporting (Einwiller et al., 2016). Investors can therefore place more confidence in reporting by companies that are using multiple global CSR pronouncements, as this indicates more comprehensive, harmonised, and comparable reporting. This is in line with recent literature, such as Pizzi et al. (2024), who find CSR reports with GRI standards are more harmonised. Managerial implications that follow are that managers can better address a broader range of stakeholders' expectations and concerns by using multiple global CSR pronouncements.

According to voluntary disclosure theory, companies with superior performance are motivated to distinguish themselves from low performers by disclosing more information to stakeholders (Verrecchia, 1983). Use of multiple global CSR pronouncements by firms should promote this distinction and improve the information environment. Essay Three findings

suggest that CSR pronouncements decrease market information asymmetry, which supports increased market liquidity. These findings are consistent with past literature, such as Dhaliwal et al. (2011), Plumlee et al. (2015), and Rezaee and Tuo (2019), who suggest the extent and quality of CSR reports support investors' decision-making processes. Disclosure about a firm's CSR performance can reduce information asymmetry to the extent that CSR performance affects a firm's risk and value. Important implications of the results of this research for investors include that greater usage of global CSR pronouncements provides reassurance that a firm has a more advanced and integrated view and recognises that stakeholder concerns can affect long-term financial returns (Flower, 2015). Investors and other stakeholders can also place increased confidence in the quality of such CSR reporting. Managerial implications follow, namely that employing multiple global CSR pronouncements may signal their superiority over competitors to their investors and other stakeholders.

The benefits of using multiple global CSR pronouncements should be considered when developing mandatory international CSR standards. Since the GRI standard is one of the most popular CSR pronouncements in the world (KPMG, 2020), managers should understand the key concept of ESRS/GRI including double materiality to gain the benefit of employing GRI standards. The importance of GRI is further emphasised as the China Stock Exchange recently adopted the ESRS/GRI double materiality[16] approach to CSR reporting.

[16] Reporting both on the risks and impact of sustainability issues on a firm (financial materiality), and on the firms' impacts on environment and society (impact materiality).

5.2 Limitations and suggestions for future study

Similar to many empirical studies, this research is subject to some limitations, which future research might attempt to address. For example, Essay Two, regarding harmonisation, uses Eikon as a major source for measuring the degree of harmonisation. Eikon tends to cover firms with relatively large market capitalisation, so further research, using small and medium-sized enterprises to analyse harmonisation may provide useful additional insights.

Although several variables and multiple global CSR pronouncements are included to investigate the effect of CSR reporting on various consequences, this thesis did not consider the content of CSR reporting. Therefore, it may be interesting to explore what kind of CSR topics are of most value to stakeholders.

Limitations also arise from the proxies that this study uses to capture CSR reporting. This thesis only covers CSR pronouncements that are recorded in the GRI database. Consequently, other major CSR pronouncements, such as the recommendations of the Task Force on Climate-Related Financial Disclosure (TCFD), are not covered in this study.

CSR reporting is a rapidly evolving topic, as emphasised by increasing mandatory requirements and climate change crises. Therefore, future research using other emerging CSR pronouncements, such as those related to the nature/loss of biodiversity will create further interesting areas to explore.

Furthermore, this thesis is limited to companies from EU countries. Although the EU does represent a large proportion of global market capitalisation, the inclusion of other large economies, such as China, India, and the USA, may shed additional light on the relationships examined in this study. In addition, the setting for this thesis is perhaps more similar to the ESRS situation (e.g., EU jurisdiction, GRI base, and inclusion of SDGs) given the global CSR

pronouncements employed in the ESRS. Consequently, future studies could use the results of this study to facilitate comparison of ISSB standards and ESRS.

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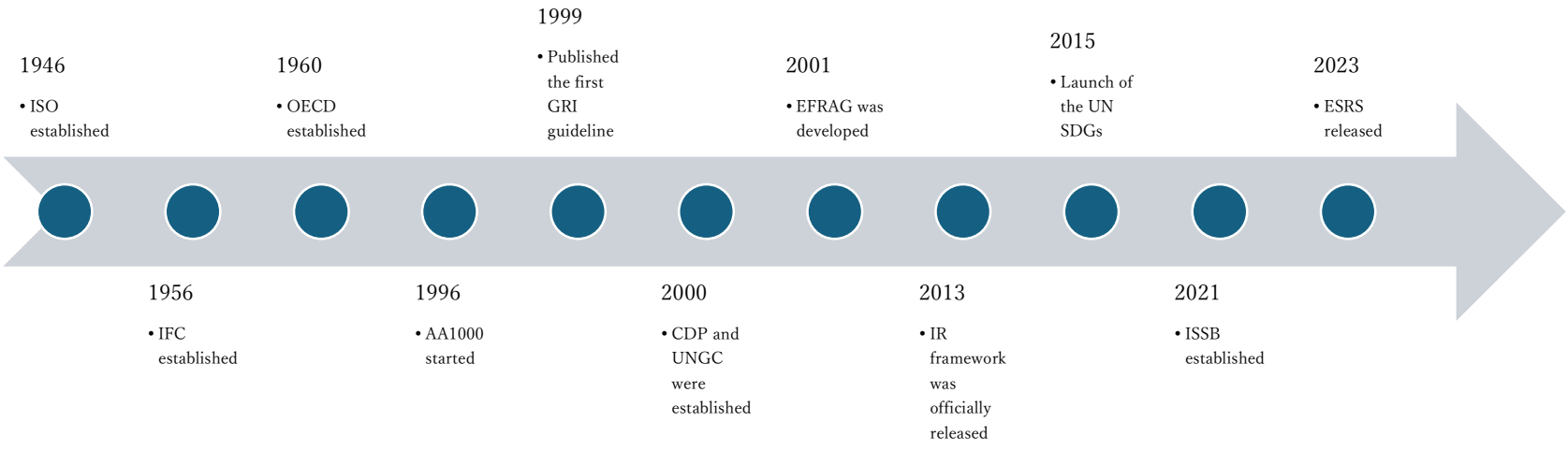
List of Appendices

Appendix A:
Variable definitions- Essay One

Variable	Definition	Source
AC	First principal component of six agency costs as below:	Compustat and Bloomberg (2015-2019)
FREE_CF	Earnings before interest and taxes plus change in net asset	Compustat and Bloomberg (2015-2019)
SGA_EXP	Ratio of sales, general, and administrative expense and annual sales	Compustat and Bloomberg (2015-2019)
DIV_PAYOUT	Cash dividend divided by the sum of cash dividend and interest and related expense then multiplied by -1 to interpret the result consistently.	Compustat and Bloomberg (2015-2019)
ASSET_UTL	Ratio of annual sales and total asset then multiplied by -1 to interpret the result consistently.	Compustat and Bloomberg (2015-2019)
CAPEX	Ratio of capital expenditure and total asset	Compustat and Bloomberg (2015-2019)
CASH_HOLD	Ratio of cash and total asset	Compustat and Bloomberg (2015-2019)
FRAMEWORK	Average of nine types of CSR frameworks/standards	GRI database (2015-2019)
FOREIGN_SALES	Ratio of foreign sales to total sales	Worldscope (2015-2019)
LEV	Long-term debt divided by total asset	Compustat and Bloomberg (2015-2019)
PROFIT	Net income divided by total sales	Compustat and

		Bloomberg (2015-2019)
SIZE	Natural logarithm of total sales	Compustat and Bloomberg (2015-2019)
MTB	The ratio of market value of equity, measured as shares outstanding multiplied by share price at year-end, to book value of total equity.	Compustat, Bloomberg and Worldscope (2015-2019)
INTANGIBLE	Ratio of intangible asset to total asset	Compustat and Bloomberg (2015-2019)
FRQ	The absolute value of abnormal accrual for firm I in year t using the modified jones model	Compustat and Bloomberg (2015-2019)
PRICE_VOL	Natural logarithm of the standard deviation of stock price over 1 year	Worldscope (2015-2019)
INVPRO	Average of six Worldwide Governance Indicators, which are: voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption	World Bank (2015-2019)
GDP	Natural logarithm of GDP per capital in US$	World Bank (2015-2019)
CIVIL	Indicator variable equal to 1 if a country has civil law base, otherwise 0.	World Bank (2015-2019)
Treatment	Indicator variable equal to 1 for firms that use GRI guidelines/standards during any sample period, 0 otherwise.	GRI database (2015-2019)
GRI	Indicator variable equal to 1 for firms that use GRI guidelines/standards in a sample year, 0 otherwise.	GRI database (2015-2019)
ENV	Level of environmental quality, and country-average score is calculated.	Eikon (2015-2019)
INDCOUN_FRAMEWORK	Average score of FRAMEWORK by industry and country.	GRI database (2015-2019)
YEARCOUN_FRAMEWORK	Average score of FRAMEWORK by year and country.	GRI database (2015-2019)

Appendix B: Timeline of key events of CSR pronouncements



Appendix C List of questions concerning CSR policy adoption

1. Does the firm have a policy to improve employee health & safety?
2. Does the firm have a policy to support the skill training of its employees?
3. Does the firm have a policy to support career development of its employees?
4. Does the firm have a flexible working hours policy?
5. Does the firm have a diversity and opportunity policy?
6. Does the firm have a freedom of association policy?
7. Does the firm have a community involvement policy?
8. Does the firm have a business ethics policy?
9. Does the firm have a policy to protect customer health & safety?
10. Does the firm have a quality management systems policy?

Source: Eikon Database

Appendix D:

Variable definitions- Essay Two

Variable	Definition	Source
CSR_HARMONISATION	Based on average of 10 questions concerning CSR policy*	Eikon (2015-2019)
FRAMEWORK	Based on average of nine potential CSR pronouncements (frameworks/standards/guidelines)	GRI database (2015-2019)
FOREIGN_SALES	Ratio of foreign sales to total sales	Worldscope (2015-2019)
LEV	Long-term debt divided by total assets	Compustat and Bloomberg (2015-2019)
PROFIT	Net income divided by total assets	Compustat and Bloomberg (2015-2019)
SIZE	Natural log of average net assets	Compustat and Bloomberg (2015-2019)
MTB	The ratio of market value of equity, measured as shares outstanding multiplied by share price at year-end, to book value of total equity.	Compustat, Bloomberg and Worldscope (2015-2019)
ANALYSTS	Number of analysts following the firm.	IBES (2015-2019)
AC_INDEPENDENCE	Ratio of non-executive director in audit committee	Eikon (2015-2019)
SH_RIGHT	Indicator variable equal to 1 if a company has shareholder rights, otherwise 0.	Eikon (2015-2019)

CSR_COMMITTEE	Indicator variable equal to 1 if a company has CSR committee, otherwise 0.	Eikon (2015-2019)
AWARDS	Indicator variable equal to 1 if a company receives awards on CSR reporting, otherwise 0.	Eikon (2015-2019)
INSTITUTION	Revised anti-director index from Djankov et al. (2008)	Djankov et al. (2008)
GDP	Natural logarithm of GDP per capita in US$	World Bank (2015-2019)
CIVIL	Indicator variable equal to 1 if a country has civil law base, otherwise 0.	World Bank (2015-2019)
INDCOUN_FRAMEWORK	Average score of FRAMEWORK by industry and country.	GRI database (2015-2019)
YEARCOUN_FRAMEWORK	Average score of FRAMEWORK by year and country.	GRI database (2015-2019)
ENV	Level of environmental quality, and country-average score is calculated.	Eikon (2015-2019)

Appendix E:

Variable definitions- Essay Three

Variable	Definition	Source
SPREAD	Natural logarithm of BA spread where BA spread is calculated by ask price minus bid price divided by closing price that are multiplied by two.	Datastream (2015-2019)
FRAMEWORK	Average of nine types of CSR pronouncements	GRI database (2015-2019)
FOREIGN_SALES	Ratio of foreign sales to total sales	Worldscope (2015-2019)
LEV	Long-term debt divided by long-term debt and market equity.	Compustat, Bloomberg and Worldscope (2015-2019)
PROFIT	Net income divided by total sales	Compustat and Bloomberg (2015-2019)
SIZE	Natural logarithm of total asset	Compustat and Bloomberg (2015-2019)
MTB	The ratio of market value of equity, measured as shares outstanding multiplied by share price at year-end, to book value of total equity.	Compustat, Bloomberg and Worldscope (2015-2019)
INTANGIBLE	Ratio of intangible asset to total asset	Compustat and Bloomberg (2015-2019)
PRICE_VOL	Natural logarithm of average standard deviation of daily stock price returns for year t	Worldscope (2015-2019)
DPS	Dividend per share.	Datastrream (2015-2019)
ANALYSTS	Number of analysts following the firm.	IBES (2015-2019)
INVPRO	Revised anti-director index from Djankov et al. (2008)	Djankov et al. (2008)
GDP	Natural logarithm of GDP per capital in US$	World Bank (2015-2019)
CIVIL	Indicator variable equal to 1 if a country has civil law base, otherwise 0.	World Bank (2015-2019)
Treatment	Indicator variable equal to 1 for firms that adopt any global CSR frameworks/standards during the sample period.	GRI database (2015-2019)
GRI	Indicator variable that equals to 1 if the firm employs GRI standards in their CSR reports, and 0 otherwise	GRI database (2015-2019)
ENV	Level of environmental quality, and country-average score is calculated.	Eikon (2015-2019)
INDCOUN_FRAMEWORK	Average score of FRAMEWORK by industry and country.	GRI database (2015-2019)
YEARCOUN_FRAMEWORK	Average score of FRAMEWORK by year and country.	GRI database (2015-2019)

Appendix F:

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GRADUATE RESEARCH SCHOOL

STATEMENT OF CONTRIBUTION
DOCTORATE WITH PUBLICATIONS/MANUSCRIPTS

We, the student and the student's main supervisor, certify that all co-authors have consented to their work being included in the thesis and they have accepted the student's contribution as indicated below in the Statement of Originality.

Student name:	Takumi Nomura
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In which chapter is the manuscript/published work?	Chapter two
What percentage of the manuscript/published work was contributed by the student?	100%

Describe the contribution that the student has made to the manuscript/published work:

The student developed preliminary hypotheses, collected the data, cleaned the data, conducted the analysis, and wrote the manuscript.

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  Please provide the name of the journal:
  The International journal of Accounting
- ○ **It is intended that the manuscript will be published, but it has not yet been submitted to a journal**

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We, the student and the student's main supervisor, certify that all co-authors have consented to their work being included in the thesis and they have accepted the student's contribution as indicated below in the Statement of Originality.

Student name:	Takumi Nomura
Name and title of main supervisor:	Noor Houqe
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The student developed preliminary hypotheses, collected the data, cleaned the data, conducted the analysis, and wrote the manuscript.

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  Please provide the full reference of the research output:
- ◉ **The manuscript is currently under review for publication**
  Please provide the name of the journal:
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- ○ **It is intended that the manuscript will be published, but it has not yet been submitted to a journal**

Student's signature:	Takumi Nomura Digitally signed by Takumi Nomura Date: 2024.12.08 16:40:38 +09'00'	Main supervisor's signature:	Noor Houqe Digitally signed by Noor Houqe DN: cn=Noor Houqe, c=NZ, o=Massey University, ou=School of Accountancy, email=n.houqe@massey.ac.nz Date: 2024.12.09 11:19:46 +13'00'

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