The relationship between corporate social responsibility and the three : corporate performance; national cultures; and economic growth. Evidence from G7 countries : Canada, France, Germany, Italy, Japan, the United Kingdom & United States of America

SCHOOL OF BUSINESS, ECONOMICS & INFORMATICS

Department of Management

The Relationship between Corporate Social Responsibility and the Three: Corporate Performance; National Cultures; and Economic Growth.

Evidence from G7 Countries:
Canada, France, Germany, Italy, Japan, the United Kingdom & United States of America

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The work presented in the thesis is the candidate's own. It is in partial fulfilment of the University's requirements for the Degree of Doctor of Philosophy.

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Dedications

I dedicate this PhD dissertation to my parents Ruth Mwansa Kataya and Leonard Chabala Kataya, who inspired me to achieve to the best of my abilities. I am more than indebted to both for giving birth to me, bringing me up and supporting me spiritually throughout the years. Though Dad, Leonard departed this world on 18th October 2018 before I was admitted to this study, I know deep in my heart that his blessings have remained as one driving force I have anchored to. Mum, Ruth will always be the best woman in my life.

I also dedicate this dissertation to my late twin sister, Florence Mpundu Kataya. May her soul continue to rest in eternal peace.

Special dedications go to my all-time friend Mwape Ireen Chipongo, who stood by me through this journey, whose words of inspiration and unwavering support propelled me to complete my academic journey.

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Abbreviations

ASEAN	Association of South-East Asian Nations
CB	Compensation and benefits
CEO	Chief executive officer
CEP	Corporate environmental performance
CFA	Confirmatory factor analysis
CFP	Corporate financial performance
CI	Capital intensity
CO2	Carbon dioxide
CoC	Control of corruption
CombinedESG	Combined Environmental, Social & Governance
CP	Corporate performance
CPI	Corruption perceptions Index
CR	Current ratio
CSD	Corporate social disclosure
CSI300	China Securities Index 300
CSP	Corporate Social Performance
EIRIS	Ethical Investment Research Service
ESG	Environmental, Social and Governance
EU	European Union
FE	Fixed Effects
FGLS	Feasible Generalised Least Squares
FL	Financial leverage
FLEV	Financial leverage
FP	Financial performance
GDP	Gross domestic product
GDPPC	Gross Domestic Product per capita
GHE	Greenhouse emissions
GICS	Global Industry Classification Standard
GLS	General Least Squares

GMM	Generalized Method of Moments
GOV or GOV_t	Governance
GRI	Global Reporting Initiative
GScore	Governance score
HDI	Human Development Index
HLM	Hierarchical linear modelling
IDV	Individualism
IND	Industry type
ISS	Institutional Shareholder Services
IVR	Indulgence versus Restraint
KLD	Kinder, Lydenberg, Domini
LM	Lagrange multiplier
LTOR	Long-term orientation
MAS	Masculinity
MPI	Market perceived innovation
MPRA	Munich Personal PePEc Archive
MTB	Market-to-book
MV	Market value
NBER	National Bureau of Economic Research
OECD	Organization for Economic Cooperation and Development
OLS	Ordinary Least Squares
PDI	Power Distance Index
PSNV	Political Stability and Absence of Violence or Terrorism
QCA	Quantitative content analysis
RBV	Resource Based-View
RE	Random Effects
ROA	Return on assets
ROCE	Return on capital employed
ROE	Return on equity
ROI	Return on investments

ROS	Return on sales
SID	Social Involvement Disclosure
SScore	Social score
TA	Total assets
TbQ	Tobin's Q
TNRR	Total Natural Resources Rents
$TNRR_{perGDPPC}$	Total Natural Resource Rent per GDP per capita
TQ	Tobin's Q
TRI	Toxic Release Index
$TSMV_{perGDPPC}$	Total Stock Market Value per GDP per capita
USA	United States of America
UAI	Uncertainty Avoidance
UK	United Kingdom
US	United States
VIF	Variance inflation factor
WGI(s)	Worldwide Governance Indicator(s)
WGI_{psnv}	World Governance Indicator for Political Stability and Absence of Violence or Terrorism
WGI_{rq}	World Governance Indicator for Regulatory Quality
WGI_{coc}	World Governance Indicator for Cost of Corruption
WGI_{rol}	World Governance Indicator for Rule of Law

Overview

This thesis explores the relationships between corporate social responsibility and each of the three: corporate performance, national cultures, and economic growth. It follows the three-paper empirical approach.

It incorporates three papers that are in a format suitable for submission for publication in peer review journals, when further developed to a publishable stage. Hence, each of the three papers is arranged as a stand-alone format for easier further future developments. In the same vein, each abstract is found at the start of each paper within the thesis.

The three papers and their titles henceforth are covered in:

Chapter 4:

THE RELATIONSHIP BETWEEN CORPORATE SOCIAL RESPONSIBILITY AND CORPORATE PERFORMANCE: INFLUENCE OF VARIATIONS IN INDUSTRY AND GOVERNANCE MODEL TYPES

Chapter 5:

THE RELATIONSHIP BETWEEN NATIONAL CULTURES AND CORPORATE SOCIAL RESPONSIBILITY – INFLUENCE OF WORLD GOVERNANCE INDICATORS

Chapter 6:

THE RELATIONSHIP BETWEEN ESG PERFORMANCE WITH ITS COMPONENTS AND ECONOMIC GROWTH

NB: Chapter 1, 2 and 3 cover the theoretical aspects and the data sources used.

Chapter 1 covers the main theories, models, frameworks, or concepts related to corporate social responsibility and aims to identify those with a more direct link to each of the three-chapter papers above.

Chapter 2 covers the data sources and the associated collection methods.

Chapter 3 covers the review of latest developments in panel data methodologies and justification for their current usage in the three empirical paper studies.

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1. Chapter 1 - INTRODUCTION AND KEY THEORIES/CONCEPTS/MODELS

1.1 The motivation for the selected three-chapter empirical papers

This study embarked to investigate the relationship between Corporate Social Responsibility (CSR) and the three: firm/financial/corporate performance, national culture of a firm's domicile, and economic growth of a firm's domicile. The genuine practice of CSR is sometimes masked by greenwashing, thereby affecting the validity of CSR measures that may have been employed in quantitative research within the named areas.

The motivation for studying the relationship between CSR and firm performance is grounded in the pursuit to comprehend whether socially responsible practices improve or hinder financial outcomes of participating firms. Assumed to be a potential driver of competitive advantage, CSR investments are expected to enhance a firm's reputation, stakeholder trust, and loyalty, all of which may positively impact financial performance (Freeman, 1984). From a different lens, the Resource-Based View (RBV) posits that CSR initiatives might produce inimitable and valuable resources capable of increasing profits (Barney, 1991). Nevertheless, mixed empirical results regarding CSR's impact on performance drive further research to clarify under which conditions CSR enhances or diminishes financial success (Freeman, 1984).

Research on the relationship between CSR and national culture is motivated by the appreciation that cultural dimensions, such as individualism vs. collectivism and power distance, significantly shape how CSR is observed and applied. For instance, collectivist cultures may accentuate CSR that promotes communities' well-being, whereas individualistic cultures may focus on consumer well-being (Hofstede, 1991). Understanding the link between national culture and CSR practices is vital for multinational firms to adapt their CSR strategies according to the cultural values of the countries in which they operate, ensuring greater alignment with local expectations (Hofstede, 1991).

The motivation for examining the relationship between CSR and economic growth comes from the notion that firms can participate in broader economic development and growth of nations of their domicile through CSR initiatives. According to Visser (2009), firms engaging in CSR may experience positive spillover effects on local economies. These could take any form such as job creation and innovation, which further sustain corporate profits and promote more CSR activities. Research in this area seeks to determine whether there is a beneficial link between CSR initiatives and the economic growth in various domiciles.

The effect of genuine CSR practices sometimes is pulled down by a phenomenon known as "greenwashing". Lyon & Montgomery (2015) named this as the practice of deceptively presenting CSR efforts as more environmentally friendly than they are. When the public detect such, this has potential to damage stakeholder trust and corporate reputation. When firms indulge in greenwashing and are found wanting, they often face long-term reputational harm prone to outweighing any short-term gains. Though outside the scope of this study, a better recognition of both the legal and consumer behaviour implications of greenwashing is crucial to inhibiting firms from engaging in deceptive practices (Delmas & Burbano, 2011).

Greenwashing tends to come in different forms. To exemplify this, Y. Wu et al. (2020) categorised two types of firms: "those that are driven solely by profit maximization and those that are socially responsible, motivated not only by profit, but also by a genuine concern for the social good" (pp 3095). Often, the first group present a selection of CSR activities beneficial to their marketing and reputation, while leaving out the undesirable activities. Y. Wu et al. (2020) developed a game-theoretic model of CSR investment, depicting customers as socially minded, capable of detecting only a subset of CSR initiatives. Both positive and negative aspects of greenwashing are identifiable, with the level of transparency having a huge bearing on such aspects. When low, a profit-centred firm could capitalise on this to indulge in greenwashing, yielding a downside of customers' inability to make informed buying decisions. When high, greenwashing can be eradicated. Both scenarios have implications on the CSR spending. Though not within the scope of the three-chapter papers in this study, recognising the effect of greenwashing on the validity and reliability of CSR scores in quantitative research is crucial.

Next, this chapter reflects on the evolution and development of corporate social responsibility (CSR) and the theories, concepts and models that have informed its progression. It is necessary to provide the context and background to the dissertation thesis and how these are linked to the successive empirical research studies in the chapter papers hereafter.

1.2 Introduction and Corporate Social Responsibility (CSR) Definitions

Over the last forty years or so, there has been a proliferation of numerous theories associated with corporate social responsibility (Carroll, 1991, 1999), often abbreviated as CSR. Before reviewing the theories, it is paramount to define the key terminologies in this field of study. First and foremost, the name "corporate social responsibility" is one phenomenon whose definition has evolved since 1950s. A review of definitions points to one that has stood out "The social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time" (Carroll, 1979, p. 500).

Furthermore, various alternative names deemed to equate, supplement, or supplant corporate social responsibility (CSR) continue to be born to date with a proliferation of other derivates and branches of CSR abundant in literature. Common ones include "corporate philanthropy", "sustainability", "sustainability management", "environmental, social and governance disclosure (ESG disclosure)", "accountability and sustainable development", "corporate citizenship" - (Garriga & Melé, 2004), to mention some. Also, different regions or countries and industries appear to have different names for CSR, besides the changing of the name over time (Carroll, 1999; Carroll & Shabana, 2010).

In public domain, a lay person understands CSR in more novel terms or perspectives. Corporate social responsibility (CSR) is normally assumed to include connotations of giving back to society as a philanthropic strategy by a company. One rationale is to seek legitimacy and positively win over the loyalty of various key stakeholders within a company's inter-relationships and networks. The spectrum of such stakeholders can be very wide, engulfing both internal and external. Companies are driven to engage with employees and their families, board members, shareholders, potential investors, communities, suppliers, the public and activist groups. In addition, companies are involved in caring for and maintaining environments they operate in.

Specifically, firms in natural resources' extraction industries spend huge amounts of funds to clean the environment. Their investments in cleaner extractive methods end up not a philanthropic gesture, but a responsible duty, where governments and consumers can even get involved in seeing to addressed to minimise health and safety hazards that may occur if unattended to. Left to their own devices, profit-making firms are inclined to spend the least in social responsibility investments or projects, while sometimes giving an impression to the stakeholders and the public that they care for the society, a phenomenon that has come to be known as "greenwashing" (Mahoney et al., 2013; Marquis et al., 2016).

1.3 Key Theories related to Corporate Social Responsibility

The key directly and indirectly related theories of CSR can be summarised in Figure 1.1. It should be mentioned that in some cases, there is no clear demarcation between a theory, concept, framework, and a model, going by the ones related to CSR.

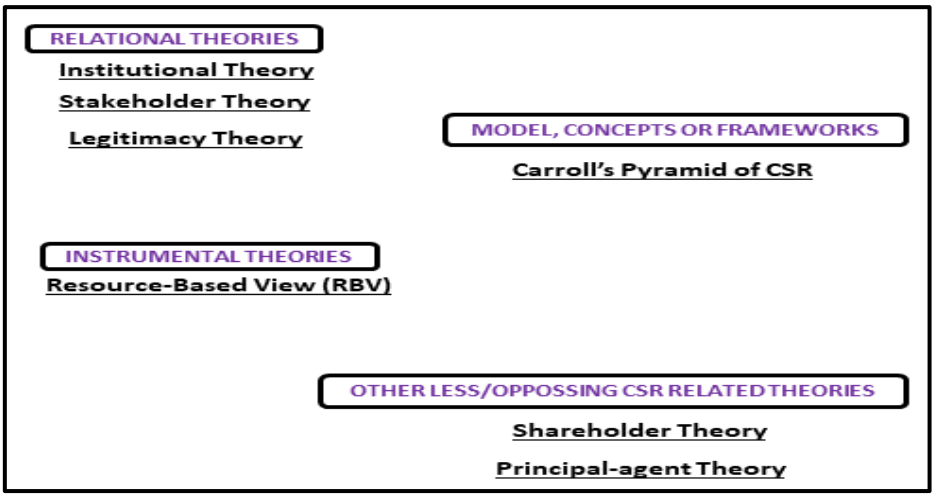

Figure 1.1 Summary of Key Theories, Concepts and Frameworks related to CSR

Source: Made by the author

Establishing the connection between CSR and firm or corporate performance is particularly important to both academics and practitioners. Theoretically, CSR is most comprehensively studied at the crossroads of two fundamental theories: Stakeholder Theory (Freeman, 1984) and its rival Shareholder Theory (Friedman, 1970). Though numerous and contrasting theories pertaining to CSR have been developed taking different and varying approaches (Garriga & Melé, 2004), the relevant ones for this planned study are those summarised in Figure 1.1. These include Stakeholders Theory (Freeman, 1984), Shareholders Theory (Friedman, 1970) and

Principal-Agent Theory (Jensen & Meckling, 1976). Others are Institutional Theory (Aguinis & Glavas, 2012), Legitimacy Theory (Shocker & Sethi, 1973), and Resource Based-View (RBV) Theory (Acedo et al., 2006).

Supplementary to the Stakeholders Theory, Carroll (1991)'s Pyramid of CSR is posited more as a model than a concept or theory. As a business concept, the Triple Bottom Line (Hubbard, 2009; Pope et al., 2004) representing 3 "P"s for "People, Planet and Prosperity" was born to fill the void within the sustainable supply chain management. However, this has been applied by other sectors or industries.

On theories, a lack of agreement or consensus for locating the frontiers of CSR exists. Such is observed when the theoretical literature on the field of CSR is examined, posing a challenge in this area of research. For classification, the theories are often grouped under relational and instrumental categories.

1.3.1 Relational Theories

Within the category of Relational Theories, when sorted for the frequency of theory application and relevance to CSR, three key theories are identifiable in the order from the least Legitimacy (Deegan, 2002; Dowling & Pfeffer, 1975) - about a twentieth, Stakeholder (Freeman, 1984) - about a quarter, to the most, Institutional (Guillén et al., 1992; Meyer & Rowan, 1977) - about half. The estimated proportions of usage were compiled by Frynas & Stephens (2015). The three theories also stand out as the most applicable to CSR.

These are covered next, one at a time.

1.3.1.1 Institutional Theory

The key theorists renowned to invent the Institutional Theory are Meyer & Rowan (Meyer & Rowan, 1977), and DiMaggio & Powell (DiMaggio & Powell, 2000).

Posited to apply to the macro level (interrelationships mostly at national or global level), the Institutional Theory occupies the most space in the context of CSR research and its associated

theory applications. It posits that the strategies, actions, and practices of firms evolve to become isomorphic over time within the boundaries of a specified institutional environment. The latter often equates to that within a national context. Put in other words, research (Campbell, 2007; Meyer & Rowan, 1977) has identified that the way firms treat their stakeholders reflects the institutions in which they operate and reside. It is assumed as institutions at national level, that are cascaded to lower levels of a nation. However, one observable downside emanating from firms' post- transformation after growing to be like each other, has been lack of or minimal improvement in efficiency. Such change usually occurs gradually as part of bureaucratisation and other facets of organisation change, a notion supported by pioneer theorists (Guillén et al., 1992).

The extent of being socially responsible by firms depends on multiple factors. High on the list, economic factors, or state of the economy of a firm's host country, the firm's financial health, market rivalry, and responses to market competitive forces - all rank high. A close examination of this list isolates the link between economic factors and extent of meeting CSR investments, its related activities or corporate behaviour. Such a link is influenced or moderated by multiple institutional dynamics. The latter can take the form of regulations, policies, the existence of both national and private organisations seen to examine firm's corporate behaviour and social responsibility for the good of wider society.

It is posited that there are three mechanisms of institutional isomorphic changes that take place with each having its own background (DiMaggio & Powell, 2000). Refer to Figure 1.2 for the emulation of the three mechanisms.

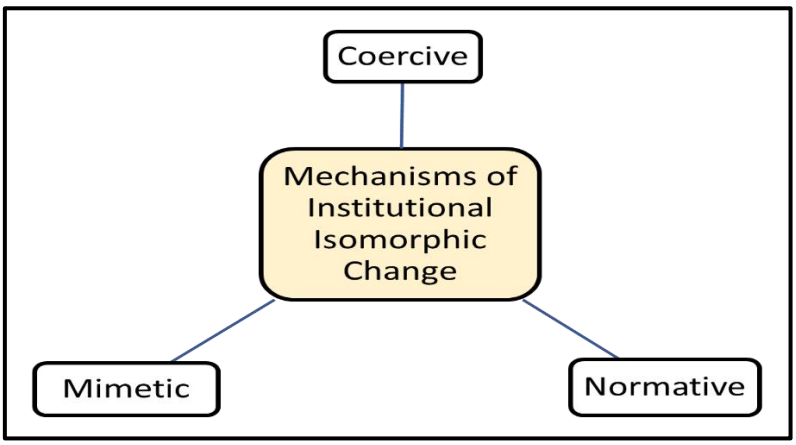

Figure 1.2 Three Mechanisms of Institutional Isomorphic Change

DiMaggio & Powell (2000) explained the three mechanisms as in the long quotation herein "institutional isomorphic change occurs, each with its own antecedents:

1) coercive isomorphism that stems from political influence and the problem of legitimacy;
2) mimetic isomorphism resulting from standard responses to uncertainty; and
3) normative isomorphism, associated with professionalization"

(pp 147).

This typology is an analytic one: the types are not always empirically distinct. For example, external actors may induce an organization to conform to its peers by requiring it to perform a particular task and specifying the profession responsible for its performance. A mimetic change may reflect environmentally constructed uncertainties. Yet, while the three types intermingle in empirical settings, they tend to derive from different conditions and may lead to different outcomes. It is posited that multiple forms of interlinked pressures are embossed between organizations; these are a function of cultural expectations in the society within which organizations operate (DiMaggio & Powell, 2000).

To conclude, it is for this reason that CSR is deemed more applicable and practised in developed free market economies. The latter exhibit the highest forms of well-structured institutions that shape the behaviour of firms towards society. Within the same economies, though regulation is voluntary for public listed firms, the markets and public coerce firms to behave and act socially responsible. Not to do so is likely to result in plummeted share prices when potential and current shareholders respond by reducing or avoiding investments, as punishment.

For the relevance to the three empirical papers, the Institutional Theory was found to be more applicable to the Chapter 5: The Relationship between National Cultures and CSR. In justification, CSR is applied at a macro level in the form of national contexts for national cultures under Chapter 5. Hence, these observations were best suited to the Institutional Theory, as one of the relevant theories for the named empirical paper.

1.3.1.2 Stakeholder Theory by Edward Freeman

The sole and key pioneer theorist renowned for inventing the Stakeholder Theory is F. Edward Freeman, a professor at the University of Virginia (Freeman, 1984).

Over time, more theorists have contributed to the shaping of this theory (Clement, 2005; Donaldson & Preston, 1995; Jamali, 2008; Jensen, 2001; Kaler, 2006). Posited to apply to the meso-level (a population size that falls between the micro and macro levels, such as a community or a firm or an organization), the Stakeholder Theory occupies the most space in the context of CSR research and its associated theory applications, at this mentioned meso-level.

The theory investigates whether and why firms attend to the interests of stakeholders along with their own immediate firms' corporate interests (Carroll, 1991; Donaldson & Preston, 1995; Freeman, 1984). The theory aims to explain the characteristics of an organisation's key stakeholders. The latter compose the stakeholder management, deemed as a mix of attitudes, values, structures, and practices of players. This management category is then linked to the achievement of key performance objectives and targets at the various levels of an organisation or corporation that can range from strategic, tactical, or operational.

The Stakeholder Theory is seen as the main and direct rival theory of the Shareholder Wealth Maximisation Theory (Friedman, 1970), (or often referred to as Shareholder Theory) covered within this chapter. Writing in his book, Freeman (1984) asserted the managers' relationship with stakeholders as fiduciary, in additional to shareholders. Various viewpoints of the Stakeholder Theory exist, as observed by key scholars (Donaldson & Preston, 1995; Kaler, 2006). Prominent ones are divided between the two categories: descriptive or normative.

In relation to managing stakeholders, Donaldson & Preston (1995) posited the stakeholder theory as being normative with two principal approaches. With reference to Figure 1.3, the duo's model depicts different legitimate stakeholders as obtaining benefits equally, with no one group having an advantage over another. Hence, the direction of interactions between the firm and its stakeholder constituents run in both directions, as in the figure. All stakeholder relationships are depicted in the same size and shape and are equidistant from the "black box"

of the firm in the center" (Donaldson & Preston, 1995, pp 68). First, stakeholders include individuals or parties with vested legitimate interests in major facets of a firm's activity, i.e., irrespective of the firm's functional relations with them. Second, each stakeholder category is taken on its strengths exclusive to it (Donaldson & Preston, 1995).

Because of its normative approach, stakeholder theory has been criticised and prone to misinterpretations or maladjustments, warranting some scholars such as Phillips *et al* (2003) that attempted to clarify this. Nevertheless, the theory has been commonly applied. From a central CSR approach, it depicts a varied approach engrossed within the ethical theories.

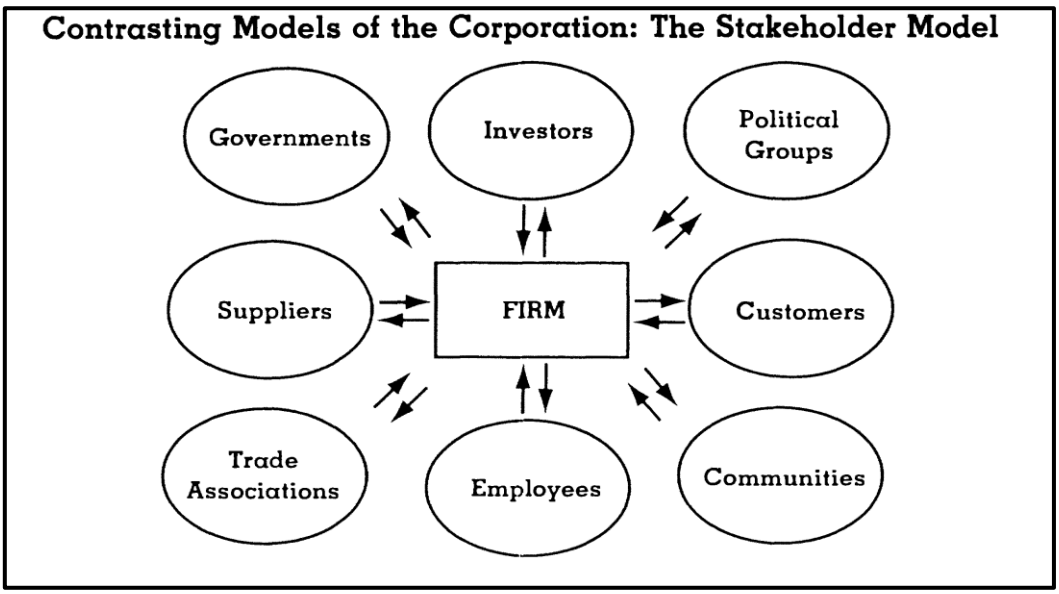

Figure 1.3 Donaldson & Preston (1995, p 68)

For the application of this theory to the three empirical papers, the focus was on the descriptive (not the normative) perspective intended to describe relationships, where empirical data in form of research-validated and measurable variables were available. The aim was to empirically examine connections, relationships, or lack of these between CSR and (a) firm performance in Chapter 4, (b) national cultures in Chapter 5 and (c) economic growth and state of economy in Chapter 6.

Taking the empirical approach, all methodologies for the three-chapter papers applied conventional statistical analyses to generate explanatory and predictive propositions or sets of developed hypotheses as informed by existing and relevant literature.

In conclusion, the Stakeholder Theory was identified as the overarching theory on which the fundamentals of CSR are built. Hence it is applicable and relevant to all the three empirical papers in Chapter 4, 5 and 6.

Therefore, CSR was applied at a meso-level in the form of communities and specifically, for this study under Chapter 4 for firm performance, under Chapter 5 for national cultures, and under Chapter 6 for economic growth.

1.3.1.3 Legitimacy Theory

The main theorists renowned for the Legitimacy Theory are Dowling and Pfeffer (Dowling & Pfeffer, 1975). Thereafter, Deegan (2002) made major contributions. In a nutshell, the Legitimacy Theory postulates that firms or organisations pursue to align the social values intended by their activities, norms, and practices deemed as acceptable behaviour to fit in the larger social systems of a community they are part of or operate in. The goal is to attain congruence between a firm's behaviour and the social values within its environment (Deegan, 2002; Dowling & Pfeffer, 1975). When this happens, there is said to be organisational legitimacy. Otherwise, there is a threat to the latter.

One outcome of a firm's achieved legitimacy is a firm's enhanced survival. Consequently, legitimacy is seen as a competitive advantage. Less legitimate firms are viewed as less competitive by societies, customers, and other stakeholders within the firm's value system and industry. While there is no one prescribed method or activity towards pursuing legitimacy, examples of doing so are multiple. Rehabilitating a local school for children with learning disabilities, an expansion in a performing arts community hall, investing in urban renewal by partnering with local government authorities – all are examples, but the list is inexhaustive.

The degree to which firms pursue legitimacy within their larger social systems varies from one firm to another, and between industries. Some reasons advanced for the differences are attributed to multiple factors (Deegan, 2002; Dowling & Pfeffer, 1975). Larger firms such as the multinational corporations are more visible. Some firms' survival rest mostly on support garnered and guaranteed by social and political networks. Some firms in more extractive industries are under more scrutiny from the public; such are expected at the minimum to correct

any social or environmental distress created by their production processes. Not only does society expect such corrections, but also for firms in this industry category to do more to be accepted and hence be more legitimate, in behaviour.

As legitimacy should be seen as a continuous process, firms are likely to face a legitimacy gap as social systems and norms evolve over time. If this is detected, firms are expected to come up with strategies and actions to minimise such a gap, an observation supported by Fernando & Lawrence (2014).

In conclusion, the Legitimacy Theory was seen as more applicable to the empirical study in Chapter 4: The Relationship between CSR and Corporate Performance – Variations in Industry Type and Governance Model. Specifically, the focus was to compare the extent of the two individual scores of Environmental and Social from the ESG measures of CSR. Firms in more extractive industries were posited to register higher scores in these two scores than those in non-extractive industries. It was expected to enhance the legitimacy of more polluting and disruptive industries if this theory was met. Hence at the meso-level, firms that were used in study sample were split into extractive and non-extractive to compare performance between the two groups.

1.3.2 Instrumental Theories

Within the category of Instrumental Theories, when sorted in frequency of theory application and relevance to CSR, one key theory identifiable is the Resource Based View (RBV) Theory. This is covered in the next section.

1.3.2.1 Resource-Based View (RBV)

The Resource-Based View Theory, mostly abbreviated and referred to as "RBV", belongs to the branch of Economic theories. Though originally pioneered by Birger Wernerfelt, (Wernerfelt, 1984), the RBV Theory has become prominent in the business literature after its later refinement by other scholars: Barney (1991) and many others. As an alternative to Stakeholder Theory at meso (between macro and micro) level, the RBV as an economic-based

instrumental theory has earned itself as the key one in this perspective and within the CSR literature (Aguinis & Glavas, 2012).

When developing a theoretical framework for the RBV of a firm, Barney (1991) posited that the sustainable competitive advantage of a firm or company is centred on its precious, scarce, unique, and non-substitutable resources. Hence, the capacity for such firms or companies to develop such resources has a bearing on their performance and effectiveness when compared with other rivals in each market. The RBV assists business practitioners in assessing the amounts of resources available, the types, and the matching of them with the expertise and facilities of their business. For application, the RBV approach to strategic analysis as a framework can best be summarised as in Figure 1.4.

In the practical world, intangible assets have come out as the key source of a firm's sustained competitive advantage. Common examples are in the form of intellectual property rights, exclusive licences, patents, to mention some. One factor in shared is such resources are inimitable and immobile, besides being heterogeneous. However, there are also examples from tangible assets in form of buildings, plant, or equipment – all which some global firms have and use as a sustained competitive advantage.

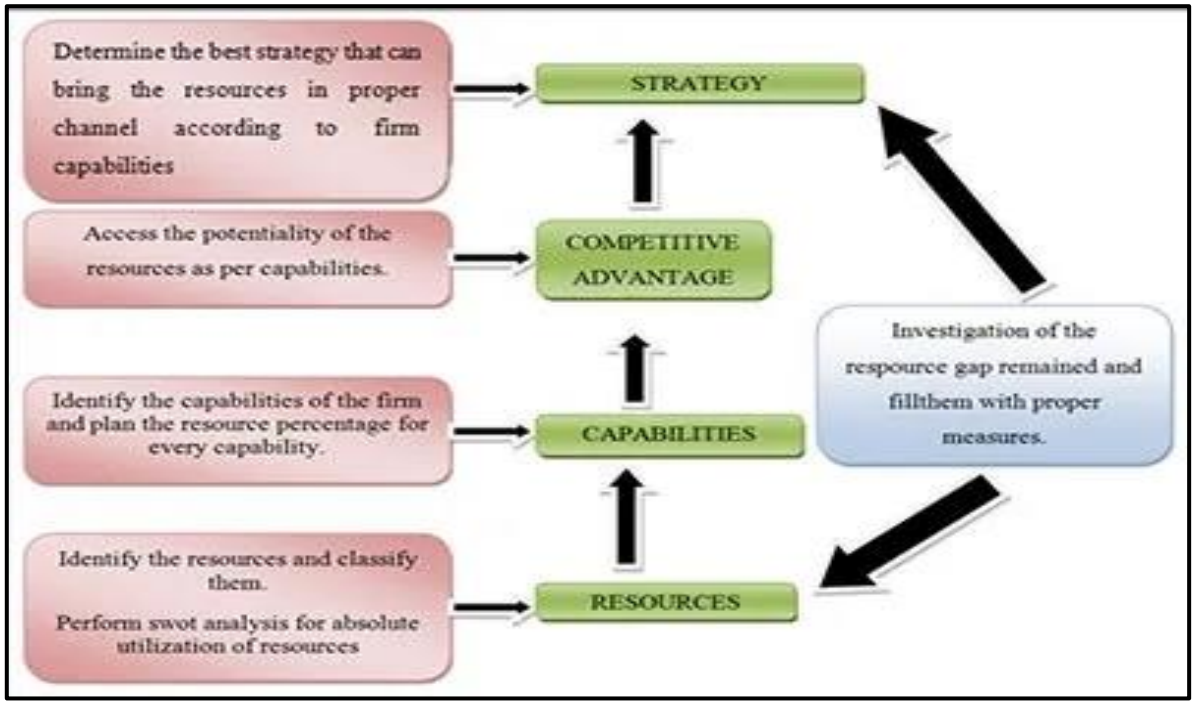

Figure 1.4 Source: Barney (1991) A RBV Approach to Strategic Analysis - A Practical Framework

Despite its positive outlook and justification for a sustained competitive advantage for a firm, the RBV has a notable limitation. It is seen as superfluous because varying the resource configurations can sometimes yield the same or similar values for firms; this would then be observed as not a competitive advantage (Barney, 1991).

Recently, the inventor of the Stakeholder Theory, Freeman with co-authors, assessed the similarities between RBV and his pioneer theory. "Though RBV has become a leading paradigm in the strategic management field, we argue that in its current form, RBV is yet incomplete. We suggest there are four aspects that stakeholder theory can offer to inform RBV: normativity, sustainability, people, and cooperation. Reconciling stakeholder theory and RBV is a promising path to advancing our understanding of management, and we provide a two-part guideline to management scholars and practitioners who would be willing to take this path" (Freeman et al., 2021, pp 1757).

In conclusion, being an economics-based theory, the RBV was found applicable to the Chapter 6 empirical study: The Relationship between ESG Performance and Economic Growth. The RBV was expected to help highlight the conditions under which it is beneficial for firms to engage in CSR activities, based on this theory' foundational base.

1.3.3 Models, Concepts or Frameworks of CSR

1.3.3.1 Carroll's Pyramid of Corporate Social Responsibility

Carroll (1991) is renowned for creating this specific model premised on his four-part categorization of CSR as "Pyramid of Corporate Social Responsibility" depicted in Figure 1.5. Informed by Carroll & Shabana (2010), the layers of the CSR pyramid are explained in slightly more details below.

Economic responsibilities

Firms are required to sustain their business to ensure their survival. This is achieved by selling products or services at a reasonable price, often a market one, if in free market economies; the revenues earned should be more to cover associated cost obligations in the forms of dividends pay-outs to shareholders or owners, , staff's salaries or wages, and other forms of remuneration

at all levels within a firm.

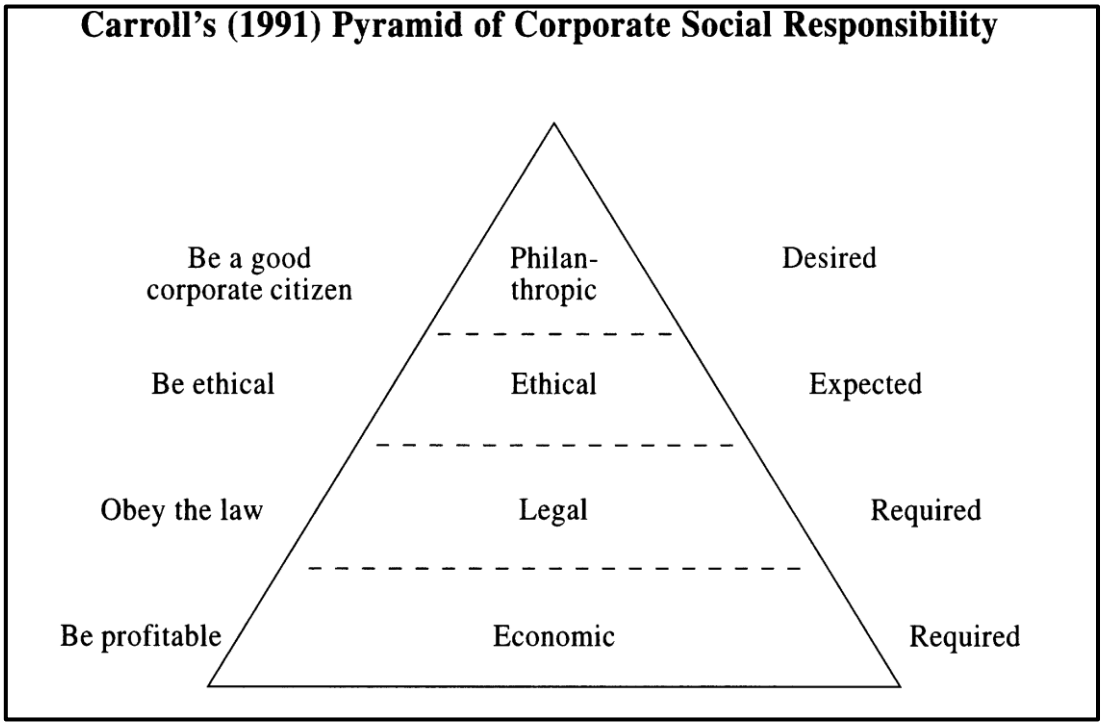

Figure 1.5 Schwartz & Carroll (2003, p 504) - Carroll's (1991) Pyramid of Corporate Social Responsibility

Legal responsibilities

Firms are required to operate within the confines of the laws of the territories they operate in. It is a requirement not to act illegally or transgress the laws in the process of conducting business.

Ethical responsibilities

Firms are expected, not required, to have responsibilities beyond those of economic and legal, covered above. Firms may choose to respond by acting "ethically" right.

Philanthropic responsibilities

Firms desire, not require, to support or improve the quality of life for society or the environment. The public expects a firm to actively try to help, in various ways, to be seen as caring in public.

To summarise, when deciding on the last two non-obligatory responsibilities (ethical and philanthropic), firms need to ponder over possible implications of their choices. Examining how the non-obligatory responsibilities affect the first two obligatory responsibilities pertaining to economic and legal ones is anticipated. However, Carroll's Pyramid of CSR should be viewed as a projection arising from consultations with earlier scholars around the same time such as by Wood (1991).

1.3.4 Other less/opposing CSR related theories

1.3.4.1 Shareholder wealth maximisation theory by Milton Friedman

The theory, also known as "Shareholders Theory", is often associated with capitalism. It is schooled for shareholders whose major objective is to create and maximise long term wealth through incremental or short-term steps or decisions so that overall wealth created surpasses that expected of shareholders. Apparently, the theory contradicts with the Stakeholders Theory, also noted by Jensen (2001). Implicitly, it assumes that both are in unison on serving stakeholders' interests through generating higher returns for a firm to create wealth for shareholders.

Hence, this maximisation theory was applicable within most parts of the three empirical papers. The construct of corporate social responsibility was examined for its effect on efficiency and profits, from a modernist perspective, supported by Hatch (2013).

1.3.4.2 The principal-agent

The Principal-Agent Theory has had numerous theorists in its lifetime. Initially, it was invented in 1976 by American economists, Michael Jensen, and William Meckling (Jensen & Meckling, 1976). Considered as applicable at micro level, the theory has focused on the micro level such as investigating issues related to the responsibility of individual CEOs in setting CSR strategies (Barnea & Rubin, 2010; Beliveau et al., 1994). Hence, this theory is less applicable to the scope of the three empirical studies. However, its inclusion is for completeness in supporting the perspectives of the shareholder and stakeholder theories.

Jensen & Meckling (1976) alluded to the inherent conflict of interest arising in the 21st modern corporation, early in 1970 while with University of Rochester. Shareholders, known as the principals, engage managers or directors, known as agents, to run and make business decisions on their behalf. This arrangement can lead to ethical behaviour hinging on morality. This is exacerbated due to the agents' involvements in day-to-day operations on behalf of shareholders who are often not involved daily, and sometimes even less knowledge about the market and operational aspects of a firm.

The theory aims to align interests of agents to that of the principals by attractive reward or incentive structures for agents offered so that the latter behave morally upright in running the business to the benefit of the principals. Further, the reward or incentive costs are expected to be lower than that incurable to extremes if agents turn to malpractices, pilfering and extortion, reaping from principals' businesses.

In summary, the principal agent theory complements the wealth maximisation one, if not a subset of the latter. Since it aims at guarding shareholders expected returns and wealth creation, it is consistent with the planned study of CSR's impact on firm market performance.

Summary and the relevance of theories covered for the three empirical studies

This chapter has discussed the models and theories seen as the most applicable to corporate social responsibility. Having looked at the four categories of theories related to CSR, the first and last category of instrumental theories was critical to the evaluation of the link between CSR and a firm's market performance. Specifically, under the Shareholders Wealth Maximisation or simply "Shareholder Theory" (Friedman, 1970), CSR is theorised as having a negative relationship with shareholders returns, the latter a proxy for profits and ultimately a firm's performance. However, in direct and competing perspective, the Stakeholder Theory (Freeman, 1984) assumes that a firm is expected to boost its shareholders returns and thus performance by succeeding in managing multiple and varied stakeholders, who include the conventional shareholders too (Freeman, 1984). Ultimately, the theory is viewed as essential for creating wealth and value in the long term.

Other CSR theories applied in the three studies included Legitimacy Theory (Deegan, 2002;

Dowling & Pfeffer, 1975) for Chapter 4 on the Industry Variations part; Institutional Theory (Meyer & Rowan, 1977) for Chapter 5 on national cultures; Resource Based View (RBV) (Barney, 1991; Wernerfelt, 1984) for Chapter 6 on economic growth and state of economy. Other non-CSR related were introduced within their respective chapter papers. Though this chapter has covered the key theories linked to CSR, only applicable ones were aligned as the most applicable to the three empirical papers in Chapters 4, 5 and 6 (with the Stakeholder Theory being applicable to all as summarised next:

Chapter 4:

"The Relationship Between Corporate Social Responsibility and Corporate Performance: Influence of Variations In Industry And Governance Model Types". The three are: Stakeholder (Freeman, 1984), Shareholder (Friedman, 1970), and Legitimacy (Deegan, 2002; Dowling & Pfeffer, 1975) theories were employed as theoretical bases for the study.

Chapter 5:

"The Relationship Between National Cultures and Corporate Social Responsibility – Influence of World Governance Indicators". The three are: Stakeholder (Freeman, 1984), Shareholder (Friedman, 1970), and Institutional (Meyer & Rowan, 1977) theories were used as theoretical bases for this study. This was in conjunction with the theoretical cultural framework posited by Geert Hofstede and his six cultural dimensions.

Chapter 6:

"The Relationship Between ESG Performance with Its Components And Economic Growth" The three are: Stakeholder (Freeman, 1984a), Shareholder (Friedman, 1970), Resource-Based View (RBV) (Barney, 1991; Wernerfelt, 1984) theories were used as theoretical bases for this study. This was in conjunction with the Economic Growth (Arestis et al., 2007; Lucas, 1988) theories.

Before covering the above three empirical studies, it was necessary to highlight the data sources, sets and collection process used for all studies. Also, a theoretical grounding for the panel data methodologies, their advantages and disadvantages and appeal to the empirical papers – were all reviewed. Hence, the next two chapters 2 and 3 covers the two parts.

2. Chapter 2 - DATA SOURCES, SETS AND COLLECTION PROCESS

This chapter details the data and its infrastructure that was used as sample for quantitative data analyses in the three empirical papers. An overview of the sampling method is provided, and data sources covered. A breakdown of the data sample in terms of the master data set and an explanation of the subgroups data sets are covered. The last part reflects on the reliability and validity of the data employed in the study.

2.1 Overview and Sampling Method

This study used a three empirical paper approach to examine the relationship between CSR and corporate performance under Chapter 4, and national cultures under Chapter 5, and economic growth under Chapter 6.

For all the three empirical papers, the firms listed on major stock markets from the Group of Seven (G7) nations formed the population sample namely: USA, UK, Canada, Germany, France, Japan, and Italy. The G7 (Group of Seven) is an organisation comprising the world's seven largest assumed advanced economies. The duration of data collected was from 2006 to 2019, a fourteen (14) year period. All data were collected between February 2021 and November 2021.

The data collection was based on convenience sampling, whose merits include the cost efficiency and ease of implementation. However, the downside includes the limited or lack of generalisability to other or all populations (Saunders et al., 2019). Therefore, the findings from the data analyses in this dissertation can only be generalisable to populations (public quoted firms) in G7 countries.

In selecting the firms for the data sample used, the following characteristics were applied:

a) Be listed on global equity markets throughout the duration the study covered for data namely: 2006 to 2019;

b) Represent the top 100 to 500 in terms of market capitalisation value quoted in US$;

c) Have the combined Environmental, Social and Governance (ESG) scores data available for over 80% over the duration the study covered namely: 2006 to 2019.

2.2 Secondary data sources

This study used secondary data sources. Though a mixed methods research strategy was planned, the advent of Covid19 between 2019 and 2021 made it impossible to use primary data sources as in interviews and focus groups that were initially planned for in a few selected and listed firms in UK. Hence the compromise to settle for secondary data sources. Consequently, data sources used were Refinitiv Eikon (former Thomson Reuters) DataStream database for both CSR scores and financial data. These were the Environmental, Social and Governance (ESG) scores representing CSR and the financial data to calculate the firm specific controls namely: capital intensity (CI), financial leverage (FL), return on assets (ROA) and firm size. The other sources of data used for other variables are explained in Sections 2.2.2 and Section 2.2.3, both within this Chapter 2.

2.2.1 Study's Master Data Set

The study's sample represented the topmost equity performing firms as rated by their indices on respective listings in the Great Seven (G7) countries. A total of 714 firms were included in the study's final sample. The breakdown was Canada (87), France (62), Germany (100), Italy (15), Japan (151), United Kingdom (UK) (122) and United States of America (USA) (177). This transcended in total firm-year observations of 9,996. The panel data collected covered a 14-year duration from 2006 to 2019. Table 2.1 summarises the breakdown.

The 14-year duration of data was conveniently chosen from 2006 to 2019. The rationale was to include two durations of economic eras that were required in the Chapter 6 for investigating the link between CSR and economic growth and as to whether there were differences in CSR investments between a period of economic crisis and that of economic expansion or prosperity. Hence, the subgroups' panel data for two periods namely: the four-year Great Recession Era from 2006 to 2009 and the ten-year Post Great Recession Era from 2010 to 2019 was facilitated by choosing the mentioned period.

Country	No. of firms	Firm-year obs	Percent	Cum Percent
Canada	87	1,218	12.180	12.180
France	62	868	8.680	20.870
Germany	100	1,400	14.010	34.870
Italy	15	210	2.100	36.970
Japan	151	2,114	21.150	58.120
UK	122	1,708	17.090	75.210
USA	177	2,478	24.790	100.000
Total	**714**	**9,996**	**100.000**	

Table 2.1 Summary of number of firms and observation years by country

Source: Made by the author

In addition, Figure 2.1 revealed the breakdown as a pie chart, for a more graphical illustration. The sample sizes per country varied widely, with United States of America as largest representing 25%. In contrast, Italy had the lowest at 2%. This observation could be seen as a sample size bias when results of any tests were done, including those for comparisons of means on selected variables. Table 2.2 and Figure 2.3 depicted the breakdown of firm-year observations by industry sector. Evidently, the distribution was fair, with the highest for industrials - representing 18%, and the lowest utilities - 2%. The data was extracted from Eikon Refinitiv DataStream database that uses the Global Industry Classification Standard (GICS) nomenclature.

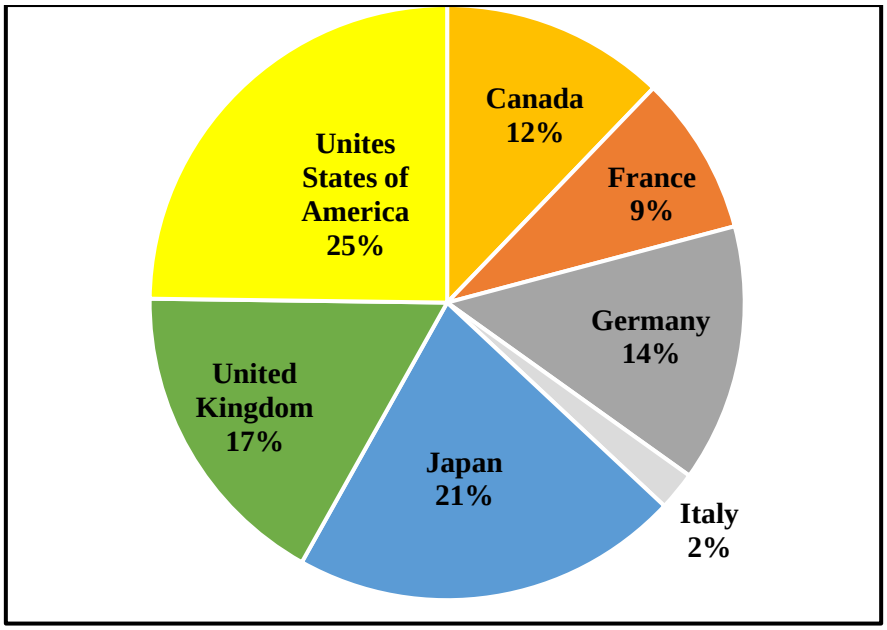

Figure 2.1 Pie chart with percentage breakdown of firms/observations by country

Source: Made by the author

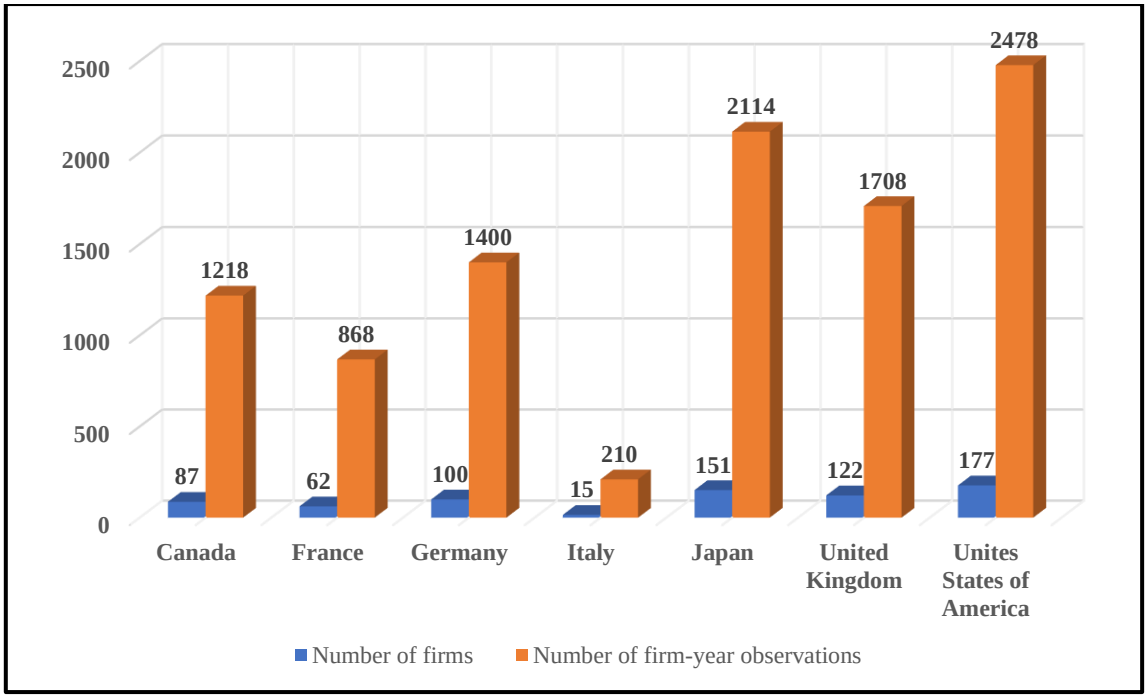

Figure 2.2 Bar chart with number of firms by country and firm-observation years

Source: Made by the author

GICS Industry Sector	Number of firm-year observations	Percent	Cum Percent
Communication Services	546	5.46%	5.46%
Consumer Discretionary	1,386	13.87%	19.33%
Consumer Staples	406	4.06%	23.39%
Energy	700	7.00%	30.39%
Financials	1,539	15.40%	45.79%
Health Care	798	7.98%	53.77%
Industrials	1,792	17.93%	71.70%
Information Technology	966	9.66%	81.36%
Materials	994	9.94%	91.31%
Miscellaneous	239	2.39%	93.70%
Real Estate	406	4.06%	97.76%
Utilities	224	2.24%	100.00%
Total	**9996**		

Table 2.2 Breakdown of firm-year observations by industry sector

Source: Made by the author

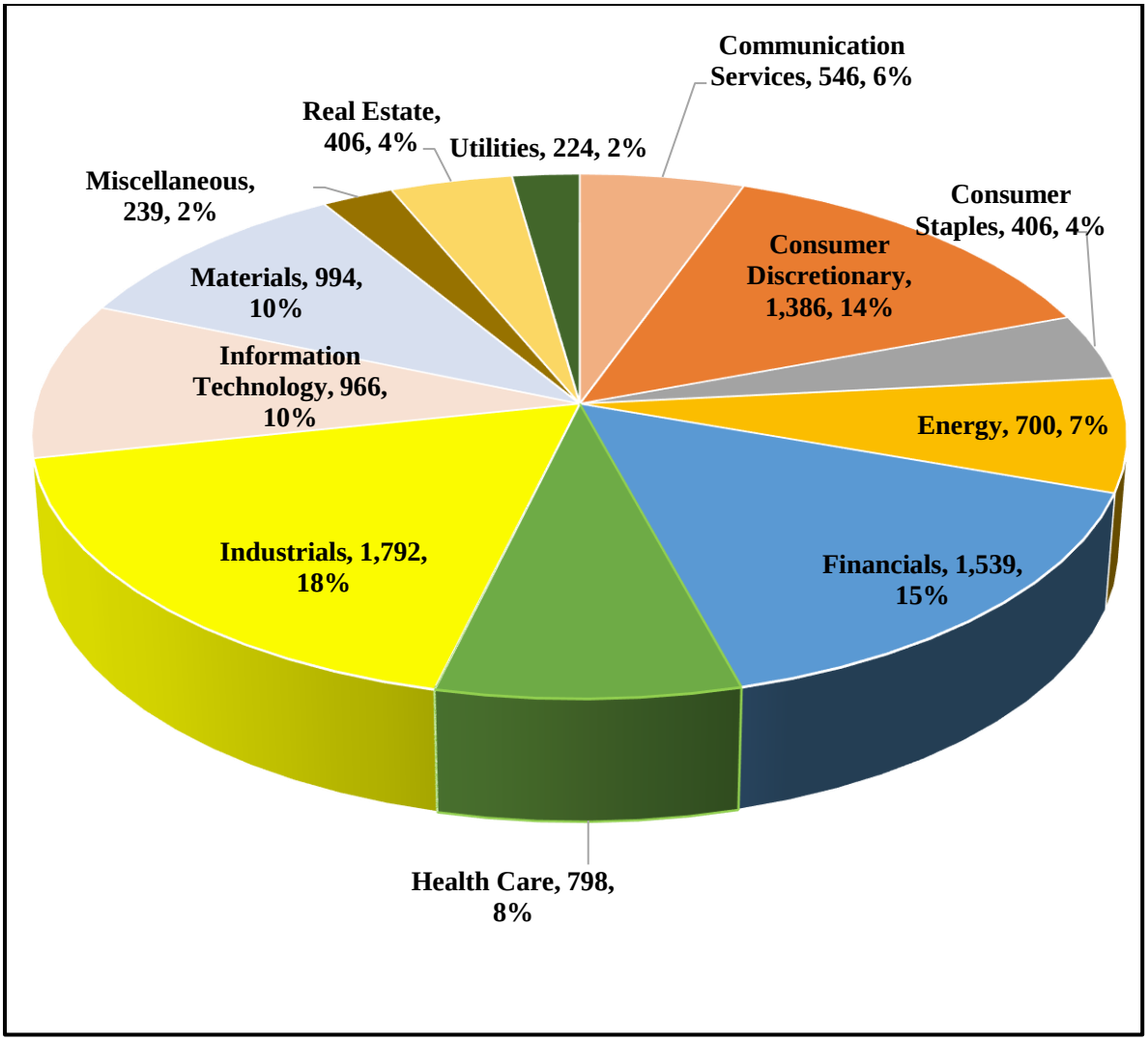

Figure 2.3 Percent breakdown of firm-year observations by industry sector

Source: Made by the author

2.2.2 Specific to Chapter 5: National Cultures and CSR

Specific to Chapter 5 paper on the relationship between national cultures and CSR, Hofstede's six cultural dimensions were downloaded from Geert Hofstede website (https://geerthofstede.com/) in November 2021, last updated by website on 16th August 2015. The specific link to locate data downloadable in Excel is https://geerthofstede.com/research-and-vsm/dimension-data-matrix/.

Worldwide Governance Indicators (WGIs) data was downloaded from the World Bank's databank found via the link https://info.worldbank.org/governance/wgi/. The data was up to date as at the year 2021.

2.2.3 Specific to Chapter 5: CSR and Economic Growth

Country-specific control variables were obtained from reputable sources.

The Human Development Index (HDI) series over the fourteen-year duration for each of G7 seven countries in sample were downloaded from the United Nations Development Programme (UNDP) via the link: https://hdr.undp.org/data-center/documentation-and-downloads.

The fourteen-year series for both Total Stock Market Value per GDP per capita (TSMVperGDPPC) and Total Natural Resource Rent per GDP per capita (TNRRperGDPPC) were downloaded from the World Development Indicators website of the World Bank databank via the link: https://datacatalog.worldbank.org/public-licenses#cc-by.

The fourteen-year series for the GDP per capita per annum were downloaded from the World Bank website, https://data.worldbank.org/.

2.3 Panel Data Set Features

A strongly balanced dataset was verified as per Stata commands results of Figure 2.4 and Figure 2.5, with 714 firms and period of 14 years from 2006 to 2019. This culminated in 9,996 total firm-year number of observations.

```
. xtset FirmName Year

Panel variable: FirmName (strongly balanced)
 Time variable: Year, 2006 to 2019
         Delta: 1 unit
```

Figure 2.4 Strength of panel data set used

Source: Made by the author using STATA

```
. xtdescribe

FirmName:  1, 2, ..., 714                                       n =        714
    Year:  2006, 2007, ..., 2019                                T =         14
           Delta(Year) = 1 unit
           Span(Year)  = 14 periods
           (FirmName*Year uniquely identifies each observation)

Distribution of T_i:   min      5%     25%       50%       75%     95%     max
                        14      14      14        14        14      14      14

     Freq.  Percent    Cum. | Pattern
 ---------------------------+---------------
      714    100.00  100.00 | 11111111111111
 ---------------------------+---------------
      714    100.00         | XXXXXXXXXXXXXX
```

Figure 2.5 Distribution of panel data set used

Source: Made by the author using STATA

2.4 Reliability and validity of data

The two concepts are both integral and critical to any research with outputs from data used. The two address different areas but in general have to do with how well a method measures something. Reliability pertains to the consistency of a measure and the extent to which repetitions under identical conditions will yield the same, if other researchers followed the same procedures. Validity refers to the precision of a measure, as to whether the results or variables used really do accurately represent what they are supposed to measure (Saunders et al., 2019). In theory, a test or scientific enquiry needs to be both reliable and valid to be fully verified in positivistic empirical research, which was the branch of ontology that this dissertation was based on.

2.4.1 Reliability

Since reliability deals with the consistency of a measure and its results if multiple scholars independently carry through the same research regardless of the data samples (Saunders et al., 2019), the reliability of results of empirical tests carried out in the three independent empirical papers was assumed to be high.

If replicating each of the three studies, high reliability could only be guaranteed if other researchers use the same secondary data sources and the measures of variables as those by the

original researcher. Furthermore, the data analyses and testing using the same STATA software and its commands is expected to yield high reliability. For these reasons, the methods used, and data were stored in Excel and STATA formats with the logs of operations and commands and equivalent outputs preserved in the interest of any studies wishing to replicate. Doing so was to maintain objective audit trails that any other researcher could go through. Following all these steps is likely to meet the three conditions for high reliability as posited by Easterby-Smith et al. (2002). Measures were expected to produce same results on other independent repetitions; observations reached were expected to be similar amongst different observers; transparency would be upheld in making sense of raw data and how it was transformed.

Furthermore, the inherent threats to reliability were deemed minimal because secondary sources were used, thereby ruling out the four: participant bias and error, observer bias and error. These are often existent in primary data collection methods (Robson, 2002). All these were hardly encountered in the three empirical papers' dissertation, since secondary data collection methods were employed.

2.4.2 Validity

2.4.2.1 Internal validity

This concept is concerned with the extent to which research results or findings are about what they profess to be about. Within the literature reviewed in CSR research and the relationships with other constructs, evidence exists for a bidirectional causal relationship between two variables in some findings. Later meta-analytical reviews found bidirectional relationships between some variables: (Busch & Friede, 2018; Endrikat et al., 2014). Other studies also observed the bidirectional causality in their findings: (S. Ho et al., 2019; J. Lu et al., 2022; Naomi & Akbar, 2021). Details were covered under each applicable paper. Hence, the internal validity in CSR empirical research was assumed as affected to some extent. A bidirectional result would mean two variables can be switched and swapped as being either dependent or independent, thereby undermining the results due to ambiguity in causal direction.

2.4.2.2 External validity or generalisability

The extent to which the findings are generalisable to other populations is referred to as external validity (Robson, 2002; Saunders et al., 2019). The three-chapter papers used a master data set in constructing panel data using public listed firms located only in the Great Seven (G7) countries. Therefore, the external validity of any findings was assumed generalisable only to such firms in G7 countries. In this area of research, further studies using a wider sample mix and size are recommended for enhancing the external validity when examining similar relationships of interest. This study's main purpose was not to generalise to all populations but to focus on the most economically advanced economies. Also, the fact that CSR activities or investments are seen as a developed world concept was another rationale.

Chapter Summary

This chapter covers the general nomenclature and infrastructure of data that was used for the three papers, covered in Chapters 4, 5 and 6. As requirements of research designs, it was necessary to examine the reliability and validity of data as their effects had a bearing on the credibility of results and the ability for research to be independent of researchers or observers. These form part of the requirements for positivistic and deductive methods of enquiries in empiricism. The chapter summarised the key standard population statistics of the data used in sample for quantitative data analyses in the three papers. An overview of the sampling method is provided, and data sources covered as well. A breakdown of the data sample in terms of the master data set and an explanation of the subgroups data sets are discussed. The reliability and validity of data is reflected on too.

The next chapter provides a synopsis and discussion of the latest developments in panel data methods, with relevant citations. The chapter elucidates the methodologies, their advantages and disadvantages. Panel data methodologies form the basis of the validated data analysis in corporate social responsibility related empirical research. Hence, the need for the coverage next.

3. REVIEW OF LATEST DEVELOPMENTS IN PANEL DATA METHODS AND USAGE JUSTIFICATION

Significant advancements have occurred in panel data methods within recent years. The drive has been to tackle various econometric deficiencies and enhance their applicability in empirical research. The developments have yielded panel data analyses deemed more robust, flexible, and capable of handling increasingly complex datasets. It was vital to justify the relevance of the development. The methodologies were predominantly used in all the three empirical chapters in this study. Below is a thorough synopsis and discussion of the latest developments in panel data methods, with relevant citations. The chapter elucidates the methodologies, their advantages and disadvantages.

3.1 Review of latest developments in panel data methods

A wider range of advancements and developments in panel data methods have taken place to handle the everchanging and more complex panel data configurations. The following sections cover these.

3.1.1 Dynamic Panel Data Models

Dynamic panel data models have been expanding and seen a growing popularity in empirical research, especially in scenarios where the current outcome depends on its past values. Traditional models, such as the Generalized Method of Moments (GMM) posited by Arellano & Bond (1991), have been extensively applied. However, newer approaches have arisen aimed at addressing limitations related to weak instruments and finite sample biases. Two key ones are summarised.

a) **System GMM:** Blundell & Bond (1998) first devised the system GMM estimator, which uses further moment conditions and enhances efficiency, specifically in situations where the instruments in the standard difference GMM are weak. More recent scholars have used it in its highly modified and robust form by Sharma & Khanna (2024), Fazaalloh (2024) and Li et al. (2016). This newer method combines equations in levels and first differences, offering more trustworthy estimates in dynamic panel configurations.

b) **Bias-Corrected Estimators:** Recent developments also include bias-corrected estimators, that focus on reducing the bias characteristic in dynamic panel data models, especially when small samples are used. Methods, such as the Least Squares Dummy Variable Corrected (LSDVC) estimator offered by Bruno (2005), modify for the bias in the estimation of dynamic panels with fixed effects. Consequently, recent studies have applied the corrected estimator methods to problems that first could not be solved namely: Baye et al., 2021; Sung & Park, 2018; van Eyden et al., 2019.

3.1.2 Nonlinear Panel Data Models

Substantial progress in extending panel data methods to nonlinear models has occurred. This development is essential when the relationship between variables is non-linear, such as in cases of binary outcomes or count data. Two key ones are summarised below:

a) **Nonlinear GMM:** Empirical scholars have extended GMM techniques to nonlinear models. To exemplify, Ahn & Schmidt (1995) created methods for handling nonlinear panel models with dynamic structures. These methods have become vital in applications where the outcome variables are discrete, common in models of firm entry and exit or labour market participation. Later studies applying the specified nonlinear models include: Colin Cameron et al., 2011; Seo & Shin, 2016.

b) **Nonlinear Fixed and Random Effects Models:** In recent studies and theory on this, Seo & Shin (2016) used these in arriving at parametric and non-parametric score estimations for multilevel observation studies. Theoretically, Baey & Kuhn (2023) have developed a package for variance component testing in the two above-titled models. Enhancements in techniques for handling nonlinearities in fixed and random effects models have been observed. Some notable examples include those in probit and logit models for binary outcomes in panel data settings. Such has permitted more accurate modelling of discrete dependent variables (Baey & Kuhn, 2023; Wooldrigde, 2010).

3.1.3 Handling Cross-Sectional Dependence

Cross-sectional dependence has been a common challenge in some panel data settings. This occurs when the error terms across different cross-sectional units are correlated, especially in

global datasets where units (e.g., countries) are interlinked or connected. Two developments are highlighted:

a) **Common Correlated Effects (CCE) Estimator:** Pesaran (2006) introduced the CCE estimator to handle cross-sectional dependence observed in large panels. This method caters for unobserved common factors that may drive the cross-sectional dependence, making it specifically useful in macroeconomic and finance research. Growing in popularity and its ability to address the mentioned deficiency, recent studies using the CCE estimator include Tenaw & Beyene (2021) when examining CSR and economic development in sub-Saharan Africa, and Chovancová et al. (2024) when investigating the drivers of carbon emissions in the EU.

b) **Factor Models:** Recent advancements also comprise factor models that handle cross-sectional dependence through a small number of unobserved factors. The application of factor-augmented panel data models has become more prevalent, particularly in studies involving global datasets with strong interdependencies (Bai, 2024).

3.1.4 Large Dimensional Panel Data Models

In the last 30 years, there has been increasing growth and availability of large datasets. This has called for newer methods capable of handling panels with a high number of cross-sectional units (N) and time periods (T). Traditional methods often struggle with the curse of dimensionality in such cases. Some notable techniques developed to cater for such are summarised.

a) **High-Dimensional Fixed Effects:** In a latest study, H. Wu et al. (2024) identified these high dimensional fixed effects and applied the new model when examining the impact of CSR on urban green growth. As pioneers, Guimarães & Portugal (2010) built techniques for approximating high-dimensional fixed effects models efficiently. These methods often entail computational tricks, such as applying the demeaning procedure in conjunction with iterative techniques, thereby making it feasible to estimate models with a high number of fixed effects. When analysing panel data on gun control, Belloni et al. (2016) encountered high dimensional fixed effects in the model when inferring and managed to address this amicably.

b) **Penalized Estimators:** Y. Guan & Fu (2022) proposed a double-penalized method to combat separation and multicollinearity in logistic regression; it incorporates the log F-type penalty with the ridge penalty. Earlier, Belloni et al. (2014) adopted penalized estimation techniques, such as LASSO (Least Absolute Shrinkage and Selection Operator), for use in panel data settings. These methods allow for variable selection in high-dimensional panels, which is essential when dealing with datasets that contain high volumes of potential explanatory variables. In a new development, Wasim et al. (2023) studies some existing estimators before proposing some new penalized m-estimators. The scholars demonstrated the new estimators as outperforming all other competing ones under certain conditions. This entailed extensive use of Monte Carlo simulations.

3.1.5 Panel Data with Heterogeneous Slopes

Panel data methods have also progressed to better address heterogeneity across units, especially when the assumption that all units share the same slope coefficients is unrealistic. Key common ones are summarised.

a) **Mean Group (MG) and Pooled Mean Group (PMG) Estimators:** Pesaran et al. (1999) established the Mean Group (MG) and Pooled Mean Group (PMG) estimators. Both cater for heterogeneity in slope coefficients across units. The MG estimator averages the coefficients from individual regressions for each cross-sectional unit. The PMG estimator grants for some pooling of information across units. With increasing popularity over the last 25 years, Perone (2024) applied the PMG estimator when assessing the link between carbon emissions in 27 countries. A panel realignment and Granger non causality approach was used.

b) **Heterogeneous Panels with Interactive Fixed Effects:** Recent research by Bai (2024) and earlier by Ando & Bai (2015) explored heterogeneous panels with interactive fixed effects. This was tailored for panels where both the intercept and slope coefficients vary across units. This approach has been incredibly useful in settings where the effect of explanatory variables varies not only across units but also over time.

3.1.6 Causal Inference in Panel Data

Causal inference still poses a critical challenge in panel data analysis. Thus, recent developments have focused on improving the credibility of causal claims.

a) **Difference-in-Differences (DiD) with Panel Data:** The creation of the Difference-in-Differences (DiD) method, often used in panel data, has been improved to better tackle issues such as treatment effect heterogeneity and violations of parallel trends assumptions. Recent extensions include synthetic control methods and DiD estimators that are robust to dynamic treatment effects (Callaway & Sant'Anna, 2021).

b) **Panel Event Studies:** Event study methodologies, commonly used in finance and economics, have had to be adapted for panel data to appraise the effect of events or interventions over time across multiple units. Recent advancements have focused on improving the identification strategies and addressing potential biases due to dynamic effects (Sun & Abraham, 2021).

3.2 Advantages and Limitations of Existing Panel Data Methodologies

The prevalence of panel data methodologies in empirical research offers several advantages, but these come with certain limitations. The below covers a discussion of these, supported by relevant literature.

3.2.1 **Advantages**

3.2.1.1 ***Control for Unobserved Heterogeneity***

One significant advantage of panel data methodologies is their adeptness to control for unobserved heterogeneity across cross-sectional units (e.g., individuals, firms, or countries). By using fixed effects or random effects models, researchers can account for time-invariant characteristics that might otherwise bias the results (Duxbury, 2021; Nchofoung & Asongu, 2022; Wooldrigde, 2010). Thus, the estimates are expected to be more reliable compared to cross-sectional or time-series data alone.

From the perspective of this study, where firm-specific factors like firm size, capital intensity, financial leverage (all in the empirical study examining the link between CSR and corporate performance) are unobserved, panel data methods can help isolate the impact of observed variables like investment in research and development on firm performance (Baltagi, 2005). Few past studies related to CSR have been done, except by Manescu (2010). The latter examined economic implications of CSR and responsible investments.

3.2.1.2 ***Improved Efficiency of Estimates***

Panel data typically holds more power and rigour. Its provision of more data points by combining cross-sectional and time-series dimensions, leads to more degrees of freedom and more efficient estimates (Baltagi, 2005; Sarpong et al., 2022; Tamatam et al., 2019). Especially, it is beneficial when sample sizes are limited, as the increased data variability enhances the precision of parameter estimates. In all the three empirical studies catalogued in this dissertation, using a panel of 714 firms drawn from the Great Seven (G7) countries across 14 years (2006 to 2019) aimed to improve the precision of the estimated relationship between CSR and each of the three: corporate performance, national cultures and economic growth, compared to using data from a single year.

3.2.1.3 ***Dynamic Analysis***

Panel data methodologies facilitate for the evaluation of dynamic processes, such as how past values of an outcome variable influence its current value. As an example, dynamic panel models, like those utilizing the Generalized Method of Moments (GMM), are particularly useful for studying phenomena where past behaviours, actions or outcomes are likely to affect current decisions (Arellano & Bond, 1991). Some recent applications have been by Karki et al. (2023). The empirical study on the link between CSR and economic growth expected the use of dynamic panels to compare the effect between two economic eras. This could form the basis in assessing how past economic policies affect current economic growth, accounting for the inertia in policy impacts, if mixed with qualitative studies.

3.2.1.4 ***Reduced Multicollinearity***

The ability to combine cross-sectional and time-series data in panel datasets can reduce multicollinearity among explanatory variables. The created variation across both dimensions

yields a more accurate estimation of the coefficients, as the problem of multicollinearity is less severe compared to use of either cross-sectional or time-series data separately (C. Hsiao, 2014). For the empirical study on the link between CSR and national culture of a firm, the use panel data was expected to help differentiate the effects of closely related variables measured by the six Hofstede's cultural dimensions. The latter are expected to have high multicollinearity because of all locations being classified under the most developed nations.

*3.2.1.5 **Flexibility in Modelling Complex Relationships***

Panel data methodologies present more flexibility when modelling complex relationships, including interaction effects and heterogeneous responses across units. This strength makes the methods particularly useful in studies where the relationship between variables might vary across entities or over time (Pesaran, 2006). For example, in environmental economics, panel data can be used to model how different countries respond to climate policies, considering their unique economic structures and levels of development.

3.2.2 Limitations

3.2.2.1 Complexity in Data Collection and Management

Panel data requires the collection of data across both cross-sectional units and time periods. This data collection method can be resource-intensive and complex. Ensuring consistency and accuracy with such data collection can be challenging, particularly when dealing with large and diverse datasets (C. Hsiao, 2014). For example, longitudinal surveys that track individuals or households over time require meticulous planning and consistent follow-up, which can be costly and prone to issues like attrition. However, if using secondary data from online databases, this process can be shorter.

*3.2.2.2 **Potential for Measurement Errors***

The complexity of panel data increases the risk of measurement errors, particularly if the same variables are not measured consistently over time. Such errors can lead to biased estimates and reduce the reliability of the findings (Das, 2019; Schunck, 2013). For example, for studies using self-reported data, the risk of inconsistent reporting over time can introduce measurement errors that distort the analysis of trends or causal relationships.

3.2.2.3 ***Endogeneity Issues***

Despite the ability of panel data methods to control for time-invariant unobserved heterogeneity, they are still vulnerable to endogeneity issues, specifically due to omitted variable bias, simultaneity, or reverse causality (Wooldrigde, 2010). Mitigating these issues often entails the application of complex techniques such as instrumental variables or GMM, which may be problematic to implement and interpret. As an example, for the study examining the impact of CSR on financial (corporate) performance, it can be challenging to determine whether CSR leads to better performance or if more profitable firms are simply more likely to invest in CSR activities.

3.2.2.4 ***Cross-Sectional Dependence***

Panel data models often assume that cross-sectional units are independent. Yet, in many real-life applications, such as macroeconomic or financial studies, cross-sectional dependence is common due to shared global shocks or spillover effects (Pesaran, 2006; Pesaran et al., 1999). Not accounting for such dependence can lead to biased estimates and invalid inference. For example, in international trade studies, ignoring the interconnectedness of countries through trade networks can lead to incorrect conclusions about the effects of trade policies.

3.2.2.5 ***Difficulty in Modelling Nonlinear Relationships***

Although advances in nonlinear panel data models have occurred, they are generally more complex and harder to estimate than their linear counterparts. Nonlinear relationships, which are common in many fields, may require complex techniques and more computational resources, potentially limiting their ease of use to researchers (Schunck, 2013). An example is taken from the field of economics. In modelling, the nonlinear relationship between income and consumption patterns over time might require advanced techniques that are beyond the reach of many empirical researchers.

Chapter Summary

In recent years, the field of panel data econometrics has witnessed substantial advancements. New methods more robust, flexible, and capable of handling complex datasets have emerged. These developments embrace improvements in dynamic panel data models, handling cross-sectional dependence, accommodating large-dimensional datasets, addressing heterogeneity in slopes, thereby enhancing causal inference techniques. These methodological advancements have radically extended the scale and scope of applications for panel data analysis, making it a key tool for empirical research in various disciplines.

The prevalence of existing panel data methodologies in empirical research offers significant advantages, particularly in controlling for unobserved heterogeneity, enhancing the efficiency of estimates, and enabling dynamic analysis. Nonetheless, these methodologies also bear challenges, including complexity in data collection, susceptibility to measurement errors, and difficulties in addressing endogeneity and cross-sectional dependence. Despite these limitations, the continued development and refinement of panel data techniques ensure their central role in empirical research across various fields.

This three empirical papers' study explored the relationships between CSR and each of the three: corporate performance, national cultures, and economic growth. It incorporated three papers in a format suitable for submission for publication in peer review journals, when further developed to a publishable stage. Hence, each of the three papers is arranged as a stand-alone format for easier further future developments. In the same vein, each abstract is found at the start of each paper within the dissertation. The common denominator for all was CSR as a measurable construct. Their titles are:

Chapter 4: The Relationship Between Corporate Social Responsibility and Corporate Performance: Influence of Variations In Industry And Governance Model Types.

Chapter 5: The Relationship Between National Cultures and Corporate Social Responsibility – Influence of World Governance Indicators.

Chapter 6: The Relationship Between ESG Performance with Its Components And Economic Growth.

4. Chapter 4 - THE RELATIONSHIP BETWEEN CSR AND CORPORATE PERFORMANCE – Variations in Governance & Industry Types

Abstract

Background

Despite over four decades of research on whether investing in corporate social responsibility (CSR) yields success for firms, the findings remain mixed, inconclusive, and tenuous. Furthermore, empirical evidence on the influence a firm's industry type and its country of domicile's mode of corporate governance has on the relationship between CSR and corporate performance has been scanty, due to very limited studies in this area of research.

Purpose

Firstly, this study evaluates the relationship between CSR and corporate performance. The latter is posited as a four-dimensional construct comprising operational (Return on assets), financial (Return on equity), market (Tobin's Q) and liquidity (Current ratio) components.

Secondly, an investigation on the controlling influences of a firm's industry type and its country of domicile's mode of corporate governance on the relationship of interest are conducted.

Design/methodology/approach

The three theories: Stakeholder (Freeman, 1984), Shareholder (Friedman, 1970), and Legitimacy (Deegan, 2002; Dowling & Pfeffer, 1975) theories are employed as theoretical pillars for the study.

The study's sample employs the topmost global equity-performing firms as rated by their indices on respective listings from the Great Seven (G7) countries. A total of 714 firms are included in the study's final sample, breakdown: Canada (87), France (62), Germany (100), Italy (15), Japan (151), United Kingdom (UK) (122) and United States of America (USA) (177). This translates in 9,996 firm-year observations of panel data set.

To examine the relationship between corporate social responsibility and corporate performance, where the latter is posited as a four-dimensional construct comprising operational (Return on assets), financial (Return on equity), market (Tobin's Q) and liquidity (Current ratio) components, data is analysed using a set of Ordinary Least Squares (OLS) regression models.

To compare the controlling influence of a firm's industry type and its country of domicile's model of corporate governance on the relationship between corporate social responsibility and corporate performance, the comparisons of means tests for the related subgroups of interest created from the master panel data set are carried out.

Findings

Firstly, this study finds weak but statistically significant positive relationships between corporate social responsibility (CSR) and each component of corporate performance: operational, financial, market, and liquidity. The findings are consistent with those from the most relevant, latest and advanced second-order metanalytic review, conducted by Busch & Friede (2018). This finding adds to the list of numerous past studies that have established the same for the first three components of corporate performance. For the fourth component, this study's finding pertaining to liquidity is novel and becomes the first to establish this, therefore adding new knowledge to this area of research.

Therefore, empirically, the results support the business case and justification for multinational firms located within the Great Seven (G7) countries to engage in CSR investments and activities. Doing so is likely to at least boost firms' corporate performance. This finding is consistent with the main theory: Stakeholder Theory (Freeman, 1984). When considered in firms' workplaces, a form of capitalism that ranks the connected affiliations between a firm and its stakeholders, could be assumed.

To expound on this, the weak findings on all the four dimensions of corporate performance could be seen as in support of the opposing Shareholder Theory (Friedman, 1970). This unusual finding could be attributed to the sample type employed as all firms used are domiciled in the

most developed economies where the concept of maximising both CSR investments and corporate performance are practised and most applicable.

In addition, two more findings novel to this area of research are established, thus adding new knowledge to this area. These are covered hereafter.

Firstly, this study concludes that firms located in G7 countries subscribing to the stakeholders' model of corporate governance (Germany, France, Japan, and Italy) exhibit a higher Environmental (E) performance than those in countries with a shareholders' model of corporate governance (Canada, USA, and UK). This finding complements the Stakeholder Theory (Freeman, 1984), considered most applicable to the firms located in countries whose corporate governance is aligned to the stakeholder model. Such firms engulf various key players from government, employees, unions, suppliers, amongst many others. Nevertheless, firms located in countries subscribing to the stakeholders' model of governance are found to exhibit a lower Social (S) performance and Governance (G) performance than those in countries with a shareholders' model of governance. The results are consistent with practices in countries that subscribe to the stakeholder model, where firms are often required to serve wider and diverse interests, more as governments' policy, seen more as obligatory than voluntary. In contrast, the opposite can be said to be true in all iterated facets, about firms located in countries subscribing to the shareholder model.

With respect to corporate performance, this study has revealed that firms domiciled in G7 countries aligned to the shareholder model of corporate governance (Canada, USA, and UK) perform better on average in all the four dimensions of corporate performance (operational, financial, market and liquidity) than those in countries aligned to the stakeholder model. When taken in conjunction with the finding in the previous paragraph, this revelation proves and supports the competing theory: the Shareholder Theory (Friedman, 1970). In other words, firms focusing less on CSR activities or investments are expected to realise better firm performance due to savings from reductions in CSR spend. This finding has implications especially for firms in G7 countries aligned to the stakeholder model of corporate governance (Germany, France, Japan, and Italy). Interested parties from firms located in these countries may be inclined to call for revisions to reduce CSR investments and/or activities. In contrast, this finding

disapproves the Stakeholder Theory (Freeman, 1984). Interpretively, more CSR investments do not always lead to enhanced corporate performance.

Secondly, this study establishes a higher mean Environmental (E) performance in the subgroup of firms in extractive industries than that in the subgroup of non-extractive ones. This finding is consistent with the Legitimacy Theory (Deegan, 2002; Dowling & Pfeffer, 1975). The theory posits that businesses constantly aim to take actions or engagements that align with associated communities' rules and standards (Deegan et al., 2002). It focuses on a business' dealings with society and go as far as disclosing social responsibility information to depict a socially responsible image. Doing so is seen as one way to legitimize the business' behaviours to its stakeholder groups. In practice, firms that employ more environmentally disruptive and sometimes harmful methods to access their inputs of production are more prone to face not only more scrutiny from the affected communities or societies, but also the public. Stakeholders expect such firms to clean up the physical environments they tamper with as one strategy to be accepted and legitimised by the corresponding affected or displaced communities or societies.

When corporate performance is considered, the results are different. Firms in the extractive subgroup outperform those in the non-extractive for the dimension of market performance. Once more as in the previous paragraph, this finding has implications especially for firms in G7 countries aligned to the stakeholder model of corporate governance (Germany, France, Japan, and Italy), as the interested parties may call for revisions to reduce CSR investments or activities for firms in extractive industries. In contrast, this observation disapproves the Stakeholder Theory (Freeman, 1984). This discrepancy could be explained for by the limited 14-year duration of the sample used and the possible population bias as all firms' headquarters are domiciled in the most economically advanced G7 countries.

Significance

The finding for a positive link between corporate social responsibility (CSR) and each of the four dimensions of corporate performance make the business case and justification for multinational firms located within the Great Seven (G7) countries. Investing or enhancing CSR activities is likely to at the least boost firms' corporate performance. Specifically, the novel

finding of a positive though weak relationship between corporate social responsibility and liquidity performance is likely to swing opinion of pessimists who have posited the inability for firms to meet their short-term obligations due to CSR spend or expenditures. Instead, this empirical finding is for improved ability to meet such obligations when due.

Two novel observations are established.

Firstly, firms located in G7 countries subscribing to the stakeholders' model of corporate governance (Germany, France, Japan, and Italy) exhibit a higher Environmental (E) performance than those in countries with a shareholders' model of corporate governance (Canada, USA, and UK). Nevertheless, the opposite is found for corporate performance. Firms domiciled in G7 countries aligned to the shareholder model of corporate governance (Canada, USA, and UK) performed better on average in all four dimensions of corporate performance (operational, financial, market and liquidity) than those in countries aligned to the stakeholder model. These findings are likely to have implications to the extent when considered as inputs in developing a successful model for CSR investments and activities based on the model of corporate governance and industry type a firm finds itself in. Specifically, these findings are expected to have more bearing and of interest to firms' business practitioners and governments' policy makers in G7 countries.

Secondly, a higher mean Environmental (E) performance is established in the subgroup of firms in extractive industries than that in non-extractive ones. When corporate performance is considered, the results are different. Firms in the extractive subgroup outperform those in the non-extractive for the dimension of market performance. This finding is likely to sit well with respect for attractiveness of market performance for movements and expectations of share prices for firms in extractive industries.

Keywords: *ESG performance, Corporate performance, , Great Seven (G7) countries, Corporate governance, Stakeholder Theory, Shareholder Theory, Legitimacy Theory.*

4.1 Background and Introduction

In the last 50 years or so of the corporate world, CSR has evolved and taken a defining role in most firms, especially the publicly listed ones. The share prices of these firms are under scrutiny not only for their financial profits and success, but also for their image of being socially responsible to society. Society expects most global firms to invest in activities seen as paying back to society. CSR is a non-mandatory investment in environmental, social and governance activities or projects. However, the relationship between CSR and business performance remains unsettled, despite numerous empirical studies in this area.

This study relates to and builds on the work of Hakimi et al. (2023), J. Zhang & Liu (2023), Al Hawaj & Buallay (2022), Ahmad et al. (2021), Buallay (2020), Buallay (2019), Blasi et al. (2018), Velte (2017), Dangelico & Pontrandolfo (2015) and I. Gallego-Álvarez et al. (2014). The study examines the relationship between CSR and corporate or firm performance. It updates the listed past work using a comprehensive sample based on 714 firms headquartered in the Great Seven (G7) countries. All firms are quoted on the leading global market indices in United Kingdom, United States of America, Canada, France, Germany, Japan, and Italy. The study finds statistically significant positive but weak relationships between CSR and each of the four dimensions of corporate performance namely: operational performance, financial performance, market performance, and liquidity performance. This adds to the existing body of knowledge of findings for a positive relationship between CSR and corporate performance. As a contribution, this study specifically pioneers and adds to the body of knowledge in examining the relationship between CSR and liquidity performance; a positive but weak link is established.

Furthermore, the study extends the work of Buallay (2020) and Buallay (2019), by considering the controlling influence of the type of corporate governance of a firm's domicile. The findings show firms located in G7 countries subscribing to the stakeholders' model of corporate governance (Germany, France, Japan, and Italy) exhibit a higher Environmental (E) performance than those in countries with a shareholders' model of corporate governance (Canada, USA, and the UK). Thus, this study brings new knowledge on variations in CSR or ESG performances between subgroups for models of corporate governance specifically in global firms located in G7 countries.

Lastly, this study extends on the work of J. Zhang & Liu (2023) in investigating the controlling influence the type of industry has, between extractive and non-extractive ones on the relationship between CSR and firm performance. It finds that firms in extractive industries exhibit a higher combined ESG performance than those in non-extractive industries. However, the difference in performance between the two is small. Also, a higher mean Environmental (E) performance in the subgroup of firms in extractive industries than that in the subgroup of non-extractive ones, is established. The study arrives at this after collapsing eleven industries into the two, making it more robust.

Overall, the findings of this study are in general consistent with those by other works mentioned herein.

The two competing theories are covered in detail under Chapter 1. The Stakeholder Theory (Freeman, 1984b, 2016) is aligned to what would be "linked to the idea that firms or companies can benefit from positively engaging with their various stakeholders, both internal and external, such as employees, board members, communities, workers' families and so on, as well as by caring for the (broadly defined) environments in which they operate" (Blasi et al., 2018, pp 218). Satisfying a wider array of stakeholders should lead to enhanced business performance as most stakeholders, including customers, would most likely be loyal after being aligned to a firm's good citizenship. If this theory holds true, then a positive impact of CSR on business performance is expected. Also, it is expected that stakeholders have interest in long term strategies for a firm. Consequently, this would lead to enhanced CSR performance and ending in an uplift of sustainable business performance (Al Hawaj & Buallay, 2022; Clarkson et al., 2008; Velte, 2022).

Nonetheless, in opposition, the founder of the Shareholder Theory, Friedman (1970) criticised CSR as an unwarranted cost to shareholders and thus to be avoided, if possible. In this respect, the only stakeholders in a firm are its shareholders who have invested capital with the goal of maximising profits.

Within the CSR literature and research, it is often argued that firms in more environmentally destructive industries are expected to spend or invest more in CSR related activities than those in less disruptive ones. This is seen as one strategy to be more accepted in environments where

damages need to be corrected that arise due to extractive processes in accessing natural resources. This is explained by the Legitimacy Theory (Deegan, 2002; Dowling & Pfeffer, 1975). It posits that that firms or organisations pursue to align the social values intended by their activities, norms, and practices deemed as acceptable behaviour to fit in the larger social systems of a community they are part of or operate in. When this happens, there is said to be organisational legitimacy. Otherwise, the possibility of a threat to the latter grows.

In summary, the key theories applicable to this study were Stakeholder Theory (Freeman, 1984, 2016), Shareholder Theory (Friedman, 1970), and Legitimacy Theory (Deegan, 2002; Dowling & Pfeffer, 1975). All are covered in detail under Chapter 1. From a research approach, numerous empirical studies to evaluate the link between CSR and business performance have been undertaken. Though the majority have found a positive link as evidenced by the latest meta-analytic review (Busch & Friede, 2018a), some remain contradictory with findings of a negative, non-significant or inconclusive link. The past relevant studies in this area of research are covered in following sections. With this background, calls from earlier researchers (Buallay, 2019; Busch & Friede, 2018; Velte, 2017) to replicate studies using different contexts of study populations remain high on the agenda. This study responded to this call as reflected in the objectives, among many others.

4.2 Objectives of the study

The objectives of this chapter paper study were threefold. These were to:

1) Examine the relationship between corporate social responsibility (CSR) and corporate performance (CP).

2) Compare the differences in individual components of Environmental (E),Social (S) and Governance (G) performance between firms located in countries with two competing corporate governance models: stakeholder and shareholder.

3) Investigate the differences in the combined ESG (Environmental, Social, & Governance) performance between firms belonging to two divergent industries: extractive and non-extractive industries.

The development of the research objectives was informed by the shortcomings of most past empirical studies as summarised under an appropriate subsection within this study.

4.3 Research questions of the study

Based on the research objectives, the following were the research questions:

1) What is the relationship between corporate social responsibility (CSR) and corporate performance (CP)?

2) What are the differences in individual components of Environmental (E),Social (S) and Governance (G) performance between firms located in countries with two competing governance models: stakeholder and shareholder?

3) What are the differences in the combined ESG (Environmental, Social, & Governance) performance between firms belonging to two divergent industries: extractive and non-extractive industries?

4.4 Rationale for the study

The rationale for this study was to address the following methodological deficiencies arising from most past studies by the following strategies:

a) Develop a theoretical model and methods for analysing the relationship between CSR and corporate performance.

b) Provide a comparative empirical insight by analysing the CSR and CP relationship using listed companies from the Great Seven (G7) countries namely: United Kingdom, United States of America, and Canada as inclined to the shareholders' model of corporate governance versus Japan, Germany, France, and Italy inclined to the stakeholders' model. Most past studies have used US based companies, an example of a bias in sample populations used that affects the generalizability of findings to other regions.

c) Use data sets drawn from firms identifying with certain industries that represent firms with more effect on the environment and with less, to enable comparisons.

d) Use data sets drawn from firms located in countries with varying governance models to compare performance of individual components of Environmental, Social, Governance (ESG) performance.

e) The study added to the existing body of knowledge by drawing insight and comparing with the past studies while identifying areas for further research in this area.

4.5 The outline and structure of the study

The outline and structure of the rest of this study focuses on summarising the relevant and key theories as these are propounded in Chapter 1 of this dissertation under an appropriate section, locatable on the contents page. The next part covers the review of the relevant literature, focusing on past empirical studies. This helps to identify the research gaps and methodological deficiencies. The former informs the next part of hypotheses' development and the research design/methodology. A section on the relevance of panel data methodologies and their appeal to this study is covered. Then data is analysed to test a set of hypotheses. A discussion of the study findings and their interpretation follows and how these compares with past findings. Finally, conclusions are drawn, along with a discussion of any contributions to theory and practice.

Specifically, the rest of the structure for this study was as outlined below:

Section 4.6 focused on the critical review of the relevant literature in corporate social responsibility in the context of the relationship with corporate or firm performance. This culminated in the development of the relevant hypotheses that were to be tested.

Section 4.6.6 reviewed the established measures of corporate social responsibility (CSR) from past empirical studies, posited as independent variables for this study. These have occupied the empirical analytical studies in this area of research. In addition, some measures are assumed non-conventional in this area of research, thereby having limited reliability.

To identify the gaps and eventually inform the choice of dependent variables for this chapter paper study, Section 4.6.7 focused on the review of the main and common variables used to measure financial, operational and or market performance from past empirical studies. Section 4.6.8 categorised the limitations or shortcomings of past empirical studies and identified aspects of the future research agenda. These helped in shaping the research design and strategy of this chapter paper study.

Section 4.8 consisted of this study's Research Design and Methodology, that also included the researcher's devised theoretical model, as informed by the gaps identified from past studies.

Section 4.9 and 4.10 covered the relevance of panel data methodologies and their relevance to this chapter paper study.

Section 4.11 focused on Data Analysis, Results, and Interpretation, after the application of data to STATA statistical software for research.

Section 4.12 and 0 covered the Findings and Discussion and how they compare with past studies before looking at the Limitations respectively.

The Conclusions were covered in Section 4.15.

4.6 Literature Review

4.6.1 Introduction

The main purpose of this chapter empirical paper was to empirically examine the effect of corporate social responsibility on a firm's performance. Despite a dramatic proliferation of studies in this area of over the last four decades, there remains no clear conclusion for an established positive relationship, as the desired ultimate for both practitioners and proponents of CSR effect. The unequivocal establishment of this relationship continues to be a challenge.

Rooted in the positivist epistemological approach (Hatch, 2013), past empirical 'studies have yielded mixed results. Despite extensive research and several attempts to verify this relationship, the findings remain inconclusive, leaving the controversy unresolved.

The key findings from past studies are summarised separately in adjoining tables. Evidently, the relationship results range from positive (Table 4.2), negative (Table 4.3), to that of insignificant, inconclusive, or mixed (Table 4.4). However, a close examination of the contents of tables cross references above reveals that studies finding a positive relationship have exceeded those of any other stated categories as at date. As more studies have been conducted in later years, recent evidence suggests a consensus for a positive relationship. Such studies addressed the identified shortcomings from earlier studies especially those attributed to methodological deficiencies, validity, or reliability.

4.6.2 Meta analytical reviews

Numerous scholars have applied advanced statistical processes that have merged the data of multiple studies in the relationship between CSR and firm performance. Meta-analytic reviews aim to examine the potency of existing evidence. They are built by compiling methods, research designs, data analyses of findings on a relationship between one construct or variable and another, based on a set of given conditions or controls. For this study, the review of the selected analytical reviews aimed to critically understand and gauge the empirical consensus for a relationship between the areas under study. The next aim was to assess the type of relationship: positive or negative, mixed, or insignificant, to mention some possible categories.

Authors	**Sample size**	**Area**	**Data analysis methods**	**Independent variables**	**Dependent variables**
Coelho et al (2023)	53 studies	Global	Systematic review and content analysis	ESG scores	Multiple since meta-analytics approach
Velte (2022)	54 meta-analyses	Global	Content analysis	ESG and individual parts	Multiple since meta-analytics approach
L. Zhang et al (2022)	42 studies	Global	Systematic review Correlations Moderating effect analysis	ESG scores	Multiple since meta-analytics approach
Busch & Friede (2018)	25 studies	Global	2nd order meta-analytical review	Various measures of CSR	Multiple since meta-analytics approach

Table 4.1 Summary of key metanalytic reviews on the link between CSR and firm performance

Source: Made by the author

Between 2015 to date, four prominent meta-analytical reviews on the CSR-CFP performance relationship have taken place that played a dominant role in understanding the relationship under study. The systematic reviews assembled and summarised all possible evidence that fits prescribed criteria for eligibility to be included. Ultimately, advanced statistical iterations were then employed to summarise the results of such studies. Though the earlier key metanalytical reviews within this area of research were considered, the focus was on those in Table 4.1.

As latest at the time of writing this, Coelho et al. (2023) systematically reviewed 53 articles pertaining to the link between CSR and financial performance between 1984 and 2021. The scholars found that "CSR directly impacts a company's financial performance, and this impact becomes more significant as the company's environmental, social, and governance (ESG) scores improve" (pp 1535). The strengths of this review lay in the long duration covered spanning 38 years and the wide sample of firms from the world's largest stock market indices, amongst many other diverse portfolios. However, one possible limitation was the sole use of content analysis, deemed a less robust method for meta-analytical reviews. Statistical techniques that combine and analyse numerical data from multiple studies are considered more robust in quantitative research.

Earlier on, Velte (2022) conducted quantitative meta-analyses on multiple constructs and variables, including that of CSR and firm's financial performance. Relying on the business case argument, CSR performance and one individual component of environmental performance were found to augment financial performance. The strengths of the analysis lay in the assembly of 54 quantitative meta-analyses on CSR with a structured literature review. However, the inclusion of other constructs such as corporate governance variables cannot be overlooked; the effect of such inclusion on results of interest to this study could have been less prominent.

The meta-analysis by L. Zhang et al. (2022) suggested CSR as having a significant positive effect on "corporate economic & financial performance" (pp 9), particularly on accounting-based performance measures. Seen as more rigorous than prior analyses, 42 studies were used yielding a total sample size of 92,863 observations.

Busch & Friede (2018)'s meta-analytical review, though dated, yields results depicting more definite and thorough conclusions. The duo's review stands out as the most relevant and latest analytic review in this area of research. It is also considered as more robust and rigorous because of using a second order analytical method. Despite using a lower data sample comprising of 25 previous meta-analyses, compared to the more recent by Velte (2022), that by Busch & Friede (2018) culminated in a sample size of one million observations. The findings were multiple. Firstly, a strong and statistically positive relationship was founded. However, the relationship between the two constructs was established as bidirectional; this implies that the relationship is valid in both directions. Secondly, the observable findings for a strong and statistically positive relationship founded was diverse and varied in degree among both individual components of CSR and corporate performance. Remarkably, this observation of the meta-analytical review by Busch & Friede (2018) is consistent with that by two studies from independent scholars: Buallay (2019); Velte (2017). Besides finding a significant positive relationship between the two constructs under study, Buallay (2019) also established varying relationships between CSR and each of the dimensions of performance: operations, financial and market. However, one identifiable shortcoming by Buallay (2019) was its employment of a sample size comprising European banks only. This makes comparisons with other studies difficult. Only studies who solely used the similar populations could be compared and none exist yet. Earlier, Velte (2017) also found similar results using samples drawn from Germany, Wide variations in the degree among both individual components of CSR and corporate

performance were detected. Thirdly, the link between each individual component of CSR, namely environmental (ecological) and social, was founded as positive with corporate financial performance. Fourthly, when corporate financial performance was split into components, a stronger positive relationship with CSR was established for the component of operational performance. Fifthly, when compared with previous meta-analytic reviews, Busch & Friede (2018) observed effect sizes as less variable than previously anticipated.

With this overwhelming evidence and literature complied and amalgamated by Velte (2022) and Busch & Friede (2018), it can be concluded that a business case for CSR appears feasible and acceptable for the modern 21st century corporation. To conclude, these unequivocal and thorough findings point to the overwhelming consensus for a positive relationship between CSR and corporate (financial) performance. Supported by past studies finding a positive relationship (Table 4.2), this study focused on examining the relationship of interest as a build-up and extension of the relevant past studies. The "corporate financial performance" used in Busch & Friede (2018)'s metanalytic review was posited as "corporate performance". This clarification aimed to lessen confusion when four individual components of performance were broken down as financial, operational, liquidity and market. Refer to this study's theoretical model in Figure 4.1, under the appropriate section of Methodology.

4.6.3 Positive relationship

From the perspective of Freeman (1984) Stakeholders Theory, a positive relationship between CSR and a firm's financial performance is anticipated. According to Garriga & Melé (2004), firms can attain this by engaging and satisfying to needs and concerns of all individuals with a stake in the firm. Several recent studies support this positive nexus. Please see Table 4.2.

Though most past studies had observed linear relationships, Hakimi et al. (2023) focused on examining the reciprocal nonlinear relationship between corporate social responsibility (CSR) and firm performance (FP). With a sample of 814 European firms over a ten-year period from 2008 to 2017, the uniqueness of the study was notable. Firstly, the Panel Smooth Transition Regression (PSTR) model was used, an econometrical derivative, not common in this area of research. Secondly, the findings revealed the CSR-FP link with a threshold effect in two directions. Thirdly, Hakimi et al. (2023) observed a positive and significant relationship

between CSR and FP only when each of the three individual CSR components surpassed a set of thresholds on the dependent variables of ROA and Tobin's Q. This evidence depicts a possible non-linear relationship, thereby bringing into question most past studies that found a unidirectional causal type.

Despite the overwhelming evidence of a positive relationship between the constructs of interest, Vásquez-Ordóñez et al. (2023) recently found weak evidence between CSR's individual components and financial performance. A sample of 96 renewable energy firms extracted from Eikon Refinitiv was used. Limitations are possibly threefold. Firstly, one industry was used in sample; the renewable energy, seen as less pollutant. This may have been the reason for a weak link between the component of the Environment score and financial performance. Secondly, data was analysed using techniques not well established in this area of research: fuzzy-set qualitative comparative analysis (fsQCA) compared to regressions on panel data sets. Thirdly, financial performance was proxied by one variable, Tobin's Q. Addressing these three identifiable limitations could have enhanced the research design, findings, reliability and validity of this study by Vásquez-Ordóñez et al. (2023).

Using 81 publicly listed Chinese firms, J. Zhang & Liu (2023) found a significantly positive correlation between CSR and financial performance, and brand value. Social capital played a moderating effect on the relationships. The sample data covered a 10-year period (2013 to 2022). Because of the difference in regulatory framework for listed firms between the Sino and the Western world, some voluntarily disclose on CSR, and others do not. J. Zhang & Liu (2023) found different conclusions between the firms in the two categories of disclosure. One notable study's finding was the difference in strengths and correlations of the relationship between firms in extractive and more polluting industries and those otherwise.

When Novitasari & Tarigan (2022) examined the effect of CSR on firm performance with green innovation as a mediation, a positive link was established. 253 firms listed on Indonesia Stock Exchange formed the study's sample using a duration between 2015-2019. It is not clear how CSR was operationalised and how the variables were collected. The limitations of the study include the departure of more established panel data analyses in this area of research; annual and financial reports were used. Hence, comparisons with past studies that used panel data analysis are difficult. Future research could benefit by using more rigorous quantitative

data methodologies used in most studies, thereby facilitating easier comparability between.

Using 351 firms on the UK FTSE index, Ahmad et al. (2021) found a higher positive and more significant effect of high ESG investments on the financial performance than those from low ESG investments. However, the findings for the individual components were mixed. The study's strengths lay in use of the long 17-year duration of a mix of static and dynamic panel data from 2002 to 2018.

Though Okafor et al. (2021) established a positive link between CSR and financial performance, the scholars' limitations are observable. First, only one industry sector was used in the population sample: 267 US top technology firms from S&P500 index. Second, the panel data's duration was short, from 2017 to 2019. As a strength, the scholars used a mixed data analyses methods of content analysis, fixed-effects and pooled regression. Content analysis is not widely used for empirical and quantitative research in this area. Contrary to most past studies, Okafor et al. (2021) found insignificant evidence of a link between CSR and Tobin's Q. Improving on the research designs that address the mentioned deficiencies by Okafor et al. (2021) is recommended.

There has been a proliferation of studies that focused on studying the relationship of interest, . and gone further to analyse that of individual components of CSR. For some, CSR has been operationalised as sustainability reporting. Most have split this in four: combined ESG and its three components of Environmental (E), Social (S), and Governance (G) as individual performances.

Using one of the largest samples, Al Hawaj & Buallay (2022) examined the impact of sustainability reporting on firms' performance based on seven industry sectors. As a distinctive strength, the duo's final sample yielded 23,738 observations for 3,000 firms located in 80 different countries over a ten-year duration of 2008 to 2017. Between the sectors used, Al Hawaj & Buallay (2022) detected variations in the impact of sustainability reporting (ESG) on a firm's three performance measures: operational (ROA), financial (ROE) and market (TQ). Firstly, ESG and ROA was positively significant in sectors for energy, manufacturing, retail and tourism. Secondly, ESG and ROA varied inversely and statistically significant with ESG reporting in the banks and financial services. Thirdly, a positive relationship between ESG and

ROE was revealed in retail and manufacturing. Fourthly, market performance was detected to vary directly with ESG reporting. This occurred in manufacturing, banks and financial services, retail, telecommunication and information technology, and tourism, representing five out of seven sectors. However, an inverse relationship manifested in banks & financial services, and telecommunication & information technology sectors.

Al Hawaj & Buallay (2022) added new light to literature on the economic implications of ESG reporting, by incorporating macroeconomic variables. Firstly, the GDP varied positively with the firms' ESG. Secondly, the duo established that the country's governance standards where a firm is located had a positive and significant relationship with the ESG accounting practice of their firms.

Earlier on and as an extension, Buallay (2020) compared sustainability reporting and its effect on three performance variables (operational, financial and market) between manufacturing and banking sectors. A reasonably large sample of 932 manufacturing firms and 530 banks listed on 80 countries was employed using ten years data from 2008 to 2017; this resulted in 11,705 firm-year observations. Applying a pooled data analysis on the resultant multivariate model, Buallay (2020) found ESG scores positively linked to the operational, financial and market performance in the manufacturing sector. In contrast, a negative link on all the three performance measures in the banking sector was detected. Conducting future studies using firms in different industries would provide more knowledge on the link between sustainability reporting and firm performance.

In her earliest and first published study of Buallay (2019), the relationship between ESG and bank's operational (Return on Assets), financial (Return on Equity) and market performance (Tobin's Q), was evaluated. Though a reasonable ten-year period (2007-2016) of data was used, the sample used only one industry sector: 235 from EU banks ending with 2,350 observations. The inclusion of two control variables uncommon in this area of research: bank specific and macroeconomic, was one strength. Though Buallay (2019) found a significant positive link between ESG and performance, that between ESG and each of the individual varied. Environmental one was positively related with the ROA and TQ. That for social was negatively linked with each of the three: ROA, ROE and TQ. Though the governance was negatively with the ROA and ROE, it was positively with Tobin's Q. Two more findings are

worth noting that pertain to control variables used. On firms' locations, Buallay (2019) demonstrated that the governance disclosure was higher with banks locating in high GDP countries. In contrast, that of social, environmental and ESG scores were higher in banks of low GDP countries. On quality of governance, environmental and governance disclosure were higher in banks located in high governance countries. Nevertheless, that of social was better in banks of low governance countries. Hence this study's intention was to compare Buallay (2019)' s findings with those for firms in G7 countries.

Blasi et al. (2018) examined 988 US firms from nine industries and applied a 12-year panel data set. The scholars found a positive effect between CSR and firms' economic performance. catering Based on accounting-based variables' analysis, Blasi et al. (2018) witnessed less unequivocal results. Revelations of trends that depend both on the specific area of CSR and the sectorial activities conducted were observed.

Velte (2017) evaluated the effect of ESG performance and its individual components on the financial performance. 412 firm-year observations based on German's public listed firms over the duration 2010-2014 were used. Regression and correlation analyses revealed a positive effect between ESG performance and ROA (operational performance). However, no effect on Tobin's Q (market performance) was observed. When individually analysed, the governance component had the strongest effect, compared with that of environmental and social performance. Two notable strengths are assumed. Firstly, unlike many prior studies in this area, Velte (2017) broke down the components and included both accounting- and market-based measures. Secondly, the study was pioneer in using key indices of the German Prime Standard (DAX30, TecDAX, MDAX). These findings would be of interest to comparable with future ones using the German market indices.

4.6.4 Negative relationship

In contrast but consistent with the Shareholders Wealth Maximisation Theory (Friedman, 1970), some studies found a negative relationship. Refer to Table 4.3. . For instance, L. Wang et al. (2014) analysed 69 Australian public firms by regressing market returns on greenhouse emissions (GHE) scores. The scholars controlled for firm size, growth, sales, industry type, capital intensity and financial leverage. A negative effect between GHE and financial

performance was established.

Consequently, negative findings have exonerated firms and their managers that view CSR as an expense reducing profits; such managers have been paying minimal attention or supported less spending on socially responsible actions. Nevertheless, the consensus is for firms to strike a balance and not for absolute abandonment of social responsibility as doing so will affect a firm's legitimacy, also supported by Moser & Martin (2012).

4.6.5 Inconclusive or non-significant relationship or mixed relationship

The third category of studies found an inconclusive, non-significant, or mixed relationship between CSR and financial performance. Refer to Table 4.4. Exceptionally, Trumpp & Guenther (2017) detected a U-shaped relationship "empirical evidence of a non-linear" (p 49) link between corporate environmental performance (CEP) (a proxy of CSR) and financial performance. This is one example of findings uncommon in this area but likely to grow in the future especially if more control and moderating variables are incorporated, as was the case in Trumpp & Guenther (2017)'s study.

In other subcategories, there has been growth in results reporting mixed findings. Examples with non-conclusive findings include those by Buallay (2019) and Velte (2017). Evidently, the effect of including more moderating, mediating or control variables has yielded mixed results. Whist this is difficult to explain, it exemplifies the complexity of any empirical relationship and how the assumed dependent and independent variables are affected by many other variables.

Table 4.2 Summary of empirical findings - Positive relationship

Source: Made by the author

Authors	**Sample size**	**Years**	**Area**	**Data analysis methods**	**Independent variables**	**Dependent variables**
Wulansari et al (2024)	Unclear	3 2012-2014	Indonesia	Content analysis, Multiple linear regression, Correlation, Descriptive verification analysis	CSR	Unclear since article was in non-English
Uyar et al (2023)	4565 firms 10 industries	7 2013-2019	60 countries	Fixed effects regression Bivariate linear correlation	ESG	Cash conversion cycle (CCC) Controls: Board: size & independence, gender diversity, CEO duality, firm size, ROA, leverage control, free float % for ownership structure
Putra et al (2023)	24 Consumer firms	5 2017-2021	Indonesia	Moderating Regression	CSR	Current ratio (CR) Control: ROA
Hakimi et al (2023)	814	10 2008-2017	20 Europe countries	Panel Smooth Transition Regression (PSTR) model	ESG scores from DataStream	ROA Tobin's Q
Vasquez-Ordonez et al (2023)	96 energy firms	1 2020	Europe	Fuzzy-set qualitative comparative analysis (fsQCA)	ESG scores (Eikon)	Tobin's Q Controls: Size, Leverage
J. Zhang & Liu (2023)	81	10 2013-2022	China	Collinearity tests Correlation analysis Multiple linear regression analysis	CSR ratings from Hexun and RKS ranking	ROA Brand value Adjustable: Horizontal social capital Vertical social capital Controls: Firm size, ownership nature, managerial competence, debt-paying ability, market competition, advertising intensity, years of listing, management ownership ratio, and fixed asset ratio
Novitasari & Tarigan (2022)	253	5 2015-2019	Indonesia	Multiple linear regression	Green innovation CSR	ROA Controls: Leverage, tangibility, firm age, firm size, and board size control variables.

Authors	**Sample size**	**Years**	**Area**	**Data analysis methods**	**Independent variables**	**Dependent variables**
Al Hawaj & Buallay (2022)	3000	10 2008-2017	80 countries	Multiple regressions	ESG, E, S and G scores from Bloomberg	ROA, ROE, and Tobin's Q Controls: GDP and Governance Total assets and Financial leverage
Okafor et al (2021)	267	3 2017-2019	US Top tech firms	Content analysis Fixed effects and pooled regression	ESG scores from ISS ratings	NPM, ROA, ROE, Tobin's Q, Revenue growth Control: Firm age
Ahmad et al (2021)	351 From 10 industries	17 2002-2018	UK FTSE350	Static and dynamic panel data analysis	ESG from Asset4 Firm size	Market value, EPS Controls: ▪ Financial leverage ▪ Total revenues, ▪ Capital expenditure as % of sales ▪ Effective tax rate
Buallay et al (2020)	932 manufacturers 530 banks	10 2008-2017	80 countries	Pooled data regression General linear model	ESG, E, S and G scores from Bloomberg	ROA, ROE, and Tobin's Q Controls: GDP and Governance Total assets, Financial leverage and Audit quality
Buallay (2019)	235	10 2007-2016	EU Banks from 11 countries	Linear regression Path analysis	ESG, E, S and G scores from Bloomberg	ROA, ROE, and Tobin's Q Controls: GDP and Governance Total assets and Financial leverage
Blasi et al (2018)	988	12	USA	Correlations Regression on panel data	CSR macro-categories based on KLD index	Stock Market: TSR (annual yield of the stock price Financial Risk: (Standard deviation of returns, calculated as the standard deviation of daily observations over t) Accounting: ROE, ROA, ROI, ROS
Velte (2017)	85 412 firm years	5	Germany	Correlations Regression on panel data	ESG, E, S and G scores from Thomson Reuters	ROA, ROE, and Tobin's Q Controls: R&D intensity, Beta firm risk, Debt, Firm size, Industry type
Gregory et al (2016)	48 industries	?	USA	Regression	KLD score on given indices	Cost of capital = linear function of earnings, book values and net dividends.

Authors	Sample size	Years	Area	Data analysis methods	Independent variables	Dependent variables
Dangelico & Pontrandolfo (2015)	122	4	Italy	Principal component & Exploratory factor analyses, (Varimax method, OLS regression analysis	From survey: Capabilities to Develop Environmental Collaborations and Actions	From survey: increased margins or market share Controllers: Firm size, age, industry type, EMS certificate existence,
Gallego-Álvarez et al (2014)	855	4 2006-2009	MNCs	Linear & Multivariate regression on panel data	Economic crisis Firms registered with Kyoto Protocol	Economic Perf=ROA Environ Perf= number of toxic emissions divided by company revenue. Controller: Sector type, Firm size
Mahoney et al. (2013)	312	1 2006	USA	Logistic regression	KLD scores	Compustat: ROA, Debt to equity ratio, Total assets=Firm size, Industry type
Al-Najjar & Anfimiadou (2012)	201	10 (1999-2008)	UK	Regression analysis	EE, eco-efficiency as dummy	Total debt to total assets ratio, Firm size, R&D intensity, Market price, EPS, Financial leverage, ROA
Mishra and Suar (2010)	150	3	India	Regression analysis	SP disclosure	ROA, Firm size, Ownership type, Annual sales
Ngwakwe (2009)			Nigeria	Multiple regression analysis	Not readily stated	ROTA
Chatterji *et al.* (2008)	588	13 1991-2003	USA	Panel data analysis, Regression analysis	14 KLD enviro scores	ROA, ROS, ROE, Firm size, Industry type
Prado-Lorenzo et al. (2008)	117	1 2004-2005	Spain (Manufacturing)	OLS regression, Multivariate analysis	SP disclosure from CSR reports and ethics codes	Increased productivity; Increased sales, Industry type, Firm size
Montabon *et al.* (2007)	45	1	US, UK & Netherlands	Multiple data analysis, content analysis	Corporate environ reports (as proxy for (EMP)= Enviro Mgt Practices	Sales growth, ROI, product and process innovations
Brine *et al.* (2006)	277	1 2005	Australia	Cross sectional regression analysis and OLS	Availability of a separate sustainability disclosure report	ROA, ROE, ROS; Controls-Firm size and Firm risk
Barnett and Salomon (2006)	67	28 1972-2000	USA	Multivariate OLS regression on Panel data	12 categories of SRI fund	Risk-adjusted SRI monthly fund; Controls – Fund age,

Authors	**Sample size**	**Years**	**Area**	**Data analysis methods**	**Independent variables**	**Dependent variables**
Luo and Bhattacharya (2006)	113	4 2001-2004	USA	Confirmatory factor analysis (CFA), Structural Equation Model	CSR ratings: Customer satisfaction, Product quality, Innovativeness capability	Tobin's *Q*, Stock returns; Controls- R&D intensity, Firm size, Competition intensity, ROA
Goll and Rasheed (2004)	62	10 1975-1984	USA Large manufacturing firms	Moderated regression analysis	Discretionary social responsibility	ROA, ROS, Moderators- Environmental Munificence, Environmental Dynamism Controllers- Firm size
Judge and Douglas (1998)	196	1 1991-1992	USA	Structural equation modelling with the LISREL technique	Self-defined environmental measures	ROA, ROS, Sales growth, Earnings growth, Firm size
Hart and Ahuja (1996)	127	4 1989-1992	USA	Multiple regression	Emissions reduction got from IRRC's 1993 Corporate Environmental Profile.	ROA, ROE, ROS, R&D intensity, Advertising intensity, Capital intensity, Leverage,

Table 4.3 Summary of empirical findings - Negative relationship

Source: Made by the author

Authors	**Sample size**	**Years**	**Area**	**Data analysis methods**	**Independent variables**	**Dependent variables**
Wang et al (2014)	69	1 2010	Australia	Multiple regression, Variance Inflation Factor (VIF) analysis	Emission= log of total company emissions	Tobin's Q; Firm size, Sales, Capital intensity, Growth, Leverage, Risk, Industry,
Keele & DeHart (2011)	257	?	US	Event study in stock price changes,	Cumulative abnormal returns Mean abnormal returns	Unknown
Orens et al (2010)	CE:267 NA:628	1 2002	Continental Europe (Belgium, France, Germany & the Netherlands) North America (Canada & USA)	Coding instrument; multiple & multivariate regression model on panel data;	92 non-financial disclosure scores compared with available from a firm's Web site in HTML	Cost of Finance: (Cost of equity and cost of debt) Controllers: Firm size, Firm growth, Industry type….
Makni et al (2009)	179	2 2004-2005	Canada	"Granger causality" approach; 2-variable OLS regression analysis,	KLD & CSID scores	ROA, ROE, Market return; Controllers: Firm size, Firm risk, and Industry type
Surroca & Tribo (2008)	358	4 2002-2005	22 countries	Linear regression on panel data	4 SiRi ratings for measuring managerial entrenchment	ROA, Tobin's Q, Controllers: financial structure, dividends, size, firms' age, performance, investment, growth opportunities, industry, country, and year
Brammer et al (2006)	451 Plus UK FTSE All Share Index	1 2002	UK	Descriptive statistics, Regression analysis on panel data	CSP scores on community, environment and employee	Share total return indices, Market value of equity, Book value
Brammer & Pavelin (2006)	210	1 1998-2002	UK From FTSE100 plcs	OLS regression analysis	Corporate reputation Social P drawn extracted from EIRIS	ROA, Controllers: Leverage, Risk, Size, R&D intensity, Industry type
Menguc & Ozanne (2005)	140	1	Australia Manufacturing firms	Confirmatory Factor Analysis, LISREL	Entrepreneurship and CSR score from survey	Market performance (i.e., market share in dollar terms) and financial performance

Authors	**Sample size**	**Years**	**Area**	**Data analysis methods**	**Independent variables**	**Dependent variables**
Wagner et al (2002)	63-73	3 1995-1997	Germany, Italy, Netherlands UK	Regression analysis	Environ performance = emissions/types	Econ P= ROE, ROS, ROCE, Controllers: Firm size, Country, Capital intensity, financial leverage,
Cordeiro & Sarkis (1997)	523	1 1993	USA	Multiple regression,	Firm environmental pro-activism (FEP) (as the difference of total waste generated and total releases standardized by dividing by firm sales).	FP: one-year earnings-per-share forecasts, 5-year earnings-per-share growth forecasts Controllers: Firm size, financial leverage,
Hamilton (1995)	436	1	USA	Regression	TRI scores	Abnormal Returns
Jaggi & Freedman (1992)	13 pulp and paper firms	1 1978	USA	Pearson Correlation,	Pollution index related to water only	EP: ROA, Net Income, ROE, Ratios for Cash Flow/Equity, and Cash Flow/Assets FP: ROA, ROE MP: PER, systematic risk

Table 4.4 Summary of empirical findings - Inconclusive, Insignificant or Mixed relationship

Source: Made by the author

Key: R = Results M = Mixed N = Non-significant U = U-shaped I = Inconclusive

Authors	**Sample size**	**Years**	**Area**	**Data analysis methods**	**Independent variables**	**Dependent variables**	**R**
Buallay (2019)	235 banks	10 2007-2016	EU-listed Banks	Descriptive statistics Linear regression	ESG: social, environmental and governance disclosure	ROA, ROE, and Tobin's Q Controllers: Macroecon: GDP, (GOV). Bank-spec: TA and FLEV	M
Velte (2017)	412	5 2010-2014	German plcs (DAX30, TecDAX MDAX)	Descriptive statistics Pearson correlation analysis Variance Inflation Factor (VIF) analysis Multivariate regression analysis	ESG: social, environmental and governance disclosure	ROA, Tobin's Q Controllers: ▪ R&D intensity ▪ Beta (for risk) ▪ Debt ▪ Size ▪ Industry type	M
Trumpp & Guenther (2017)	696	4 2008-2012	Global (USA /UK)	OLS regression analysis on panel data	CEP measures on CO_2, waste,	CFP measures: • TSR (total shareholder return) • ROA Controllers: • R&D intensity • Capital intensity • Leverage • Firm growth • CFROS (cashflow return on sales) • Firm size • Legal origin	U
Lin et al (2015)	500	10 1998-2008	USA	Descriptive statistics Correlation Regression	KLD scores from 8 attributes	Market-based: Tobin's Q, MV, Accounting-based: EPS, ROA, ROE, Mediator: Intellectual capital Moderator: Industry type Controllers: Firm size, Capital intensity, R&D intensity	M

Authors	**Sample size**	**Years**	**Area**	**Data analysis methods**	**Independent variables**	**Dependent variables**	**R**
Fujii et al (2013)	758 (A) 2498 (B)	A: 2006-2008 B: 2001-2008	Japan Manufacturing firms	Regression analysis	EE Environ Efficiency = (Sales/CO_2 emissions)	Economic Perf: ROA, ROS, CT (increase in sales divided by assets) Controllers: • Staff number • R&D intensity • Capital intensity	U
Siregar & Bachtiar (2010)	87	1 2003	Indonesia Plc's	Content analysis of annual reports Multiple regression on panel data	CSR using two measures: corporate social disclosure index (CSDI); corporate social disclosure length (CSDL).	ROE, RET (Stock return)	N
Scholtens (2008)	289	13 1991-2004	USA	OLS and Granger causation	KLD scores	Financial return: market-to-book-ratio, market capitalization Financial Risk: Std dev of returns	N
Seifert et al (2004)	157	1	USA	Structural equation modelling	Corporate philanthropy	Cash flow, Sales; Controllers- Firm size, Industry type,	N
Seifert et al (2003)	130	1	USA	Paired difference t-tests Non-parametric tests	Available resources: (1) Cash flow and (2) cash flow minus capital expenditures.	Accounting returns: ROA, ROE, ROS Stock returns: MBV ratio, value ratio and total return to shareholders (percentage return that includes stock price appreciation and dividends in a year).	N

4.6.6 Review of measures of corporate social responsibility (CSR)

When it comes to measures of CSR, varied and wide approaches have been used. Consequently, this has made it difficult in arriving at a consensus, in findings with varied measures of CSR, as evidenced in the previous sections. First, the operationalisation of measures for corporate social responsibility has been problematic and complicated because no harmonisation exists about CSR as a theoretical concept, also affirmed by Carroll & Shabana (2010).

Most measures of CSR used in past studies have principally used the social or sustainability ratings, quantitative content analysis or survey questionnaires or a mix of these. These are covered herein.

4.6.6.1 Sustainability or social - based indices

Most studies in the CSR-Financial Performance relationship have used sustainability or reputation indices produced by researchers that rate firms based on categories related to CSR. Some past studies used the highly acclaimed Kinder, Lydenberg, Domini (KLD) social ratings data. These are continuously established and verified by KLD researchers using US firms from S&P500 Index in their samples, accumulating over 20 years of data (Mattingly, 2017). Notably, numerous studies used the KLD rating namely: Blasi et al., 2018; Chatterji et al., 2009; Gregory et al., 2016; Lin et al., 2015; Makni et al., 2009; Scholtens, 2008. Others used US based reputable ratings include Fortune 1000 Magazine - Seifert et al. (2004); pollution data from US Environmental Protection Agency (EPA) - Jaggi & Freedman (1992); Toxic Release Index (TRI) - Cordeiro & Sarkis (1997; Hamilton (1995); Dow Jones Sustainability Index - Škare & Golja (2014).

A close examination of the most frequently used KLD indices reveals them as highly objective with enhanced internal consistency. However, the downsides are KLDs are more subjective than objective, besides being established on limited sample sizes, an observation supported by earlier scholars such as Wood (1991). Research outputs based on KLD ratings cannot be generalised to other populations. This is due to their sole base on listed and large US firms excluding some industry sectors. Also, not all the KLD features, or nomenclature are relevant to other firms in non-US regions or continents because such have been built based on the US economy. Each observation in a KLD dataset is binary (Mattingly, 2017). This limits the

matching of any in-between readings of the two scaled points. Furthermore, most US based indices are compiled by private firms. Hence, no guarantee exists on their scientific accuracy. An agenda that may conflict with the expected objectivity may arise, also attested to by Unerman (2000).

Few non-US based ratings exist. They range from rating agencies, surveys or those extracted from relevant national ministries related to the environment or sustainability. A selection of past studies using these include MSCI ratings - Jeong & Park (2016); standalone CSR reports - Mahoney et al. (2013); SiRi ratings - Surroca & Tribó (2008); Ethical Investment Research Service (EIRIS) for UK - Brammer et al. (2006); corporate reputation extracted from "Management Today (2002) UK most admired firms survey" similar to the Fortune Index - Brammer et al. (2006); Index of CFIE-French Corporate Information Centre for France – Ducassy (2013); Respect Index for Poland – Lech (2013).

According CFA Institute (2015), the increasing availability of ESG scores (for environmental, social and governance disclosure) has improved the information and data processing plus mining. Key players such as Bloomberg and S&P Capital IQ have provided more data for research over relationships under study. From 2000s, more non-US samples have been employed, using firms listed on equally reputable bourses from UK and Continental Europe (Buallay, 2019; Velte, 2017).

Consequently, an upsurge of research in the CSR – CFP relationship has occurred with non-US based samples over time. This has broken the tradition that relied on the KLD indices, seen as biased towards USA, seen as universal and standard indices until now.

Given this background, this paper study settled to use measures related to the context of the firms' residence as in the Great Seven (G7) countries, deemed as the strongest economies in the world. The rationale was to strike a balance between rigour and internal consistency, as critical in designing the measures of corporate social responsibility (CSR).

4.6.6.2 Quantitative content analysis (QCA)

According to Cañizares (2022), this method entails the quantification to determine the frequency of targeted elements in a defined setting. The method yields information that is especially valuable for historical studies. Quantitative content analysis (QCA) has been less used in measuring social issues (Riffe et al., 2014). CSR is no exception to the scrutiny by this tool. Riffe et al. (2014) defined QCA as "the systematic assignment of communication content to categories according to rules, and the analysis of relationships involving those categories using statistical methods" (Riffe et al., 2014, pp 3). In general, content analysis begins by a researcher defining and operationalising the constructs or measures and searching information that identifies with these. Consequently, the information is coded in a qualitative format and then converted into interval scales or some quantitative form for statistical scrutiny. Though outside the scope of this study, recently, Cañizares (2022) visualised CSR using content analysis of photographs.

Early studies linked to CSR that employed a coding-based content analysis included the dimensions of Social Involvement Disclosure (SID) scale (Abbott & Monsen, 1979). The scholars constructed 24 CSR indicators categorized in six groups covering environment, equal opportunity, personnel, community involvement, products, and others. Veronica Siregar & Bachtiar (2010) used content analysis to search for determined CSR constructs in annual reports of Indonesia's public listed firms. Others include Montabon et al. (2007) for corporate searching "environment management practices" as proxy for CSR in annual reports of 45 firms from US, UK, and Netherlands. In contrast, Orens et al. (2010) developed 92 non-financial disclosure scores that were used on 267 Continental European and 628 North American firms.

Despite the merits outlined, content analysis in general comes with weaknesses. All the phases in the process are left to researchers with highly subjective approaches. Reporting bias is another, aggravated by CSR reporting which is voluntary. Riffe et al. (2014) and Turker (2009) alluded to the common biased reporting firms indulge in to market themselves positively. However, this could be minimised by a researcher having more knowledge about a firm's CSR actions.

4.6.6.3 Questionnaire surveys

To measure CSR, some studies using populations with firms that had neither ratings nor corporate reports typically employed questionnaire surveys. Further, studies with inadequate content analysis or the inability to conduct one have also turned to surveys. A review of past CSR related studies shows that most using surveys employed data of SMEs with small sample sizes, often located in less developed countries. Recent ones include: Ikram et al. (2020); Jain et al. (2017); Rehman et al. (2022).

This primary data collection method has often targeted senior managers in collecting data usable in measuring the CSR construct. To exemplify, Dangelico & Pontrandolfo (2015) surveyed 122 Italian firms by targeting CEOs and senior managers over a four-year period to develop CSR measures on environmental collaborations and actions because Italy has neither rating agents nor more standardised corporate reports for firms. With similar adverse conditions, Mishra & Suar (2010) used surveys in 150 regions in India to construct a social performance disclosure measure as CSR proxy while Ngwakwe (2009) extracted environmental practices for CSR research in Nigeria. However, there are also few studies from developed economies that used surveys for CSR measures during earlier years: USA - (Goll & Rasheed, 2004) with 62 surveyed firms; Australia - (Menguc & Ozanne, 2005) with 140 firms surveyed.

In summary, less developed economies have found surveys as the best alternative in the absence of rating agents or standardised corporate reports in firms' populations researched on. Despite its merit for researcher's flexibility in developing and collecting data for CSR dimensions, it is difficult to get a high response rate, besides the response bias. More formalised and socially responsible firms are more prone to respond by giving favourable responses that do not reflect their actual behaviour, an observation alluded to by Cadez & Czerny (2016) as two levelled biases: selection and attitude. To compare with majority of studies using global firms, this paper study opted to use well verified ratings from global databases.

4.6.6.4 Dimensionality of CSR measures

Dimensionality of the CSR as a construct continues to vary in this area of research (A. B. Carroll, 2021). When past studies are reviewed, early ones appear to have used more single dimensions for the CSR construct. Examples are environment management, philanthropy, and disclosure. From 2000s, recent ones used more multidimensional measures of CSR. This shift signifies the response to a call for more dimensions of CSR and that doing otherwise will result in the status quo of methodological deficiency of measuring CSR; this is a very complex and multifaceted phenomenon, also confirmed by Carroll & Shabana (2010). The temptation for using a single dimension has been driven by easier data availability and comparison among firms. According to Galant & Cadez (2017), operationalising CSR as single-dimensional yields "a high or low CSR where both, however, are incorrect" (p 685) and in contrast as multidimensional a "mediocre CSR" (p 685).

Given this background and to correct this long-standing methodological quagmire, this paper study used both individual components and the aggregated scores to measure the CSR construct.

In summary, over 50% of past studies employed the same sources of ratings in measuring corporate social responsibility. Despite being highly valid and reliable (Chatterji et al., 2009), the earlier ratings such as KLD have been identified as not objective despite being assembled using rigorous methods by same researchers. Further, Blasi et al. (2018) attributed the inherent limitations caused by handling both private and public data sometimes interpreted subjectively in the face of data collection management ills.

To address the highlighted shortcomings hinging on CSR measures, this paper study used ESG ratings (for environmental, social and governance) collected by Eikon Refinitiv (formerly Thomson Reuters Database) other than the KLD database, the former database being more universal as it holds and accumulates data for other regions and continents, other than the USA. This approach was one response to the calls for future studies to not only use non-US based samples (Buallay, 2019; Velte, 2017), but to also examine the individual components of CSR measures. One strength in the use of ESG scores lies in the ability to have a combined score in ESG and that of separate components for environmental (E), social (S) and governance (G).

4.6.7 Review of variables used to measure financial and/or market performance

When it comes to variables used in measuring financial and/or market performance, a variety exists. Not only has this made comparability between studies difficult, but also stifled progress in this area of research. This has grown to be more complex and un-coordinated. Variations arise not only on number of dependent variables, but also whether financial or market-based ones are included. Further, the moderating, mediating and or controlling variables in past studies vary widely too.

To demonstrate variation in performance measurements used, Al Hawaj & Buallay (2022), Buallay (2022), Buallay (2019), Blasi et al. (2018) and Velte (2017) used multiple financial and market measures: return on assets (ROA), return on equity (ROE), return on sales (ROS), return on investments (ROI), and annual yield of the stock price (TSR) or Tobin's Q ratio (TQ). In contrast, some studies used a single financial measure: (Gregory et al., 2016) - cost of capital; (Ngwakwe, 2009) – return in total assets. Consistently, the most common financial variable and market variable used in past studies has been the ROA and the TQ, respectively. One downside of financial measures is that they represent historical events and not futuristic. To overcome this, there has been a shift to market-based ones on later studies (Blasi et al., 2018; Buallay, 2019; Velte, 2017). Nevertheless, the popularity of financial measures despite being historic, lies in their easier availability and universality for both listed and non-listed companies. Market measures are restricted to populations where advanced money and financial markets exist, mostly in developed nations. Please refer to Table 4.2, Table 4.3 and Table 4.4 for the variations of dependable variables used by each study.

The effect of variables that affect the CSR-Performance relationship has been extensively examined, yet not all studies have included them consistently (Carroll & Shabana, 2010). From 2015, a set of studies (Al Hawaj & Buallay, 2022; Buallay, 2019, 2020, 2022; Velte, 2017) have operationalised corporate performance as three-dimensional construct: operational, financial and market. This paper study used similar variables of recent listed studies herein. The following were adopted as proxies for measuring performance: operational (return on assets – ROA), financial (return on equity – ROE) and market (Tobin's Q – TQ). Please refer to the study's theoretical model in Table 4.2.

4.6.8 Limitations of past studies and future research agenda

4.6.8.1 Wide variations in moderating and control factors used.

Aguinis & Glavas (2012) observed wide variations in moderating and mediating variables used in 588 journal articles. To enhance research rigour and validity, the duo urged future models to include "mediators and moderators that will enable future research to clarify the various possible roles for key constructs and improve our understanding of underlying processes (i.e., mediating effects) and conditions under which (i.e., moderating effects) CSR leads to specific outcomes" (Aguinis & Glavas, 2012, p 934). Recent metanalytical reviews by Velte (2022) and Busch & Friede (2018) also noted the high variations in this named category of variables within the vast past studies included.

A review of past studies summarised in Table 4.2, Table 4.3 and Table 4.4 shows established and common moderating variables as firm size, research and development intensity, capital intensity and financial leverage or risk. Equally true about the journey of research in this area, early studies hardly used any moderating variables. However, there has been proliferation of their use over time. Because the CSR-CFP relationship is one complex business problem, the exclusion of moderating and mediating variables simplifies the real world. Empiricism is about emulating the real world as much as possible, when observing phenomenon such as relationships. In support, Namazi & Namazi (2016) posited "business models are incomplete and therefore are not able to solve real business obstacles. Lack of inclusion of moderating and mediating effects is one viable reason which indicates why most business models do not function in real practice" (p 540). In addition, Namazi & Namazi (2016) guided on the role of these variables as answering research inquiries hinging on "when" "how" and "why" a particular relationship exists between the independent and dependent" (p 540).

Attesting to this, Andersen & Dejoy (2011) emphasised the need for future research to incorporate variables that affect the relationship. The duo's rationale is that complex methodologies as is the case for current ones call for inclusion of such variables. Consistently, this appears to be the case because for most studies including more moderating and control variables have yielded richer and often more mixed findings as summarised in Table 4.2,

Table 4.3 and Table 4.4. Using the common moderating variables namely firm size, industry type, research and development, intensity and risk, the findings from several recent studies remain mixed (Buallay, 2019; Busch & Friede, 2018; Lin et al., 2015; Velte, 2017, 2022). If these moderating variables were absent, it would have been a more definitive finding and simplistic in a way, defeating the purpose of empirical research. As a complication, earlier studies that omitted such mediating or control variables found a non-significant relationship (Scholtens, 2008; Seifert et al., 2003; Veronica Siregar & Bachtiar, 2010).

The lack of one logical and consistent empirical finding on the CSR and CP relationship is attributed to the omission or differences in other factors that affect the relationship. According to Velte (2022), Busch & Friede (2018), Lin et al. (2015), Andersen & Dejoy (2011), the variances have been justified to match theoretical viewpoints to cater for the complex relationship between CSR and CP. Therefore, the inclusion of appropriate and validated moderating or mediating variables to account for other factors is paramount in this area of research. Doing so is expected to enhance the findings' validity and effect on the relationship under study.

Hence, this paper study employed validated and established moderating variables of firm size, industry type, research and development intensity, and financial leverage, emulating the recent studies (Al Hawaj & Buallay, 2022; Buallay, 2019; Velte, 2017). Please refer to Table 4.2 for this paper study's moderating variables that were adopted for the empirical examination. In addition, two country specific moderating factors were used: the gross domestic product per capita (GDP) and the Governance Type, also employed by a recent study by (Al Hawaj & Buallay, 2022; Buallay, 2019, 2020, 2022). In the last twenty years, firm size is one control variable that has been used (Dangelico & Pontrandolfo, 2015; I. Gallego-Álvarez et al., 2014; Lin et al., 2015; Mahoney et al., 2013; McWilliams & Siegel, 2000; Seifert et al., 2004; Velte, 2017; Wagner et al., 2002; L. Wang et al., 2014).

Firm size was key for this study. Larger firms were expected as better placed and prone to spend more on environmentally friendly technologies when cleaning up any adverse effects caused after business operations. Based on findings from past studies, no consensus exists on how firm size is measured, making this inconsistent, like many other variables in this area of research. Not only does this affect comparability with past studies, but also possible reliability

issues. To exemplify, Dangelico & Pontrandolfo (2015) used the number of employees as measure for firm size. As an advanced modification, Lin et al. (2015) used the number of employees' natural logarithm. In contrast, some scholars (I. Gallego-Álvarez et al., 2014; Mahoney et al., 2013) used total assets value for firm size. Even more modifications, recent studies assumed firm size as the natural logarithm of total assets value (Trumpp & Guenther, 2017; Velte, 2017). The justification for using this was as proxy for economies of scale or scope, and not easy to replicate or imitate. However, this can be challenged because it is possible to arrive at both negative and positive relationships between firm size and performance in general, an observation supported by Roberts & Dowling (2002).

Going by the growing consensus from frequency of usage from past studies, this paper study used the natural logarithm of total assets for firm size. This measure was assumed as more objective.

A close examination of percentage of investment expenditures that exist in multinational or global firms revealed that research and development (R&D) is pivotal. Research and development (R&D) investments are often directed and focused on a firms' efforts to innovate, whilst evolving in response to its competitive market. R&D investments are expected to give impetus for a firm to create, design and enhance its products, services, processes, appropriate technologies, to mention some. Though some industries are expected to spend higher in R&D, the lower spenders are often inclined to increase theirs, as response to sudden changes. A shift in market forces that dictates changing their line of services or products, could be one. Consequently, many past studies included the R&D investments/expenses as a control variable.

Since the magnitude of R&D expenses has a huge bearing when comparing firms in any empirical based research, this chapter paper study included this control variable which has universally become known as the R&D intensity: it is the ratio of R&D expenditures to that of total assets, upheld as early as 2006 (Brammer et al., 2006). Most past studies have found long-term positive influence with increasing R&D intensity for the relationship between CSR and firm performance. Nevertheless, there have been few exceptions (Fujii et al., 2013; Hart & Ahuja, 1996; Iwata & Okada, 2011) – these observed a short-term negative influence as possible too, when increasing R&D intensity. More studies in the last eight years have continued to use the name control variable (Lin et al., 2015; Trumpp & Guenther, 2017; Velte,

2017), endorsing it as a validated measure. Consistent with past empirical inquiries, this paper study included R&D intensity as a control variable to analyse its influence on this relationship under study.

Highly geared firms are associated with higher financing risk due to high debt level. Given this proposition, a negative influence on the relationship under study is more probable. Past studies have included the financial leverage as one measure for control. Though there are slight derivatives in calculations, most studies have posited financial leverage as total debt divided by that of total assets (Al Hawaj & Buallay, 2022; Al-Najjar & Anfimiadou, 2012; Brammer et al., 2006; Buallay, 2019; Cordeiro & Sarkis, 1997; Hart & Ahuja, 1996; Iwata & Okada, 2011; Martínez-Ferrero & Frías-Aceituno, 2015; Novitasari & Tarigan, 2022; Trumpp & Guenther, 2017; Vásquez-Ordóñez et al., 2023; Wagner et al., 2002; L. Wang et al., 2014).

To be consistent with past studies, this paper study also employed financial leverage to control for the influence of financing risk on the relationship under study.

4.6.8.2 Variations in time duration of studies – cross sectional or longitudinal

A review of past relevant studies shows a diverse variation in time durations over which data was collected. A review of past studies shows that about 45% of early studies used a cross-sectional analysis, not a longitudinal one. Please refer Table 4.2, Table 4.3 and Table 4.4 in arriving at this estimate after counting. Though many earlier past studies employed cross-sectional data, there are still occasions in recent studies who have repeated this (L. Wang et al., 2014). Not only does using a shorter duration undermine the validity and reliability of findings, but also reduces the comparability between studies, even when for instance, meta-analytic reviews are executed. Though the rationale advanced for scholars using cross-sectional data is that shorter durations prove causation more effectively between the relationships, doing so leads to major methodological deficiencies in validity.

Notably, most past studies that found a negative, insignificant, or inconclusive relationship used data collected for a cross sectional (single year) duration for samples studied. Examples come from many earlier ones as listed here: Negative (Brammer et al., 2006; Cordeiro & Sarkis, 1997; Hamilton, 1995; Jaggi & Freedman, 1992; W. Lu et al., 2014; Menguc & Ozanne, 2005;

Orens et al., 2010). Insignificant (Seifert et al., 2003, 2004; Veronica Siregar & Bachtiar, 2010).

In rebuttal, recent scholars have identified the use of shorter durations such as cross sectional (one year) as a limitation and demanded for longitudinal data. Collecting data over longer time durations (more than a year) (Cadez & Czerny, 2016; Clemens & Bakstran, 2010) provides more valid findings because the effects of CSR take time to be realised and recorded. To garner more logical research and enhancement of validity, the above-mentioned scholars suggested the use of longitudinal data. Doing so aimed to address the time lag common between causes and effects assumed to be in the range of three to five years for both the dependent and independent variables (Rindfleisch et al., 2008).

According to Blasi et al. (2018), one probable reason for the different findings in CSR – firm performance link lies in the time horizon of the analysis: in the immediate and short term, a negative effect is more likely whilst a longer duration is more to yield a positive effect, also attested by Yang (2016) and Comincioli et al. (2012). Precisely, the two studies' observations are consistent with revelations identifiable in Table 4.2, Table 4.3 and Table 4.4 where most studies with longer durations found more positive relationships than ones with shorter durations.

To improve the empirical rigour and as a response to calls aimed at addressing the duration limitation, studies using ten years and above have increased with time and include (Ahmad et al., 2021; Al Hawaj & Buallay, 2022; Al-Najjar & Anfimiadou, 2012; Blasi et al., 2018; Buallay, 2019; Hakimi et al., 2023; Lin et al., 2015).

To conclude and take a position for enhancing the validity of research findings, this study used a longer duration of panel data covering fourteen years. The aim was to ensure the lagging between causes and effects were covered for the measures in the relationship under study. Also, this long duration aimed to minimise the methodological shortcomings enumerated herein, These were observed from past studies and this study responded to suggestions of correcting this for future research.

4.6.8.3 Regional domination in sample populations of study used.

Refer to the number of studies in this research area summarised in Table 4.2, Table 4.3 and Table 4.4. It is evident that about 48% used United States (US)-based samples of populations comprising principally multinational firms domiciled in the United States (US). This high proportion of studies equitable to almost half of all, exemplifies the bias in findings. Consequently, generalising the findings from such US sample-based studies to other populations has been assumed less valid. Yet, most knowledge acquired in this area has over-relied on the many US-based findings. Only after the 2000s that a proliferation in studies with non-US based sample populations has occurred. This has brought fresher findings and probably more knowledge than accumulated before 2000. The delay in using non-US samples could be attributed to the prevalence of more inadequate data sources for CSR scores/measures than those for performance measures, before 2000. Recent scholars (Al Hawaj & Buallay, 2022; Buallay, 2019, 2020, 2022; Buallay & Hamdan, 2023; Velte, 2017) called for more regional or country comparative studies in this relationship under study. The aim was to generate new findings that justify more valid statistical generalisations to other populations.

A review of the approximately remaining 52% key studies that employed non-US based populations in their samples over the last twenty years covered more regional diversity, with no one region taking over 10-15% at most. These can be summarised as: Europe (Buallay, 2019; Hakimi et al., 2023; Vásquez-Ordóñez et al., 2023); China (J. Zhang & Liu, 2023); Indonesia (Novitasari & Tarigan, 2022); Germany (Velte, 2017, 2019); Italy (Dangelico & Pontrandolfo, 2015; Fiori et al., 2011); UK (Ahmad et al., 2021; Al-Najjar & Anfimiadou, 2012; Brammer et al., 2006; Trumpp & Guenther, 2017) India (Mishra & Suar, 2010); Spain (Prado-Lorenzo et al., 2008); Australia (Brine et al., 2007; Menguc & Ozanne, 2005; L. Wang et al., 2014); Continental Europe & North America (Orens et al., 2010); Canada (Makni et al., 2009); 22 countries (Surroca & Tribó, 2008); Germany, Italy, Netherlands & UK (Wagner et al., 2002); Japan (Fujii et al., 2013); and Indonesia (Veronica Siregar & Bachtiar, 2010).

In conclusion and to generate new lines of enquiries, this study used samples of populations drawn from seven countries known as the Great Seven (G7) namely: Canada, France, Germany, Italy, Japan, United Kingdom (UK), and United States of America (USA). By doing so, it was

anticipated for more credible generalisations to similar populations in the G7 countries. Within the seven countries, there is an implied split in the models of corporate governance so that it was possible to compare and examine trends and performances on selected metrics. The spilt of governance type arises from two competing theories: for Germany, Japan, France and Italy - Stakeholders Model (Freeman, 1984) and in competition for Canada, UK and USA - Shareholders' Wealth Maximisation Model (Freidman, 1970). In support, Harrison et al. (2015) called for comparative studies using samples domiciled in countries whose firms subscribe to stakeholder economies versus those with Anglo-American economies, as earlier specified by Kaler (2006). To the best of the researcher's knowledge, no study has examined the controlling influence of the corporate governance model that a firm is located on the relationship between CSR and firm performance.

4.6.8.4 Use of blanket versus industry-specific samples and industry choice

Though most past studies either employed huge blanket samples of data from same populations, one inherent limitation has been the lack of sectoral or industry categorisation. It was necessary to analyse the differences in strengths of the relationship under study when industry types are considered. In support of addressing this to examine variations in industry categories, Blasi et al. (2018) called for future studies in the CSR and firm performance link to investigate each industry sector so as "to account for and explain the different and somehow unclear pattern of relationships …discovered" (pp 225). Examining the differences or variations was expected to assist add newfound literature to the body of knowledge, but also the views of practitioners from varying industry sectors. Further, Dangelico & Pontrandolfo (2015) suggested future research to explore the different influences that interplayed the market in which a firm belongs to by examining the various environmental strengths and how to vary between firms and between firms and customers. However, the two scholars' suggestion to include customers was outside the scope of this study. Recent studies have responded to the call for more industry type mix. Lately, Ahmad et al. (2021) used 351 firms from ten industries on the FTSE350 UK index. Buallay (2020) used 932 firms from manufacturing and 530 banks, representing wo industries. Al Hawaj & Buallay (2022) used a sample of 3000 firms drawn from seven industries in eighty (80) countries: industries were agriculture & food, energy, manufacturing, banking & financial services, retail, telecommunications & information, and tourism. All the three studies exemplify those using multiple industries.

To build on this and respond to this call, this paper study used 714 firms from the G7 countries, drawn from 11 groups of industries. It was planned to collapse the eleven (11) groups of industries into two: between those aligned with extractive and those not.

Some industries are prone to be under more scrutiny than others over their adherences to activities associated with the environment and society. For instance, extractive industries in oil & gas exploration and processing have often been in news headlines due to perceived past damage to the environment than those in financial services. The scrutiny has been from the public or the green pressure groups. Lately, J. Zhang & Liu (2023) investigated the controlling influence the type of industry has, between firms in extractive and non-extractive types, on the relationship between CSR and firm performance. The duo found differences "between heavily polluting industries and non-heavily polluting industries" (pp 1). Earlier, Story & Neves (2015) had called for future studies to assess the effect of CSR practices in industries more prone to disruptive and harmful practices. The environmental effects of the Deepwater Horizon oil spill in the Gulf of Mexico (Beyer et al., 2016), serve as an example. It cost about 11 lives over an estimated 87-day duration with approximately 3.2 million barrels of oil spilled into the Gulf, marking it the largest oil spill ever reported in US history. As one of the earliest, Fujii et al. (2013) encouraged further research that focuses on comparisons between firms' environmental activities in the service sector with the manufacturing sector. The latter scholars affirmed the clarification of the causal associations by undertaking such a comparative approach.

To examine the differences in controlling influence the industry type has, this study used collapsed the eleven (11) groups of industries into two: between those aligned with extractive and those not. The non-extractive industries comprised: communication services, consumer discretionary, consumer staples, financials, healthcare, information technology, miscellaneous, and real estate. This category is aligned to minimum or none involving extraction of raw materials, minerals or natural resources or the processing that pollute the environment or air due to the waste or effluent from methods used. The non-extractive industries comprised: energy, industrials, materials, and utilities.

4.7 Development of Hypotheses

The aim of this section was to develop a set of hypotheses informed by the most relevant literature critically reviewed. To assess the common findings and locate the overall trends from past studies in this area, a review of meta-analytical studies was undertaken to gauge the current direction and position of the relationships of interest under study.

Operational performance, as one dimension of corporate performance, was operationalised as return of assets (ROA). More numerous previous studies used the ROA as a measure of firm performance and found a positive link between CSR and operational performance, the latter proxied by the ROA (Al Hawaj & Buallay, 2022; Almeyda & Darmansya, 2019; Al-Najjar & Anfimiadou, 2012; Blasi et al., 2018; Brine et al., 2007; Buallay, 2019; Chatterji et al., 2009; I. Gallego-Álvarez et al., 2014; Goll & Rasheed, 2004; Hakimi et al., 2023; Hart & Ahuja, 1996; Luo & Bhattacharya, 2006; Mahoney et al., 2013; Mishra & Suar, 2010; Ngwakwe, 2009; J. Zhang & Liu, 2023). Given this background and to be consistent with the overwhelming evidence heading towards a positive relationship by the latest and most relevant metanalytical review by Busch & Friede (2018), the following was hypothesised:

H1 There is a positive relationship between corporate social responsibility (CSR) and operational performance.

Financial performance was proxied by the return on equity (ROE), as one dimension of corporate performance. Numerous previous studies used the ROE for this measure of firm performance (Al Hawaj & Buallay, 2022; Blasi et al., 2018; Brine et al., 2007; Buallay, 2019, 2020; Chatterji et al., 2009; Hart & Ahuja, 1996; Okafor et al., 2021; Velte, 2017). Given this background and to be consistent with the overwhelming evidence heading towards a positive relationship by the latest and most relevant metanalytical review by Busch & Friede (2018), the following was hypothesised:

H2 There is positive relationship between corporate social responsibility (CSR) and financial performance.

Market performance was operationalised as the Tobin's Q ratio (TQ). In early years, very few previous studies exist that found a positive relationship between TQ, to measure market performance (Luo & Bhattacharya, 2006a). Equally, few studies established a negative relationship between the two constructs stated herein (Surroca & Tribó, 2008; L. Wang et al., 2014). Recently, the majority found inconclusive, insignificant, or mixed relationships between the two constructs (Buallay, 2019; Lin et al., 2015; Velte, 2017). A close examination of this category of studies reveals a possible limitation: the use of homogenous samples drawn from one region, could possibly explain have yielded the inconclusive findings. Given this background and to be consistent with the overwhelming evidence heading towards a positive relationship by the latest and most relevant metanalytical review by Busch & Friede (2018), the following hypothesis was proposed:

H3 There is a positive relationship between corporate social responsibility (CSR) and market performance.

An assessment of current relevant literature shows very few enquiries on the relationship between CSR and liquidity performance, the latter as one dimension of corporate performance. Instead, more studies operationalised liquidity as a control variable , than a dependent variable. Further, the measures for liquidity have varied widely from the cash conversion cycle (CCC) to current ratio, to mention a few (Dat et al., 2022). This complicates the ability to compare findings between past studies pertaining to liquidity. Further, it also affects the validity and reliability of findings. Unlike many variables used in the CSR – performance studies, liquidity appears not to have a validated variable. Hence, the few recent studies have used different variables as proxy for liquidity: KZ index and Altman's Z-score (Chan et al., 2017); and current ratio operationalised as the number of times current liabilities are covered by current assets (Dat et al., 2022). Further, a complication arises if these two past studies' findings are to be compared. The explanation of interpretations is not the same. Chan et al. (2017) used the KZ index and Altman's Z-scores to measure the degree of financial constraint/distress, which seemingly is measured opposite to that used by the current ratio.

Chan et al. (2017) used data for US listed firms on the MSCI ESG STAT database over a 9-year duration of 1992 to 2010, for an estimated 8,000 firm-year observations. Though the scholars found a significant negative link between CSR and the degree of financial constraints

or distress (measured by the KZ index and Altman's Z-scores), one notable limitation was the use of all firms from only the USA, implying that findings cannot be generalised to other populations. Not clear from Chan et al. (2017), if financial constraints are interpreted in terms of the current ratios, the findings can be inferred as a positive link between CSR and liquidity, with the latter assumed as the current ratio.

One other recent study is worth bringing into perspective. Using the current ratio to measure liquidity, Dat et al. (2022) evaluated the link between CSR and financial performance, with liquidity as one dimension of the former. Employing a sample based on banks in ASEAN countries over a 6-year period of data extracted from financial statements, the scholars established a significant positive relationship between CSR and liquidity amongst many other findings.

To add knowledge or new insights to this under-researched measure of firm performance, this study operationalised liquidity performance as proxied by the current ratio (CR); the latter was calculated as the ratio of current assets to current liabilities (Atrill et al., 2015).

Given this background from the few key findings relating to the effect of CSR on liquidity (Dat et al., 2022), or financial distress (Chan et al., 2017), and to be consistent with the overwhelming evidence heading towards a positive relationship by the latest and most relevant metanalytical review by Busch & Friede (2018), the following was hypothesised:

H4 There is a positive relationship between corporate social responsibility (CSR) and liquidity performance.

Between the time this paper study's data was collected in 2021 and now, as an update, more studies have emerged that reviewed the link between CSR and liquidity (Putra et al., 2023; Uyar et al., 2023; Wulansari & Dasuki, 2024). To update literature, all three were also added to Table 4.2. Each study is critically summarised next.

As latest, the study by Wulansari & Dasuki (2024) appears to have more weaknesses than strengths. Since the study was authored in a non-English language, the sample size used (assumed from Indonesia), and the operationalisation of CSR are unknown. All the scanty

details were from the abstract written in English. Deviating from most past studies, the duo used CSR as independent variables against the dependent financial performance. Hence the findings were not aligned to the relationship under study. Besides collecting data using a survey, data covered a short duration of three years. Content analysis with linear regression was used. With these differences in research design compared to most studies, findings by Wulansari & Dasuki (2024) were less comparable with past studies in this area.

Lately, Uyar et al. (2023) explored the two-way causality between liquidity and CSR. The scholars proxied liquid as the cash conversion cycle (CCC), whilst using both the combined and individual components of CSR. Using 4,565 firms in ten industries from sixty countries, the sample compares large with other past ones. Regressing on seven-year panel data between 2013 and 2019, findings were multiple. Firstly, firms with higher liquidity levels were found to make higher CSR investments. Secondly, higher liquid firms discriminated between the components of environmental and social. Thirdly, a bidirectional relationship between CSR and liquidity was found. One weakness of the study was the use of a limited duration, an observation the scholars admitted, too.

Lately again, Putra et al. (2023) examined the relationship between the role of the board of commissioners of liquidity and CSR. Using twenty-four (24) consumer firms in Indonesia, a positive link between liquidity and CSR was detected. The small sample size and a data duration of five years (2017-2021) could be seen as weaknesses.

4.7.1 Variations in CSR performance between firms in two subgroups of corporate governance models

The influence of the type of corporate governance model of a firm's domicile remains scanty and less documented. Investigating the differences in the strengths or degree of relationship between corporate social responsibility and firm performance is of interest to firms split in countries that practise two universal models of corporate governance: the shareholder model versus the stakeholder model.

To exemplify this, Harrison et al. (2015) called for comparative studies using samples domiciled in countries whose firms subscribe to stakeholder model of corporate governance

economies versus those with Anglo-American economies, the latter alternatively often known as shareholder model. Recent studies in last six years included moderating effects of economy and governance style or model (Al Hawaj & Buallay, 2022; Buallay, 2019, 2020; Velte, 2017). However, the term "governance" had a different meaning from "type of corporate governance". Governance as a variable was collected as the individual governance score, an index from ESG scores.

This paper study planned to split firms in the two subgroups based mentioned on the two types of corporate governance mentioned above. It was posited that each of the components of CSR namely: Environmental, Social and Governance, are higher for firms located in countries with a stakeholder model of corporate governance than those located in a shareholder model of governance-based countries. The rationale was that stakeholder model-oriented countries are deemed possessing more inclusive practices in all the three CSR components by governments' more control and involvement in running of firms, for the benefit of wider society and populations. The opposite was assumed for the shareholder model-oriented countries. However, hardly any past studies have investigated the differences in CSR performance and practices between firms based in countries with the shareholder model and those in stakeholder

The stakeholder model of corporate governance appears to have emerged as the more universally acceptable for a 21st century corporation as it includes and addresses more interested parties and groups than its competing shareholder model (Freeman, 2016; Freeman & Dmytriyev, 2020; Harrison et al., 2015). In contrast, the shareholder model is seen as exclusively focused on interests of one dominant group: investors who provide capital for firms and require a good and market reflective return on their capital invested. With so much public scrutiny and general opinion in free markets where customers play a bigger voice, support for the stakeholder model has been growing. Proponents of the stakeholder model are those schooled from the Stakeholder Theory (Freeman, 1984) and posit that engulfing all key stakeholders of a firm leads to not only sustained competitive advantage, but also increased firm wealth in the long term.

With the above observation, it was posited that firms located in countries with a stakeholder model of corporate governance perform better in all the separate components of CSR (namely environmental, social, governance) than those in countries with a shareholder model. With this

proposition and to compare findings from the recent studies and as a response to Harrison et al. (2015)'s call, this study hypothesised the following three relating to each component of CSR:

H5 Firms located in countries subscribing to the stakeholders' model of governance exhibit a higher Environmental component (E) performance than those in countries with a shareholders' model of governance.

H6 Firms located in countries subscribing to the stakeholders' model of governance exhibit a higher Social component (S) performance than those in countries with a shareholders' model of governance.

H7 Firms located in countries subscribing to the stakeholders' model of governance exhibit a higher Governance component (G) performance than those in countries with a shareholders' model of governance.

4.7.2 Variations in CSR performance between firms in selected industry types

The industry type of a given firm is expected to influence the strengths of relationships between the components of CSR (environmental, social and governance) and firm performance. Some past studies found firms in more environmentally sensitive industries or those deemed as high polluters as being more prone to more scrutiny than others, on their adherences to environmental and social activities.

From public opinion and common sense, such industries are under more pressure from environmental or green groups, shareholders, regulators, and the public and often urged to improve theirs CSR activities, to keep environments health and safe from the waste exuded during extractive and harmful processes. It is no surprise that Story & Neves (2015) called for future studies to assess the effect of CSR practices in industries more prone to disruptive and harmful practices, such as the one in oil & gas exploration. A review of literature shows limited and scanty research on this area pertaining to the influence of industry type on the relationship under study. Similar but from a slightly different angle, J. Zhang & Liu (2023) and Fujii et al. (2013) encouraged further studies to compare disparities between firms' environmental

activities in the service sector with the manufacturing sector. The scholars affirmed the clarification of the causal associations by undertaking such a comparative approach. Given this background, this chapter paper study hypothesised the following:

H8 Firms in extractive industries exhibit a higher combined ESG performance than those in non-extractive industries.

Though research on the influence specifically pertaining to the Environmental component of CSR remains scanty, there have been few recent ones in the last five years. Employing 111 multinational oil and gas firms, Brahmana & Kontesa (2021) found that a reduction in environment performance or investments yields a reduction in financial performance. With this observation, the duo inferred a positive link between oil & gas firms' environmental and financial performance. Based on three-year duration of panel sample comprising 365 listed firms drawn from the BRICS countries (Brazil, Russia, India, China, and South Africa), Garcia et al. (2017)'s findings were for heightened environmental performance related with enhanced financial performance in sensitive industries. For this three-chapter paper study, Brahmana & Kontesa (2021) has less use in term of comparability as only one industry was used in sample: oil and industry. Second, the measurements for CSR were derived using the researchers' own formulae, hence not the validated scores such as those downloadable from the key databases, e.g., Refinitiv Eikon (former Thomson Reuters) or S&P Capital IQ. In conclusion, these observed limitations make comparisons with other studies less valid, if not invalid.

The study by Feng et al. (2017) brings more strength to the examination of the influence of industry type on the relationship under study. Though the scholars used 1877 firms transcending into 17,083 firm-year observations over a 20-year duration, one notable shortcoming was all firms were US based, again limiting generalisations to other populations. On a positive note, Feng et al. (2017)'s sample covered ten industry sectors. The relationship between CSR and firm performance widely varied across specific industries. To exemplify, the scholars established a significant positive link between Environmental performance (as an individual component of CSR) and firm performance in six industries considered sensitive: energy, materials, industrials, consumer discretionary, consumer staples and utilities. In contrast, insignificant or negative ones existed in less environmentally sensitive industries, healthcare, and telecommunications, serving as examples.

With this background and findings from the recent relevant studies (Brahmana & Kontesa, 2021; J. Zhang & Liu, 2023) and to be consistent with the metanalytic findings Busch & Friede (2018), it was posited for a stronger positive link between the environmental component of CSR and firm performance, compared to that with the other two remaining social and governance components of CSR with firm performance. Hence, this study proposed the following hypothesis:

H9 Firms in extractive industries exhibit a higher Environmental component (E) performance than those in non-extractive industries.

Summary

This ended subchapter and its sections covered the background to this study and the research problem, as informed by the critical review of the relevant literature. A summary of the relevant theories was provided; the details on theories could be looked up in Chapter 1. The literature review uncovered important gaps, including inconsistencies in theoretical and measurement approaches. The shortcomings emanating from the relevant previous studies were identified, together with any inherent methodological deficiencies. All these helped as inputs in the development of the study's objectives, and the set of hypotheses to be tested.

The next subchapter 4.8 focuses on the research design and methodology, whose insights are informed by the critical literature review conducted. The theoretical model is devised, and the variables are identified and operationalised. A set of regression models are developed.

4.8 Research Design and Methodology

4.8.1 Theoretical Model of Study

The research design was grounded in the positivistic paradigm. Hence this study employed the methodology of a quantitative and deductive research approach (Hatch, 2013). Consequently, to test the set of research hypotheses, data was collected on the main and well-validated measurements in this area. The focus was to examine the relationship between a firm's CSR and its corporate performance; the latter was posited as a four-dimensional construct comprising operational, financial, market and liquidity measures.

Based on the Theoretical Model in Figure 4.1, the planned study hypothesised the propositions linked to this model, as informed by the relevant literature.

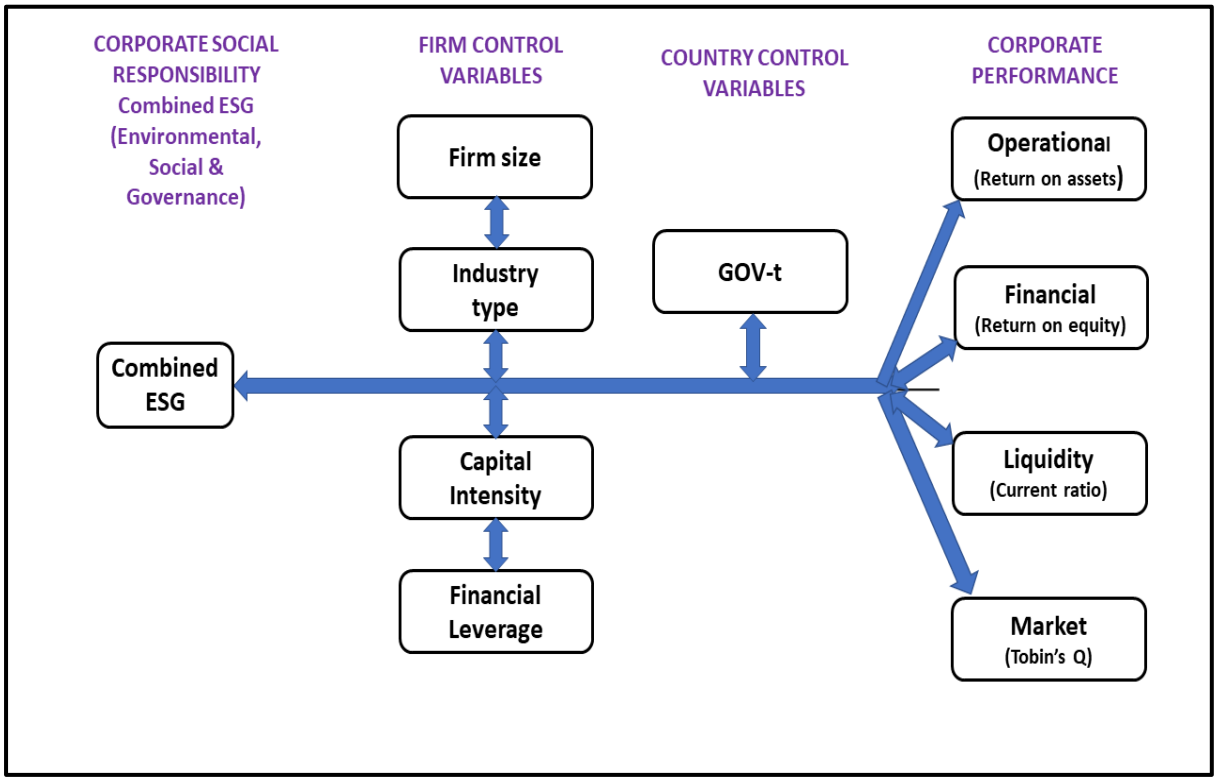

Figure 4.1 The Study's Theoretical Model

Source: Made by the author

The variables that were operationalised are covered hereafter:

Dependent:

Corporate Performance is the multidimensional construct of operational, financial, liquidity and market with the respective variables:

a) Operational performance – Return on assets (ROA)
b) Financial performance – Return on equity (ROE)
c) Liquidity performance – Current ratio (CR)
d) Market performance – Tobin's Q (TQ)

Independent:

Corporate social responsibility is the multidimensional construct made up of scores:
Combined ESG as whole (in Environmental, Social & Governance)

Controls:

Control variables split between firm-specific and country-specific:

a) Firm size (SIZE) - firm-specific
b) Industry type (IND) – firm specific
c) Capital intensity (CI) - firm-specific
d) Financial leverage (FL) - firm-specific
e) Governance type – country-specific

4.8.2 Estimation of general set of regression models

To estimate the set of hypotheses, this study relied on panel data regression. The four regression equations for the model under study are as displayed under Equation 4.1. The equations were used to test the set of hypotheses *H1 to H4*.

$$ROA = \alpha + \beta_1.ESG + \beta_2.CI + \beta_3.SIZE + \beta_4.IND + \beta_5.FL + \beta_6.GOV_t \quad (1)$$

$$ROE = \alpha + \beta_1.ESG + \beta_2.CI + \beta_3.SIZE + \beta_4.IND + \beta_5.FL + \beta_6.GOV_t \quad (2)$$

$$TbQ = \alpha + \beta_1.ESG + \beta_2.CI + \beta_3.SIZE + \beta_4.IND + \beta_5.FL + \beta_6.GOV_t \quad (3)$$

$$CR = \alpha + \beta_1.ESG + \beta_2.CI + \beta_3.SIZE + \beta_4.IND + \beta_5.FL + \beta_6.GOV_t \quad (4)$$

Equation 4.1 - Set of regression models

Source: Made by the author

Where:

ROA = Return on assets

ROE = Return on equity

CR = Current ratio

TbQ = Tobin's Q

ESG = Environmental, social and governance score (combined)

CI = Capital intensity

SIZE = Firm size

IND = Industry type or sector

FL = Financial leverage

GOV_t = Governance model a country is more aligned to (stakeholders' vs shareholders' theory)

$\alpha, \beta_1\ \beta_2\ \beta_3 \ldots\ldots\ldots\ldots \beta_n \ldots$ are constants and coefficients, respectively.

The remaining hypotheses *H5 to H9* were tested using the t-test comparison of means between reconstituted subgroups from the master panel data set.

4.8.3 The measurement of study variables

***Independent variables*:**

Data to measure corporate social responsibility (CSR) were extracted from Eikon Refinitiv (former Thomson Reuters) DataStream database. Data included the validated measure of CSR as the independent variable. CSR was operationalised as the combined score of Environmental, Social, Governance (combined ESG), and the individual components: Environmental (E), Social (S) and Governance (G).

According to Velte (2017), the combined score ESG "can be classified as an aggregated value of CSR performance in many environmental, social, and governmental items, e.g., employment quality, health and safety, training and development, human rights, community. Each item is divided into a set of key performance indicators (KPIs), for example, work-life balance or training hours. The overall ESG score implies an equal weighting of all relevant data points, z-scoring and comparing them with the data points of all other companies to obtain a relative

measure of performance expressed as a percentage ranging from 0 to 100 per cent (a z-score is a relative measure indicating the value in numbers of standard deviation of a given observation from the mean value of all other observations)" (pp 172).

***Dependent variables*:**

Dependent variables adopted were Return on Assets (ROA) to measure operational performance, Return on Equity (ROE) to measure financial performance, Current Ratio (CR) to measure liquidity performance and Tobin's Q (TbQ) to measure market performance. Using Eikon Refinitiv DataStream, ROA and ROE were extracted directly. To calculate the Tobin's Q ratio, the total market value and total assets value were extracted from Eikon Refinitiv and divided by each other respectively. Please refer to researcher's theoretical model in Figure 4.1. The use of the four mentioned measures of performance was expected to improve the validity and robustness of findings, a deficiency identified in some past studies that used either one or two.

Control variables:

To be consistent with most relevant past studies and meta-analytical reviews (Busch & Friede, 2018; Velte, 2017, 2022), validated control variables were used. These were categorised into two: firm- or country-specific. Firm-specific control variables included *firm size, industry type, R&D intensity, and financial leverage*.

Firm size determined by first extracting the annual total assets for each firm from Eikon Refinitiv and calculating their natural logarithms. It was expected that the bigger the size of a firm, the more the economies of scale not easily duplicable by competitors, also supported by Roberts & Dowling (2002).

Industry type was defined by Eikon Refinitiv's classifications of thirty nine (39) types namely: Aerospace & Defense, Alternative Energy, Automobiles & Parts, Banks, Beverages, Chemicals, Construction & Materials, Electricity, Electronic & Electrical Equipment, Equity Investment Instruments, Financial Services, Fixed Line Telecommunications, Food Producers, Food & Drug Retailers, Forestry & Paper, Gas Water

& Multi-utilities, General Industrials, General Retailers, Health Care Equipment & Services, Household Good & Home Construction, Industrial Engineering, Industrial Metals & Mining, Industrial Transportation, Leisure Goods, Life Insurance, Media, Mining, Non-Life Insurance, Oil & Gas Producers, Oil Equipment & Services, Personal Goods, Pharmaceuticals & Biotechnology, Real Estate Investment & Services, Real Estate Investment Trusts, Software & Computer Services, Support Services, Technology Hardware & Equipment, Tobacco, Travel & Leisure.

Informed by the applicable past studies that investigated the varying influence of industry type on the relationship under study (Dat et al., 2022; Fujii et al., 2013; Story & Neves, 2015), this study focused on reclassifying the 39 into two subgroups of extractive and non-extractive types.

Capital intensity was calculated by dividing values of total assets by operating sales or revenues. Though some past studies using this method, (Hart & Ahuja, 1996; Lin et al., 2015; Wagner et al., 2002), no consistency exists on how this variable is measured. As a slight deviation, Trumpp & Guenther (2017) used "capital expenditures divided by beginning-of-the-year" (pp 57). One other departure was Fujii et al. (2013) who derived it as the total assets to employees' ratio.

Financial leverage was found by dividing the total debt by the total assets value, consistent with most past studies (Ahmad et al., 2021; Al Hawaj & Buallay, 2022; Al-Najjar & Anfimiadou, 2012; Brammer et al., 2006; Buallay, 2019b, 2020, 2022; Cordeiro & Sarkis, 1997; Hart & Ahuja, 1996; Trumpp & Guenther, 2017; Wagner et al., 2002; L. Wang et al., 2014). Both values required for its calculation were extracted from Eikon Refinitiv. Though various justifications exist for the financial leverage's effect on CSR-Performance relationship, key ones are that firms are inclined disclose more ESG data as leverage worsens. This often happens when faced with scrutiny from indebted loan stock firm. This may increase debt profiles, a notion supported by Lanis & Richardson (2013).

4.9 Relevance of panel data methodologies to this study

Panel data methodologies are predominantly relevant to studies examining the relationship between Corporate Social Responsibility (CSR) and Corporate Financial Performance (CFP). The ability for the methodologies to address several key challenges inherent in such research, is covered hereafter.

4.9.1 *Control for Unobserved Heterogeneity*

According to Karim et al. (2020), one primary challenge in studying CSR and its link to another, such as CFP, is the presence of unobserved factors. The latter can impact both a firm's CSR activities and its financial performance. For instance, firm culture, management quality, and long-term strategic goals are difficult to observe directly but likely affect both CSR and CFP. Panel data methods, particularly fixed effects models, allow researchers to control for these time-invariant unobserved characteristics, thereby isolating the impact of CSR on CFP (Schunck, 2013; Wooldrigde, 2010). For instance, a study might use a fixed effects model to control for firm-specific factors like industry type or geographic location. Though these are time invariant, they could influence both CSR activities and financial outcomes (Schreck, 2011).

4.9.2 *Dynamic Relationships and Causality*

The link between CSR and CFP is often dynamic, with potential feedback loops, sometimes bidirectional, where CSR activities affect CFP and vice versa. Dynamic panel data models, such as those using the Generalized Method of Moments (GMM), are well-suited to capture such relationships by accounting for the endogeneity of lagged dependent variables (Arellano & Bond, 1991). In the relationship under review, researchers may use dynamic panel models to explore how past financial performance affects current CSR investments. This can be done concurrently with examining how the CSR activities subsequently affect future financial performance, a notion supported by: Crisóstomo et al., 2011; Shahzad et al., 2016; Surroca et al., 2010; Q. Wang et al., 2016).

4.9.3 *Longitudinal Analysis*

Panel data allow researchers to investigate changes over time, making it feasible to study the long-term effects of CSR on financial performance. Importantly, the effect of CSR on CFP may not be instant but could materialize over several years (Orlitzky et al., 2003; Velte, 2023; Velte & Stawinoga, 2017). In this study, a longitudinal panel data-based study aimed to track 714 firms' CSR activities and financial performance over a fourteen-year duration. Numerous past studies have revealed that sustained CSR efforts lead to improved financial outcomes in the long run (Buallay, 2019; Hakimi et al., 2023; I. Khan et al., 2023; Okafor et al., 2021).

4.9.4 *Handling Cross-Sectional Dependence*

Firms often operate within interconnected environments where external factors, such as economic conditions or industry trends, affect both CSR activities and financial performance across multiple firms. Advanced panel data techniques, such as the Common Correlated Effects (CCE) estimator, help control for cross-sectional dependence, ensuring more accurate estimates of the CSR-CFP relationship (Bai & Li, 2021; Pesaran, 2006; Pesaran et al., 1999). For the study assessing the link between CSR and the economic growth of a firm's G7 country of residence, using panel data methods that account for cross-sectional dependence can help distinguish the effects of global economic trends from firm-specific CSR initiatives on financial performance.

4.10 Methods' appeal to research on the link between CSR and CFP

4.10.1 Addressing Endogeneity

The CSR-CFP link is often prone to endogeneity issues. It is difficult to establish whether CSR leads to better financial performance or if more profitable firms are simply more likely to engage in CSR. Panel data methodologies, especially those employing instrumental variables or dynamic panel models, offer tools to ease these endogeneity concerns, leading to more credible causal inference (Wintoki et al., 2012). To exemplify this, using lagged variables as instruments in a GMM framework can enable researchers better isolate the effect of CSR on financial performance, accounting for the potential reverse causality.

4.10.2 Capturing Firm-Level Heterogeneity

Firms differ significantly in their approach to CSR and in their financial performance due to a variety of factors like firm size, industry type, and market position and location. Panel data methods, especially those employing fixed effects, are beneficial for controlling for firm-specific differences, which might otherwise mix up the analysis (Baltagi, 2005, 2021). For example, a fixed effects model could control for the size and market share of firms. Doing so would ensure that the estimated relationship between CSR and CFP is not driven by such underlying factors.

4.10.3 Robustness to Temporal Changes

The CSR model and the factors affecting financial performance can change over time due to regulatory shifts, economic cycles, or changes in consumer preferences. Panel data methods empower researchers to study these temporal changes and their impact on the CSR-CFP relationship (Schreck, 2011). The study on the link between CSR and CFP of this study planned to analyse data over fourteen years. Future research may go further by assessing changes in CSR investments during the 2006-2008 Great Recession from the post era of prosperity between 2010-2019.

4.10.4 Ability to Model Nonlinearities

Evidence of the relationship between CSR and CFP not necessarily linear exists. The returns on CSR investments might reveal diminishing returns beyond a certain point. Panel data methods provide the flexibility to model such nonlinear relationships, offering a more nuanced understanding of how CSR affects financial performance (Schunck, 2013; Wooldrigde, 2010). A study could use a quadratic term in a panel regression model to capture the diminishing marginal returns of CSR on financial performance.

Summary

This ended subchapter and its sections focused on the research design and methodology used for this study. The design yielded the theoretical model depicted in Figure 4.1. Chapter 2 of this dissertation provides the details on Data Sources and Collection Process used for the target population of study. The identification of the locations, sources, and how the sample was drawn are provided therein as well. Further, Chapter 2 identified the sampling strategy and procedures employed. So is the discussion of the reliability and validity of the study's data sample.

Further, the design was matched to meet quantitative methods and most variables used were well-validated measures in this area of research. The latter were explained, and their selection justified based on the research literature from previous studies on CSR - financial or corporate performance, besides being aligned to the research objectives of this study. Consequently, a set of four regression models, based on the set of hypotheses devised from the previous subchapter was developed.

The panel data methodologies were highly necessary and attractive to research on the relationship between CSR and CFP due to their ability to control for unobserved heterogeneity, address dynamic and endogenous relationships, and analyse changes over time. These methodologies enhance the robustness and credibility of findings, making them indispensable tools in the study of CSR's impact on financial performance.

The next subchapter covers the Data Analysis, Results, and Interpretations for this paper study.

4.11 Data Analysis, Results, and Interpretations

This sub-chapter presents the outputs of data analysed and its interpretations. It encompasses the descriptive statistics, regression diagnostics and model specification tests. Regression analyses and tests for comparison of means are run and results interpreted. The results and interpretations provide the foundation of the sub-chapter of Findings and Discussion, that comes after this.

4.11.1 Descriptive Statistics

Figure 4.2 reveals the 10 variables and software characteristics for each, used in the four regression models specified in Equation 4.1 under the previous sections of this study.

Variable name	**Storage type**	**Variable label**
CombinedESGSc~e	double	Combined ESG-Score
ROA	double	Return on Assets
ROE	double	Return on Equity
CR	double	Current Ratio
TobinsQ	double	Tobin's Q
Firmsize	float	lnTotalAssets
Industry	long	GICS Industry Sector
CI	double	Capital Intensity
FL	double	Financial Leverage
Govtype	byte	Gov-t model of corporate governance

Figure 4.2 Variable names and corresponding labels

Source: Made by the author

With reference to Table 4.5, corporate social responsibility (CSR) of the firms sampled was measured by the combined ESG as the independent variable. This score ranged from 93.650 to 0.360, with a mean of 51.144.

For the dependent variables, the Tobin’s Q was the highest variability depicted by the standard

deviation at 28.287, while the return on assets (ROA) was the most stable at standard deviation of 0.592. However, the maxima for both the return on equity (ROE) and Tobin's Q were suspect outliers, as 315.600 and 2780.655, respectively. The four dependent variables revealed a mean of 0.070 for return on assets (ROA) representing operational performance, 0.193 for return on equity (ROE) as proxy for financial performance, 1.619 for the Tobin's Q (TbQ) as for market performance, and 1.881 for the current ratio for liquidity performance.

Variable	**Obs**	**Mean**	**Std dev**	**Min**	**Max**
Independent variable:					
CombinedESG Score	9,399	51.144	18.523	0.360	93.650
Dependent variables:					
Return on Assets (ROA)	9,788	0.070	0.592	-1.787	57.712
Return on Equity (ROE)	9,714	0.193	4.140	-248.500	315.600
Current Ratio (CR)	8,325	1.881	2.145	0.040	56.980
Tobins' Q	9,745	1.619	28.287	0.005	2780.655
Control variables:					
Firmsize	9,865	17.467	2.711	5.969	26.463
Industry	9,995	5.860	2.834	1.000	12.000
Capital Intensity (CI)	9,734	0.167	3.754	0.000	345.406
Financial Leverage (FL)	9,865	0.236	0.179	0.000	2.560

Table 4.5 Summary statistics of variables used

Source: Made by the author

Refer to Table 4.5 again. In contrast, all the control variables exhibited standard deviations of expected normal levels with capital intensity (CI) revealing the widest disparity at 3.754 and financial leverage (FL) with the lowest at 0.179. Also, firm size calculated as the natural log of a firm's total assets value, ranged from 5.969 to 26.463 with a mean closer to the maximum, the latter. This implies that there were more large firms than the small ones in sample.

4.11.2 Pearson Correlation Analysis and Results

Table 4.6 displays the correlations using Pearson's method for the dependent, independent and the control variables. Out of the four dependent variables, only ROE was positively linked to the independent ESG score (coefficient = 0.011, p = 0.284). However, this was statistically insignificant since p > 0.05. Consistent with similar studies such as by Velte (2017), debt-related control variables, in this case financial leverage (FL) was negatively correlated with ROA (coefficient = -0.027, p = 0.009) and Tobin's Q (coefficient = -0.080, p = 0.000. Both were statistically significant. New to this area of research, this study added the new variable of current ratio (CR) as the measure for liquidity performance. The findings were a negative correlation between CR (coefficient = -0.134. p = 0.000) as statistically significant.

Table 4.6 Pearson correlation coefficients between variables

Source: Made by the author

	Combined ESG	ROA	ROE	CR	TobinsQ	Firmsize	CI	FL
Combined ESG	1.000							
ROA	-0.027* 0.009	1.000						
ROE	0.011 0.284	0.118* 0.000	1.000					
CR	-0.134* 0.000	0.128* 0.000	-0.010 0.370	1.000				
TobinsQ	-0.080* 0.000	0.990* 0.000	0.077* 0.000	0.133* 0.000	1.000			
Firmsize	0.164* 0.000	-0.081* 0.000	-0.014 0.160	-0.089* 0.000	-0.069* 0.000	1.000		
CI	-0.052* 0.000	-0.030* 0.003	-0.002 0.822	0.004 0.739	-0.003 0.756	-0.029* 0.004	1.000	
FL	0.064* 0.000	-0.027* 0.008	0.012 0.250	-0.279* 0.000	-0.025* 0.015	0.030* 0.003	-0.006 0.561	1.000

Figures with the asterik symbol (*) at their end denote results statistically signficant at 95% level of siginficance (p<0.05). Implicitly, there is a 95% probability that the results found in the study are the result of a true relationship/difference between groups being compared.

4.11.3 Regression Diagnostics and Model Specification Tests

i) Unusual and influential data

At start of diagnostics, examining all data for any unusual or substantially differences from other observations was necessary, as the presence of such can affect the regression analysis and results. Identification of outliers, leverages and influencers was done by doing scatter diagrams. See Figure 4.3 for resultant scatterplot matrix graph for the independent variable (Combined ESG) against the dependent ones (ROA, ROE, Tobin's Q and CR), using the Stata command: graph matrix Combined ESG Score ROA ROE Tobin's Q CR:

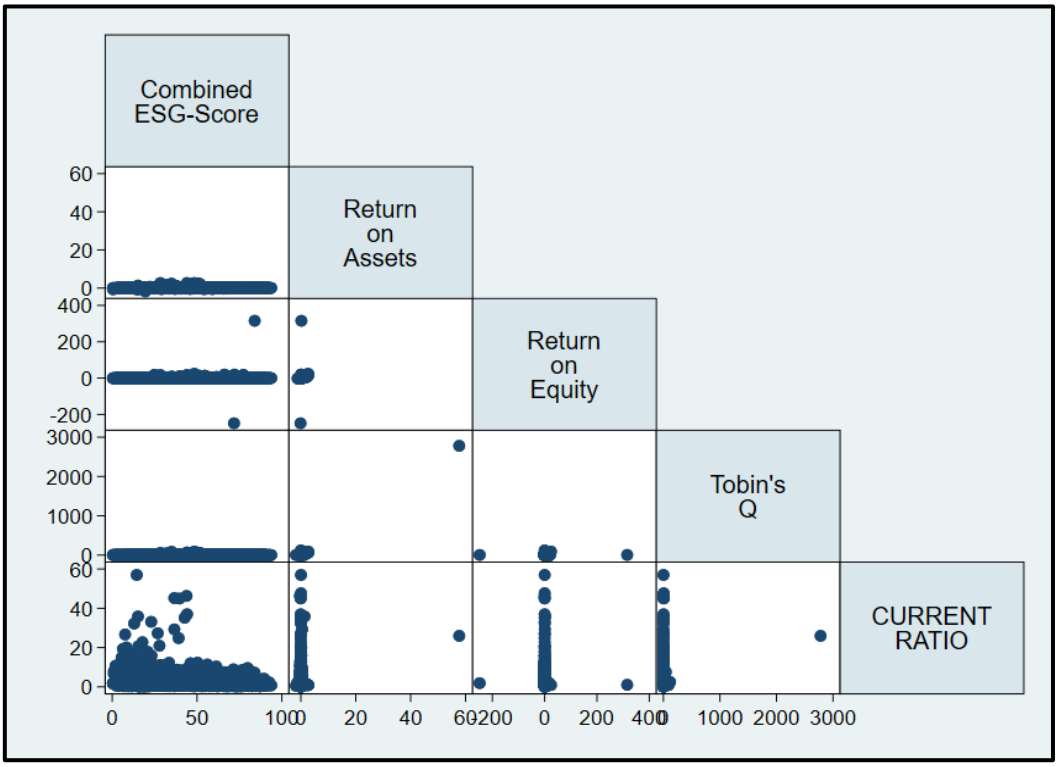

Figure 4.3: Original scatterplot matrix for dependent and independent variables

Source: Made by the author

Figure 4.3 shows most data points that were extremely grouped together vertically or horizontally, and far away from the rest of the data points, meaning multiple outliers. It was possible to have presence of influencers or leverages, implying grave effect on the estimation of regression coefficients, if ran.

To improve the original four estimation regression models shown in Section 4.8.2 of the previous sections, it was vital to transform all the variables to the log form. The resultant graph matrix is shown in Figure 4.4, an improvement in outlook and easier to deduce the trends between.

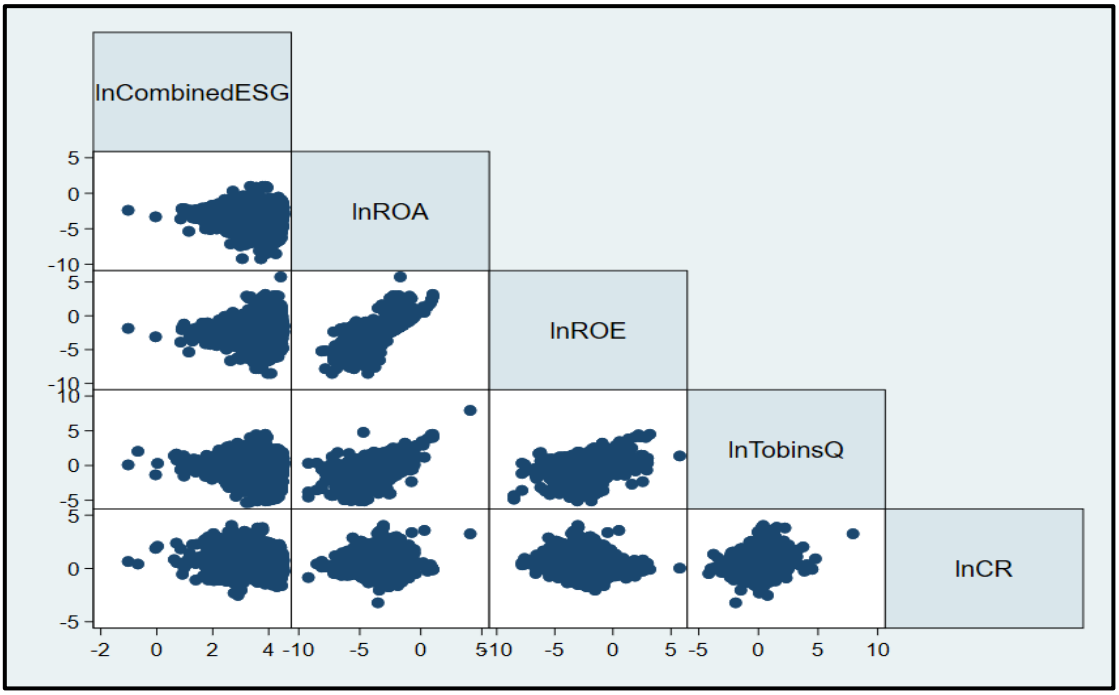

Figure 4.4: Revised scatterplot matrix - dependent and independent variables

Source: Made by the author

The regression estimation models were log transformed as shown in Equation 4.2.

$$\ln ROA = \alpha + \beta_1.\ln ESG + \beta_2.\ln CI + \beta_3.\ln SIZE + \beta_4.IND + \beta_5.\ln FL + \beta_6.GOV_t \quad (1)$$

$$\ln ROE = \alpha + \beta_1.\ln ESG + \beta_2.\ln CI + \beta_3.\ln SIZE + \beta_4.IND + \beta_5.\ln FL + \beta_6.GOV_t \quad (2)$$

$$\ln TbQ = \alpha + \beta_1.\ln ESG + \beta_2.\ln CI + \beta_3.\ln SIZE + \beta_4.IND + \beta_5.\ln FL + \beta_6.GOV_t \quad (3)$$

$$\ln CR = \alpha + \beta_1.\ln ESG + \beta_2.\ln CI + \beta_3.\ln SIZE + \beta_4.IND + \beta_5.\ln FL + \beta_6.GOV_t \quad (4)$$

Equation 4.2 Set of log-transformed regression equations – ESG performance vs Corporate performance

Source: Made by the author

ii) Hausman Test for ascertaining if Fixed Effects (FE) or Random Effect Model was appropriate for estimating each model.

To determine the appropriateness of the model for each of the four regression models in Equation 4.2, the Hausman Test was run individually for each. The results are shown in Table 4.7. Only the ROE regression estimator was recommended as suitable for the Random Effects model. The rest of the remaining dependent variables namely ROA, Tobin's Q and CR regression estimators were each recommended for the Fixed Effects model.

4.11.4 Regression Analysis and Results

Having established the appropriate model for each regression model, Table 4.7 displays the regression results encompassing the four dependent variables of the model depicted under the set of Equation 4.2.

Variables	All Fixed Effect Models									Random Effect Model		
	lnROA			*lnTobinsQ*			*lnCR*			*lnROE*		
	Coeff.	t-stat	Sig.	Coeff.	t-stat	Sig.	Coeff.	t-stat	Sig.	Coeff.	t-stat	Sig.
Independent variable												
lnCombined ESG	0.175	6.340	0.000	0.263	14.810	0.000	0.047	4.030	0.000	0.133	4.790	0.000
Firm-specific control variables												
lnCI	0.054	3.100	0.002	0.041	3.870	0.000	-0.067	-8.920	0.000	-0.045	-2.850	0.004
lnFL	-0.098	-9.500	0.000	-0.085	-12.960	0.000	-0.066	-15.640	0.000	0.002	0.230	0.816
Firm size	-0.222	-10.980	0.000	-0.269	-20.720	0.000	-0.033	-3.830	0.000	-0.106	-10.720	0.000
Other statistical results												
No. of firm-year obs.	7,425			7,996			7,509			7,187		
No. of groups	636			640			601			635		
F ratio or Wald chi2	59.200			171.790			96.540			133.400		
Sig.	0.000			0.000			0.000			0.000		
R^2 overall	0.138			0.158			0.144			0.082		
Hausman test	8.710			32.460			9.660			0.070		
p-value	0.003			0.000			0.002			0.795		

Table 4.7 Regression results for all variables on combined ESG score

Source: Made by the author

4.11.4.1 Operational performance using Return on Assets (ROA)

Refer to Table 4.7. There was a statistically significant positive relationship between ROA representing operational performance and ESG representing CSR (coefficient 0.175 at p = 0.000). This implies that a unit change in operational performance (ROA) results in a positive change of 0.175 in ESG units of CSR. The findings are consistent with Velte (2017)'s findings.

Hence, the hypothesis *H1: There is a positive relationship between corporate social responsibility* (*CSR) and operational performance* is accepted and holds true, based on data from study's sample.

The overall R-squared revealed that the combined ESG score explained only 13.8% of the variability of ROA, as the dependent. Further, the F-ratio = 59.200 at p = 0.000 showed a good fit of the data of this regression model (Brooks, 2019; Kacapyr, 2015). Besides, the relationship with all the control variables were statistically significant. A weak statistically significant positive influence existed between capital intensity (CI) and ROA (coefficient 0.054 at p = 0.002). Furthermore, weak negative influences were observed for the remaining two control variables. Firstly, a weak statistically significant negative influence was found between financial leverage (FL) and ROA (coefficient -0.098 at p = 0.000). Secondly, an even weaker statistically significant negative influence existed between firm size and ROA (coefficient -0.222 at p = 0.000). Out of the three control variables, firm size (t=-10.980) had the strongest but negative influence on ROA. Capital intensity (CI) (t = 3.100) had the weakest but positive influence on ROA.

4.11.4.2 Financial performance using Return on Equity (ROE)

Refer to Table 4.7. There was a statistically significant positive relationship between ROE representing financial performance, and ESG, representing CSR (coefficient 0.133 at p = 0.000). This implies that a unit change in financial performance (ROE) results in a positive change of 0.133 in combined ESG units of CSR.

Hence, the hypothesis *H2: There is a positive relationship between corporate social responsibility* (*CSR) and financial performance* is accepted and holds true, though

insignificant, based on data from the study's sample.

The overall R-squared revealed that the combined ESG score explained only 8.2% of the variability of ROE, as the dependent. Further, the Wald chi2(4) = 133.400 at p = 0.000 signified a good fit of the data of this regression model. The combined ESG score as the independent, predicted the dependent variable ROE statistically significantly. Also, the link with all the control variables were statistically significant except financial leverage (FL) with p = 0.816, greater than p = 0.05. Weak statistically significant negative influences existed between capital intensity (CI) and ROE (coefficient -0.045 at p = 0.004) and between firm size and ROE (coefficient -0.106 at p = 0.000). Weak negative influences were observed for the remaining two control variables. However, a weak statistically insignificant positive influence manifested between financial leverage (FL) and ROE (coefficient 0.002 at p = 0.816). Out of the three control variables, firm size (t = -10.720) had the strongest but negative influence on ROE. Capital intensity (CI) (t = -2.850) had the weakest but negative influence on ROE.

4.11.4.3 Market performance using Tobin's Q

Refer to Table 4.7. There is a statistically significant positive relationship between Tobin's Q representing market performance and ESG representing CSR (coefficient 0.263 at p = 0.000). This implies that a unit change in market performance (Tobin's Q) results in a positive change of 0.263 in ESG units of CSR.

Hence, the hypothesis *H3: There is a positive relationship between corporate social responsibility* (*CSR) and market performance* is accepted as there is a positive one, based on data from the study's sample.

The overall R-squared showed that the combined ESG score explained 15.8% of the variability of Tobin's Q, as the dependent. Further, the F-ratio = 171.790 at p = 0.000 revealed a good fit of the data of this regression model. The combined ESG score predicted the dependent variable, Tobin's Q, statistically significantly. Also, the relationship with all the control variables was statistically significant. A weak statistically significant positive influence existed between capital intensity (CI) and Tobin's Q (coefficient 0.041 at p = 0.000). Weak negative influences were observed for the remaining two control variables. A weak statistically significant negative

influence existed between financial leverage (FL) and Tobin's Q (coefficient -0.085 at p = 0.000). A weak statistically significant negative influence was detected between firm size and Tobin's Q (coefficient -0.269 at p = 0.000). Out of the three control variables, firm size (t = -20.720) had the strongest but negative influence on Tobin's Q. Capital intensity (CI) (t = 3.870) had the weakest but positive influence on Tobin's Q.

4.11.4.4 Liquidity performance using Current Ratio (CR)

Refer to Table 4.7. There was a statistically significant weaker positive relationship between Current Ration (CR) representing liquidity performance, and Combined ESG representing CSR (coefficient 0.047 at p = 0.000). This implies that a unit change in liquidity performance (CR) results in a positive change of 0.047 in Combined ESG units of CSR.

Hence, the hypothesis *H4: There is a positive relationship between corporate social responsibility* (*CSR) and liquidity performance* is accepted as there is a positive one, though very weak by coefficient, based on data from the study's sample.

The overall R-squared showed that the combined ESG score explained 14.4% of the variability of CR, as the dependent. Further, the F-ratio = 96.540 at p = 0.000 revealed a good fit of the data of this regression model. The combined ESG score, as independent, predicted the dependent variable CR, statistically significantly. The relationship with all the control variables exhibited weak negative statistically significant influences. A weak statistically significant negative influence existed between capital intensity (CI) and CR (coefficient -0.067 at p = 0.000), that with financial leverage (FL) (coefficient -0.066 at p = 0.000) and that with firm size (coefficient -0.033 at p = 0.000). Out of the three control variables, financial leverage (FL) (t = -15.640) had the strongest but negative influence on CR. Firm size (t = -3.830) had the weakest negative influence on CR.

To test hypotheses *H5, H6 and H7*, it was necessary to collapse the data of the 714 firms. Equivalent firm-observation years were categorised into two subgroups based on the corporate governance model existent in the firms' country of domicile. The two were for firms located in countries more aligned to the stakeholder model (Germany, Japan, France, and Italy) and those in countries more aligned to the shareholder model (Canada, USA and UK).

Table 4.8 provides a summary of the firm-year observations by country and governance model. USA had the highest observations at 2,478 and Italy the lowest at 210. Such extremes were likely to affect the results' biases of the whole sample. In contrast, the balance between the firm-year observations for firms located between the two groups were almost close: firms in shareholder model aligned countries at 46% of total against that for those in stakeholder model aligned countries at 54%. Hence, any inter-comparisons were assumed less biased.

Summary of number of firms and observation years by country				
Country	**Number of firms**	**Firm-year observations**	**Percent**	**Cum Percent**
Canada	87	1,218	12.18	12.18
France	62	868	8.68	20.87
Germany	100	1,400	14.01	34.87
Italy	15	210	2.1	36.97
Japan	151	2,114	21.15	58.12
UK	122	1,708	17.09	75.21
USA	177	2,478	24.79	100
Total	**714**	**9,996**	**100**	
Summary - Number of firms and obs years by country's governance model				
Country's model of corporate governance	**Number of firms**	**Firm-year observations**	**Percent**	**Cum Percent**
Stakeholder	328	4,592	46.00	46.00
Shareholder	386	5,404	54.00	100
Total	**714**	**9,996**	**100**	

Table 4.8 Firm-year observations by country and model of corporate governance
Source: Made by the author

This study posited corporate performance as a four multidimensional construct comprising operational performance (ROA), financial performance (ROE), market performance (TbQ) and liquidity (CR).

Table 4.9 reveals the comparison of means test results between the two corporate governance model subgroups, with respective to corporate performance. Precisely, the group means for ROA was higher for shareholder subgroup at coefficient 0.090 than 0.047 for stakeholder subgroup. That for ROE was higher for shareholder subgroup at coefficient 0.263 than 0.111 for stakeholder subgroup. Similarly, that for TbQ was higher for shareholder subgroup at coefficient 2.156 than 0.965 for stakeholder subgroup. Last, that for CR was higher for

shareholder subgroup at coefficient 1.938 than 1.817 for stakeholder subgroup. With these four observations and based on the study's sample, firms domiciled in countries aligned to the shareholder model of corporate governance performed better on average in all the four dimensions than those in countries aligned to the stakeholder model.

Country's model of corporate governance (Gov-t)	ROA	ROE	TbQ	CR	Escore	Sscore	Gscore
Total observations:	9,788	9,714	9,745	8,325	9,399	9,399	9,399
Stakeholder:							
Mean:	0.047	0.111	0.965	1.817	57.084	53.769	55.207
Std. err.	0.001	0.004	0.032	0.023	0.432	0.382	0.357
Std. dev.	0.057	0.277	2.091	1.467	27.730	24.488	22.890
Observations:	4,457	4,450	4,398	3,903	4,113	4,113	4,113
Shareholder:							
Mean:	0.090	0.263	2.156	1.938	49.154	56.001	57.905
Std. err.	0.011	0.077	0.522	0.039	0.399	0.304	0.301
Std. dev.	0.801	5.618	38.134	2.599	29.042	22.116	21.861
Observations:	5,331	5,264	5,347	4,422	5,286	5,286	5,286
Mean diff:	-0.042	-0.153	-1.191	-0.121	7.930	-2.232	-2.699

Table 4.9 Comparison of means between the two subgroups

Source: Made by the author

For hypotheses testing related to *H5, H6* and *H7,* the relevant results are shown in Table 4.9.

For H5,

H5 Firms located in countries subscribing to the stakeholders' model of corporate governance exhibit a higher Environmental component (E) performance than those in countries with a shareholders' model of governance.

Hypothesis *H5* is accepted as the mean for Environmental (E) performance identified with firms located in stakeholder model of corporate governance' countries (France, Germany, Japan, and Italy), was higher at coefficient 57.084 compared to those in shareholder model of governance' countries (UK, USA, and Canada) at 49.154.

For H6,

H6 Firms located in countries subscribing to the stakeholders' model of corporate governance exhibit a higher Social component (S) performance than those in countries with a shareholders' model of governance.

Hypothesis *H6* is rejected as the mean for Social (S) performance identified with firms located in stakeholder model of governance' countries (France, Germany, Japan, and Italy), was lower at 53.769 compared to those in shareholder model of corporate governance' countries (UK, USA, and Canada) at 56.001.

For H7,

H7 Firms located in countries subscribing to the stakeholders' model of governance exhibit a higher Governance component (G) performance than those in countries with a shareholders' model of governance.

Hypothesis *H7* is rejected: the mean for Governance (G) performance identified with firms located in stakeholder model of governance' countries (France, Germany, Japan, and Italy), was lower at 55.207. In comparison, for firms in shareholder model of governance' countries (UK, USA, and Canada), this was at 57.905.

To test the hypothesis *H8* and *H9*, it was necessary to collapse the eleven (11) groups of industries into two: between those aligned with extractive and those not. The non-extractive industries comprised: communication services, consumer discretionary, consumer staples, financials, healthcare, information technology, miscellaneous, and real estate. This category is aligned to minimum or none involving extraction of raw materials, minerals or natural resources or the processing that pollute the environment or air due to the waste or effluent from methods used. The non-extractive industries comprised: energy, industrials, materials, and utilities. This category is aligned to maximum or higher involvement with extraction of raw materials, minerals or natural resources or the processing that pollute the environment or air due to the waste or effluent from methods used. Refer to the breakdown of industries pre and post the collapsing exercise in Table 4.10.

Summary of number of firms and observation years by industry sector				
Country	**Number of firms**	**Firm-year observations**	**Percent**	**Cum Percent**
Communication Services	39	546	5.462	5.462
Consumer Discretionary	99	1,386	13.866	19.328
Consumer Staples	29	406	4.062	23.389
Energy	50	700	7.003	30.392
Financials	110	1,539	15.396	45.788
Health Care	57	798	7.983	53.772
Industrials	128	1,792	17.927	71.699
Information Technology	69	966	9.664	81.363
Materials	71	994	9.944	91.307
Miscellaneous	17	239	2.391	93.697
Real Estate	29	406	4.062	97.759
Utilities	16	224	2.241	100.000
Total	714	**9,996**	**100.000**	
Summary of number of firms and observation years by two industry subgroups				
GICS Industry Sector	**Number of firms**	**Firm-year observations**	**Percent**	**Cum Percent**
Extractive industry	449	6,286	63%	63%
Non-Extractive industry	265	3,710	37%	100
Total	**714**	**9,996**	**100**	

Table 4.10 Firm-year observations by industry and two categorised industry subgroups

Source: Made by the author

Table 4.11 reveals the comparison of means test results between the two industry type subgroups, with respect to corporate performance. Precisely, the group means for ROA was higher for the non-extractive subgroup at coefficient 0.071 than 0.069 for the extractive subgroup. That for ROE was higher for the non-extractive subgroup at coefficient 0.211 than 0.163 for the extractive subgroup. Similarly, that of CR was higher for the non-extractive subgroup at coefficient 1.919 than 1.834 for the extractive subgroup. In contrast, the group mean of Tobin's Q was lower for the non-extractive subgroup at coefficient 1.522 than 1.783 the extractive subgroup. With these four observations and based on the study's sample, firms categorised to extractive industries exhibited a lower corporate performance in three dimensions (operational, financial and liquidity) than those in non-extractive industries. However, the extractive subgroup outperformed that of the non-extractive in the dimension of market performance.

Extractive versus Non-Extractive subgroups	ROA	ROE	TbQ	CR	ESG score	E Score
Total observations:	9,787	9,713	9,744	8,325	9,399	9,399
Non-Extractive industries						
Mean:	0.071	0.211	1.522	1.919	50.970	51.102
Std. err.	0.002	0.067	0.042	0.022	0.241	0.386
Std. dev.	0.119	5.200	3.296	1.528	18.591	29.718
Observations:	6,144	6,099	6,130	4,675	5,933	5,933
Extractive industries						
Mean:	0.069	0.163	1.783	1.834	51.442	55.230
Std. err.	0.016	0.011	0.769	0.045	0.313	0.455
Std. dev.	0.959	0.667	46.255	2.738	18.405	26.801
Observations:	3,643	3,614	3,614	3,650	3,466	3,466
Mean diff:	0.002	0.048	-0.260	0.085	-0.473	-4.128

Table 4.11 Comparison of means for Corporate performance and ESG / E scores between firms in two industry subgroups

Source: Made by the author

For H8,

H8 Firms in extractive industries exhibit a higher ESG performance than those in non-extractive industries.

From Table 4.11, Hypothesis *H8* is accepted as the mean for combined ESG performance identified with firms in extractive industries was higher at 51.442 compared to those in non-extractive industries at 50.970. However, the difference was small. Also, there might have been results bias created by the imbalance in the sample sizes of the two groups as extractive group had 3,710 firm year observations against non-extractive with 6,286 (See Table 4.10).

For H9,

H9 Firms in extractive industries exhibit a higher Environment component (E) performance than those in non-extractive industries.

From Table 4.11, Hypothesis *H8* is accepted as the mean for Environmental component (E) performance identified with firms in extractive industries was higher at 55.230 compared to those in non-extractive industries at 51.102.

4.12 Findings and Discussion

This section examines the outcomes of the studies and compares them with the past findings, to assess if any fresh perspectives have been revealed.

For the arrangement of this section, the findings to gauge the three research objectives of the study are specified and located to the body of knowledge, labelled as additional or new contributions. Further, discussions of the generalisability of findings to other populations are covered. Finally, the key themes of this section are summarised.

The first objective of this study was to examine the relationship between corporate social responsibility and corporate performance. The latter was posited as a four-dimensional construct measurable namely: operational, financial, market and liquidity.

Firstly, as hypothesised, this study established a weak but statistically significant positive relationship between CSR and operational performance. Specifically, the return on assets (ROA) was posited as operational performance. The finding adds to the list of studies that found a positive link with ROA as the dependent variable (Al Hawaj & Buallay, 2022; Al-Najjar & Anfimiadou, 2012; Blasi et al., 2018; Brine et al., 2007; Buallay, 2019, 2020; Chatterji et al., 2009; I. Gallego-Álvarez et al., 2014; Hakimi et al., 2023; Mahoney et al., 2013; Mishra & Suar, 2010; Okafor et al., 2021; Velte, 2017; J. Zhang & Liu, 2023). Notwithstanding the variations in sample sizes, regions covered, and data collection methods used by past studies, this study's findings weigh in for consensus of a positive finding, supported and established by the most recent, relevant, and largest metanalytic review by Busch & Friede (2018).

Secondly, as hypothesised, a weak statistically significant positive relationship between CSR and financial performance was established, when the latter was measured as the return on equity (ROE). This adds to the list of past studies that had similar findings with the ROE as dependent variable (Al Hawaj & Buallay, 2022; Blasi et al., 2018; Brine et al., 2007; Buallay, 2019, 2020; Chatterji et al., 2009; Okafor et al., 2021; Velte, 2017).

Thirdly, as posited, this study detected a weak statistically significant positive relationship between CSR and market performance. Tobin's Q ratio proxied market performance. Few past

studies have taken place investigating this relationship. Very early, Luo & Bhattacharya (2006) found a positive link as well. In contrast, only two past studies in the last 20 years found a negative relationship namely, the studies by L. Wang et al. (2014) and Surroca & Tribó (2008). Studies that used Tobin's Q as one measure of firm performance but instead found inconclusive or insignificant results (Buallay, 2019; Lin et al., 2015; Velte, 2017) appear to outnumber the other categories of findings. Consequently, the ubiquitous conclusion on the CSR-market performance relationship remains bleak. Hence, consensus for a positive relationship between CSR and market performance can be assumed non-existent. This observation has implications for practitioners and decision makers when pondering over CSR investments and how the markets are likely to respond.

A comparison of this study's results with those of Buallay (2019) revealed some similarities. This study used the same variables and operationalisation to measure the three dimensions of performance. Buallay (2019) found that "ESG positively affect the operational, financial and market performance in the manufacturing sector. However, on the other hand, the ESG negatively affect the operational, financial and market performance in the banking sector" (pp 1).

Fourthly, this study established a weak statistically significant positive relationship between CSR and liquidity performance. The latter was represented by the current ratio (CR). At the time of analysing this study's findings, only one recent and relevant study by Dat et al. (2022) over the last 30 years existed, exemplifying this as an under-researched area. However, between 2021 and 2023, there has been two new additions. Recently, though Uyar et al. (2023) found a positive relationship between the two, liquidity was proxied by the cash conversion cycle. Since CR was used for this study, the comparison between the two could be seen less objective. Of interest, Putra et al. (2023) detected a positive link using CR. Nevertheless, the scholars used a very small sample of 24 consumer firms from one country, Indonesia. Hence comparisons to this study using 714 firms from G7 counties could be less objective. Hene at the time of discussing the outputs, this study makes a novel contribution to the body of knowledge by becoming the second, after that by Dat et al. (2022) .

Several strengths of this G7 study are notable. When compared with that by Dat et al. (2022), a larger G7 sample size drawn from three continents (North America, Europe, and the Far East)

was used compared with only Asia, by Dat et al. (2022). This G7 study used firms drawn from all the eleven (11) industry sectors, as classified by Global Industry Classification Standard (GICS), compared to only the banking sector by Dat et al. (2022). 14 years of data was employed compared to 6 years by Dat et al. (2022). This study used data on ESG from validated and more objective sources. The 2022 study mentioned herein used financial statements. The standardisation and consistency in compiling data of the CSR measures from Refinitiv Eikon DataStream ought to be considered as more objective. Financial statements of individual firms' websites or similar could be viewed less standardised and inconsistent.

The second objective of this study was to examine the differences in individual components of Environmental (E), Social (S), and Governance (G) performance between firms located in countries with two competing corporate governance models: stakeholder versus shareholder.

Firms located in countries subscribing to the stakeholders' model of corporate governance (Germany, France, Japan, and Italy) exhibited a higher Environmental (E) performance than those in countries with a shareholders' model of governance (Canada, USA, and UK). Contrary to the hypothesised, firms located in countries subscribing to the stakeholders' model of governance were found to exhibit a lower Social (S) performance and Governance (G) performance than those in countries with a shareholders' model of governance. A comparison with the findings of Buallay (2019) and Velte (2017) was less meaningful because of the disparities in research designs used. The findings were premised on different methodology approaches in defining governance and the source of variables used. Though both studies found a negative relationship between the Governance score and the ROA, it was from a different context in that the Governance score was extracted as a component from the ESG scores' Reuters Thomson database. It is important to make a distinction between "governance score" and "governance model". Instead, this present study under discussion used the latter, in distinguishing the groups.

Therefore, this study contributes to this body of knowledge as a pioneer in establishing the varying relationships between the individual CSR components after creating two subgroups of firms in shareholder and stakeholder governance-based models of the countries they domiciled. It fulfilled earlier calls for such subgroups by Harrison et al. (2015) A review of literature shows no prior studies that separated data sets into the stated subgroups for investigations. For

future research, more diverse and larger samples that divide datasets into subgroups based on the two competing corporate governance models, are recommended. Doing so is likely to open yield new lines of enquiries in the variations of CSR or ESG performance and its individual component performances.

The third objective of this study was to inspect the differences in ESG performance between firms belonging to two divergent industries: extractive and non-extractive industries.

Firstly, firms in extractive industries exhibited a higher combined ESG performance than those in non-extractive industries. However, the difference in performance between the two was small. There might have been a results bias created by the imbalance in sample sizes of the two subgroups, an observation beyond the study's control. The extractive subgroup comprised about half in number of the firm-year observations of those in the non-extractive subgroup. Nevertheless, these findings could be compared with those by Buallay (2019). The scholar found ESG performance in manufacturing sector higher than in the banking sector. Just as found by this study under review. The latter's difference between the two mentioned sectors was small. To justify, Buallay (2019a) attributed the small difference to the location of samples used in manufacturing, considered as extractive for the purpose of this comparison. Specifically for the European Union (EU), as the data sample used, countries usually obey strict rules to abate abuse in environmental resources. For EU-based firms in banking, considered as non-extractive for the purpose of this comparison, the issues were more inclined to social and governance. These variations between Buallay (2019)'s research design and that of this study may indicate a consensus with enhanced validity, having arrived at similar findings.

Secondly, and as hypothesised, this study established a higher mean Environmental (E) performance in the subgroup of firms in extractive industries than that in subgroup of non-extractive ones. Though a growing number of recent studies similarly established this positive relationship (Brahmana & Kontesa, 2021; Feng et al., 2017; Garcia et al., 2017), each had notable shortcomings relating to the research design used, as detailed in the literature review section. Therefore, this study's finding adds to the growing list of findings for a positive relationship in this area. It addressed some of the methodological deficiencies identified in the listed studies, thereby strengthening both the validity and reliability of the finding.

In conclusion, the two enumerated findings by this study fulfilled calls for more future studies to assess the effect of CSR practices in industries more prone to disruptive and harmful practices (Fujii et al., 2013; Story & Neves, 2015).

4.12.1 Findings

Firstly, though this study established variations in ESG individual components' performances by comparing corporate social responsibility scores between subgroups based on the corporate governance model of a firm's host country, further investigations pertaining to corporate performance revealed interesting findings. Firms domiciled in countries aligned to the shareholder model of corporate governance performed better on average in all the four dimensions of corporate performance (operational, financial, market and liquidity) than those in countries aligned to the stakeholder model. Future research using more diverse and larger samples that divide datasets into subgroups based on the two competing corporate governance models under discussion is recommended. This is expected to yield more findings of variations of CSR or ESG performance and its individual component performances.

Secondly, this study established a higher mean Environmental (E) performance in the subgroup of firms in extractive industries than that of the subgroup of non-extractive ones. During the tests, another finding was established. Based on the sample used, firms classified as under extractive industries exhibited a lower corporate performance in three dimensions (operational, financial and liquidity) than those in non-extractive industries. However, firms in the extractive subgroup outperformed those in the non-extractive for the dimension of market performance. This is a significant finding. The study addressed the methodological deficiencies and shortcomings identified from the past related studies, thereby strengthening both the validity and reliability of the finding. Further, the finding has implications for practitioners of firms in extractive industries especially within the G7 countries. These may opt to reduce CSR activities or investments related to the environment. Future research is needed in this area using data sets comprising multiple industry types, drawn from both developing and countries, over a longer-term duration.

4.13 Limitations of Study

Despite the findings in this study, several limitations are worth mentioning. In common with all research, the results should be treated with caution.

Firstly, the sample of firms used in the empirical analysis is limited to public-listed firms on the major world stock exchanges of the largest economies. Hence the results can only be generalisable to similar listed firms in the specific seven countries covered in this study. It is expected that the environmental, social and governance effects will be different in smaller or non-listed firms due to reduced or no regulations and fewer stakeholder groups.

Secondly, the findings can only be generalised at best to the G7 countries that formed the sample, or specifically in similar settings of public listed countries.

Thirdly, this study's model focused on the seven (G7) countries with variables that have become verified and established in this area of research. The fact that some variables used have led to mixed results calls for an in-depth introspection of finding new ways of measuring performance.

Fourthly, the sample of seven (G7) countries was small and this could have affected the results, besides the bias of countries deemed with the highest economic prowess versus those with weaker economies in the seven countries included.

4.14 Recommendations and Further Research

To strengthen the limitations identified in the previous section, the following are recommended plus that for further research:

a. **Generalizability Constraints**: This study's focus on public-listed firms in G7 countries limits the generalizability of results to similar economic populations. Extending the sample to include firms from emerging markets or developing countries could reveal distinct CSR-performance dynamics due to differing regulatory environments and economic pressures (Huang & Watson, 2015; Ntim & Soobaroyen, 2013)

b. **Industry-Specific Bias**: While this study addresses industry-type variations, its focus on broad categories (e.g., extractive vs. non-extractive) may overlook nuances within industries. Further segmentation into sub-industries (e.g., within extractive industries) could provide a more accurate picture, as suggested by studies showing that CSR's impact varies even within industry types (Garcia et al., 2017; Feng et al., 2017).

c. **CSR Metrics and Performance Ambiguity**: The varied metrics used to measure CSR (operational, financial, market, and liquidity) are prone to inconsistencies across studies, impacting comparability. Future work could focus on refining these metrics or employing mixed-method approaches to improve cross-study comparability and robustness of CSR-performance links (Busch & Friede, 2018).

d. **Governance Model Limitations**: While governance model categorization (stakeholder vs. shareholder) provides insights, other governance structures exist and may influence CSR differently, particularly in hybrid governance environments found in developing economies (Aguilera et al., 2007).

e. **Time Horizon of Data**: Given the rapidly evolving nature of CSR practices and economic conditions, a longitudinal approach could capture changes in CSR impact over time, responding to calls for studies using extended timeframes to assess CSR effects comprehensively (Q. Wang et al., 2016).

Recommendations for Further Research:

a. **Expanding Geographic Scope**: Incorporating data from a broader range of countries, especially emerging markets, could reveal additional insights into CSR's global impact and further validate findings (Jamali & Karam, 2018).

b. **Focus on Unlisted Firms**: Exploring CSR within non-listed firms, especially SMEs, could uncover differing motivations and outcomes due to fewer regulatory pressures and stakeholder demands.

c. **Enhanced CSR Metrics**: Developing standardized, multidimensional CSR metrics would support more accurate cross-study comparisons, especially for emerging CSR areas like environmental sustainability within different governance contexts (Margolis et al., 2009).

d. **Differentiating Governance Models**: Expanding beyond the stakeholder vs. shareholder governance model distinction could provide additional insights into how hybrid or alternative governance structures influence CSR, especially in multinational corporations (Young & Thyil, 2014).

These further works would bolster the academic rigor in this area by acknowledging potential gaps and providing a clearer roadmap for future research efforts.

Summary of Findings

This study established statistically significant positive but weak relationships between CSR and each of the four: operational performance, financial performance, market performance, and liquidity performance.

This study found variations in subgroups of data sets regarding individual components of CSR scores as proxied by Environment (E), Social (S) and Governance (G) performance.

Firms located in countries subscribing to the stakeholders' model of governance (Germany, France, Japan, and Italy) exhibited a higher Environmental (E) performance than those in countries with a shareholders' model of governance (Canada, USA, and UK).

Contrary to the hypothesised, firms located in countries subscribing to the stakeholders' model of governance were found to exhibit a lower Social (S) performance and Governance (G) performance than those in countries with a shareholders' model of governance.

Furthermore, this study established a higher mean Environmental (E) performance in the subgroup of firms in extractive industries than that of subgroup of non-extractive ones.

The conclusion for this study is covered in the next subchapter 4.15. It covers the critical observations, implications to wider society, the future direction, and the contribution to this area of research.

4.15 Conclusion

This study's findings on the relationship between CSR and corporate performance, together with the controlling influences by the types of industry and country governance model, are fivefold.

Firstly, it has found a statistically significant positive but weak relationships between CSR and each of the four dimensions of corporate performance namely: operational performance, financial performance, market performance, and liquidity performance. For this, CSR was proxied by the combined ESG performance scores. For all data results used at arriving at the above explained conclusions, please refer to Table 4.7. Therefore, the results make the business case and justification for multinational firms located within the Great Seven (G7) countries.

Investing or enhancing CSR activities is likely to at the least boost firms' corporate performance. This finding is consistent with the main theory: Stakeholder Theory (Freeman, 1984). When considered in firms' workplaces, a form of capitalism could be assumed. It ranks the connected affiliations between a business and its various stakeholders. With this background, reaching out to more and a wider array of stakeholders could lead to a positive impact of CSR on firm performance.

Furthermore, and coincidentally, the findings of a positive link between CSR and each of the four dimensions of corporate performance could be seen as in support of the opposing Shareholder Theory (Friedman, 1970). This unusual finding could be attributed to the sample type employed as all firms used are domiciled in the most developed economies. The concept of maximising both CSR investments and corporate performance are practised and most applicable in G7 countries. The shareholder theory focuses on the interests of the company's shareholders, those who invested financially in owned shares and stock. Because shareholders remain focused on monetary returns and finances, businesses may make business decisions solely based on profit rather than other considerations. According to the Shareholder Theory (Friedman, 1970), though a company's leadership considers the shareholders' interests as superior, it postulates that the best way to achieve financial results is to be accommodative of other company stakeholders in situations very essential. With these findings from this study, the proponents of the shareholder theory may see this as a weaker business case for CSR

investments, given the weak, though positive links between the for dimensions of corporate performance operationalised in this study.

Secondly, this study has concluded that firms located in G7 countries subscribing to the stakeholders' model of corporate governance (Germany, France, Japan, and Italy) exhibit a higher Environmental (E) performance than those in countries with a shareholders' model of corporate governance (Canada, USA, and the UK). For all data results used at arriving at the above explained conclusions, please refer to Table 4.9. This is consistent with the Stakeholder Theory (Freeman, 1984) as the most applicable to the firms located in countries whose corporate governance is aligned to the stakeholder model; the group engulfs various key players from government, employees, unions, suppliers, amongst many others. Nevertheless, firms located in countries subscribing to the stakeholders' model of governance exhibit a lower Social (S) performance and Governance (G) performance than those in countries with a shareholders' model of governance (See Table 4.9). The results are consistent with practices in countries that subscribe to the stakeholder model where firms are often required to serve wider and diverse interests, more as governments' policy, seen more as obligatory than voluntary. In contrast, the opposite can be said to be true in all iterated facets, about firms located in countries aligned to the shareholder model.

Thirdly, this study has found that firms domiciled in G7 countries aligned to the shareholder model of corporate governance (Canada, USA, and the UK) perform better on average in all the four dimensions of corporate performance (operational, financial, market and liquidity) than those in countries aligned to the stakeholder model. For all data results used at arriving at the above explained conclusions, please refer to Table 4.9. When taken in conjunction with the finding in the previous paragraph, this finding proves and supports the competing theory: the Shareholder Theory (Friedman, 1970). Put in other words, firms focusing less on CSR investments are expected to realise better firm performance due to savings from reductions in the former. This finding has implications especially for firms in G7 countries aligned to the stakeholder model of corporate governance (Germany, France, Japan, and Italy). Interested parties from firms located in the listed countries may be inclined to call for revisions to reduce CSR investments and/or activities. In contrast, this finding disapproves the Stakeholder Theory (Freeman, 1984). Interpretively, more CSR investments do not always lead to enhanced corporate performance.

The two previous opposing paragraphs can be reconciled by the Stakeholder Theory (Freeman, 1984). The stated theory is a method of organizational management that focuses on a company's values, morals, ethics, and goals while emphasizing social responsibility over profit. Meeting a nation’s environmental standards comes at huge costs. For firms in countries under a stakeholder model of governance, this is obligatory. Doing so helps to meet the moral and ethical opportunities of the wider communities or societies. This could lead to sustainable strategies for the long-term existence of such firms, despite recording lower profits. This theory operates by prioritizing the financial success and longevity as an output from making decisions considering stakeholders' interests rather than profits. By managing strong stakeholder relationships, a firm can improve its performance and longevity.

Fourthly, this study has established a higher mean Environmental (E) performance in the subgroup of firms from extractive industries than that from the subgroup of non-extractive ones. For all data results used at arriving at the above explained conclusions, please refer to Table 4.11. The finding is consistent with the Legitimacy Theory (Deegan, 2002; Dowling & Pfeffer, 1975). Legitimacy theory posits that organizations constantly aim to execute actions considered aligned to societal rules and standards (Deegan et al., 2002). It focuses on the company's interactions with society. Also, companies disclose social responsibility information to present a socially responsible image. Doing so aims to legitimize their behaviours to associated stakeholder groups.

In practice, firms that employ more environmentally disruptive and sometimes harmful methods to access their inputs of production are more prone to face not only more scrutiny from the affected communities or societies, but also the public. These stakeholders expect such firms to clean up the physical environments they tamper with as one strategy to be accepted and legitimised by the corresponding affected or displaced communities or societies.

It is revealed that polluting-prone firms located in extractive industries invest more in environmental activities. This could be proof that firms or organisations pursue corrective actions to align to the social values. The latter are satisfied by activities, norms, and practices deemed as acceptable behaviour to fit in the larger social systems of a community they are part of, or operate in. In line with this theory, firms could enhance their reputation and build trust with the public.

Investing more in extractive methods that concurrently address the environmental needs of the affected societies and geographical landscapes is key. It helps extractive-based firms more than the less or non-extractive ones to maintain capacity, do business by trading their goods or entice investors. The efforts are to rationalise firms' existence; the extractive methods seen as disruptive and destructive aim to be recognized by society at large as authentic. Ultimately, such efforts are expected to increase customer loyalty and improve financial/corporate performance.

Fifthly, for corporate performance in the G7 countries' sample, the study has concluded that firms in extractive industries exhibit lower corporate performances in the three dimensions (operational, financial and liquidity) than those in non-extractive industries. Nonetheless, firms in the extractive subgroup outperform those in the non-extractive for the dimension of market performance. For all data results used at arriving at the above explained conclusions, please refer to Table 4.11.

Interpretively, more CSR investments in extractive industries does not lead to enhanced corporate performance. Once more as in the previous paragraph, this finding has implications especially for firms in G7 countries aligned to the stakeholder model of corporate governance (Germany, France, Japan, and Italy), as the interested parties may call for revisions to reduce CSR investments or activities for firms in extractive industries. In contrast, this observation disapproves the Stakeholder Theory (Freeman, 1984). This discrepancy could be explained by the limited 14-year duration of sample used and the possible population bias as all firms' headquarters are domiciled in the most economically advanced G7 countries.

4.15.1 Critical observations and implications to wider society

It is important to make some critical observations discerning from this study's findings that would be of interest to wider society.

Based on this study's findings, the future of CSR and its justification is promising. A business case is feasible after finding at the least a positive relationship between CSR and each of the four dimensions of corporate performance: operational, financial, market and liquidity.

Also, this study's related literature review has laid bare the lack of research on variations in subgroups between firms in countries with different corporate governance models. The findings on levels of Environmental (E) performance in subgroups has implications to practitioners and global firms' ESG or CSR units or planning departments in G7 countries. Firms located in countries subscribing to the stakeholders' model of governance (Germany, France, Japan, and Italy) record a higher Environmental (E) performance than those in countries with a shareholders' model of governance (Canada, USA, and UK). Specifically, firms domiciled in countries aligned to the shareholder model of corporate governance performed better on average in all the four dimensions of corporate performance (operational, financial, market and liquidity) than those in countries aligned to the stakeholder model.

The finding is significant. It has implications on how practitioners in firms within the G7 countries ponder on whether to reduce or abandon CSR activities or investments altogether. Specifically, for firms in stakeholder model countries (France, Germany, Japan, and Italy), this would be of concern in decision making on CSR-related processes. Also, an attribute to the disparities between corporate performance could arise. Firms in stakeholder model countries spend more on CSR activities and investments, thereby eating in their profits and long-term success. Arguably, this results in better quality of life as evidenced in Germany and Japan.

Furthermore, this study has found a higher mean Environmental (E) performance in the subgroup of firms in extractive industries than that in non-extractive ones. G7 firms classified under extractive industries exhibit a lower corporate performance in three dimensions: operational, financial and liquidity, than those in non-extractive industries. However, firms in the extractive subgroup outperform those in the non-extractive for the dimension of market performance. These two observations have implications for practitioners of firms in extractive industries especially within the G7 countries. The practitioners or parties tasked with CSR or ESG investments or activities may opt to reconsider, revise, or even reduce CSR activities or investments related to the environment. Doing so may affect the quality of the environments and human life where these firms operate.

4.15.2 Contribution

This study's contribution to the subject area is fourfold.

Firstly, it adds to the existing body of knowledge of findings for a statistically significant positive but weak relationship between CSR and corporate performance, summarised in Table 4.2. The findings are consistent with those by the latest metanalytic review in this area of research by Busch & Friede (2018). The findings are likely to sway the opinion of CSR pessimists toward support for CSR or ESG activities and investments. The findings could be of interest or beneficial to industry and its practitioners or government-based policy makers. Also, the degree of the value of life in societies where firms operate could be improved.

Secondly, this study is pioneer in examining the relationship between CSR and liquidity performance where a positive but weak link is established. This would be of interest to pessimists and opponents of CSR who have assumed that investing in CSR activities results in firms' reduced ability to meet short-term obligations when the implied obligations fall due. Going by this study's finding, the opposite is true investing in CSR activities increases firms' ability to be more liquid. However, this is only statistically generalisable to large firms located in the G7 countries.

Thirdly, the study has pioneered new knowledge on variations in CSR or ESG performances between subgroups of firms domiciled in countries with two models of corporate governance. Firms located in countries subscribing to the stakeholders' model of governance (Germany, France, Japan, and Italy) record a higher Environmental (E) performance than those in a shareholders' model of governance (Canada, USA, and UK). Nevertheless, firms in countries aligned to the shareholder model of corporate governance perform better on average in all the four dimensions of corporate performance (operational, financial, market and liquidity) than those in countries aligned to the stakeholder model. The findings may affect future decisions by practitioners in firms located in countries inclined to the shareholder model of governance. They may consider keeping Environmental-based CSR activities and investments as status quo or even reduce spend on these.

Fourthly, the study has found a higher mean Environmental (E) performance in the subgroup of firms in extractive industries than that in the subgroup of non-extractive ones. Yet, firms classified as under extractive industries exhibit a lower corporate performance in three dimensions (operational, financial and liquidity) than those in non-extractive industries. However, firms in the extractive subgroup outperform those in the non-extractive for the dimension of market performance. The findings could see non-extractive based firms reduce any CSR activities or investments. Further, extractive-based firms may follow suit. Such may prevail where no governments' prosecution for non-repair of environments for extractive firms exists.

5. Chapter 5 - THE RELATIONSHIP BETWEEN NATIONAL CULTURE AND CSR – Influence of World Governance Indicators

Abstract

Background

During the past three decades, the relationship between national culture and corporate social responsibility (CSR) has garnered global attention. Currently, the relevant literature remains inconsistent or mixed, justifying further enquiries on this relationship. Furthermore, the overdependency of one dominant theoretical framework and model depicted by Hofstede's six cultural dimensions has faced criticism. Hofstede's measures are designed as non-time variant; they may not be appropriate for studying culture in organisations. Nevertheless, most quantitative studies on the relationship between national culture and CSR have applied Hofstede's dimensions as proxy for the corporate cultures. Few have been done. Hence, more studies to examine this relationship are needed to fill in the gap.

Knowledge of the controlling influence of world governance remains scanty. A set of validated measures of Worldwide Governance Indicators (WGIs) exist. These are calculated to service researchers and analysts; they aim to evaluate broad patterns in perceptions of governance across countries and over time (The World Bank, 2022). However, WGIs have not been widely employed to evaluate their influence on the relationship between national culture and CSR. Their inclusion in this research area could help inform firms about the governance barometers of countries the operate in. Doing so will support the company's efforts to develop control mechanisms, increase shareholder value and improve satisfaction among shareholders and stakeholders. This applies in the setting of CSR located within varying cultural settings.

Purpose

The study explores the relationship between the national culture and CSR at the macro-level. Further, the controlling influence of four Worldwide Governance Indicators on this relationship is examined. There is need for more studies in this new and under-researched area. Thus, the study examines the influence of the four WGIs of a firm's domicile namely: Regulatory

Quality, Control of Corruption, Rule of Law, and Political Stability & Absence of Violence or Terrorism.

Design/methodology/approach

The three: Stakeholder (Freeman, 1984), Shareholder (Friedman, 1970), and Institutional (Meyer & Rowan, 1977) theories are used as theoretical bases. In conjunction, the theoretical cultural framework posited by Geert Hofstede is applied (Hofstede, 2001; Hofstede et al., 2010). The latter is premised on Hofstede's six cultural dimensions.

The study's sample employs the topmost global equity-performing firms as rated by their indices on respective listings from the Great Seven (G7) countries. A total of 714 firms are included in the study's final sample, breakdown: Canada (87), France (62), Germany (100), Italy (15), Japan (151), United Kingdom (UK) (122) and United States of America (USA) (177). This translates in 9,996 firm-year observations of panel data set. To examine the relationship between the national culture and CSR at the macro-level, panel data is analysed using the General Least Squares (GLS) regression applied on a random effects model. To compare differences between constituted subgroups of firms on a selection of cultural-based characteristics, the comparison of means tests are employed.

Findings

This study's findings are fivefold.

Firstly, a statistically significant negative relationship is found between CSR and each of the five of Hofstede's cultural dimensions (Hofstede, 2001, 2020) namely: individualism (IDV), masculinity (MAS), uncertainty avoidance (UAI), indulgence versus restraint (IVR), and long-term orientation (LTOR). In contrast, a positive relationship is detected between CSR and the power-distance (PDI). Summarising the logical interpretations of these findings in a more simplified language is necessary. Hence, this study establishes a statistically significant positive relationship between CSR, promoted by staff in firms from communities with cultures that are more collectivistic than individualistic, more feminine than masculine, more

uncertainty avoidant than uncertainty tolerant, more restrained than indulgent, more long-term oriented than short-term, and with a high-power distance than a low one.

Secondly, this study detects differences in ESG performance, as a measure of CSR, between firms in the two subgroups: RestrainedCountries and IndulgentCountries. The Indulgence *versus* Restraint (IVR) cultural dimension measures the degree to which inhabitants of a society regulate their aspirations and instincts. According to Hofstede et al. (2010), low control is viewed as "indulgence" and strong control as "restraint." It is revealed that firms operating in more restrained countries (France, Germany, Japan, and Italy) have a higher ESG performance than those in more indulgent nations (Canada, UK, and USA). This revelation using the sample of firms in G7 countries becomes the first and hence adds new knowledge to this research area.

Based on the Institutional Theory (Meyer & Rowan, 1977) and Hofstede's cultural dimensions (Hofstede, 2020), the findings between the two subgroups demonstrate how stakeholders' degree of restraint versus indulgence cultural dimension influences the relationship between national cultures. Contextually, firms operating in culturally restrained countries are obligated to abide by laws and regulations pertaining to meeting ESG benchmarks. The congruence of firms' social contexts is driven by multiple factors. These range from the scope of their activities to their network of social relationships within a given country. Over time, firms' behaviours become very similar, as posited by the Institutional theory. Consequently, this is expected to affect their organisational structures which are likely to have stringent implications on the CSR agenda and activities. In contrast, the intensity of such congruence for firms in culturally indulgent countries is less prominent. Of precedence, is predominantly the reference to regulations that serve only as guide on best practice rather than obligatory.

Thirdly, this study exposes a contradiction in an expected relationship. Though firms operating in culturally restrained countries (France, Germany, Japan, and Italy) reveal a higher ESG performance than those in culturally indulgent ones (Canada, UK, and USA), this is not the case for corporate performance. Instead, firms in culturally restrained countries record a lower corporate performance than those of in culturally indulgent ones. This is observed for all the four dimensions of corporate performance: operational, financial, market and liquidity. Theoretically, Stakeholder Theory (Meyer & Rowan, 1977) provides a charter for exploring the relationship between CSR and corporate performance.

The findings defy the Stakeholder Theory (Freeman, 1984). Instead, they support the Shareholder Theory (Friedman, 1970). While there may not be a valid explanation for this discrepancy, future replicative studies using more diverse populations may yield different results. Given that all firms in sample are drawn from G7 countries with the highest economic prowess, there might have been some form of sample population bias.

Fourthly, this study detects variations in the controlling influence of world governance on the relationship between national culture and CSR. The focus is on four World Governance Indicators (WGIs). These are Regulatory Quality, Control of Corruption, Rule of Law, and Political Stability & Absence of Violence or Terrorism (The World Bank, 2022). The findings are herein explained. The higher the Regulatory Quality of a firm's country, the stronger the positive relationship between national culture and CSR, where the former is the Power-Distance (PDI) cultural dimension. The higher the Control of Corruption of a firm's country, the stronger the positive relationship between the two constructs of interest. The higher the Rule of Law of a firm's country, the stronger the negative but weak relationship between national culture and CSR. However, this is statistically insignificant. The higher the Political Stability and Absence of Violence or Terrorism, the stronger the high negative relationship between national culture and CSR. Firms used in this G7 sample represent global multinational ones in the seven most industrialised countries. Thus, probable elements of population bias might have been present. Hence, it is recommended that future research investigates the effect of the named four WGIs using non-G7 populations. Hence, it is recommended that future research investigates the effect of the named four WGIs in non-G7 populations. Using firms drawn from larger and more diverse populations within the world, especially a mix from both developed and developing countries, is encouraged and recommended.

Fifthly, it is found that firms in each G7 country inclined to a stakeholder model of corporate governance (France, Germany, Japan, and Italy) show the highest statistically significant positive relationship between ESG performance and a Hofstede cultural dimension, compared to all other G7 countries. These results have implications to firms' management teams in G7 countries. Findings bring into question the perceived higher ESG performances in firms located in countries leaning to a shareholder model of corporate governance (Canada, USA, and UK). The latter group may have larger firms, stock markets, and profits. However, the results show otherwise for CSR, when compared with their counterparts in France, Germany, Japan, and

Italy. If more replicated studies find the same or similar knowledge, it may encourage firms from the disparate subgroups to cross examine each other for best practices. Alternatively, rivalry between firms from the two subgroups of the G7 countries may arise.

Significance

In general, this study's findings could be of use to the CSR functional management teams in multinational firms in the G7 countries, when planning for CSR investments and activities. Taking cognisance of the national cultures of countries of domicile will enhance quality of decision making and planning. Also, findings are of interest to managers that require relevant empirical evidence when contemplating to enter new markets in G7 countries. Knowledge on cultural aspects from the CSR perspective would go a long way in assisting successful international business formations and establishments.

The finding that firms operating in culturally restrained countries (France, Germany, Japan, and Italy) reveal a higher ESG performance than those in culturally indulgent countries (Canada, UK, and USA) may have repercussions to the wider society. Firstly, as newfound knowledge, firms contemplating on investing in businesses where CSR ranks high on agenda would do well to understand the cultural aspects of their target country. The study's finding would have been more attractive if doing so would also transcend in higher corporate performance proxied by operational, financial, market and liquidity measures. This is not the case. Firms in culturally restrained countries exhibit a lower mean corporate performance than those in culturally indulgent ones. Secondly, the future looks promising because the levers of change may begin to move. Firms in culturally indulgent countries may start or accelerate to act. Setting up of CSR sub-committees, assessing their CSR policies for alignment to their national cultures, will all be vital. This could be one way of emulation or catch-up with firms in culturally restrained countries.

Key words: *National culture, Hofstede's cultural dimensions, Corporate social responsibility, Stakeholder Theory, Shareholder Theory, Institutional Theory, ESG performance, World governance indicators (WGIs).*

5.1 Background and Introduction

Theoretically, corporate social responsibility (CSR) has evolved in a researchable phase. CSR resides in the two competing theories: Stakeholder Theory posited by (Freeman, 1984) where CSR is deemed a long-term investment with the goal to maximise stakeholder value by enhanced reputation coupled with competitive advantage (Roy & Goll, 2014). The earlier theory competitor, Shareholders or Agency Theory by Friedman (1970) posits that the overall aim of a profit-making entity is to maximising shareholders' wealth. Investing in CSR activities is just one voluntary, not mandatory input to doing so.

This study relates to and builds on the work of Griffin et al. (2021), Koprowski et al. (2021), Pucheta-Martínez & Gallego-Álvarez (2020), Diamastuti et al. (2020), Slangen (2019), Kucharska & Kowalczyk (2019), Gallén & Peraita (2018), Thanetsunthorn & Wuthisatian (2018), (Prof. I. Gallego-Álvarez & Ortas, 2017), Disli et al. (2016), (Garcia-Sanchez et al., 2016), Halkos & Skouloudis (2016; 2017), Kang et al. (2016), Thanetsunthorn (2015), (Peng et al., 2012), (F. N. Ho et al., 2012) and Orij (2010). This study examines the relationship between CSR and the national culture of a firm's domicile. It updates the listed past works using a comprehensive sample of 714 firms headquartered in the Great Seven (G7) countries. The firms are listed on the leading global market indices in United Kingdom, United States of America, Canada, France, Germany, Japan, and Italy - all as the G7 countries.

Using Hofstede's cultural dimensions (Hofstede, 2022; Hofstede et al., 2010), this study establishes a statistically significant negative relationship between CSR and each of the five cultural dimensions namely: individualism (IDV), masculinity (MAS), uncertainty avoidance (UAI), indulgence versus restraint (IVR), and long-term orientation (LTOR). In contrast, a positive relationship is revealed between CSR and the power-distance (PDI) dimension. When interpreted in a more simplified language, the findings are for a statistically significant positive relationship between CSR, promoted by staff in firms from communities with cultures that are more collectivistic than individualistic, more feminine than masculine, more uncertainty avoidant than uncertainty tolerant, more restrained than indulgent, more long-term oriented than short-term, and with a higher power distance than a low one.

This study examines the differences in ESG performance, between firms in the two subgroups:

RestrainedCountries and IndulgentCountries. To recap, the Indulgence *versus* Restraint (IVR) dimension measures the degree to which inhabitants of a nation/society regulate their aspirations and instincts. According to Hofstede et al. (2010), weak/low control is viewed as "indulgent" and strong control as "restrained." The study established that firms operating in more restrained countries (France, Germany, Japan, and Italy) reveal a higher ESG performance than those in more indulgent ones (Canada, UK, and USA). This revelation using the sample of 714 firms from G7 countries is the first. Hence, it adds new knowledge to this research area, as a contribution.

Furthermore, this study extends on the work pertaining to the influence of World Governance Indicators (WGIs) on the relationship between national culture and CSR. Only three past studies incorporated this: (De Villiers & Marques, 2016; Gallén & Peraita, 2018; Griffin et al., 2021). Focusing on four WGIs, this study's findings are multiple. The higher the Regulatory Quality of a firm's country, the stronger the positive relationship between only the Power-Distance (PDI) cultural dimension. The higher the Control of Corruption of a firm's country, the stronger the positive relationship between only Power-Distance (PDI) cultural dimension. The higher the Rule of Law of a firm's country, the stronger the negative but weak relationship between national culture and CSR, besides being statistically insignificant. The higher the Political Stability and Absence of Violence or Terrorism, the stronger the high negative relationship between national culture and CSR. This study contributes to the body of knowledge pertaining to the controlling influence of world governance using World Bank's indicators. It becomes the first to use four out of the six World Governance Indicators (WGIs).

Since this study focused on the link between CSR and national culture, the Institutional Theory (Meyer & Rowan, 1977) comes into play. It posits that the strategies, actions, and practices of firms evolve to become isomorphic over time. This occurs within the boundaries of a specified institutional environment. The latter often equates to that of a national context. Put in other words, past research (Campbell, 2007; Meyer & Rowan, 1977) has identified that the way firms treat their stakeholders reflects the institutions in which they operate and reside. Often these are seen as institutions at national level, that are also cascaded to lower levels of a nation. Because this interplay is inseparable from the behaviour of players, the aspects of cultural factors become eminent.

In summary, the three theories (Stakeholder, Shareholder and Institutional) are propounded in detail within Chapter 1. All need to be considered with the national cultural framework devised by Geert Hofstede (Hofstede, 2001; Hofstede et al., 2010), covered in later sections.

Over the last forty years, the interests of the diverse stakeholders, including the public, have enhanced the research agenda specifically in recent debates related to cross-border dynamics (Halkos & Skouloudis, 2017b). It is assumed that as firms grow internationally by expanding their tentacles to overseas markets, different and new social and environmental obligations, different from their home markets, need to be considered. Addressing and managing the obligations during the lifespan of their overseas operations and presence is vital. Such obligations differ from one country to another, also supported by (F. N. Ho et al (2012). To explain this, the scholars (Halkos & Skouloudis, 2016, 2017b) identified the national culture as one prominent factor of the variations in addressing probable divergences.

Generically, the term "culture" is very diverse, if not ambiguous. Hence, it was important to set its scope within the perspective of the study. The aim was to examine the relationship between national cultures and CSR.

Culture can be defined within the context of a nation or geographical boundary. Geert Hofstede is renowned as one pioneer and czar in national culture research. Positing that culture exists in layers, Hofstede and co-scholars defined it as "Every group or category of people carries a set of common mental programs that constitute its culture. As almost everyone belongs to several different groups and categories at same time, we unavoidably carry several layers of mental programming within ourselves, corresponding to different levels of culture …. A national level according to one's country (or countries, for people who migrated during their lifetimes" (Hofstede et al., 2010, pp 17-18).

Using a measurable approach that belongs to empiricism, this study embarked on examining the effect of national cultures on CSR and how this varies in different countries. With this background, Hofstede's theoretical framework (Hofstede, 2001; Hofstede et al., 2010; Hofstede & Minkov, 2010) based on six dimensions of national culture were employed as variables to measure culture and their link with CSR.

5.2 Objectives of the study

The objectives of this paper study were threefold. These were to:

1) Examine the relationship between national cultures and CSR using Hofstede's six cultural dimensions.

2) Assess the differences in CSR between firms domiciled in culturally more restrained countries and those in more indulgent countries.

3) Investigate the controlling influence of a selection of World Governance Indicators (WGI) on the relationship between national cultures and CSR.

5.3 Research questions of the study

Based on the research objectives, the following were the research questions:

1) What is the relationship between national cultures and CSR using Hofstede's six cultural dimensions?

2) What differences exist in CSR performance between firms domiciled in culturally more restrained countries and those in more indulgent countries?

3) What are the controlling influences of a selection of World Governance Indicators (WGI) on the relationship between national cultures and CSR?

5.4 The outline and structure of the study

The outline and structure of the rest of this study focuses on summarising the relevant and key theories. These are propounded in Chapter 1 of this dissertation. The next part covers the review of the relevant literature, focusing on past empirical studies. The aim is to identify the research gaps and methodological deficiencies. The former informs the next part of hypotheses' development and the research design/methodology. A discussion on the relevance and appropriateness of panel data methodologies to this study is covered. Then data is analysed to test a set of hypotheses. A discussion of the study findings and their interpretation follows and how these compare with past findings. Finally, conclusions are drawn, along with a discussion of any contributions to theory and practice. Specifically, the rest of the structure for this study was as outlined below:

Section 5.5 focused on the critical review of the relevant literature in corporate social responsibility in the context of the relationship with national cultures of a firm's country of domicile.

Section 5.5.3 reviewed the past relevant empirical studies on this relationship of interest.

Section 5.5.5 categorised the limitations or shortcomings of past studies and identified aspects of the future research agenda. These helped in shaping the research design and strategy of this study.

Section 5.6 consisted of the Research Design and Methodology, that also included the researcher's devised theoretical model, as informed by the gaps identified from past studies.

Section 5.7 and 5.8 focused on the relevance of panel data methodologies and their relevance to this study, respectively.

Section 5.9 focused on Data Analysis, Results, and Interpretation.

Section 5.10 covered the Findings and Discussion and how they compare with past studies, and before drawing Conclusions in Section 0.

5.5 Literature Review

Culture as a subject can be traced to the field of anthropology, where it often has been used to investigate its effect on economies, in addition to many complicated phenomena. When one reviews the definition of culture, there is none that fits all situations, also noted by Smircich (2017). The definition of culture is driven by the context of its study of literature. One pioneer anthropologist, Redfield (1948) posited culture as the "sharing understanding made manifest in act and artifact" (cited in (House, 2004, pp xv). Other anthropological definitions of culture thereafter have been a modification of Redfield's. Recent definitions of culture can be summarised as a concept associated with ways that communities or populations organise social behaviour and knowledge (Schneider et al., 2013)

5.5.1 Conceptualisation of Hofstede's Six Cultural Dimensions

Despite all the preceding conceptualisations of culture, Hofstede's definition of culture has gained popularity in empiricism. The scholar's' dimensions have been linked to quantitative measures of culture. The dimensions have become the exclusive method of culture-based studies that belong to the positivistic and deductive methodologies.

According to Hofstede (2001), national culture can be posited "as the set of values, beliefs and objectives that guide the attitudes of its members. Specifically, Hofstede posits culture as the collective programming of the mind that distinguishes the members of one group or category of people from another" (Hofstede, 2001, pp 9). Numerous researchers attest that nations as entities provide the world forms of distinct units enabling comparisons of cultures. National borders were observed as the most appropriate for cultural comparisons. This notion arises since structures related to culture shared as national levels are comparable; examples are language, law and educational systems, amongst many others (Hofstede, 2001; Hofstede et al., 2010).

If this holds, then the adopted principles and perceptions towards CSR and its associated activities executed by firms are theorised to fluctuate in varying different cultures, also supported by Kang et al. (2016).

If this is the case, then culture which engulfs social values and beliefs has a bearing on how firms make their profits. Concurrently, firms subscribe to socially responsible practices, an assertion supported by Horak et al. (2018). The six cultural dimensions posited by Hofstede (Hofstede, 2022, 2001) can be illustrated figuratively as in Figure 5.1 and Figure 5.2.

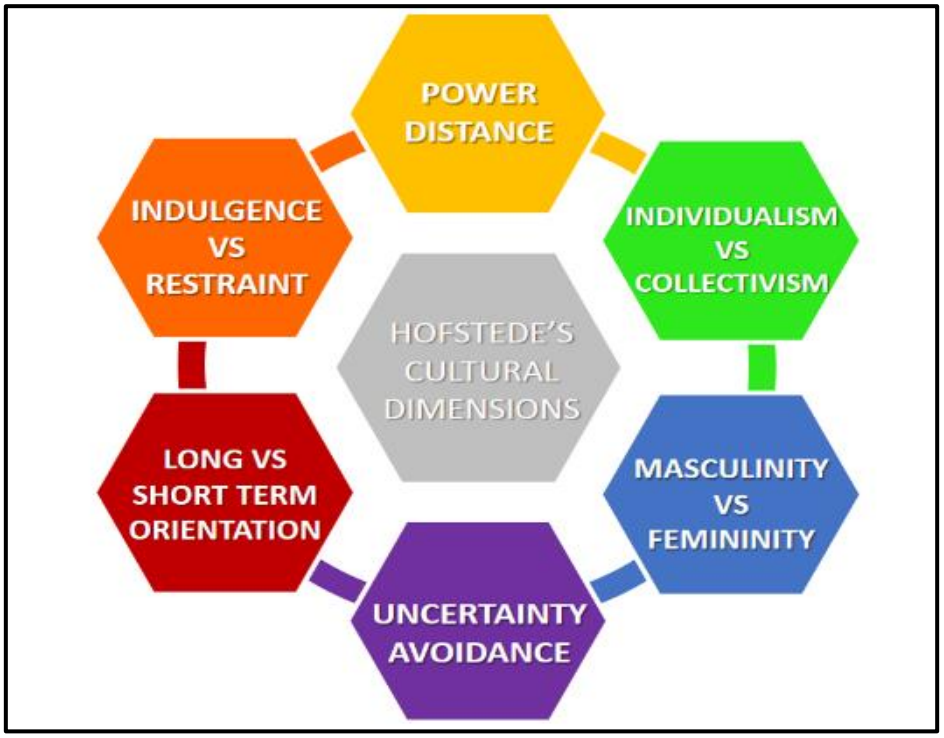

Figure 5.1 Hofstede's Six Cultural Dimensions

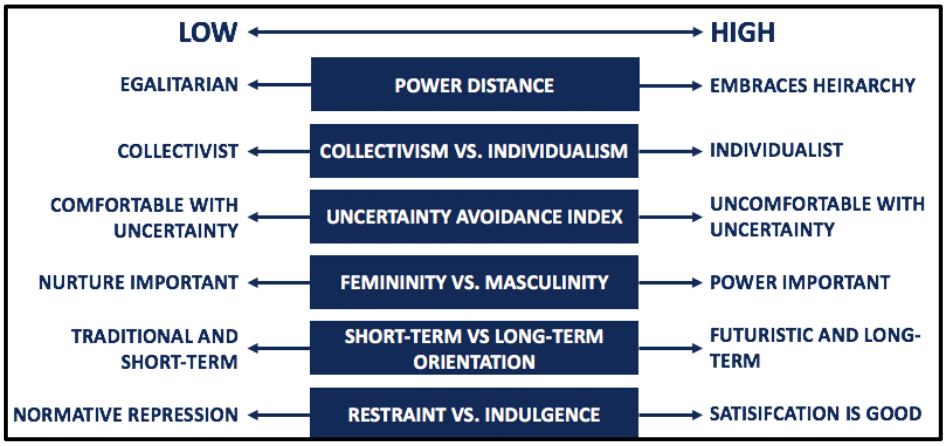

Figure 5.2 Theoretical Framework of Hofstede's Six Cultural Dimensions

Power distance (PDI)

Power distance (PDI) as a cultural dimension, signifies the extent to which the less dominant or influential individuals in organizations or societies imagine and acknowledge that power is allotted unfairly (Halkos & Skouloudis, 2016, 2017b). In high power distance countries, obedience, inequality, and formal hierarchies are tolerated with little room for further explanations. Individuals in a setting scoring high on this dimension outrightly accept an established chain of command and inequality and do not need further explanations. On the opposite extreme, societies of nations record low when exuding less tolerance, and sometimes yielding inequality in power (Hofstede, 2001; Hofstede et al., 2010).

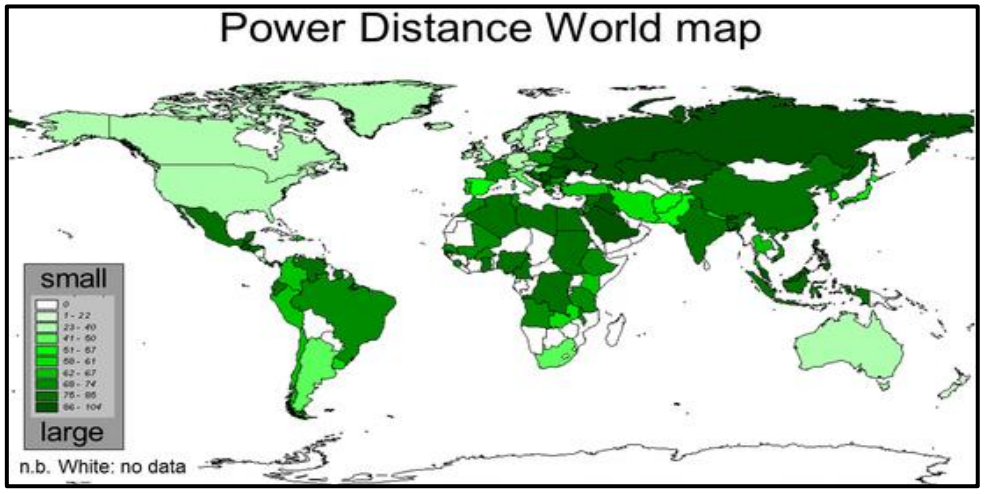

Figure 5.3 Hofstede 2021 Dimension Maps – Power Distance (PDI)

According to Hofstede et al. (2010), the Power distance (PDI) dimension of the world is summarised as in Figure 5.3. Many countries in Asia and Latin America have high values of power distance (PDI). In contrast, countries with low values of power distance (PDI) include Canada, United States of America (USA) United Kingdom (UK), Australia, and New Zealand. Individuals assume that people are equal with high presence of democratic institutions as a way of life. With reference to Figure 5.3, the PDI index scale theoretically ranges from 0 to 110. From 0 to about 54, territories within this range are identified as having small PDI distance with 0 being ideally 100% no distance; this implies all members are equal. From 55 to110, territories are identified as having a large PDI distance, implying members are unequal, with a clear divide between the high and low classes; 110 depicts being ideally 100% largest PDI distance. Currently, the values of the PDI fall between 11 and 104 (Hofstede, 2022).

Individualism versus collectivism (IDV)

Individualism versus collectivism (IDV) is correlated with the level of interdependence present among the socialites of a community (Hofstede, 2001). In individualistic societies, individuals are assumed to look after themselves and their nuclear families solely, without depending on others. To the contrary, in more collectivist societies, people belong to large and strong groups or families, from birth and thus are interdependent and loyal to the clan, for protection (Hofstede, 2001; Hofstede et al., 2010). According to Hofstede (2001), the Individualism (IDV) versus collectivism dimension of the world is summarised as in Figure 5.4. United States, Australia and United Kingdom exemplify countries with high individualism; people have an orientation towards caring only for a nuclear circle. In contrast, China, DRC, and Latin America are examples of countries with low individualism (high collectivism) with strong desire to belong to groups that serve collective interests.

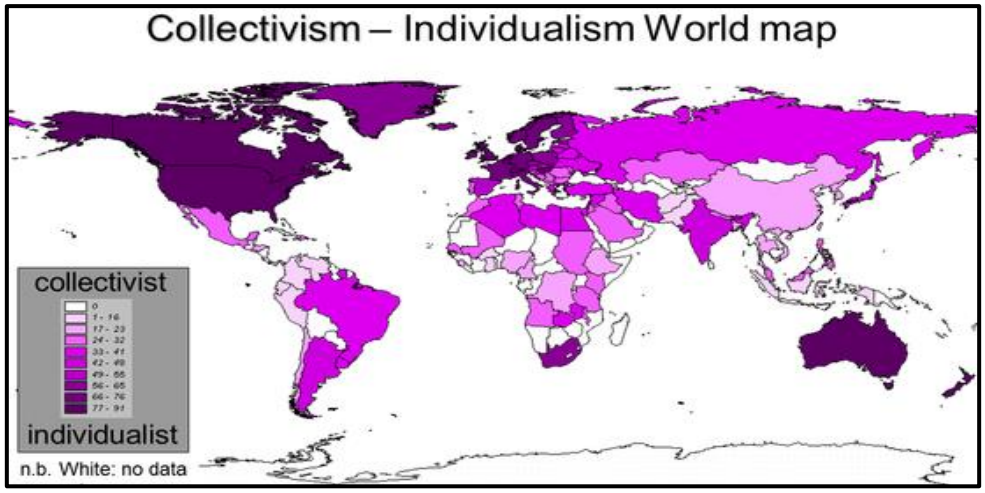

Figure 5.4 Hofstede 2021 Dimension Maps - Individualism (IDV) versus Collectivism

With reference to Figure 5.4, the IDV index scale theoretically ranges from 0 to 100. From 0 to about 49, territories within this range are identified as more collectivistic with 0 being ideally 100% collectivistic. From 50 to100, territories are identified as more individualistic, with 100 being ideally 100% individualistic. Currently, the values of the IDV index for the individualism range between 6 and 91 (Hofstede, 2022).

Masculinity (MAS) versus femininity

Nations or societies seen as more masculine are exemplified by effectiveness, boldness, and individual success. All these rank as significant returns (Hofstede, 2001; Hofstede et al., 2010). Under this cultural dimension, winning and being the best are the goals (Hofstede, 2022). Masculinity (MAS), versus the opposite as femininity, is the extent to which a society distinguishes and underscores traditional roles between genders. A high level of masculinity implies a society with values inclined to more male characteristics. These include assertiveness, competitiveness, success, and status (Hofstede, 2001; Hofstede et al., 2010). According to Hofstede (2020), for nations or societies considered more feminine (low masculinity), the range of valued traits and elements focus on teamwork, simplicity, value of living conditions, and enhanced social interactions. Success is measured by the value of life, not the ability to excel.

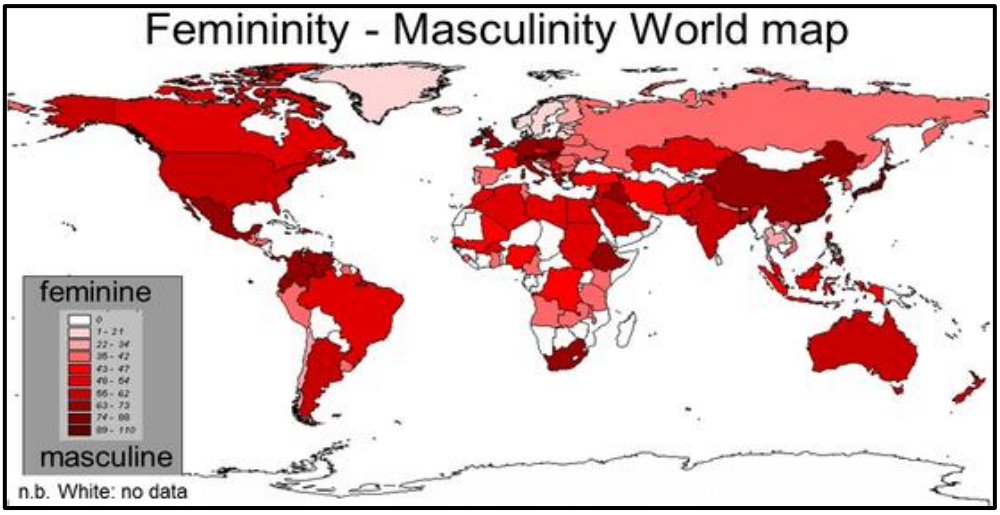

Figure 5.5 Hofstede 2021 Dimension Maps - Masculinity (MAS) versus Femininity

The Masculinity (MAS) versus Femininity dimension of the world is summarised in Figure 5.5. Evidently, most of Latin America, China, Ethiopia, Japan, and Hungary exemplify countries with high masculinity. In contrast, Greenland, most of the Scandinavian countries exhibit low masculinity (high femininity). With reference to Figure 5.5, the MAS scale theoretically ranges from 0 to 110. From 0 to about 54, territories within this range are identify as more feminine; 0 is ideally 100% feminine. From 55 to110, territories identify as more masculine; 110 is ideally 100% masculine. Currently, the values of the MAS index for the masculinity versus femininity dimension range between 5 and 104 (Hofstede, 2022).

Uncertainty avoidance (UAI)

Uncertainty avoidance (UAI) is associated with the extent to which inhabitants in a nation or community is lenient of fears or ambiguities (Hofstede, 2001; Hofstede et al., 2010). Nations or societies with higher scores of the UAI are prone to being uneasy with uncertain conditions. These societies often abide by written laws or codes for assurance and certainty. Societies with lower scores of the UAI display more flexibility in their opinions and conducts; they are often open to help in times of unclear conditions (Hofstede, 1980). According to Hofstede (2021), the UAI dimensions of the world are summarised in Figure 5.6. Russia, Chile, Greece, Portugal, and Belgium exemplify countries with high degree of UAI. Inhabitants exhibit intolerance towards uncertainty or ambiguity. Those with low degree of UAI include Singapore, Denmark, and Hong Kong. People in these societies are more accommodative and comfortable with uncertainty or ambiguity; they carry relaxed attitudes to possible changes.

With reference to Figure 5.6, the UAI index scale theoretically ranges from 0 to about 110. From 0 to about 54, territories within this range identify as more tolerant to change; they usually welcome flexibility in many aspects. The 0 one is ideally 100% tolerant/receptive. From 55 to about 110, territories identify as more avoidant. They usually are very set in their ways through systems or laws, with less room for flexibility. The 110 index signifies 100% avoidant or intolerant. Currently, the values of the UAI index for the uncertainty avoidance range between 8 and 112 (Hofstede, 2022).

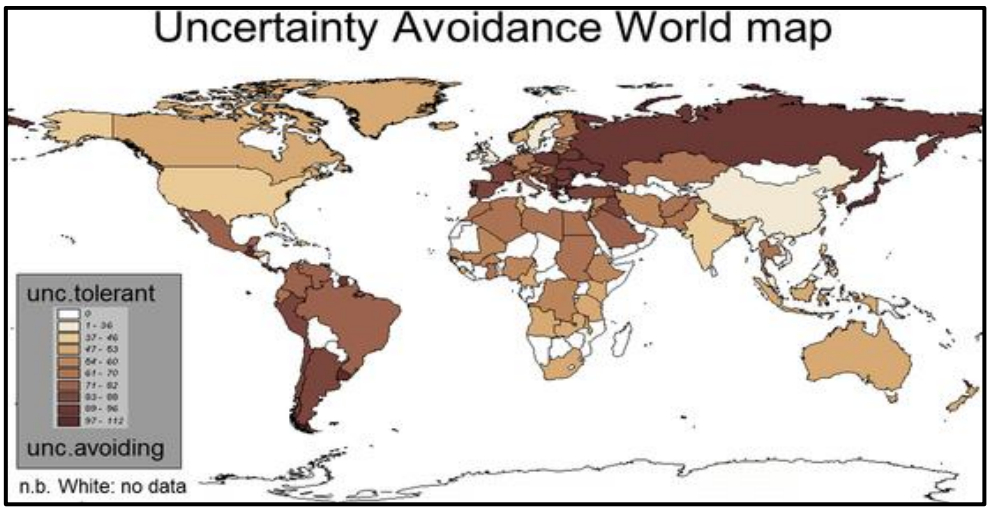

Figure 5.6 Hofstede 2021 Dimension Maps - Uncertainty Avoidance (UAI)

Long-term orientation (LTOR) versus short-term one

The long-term orientation (LTOR) symbolises a nation or society more oriented towards prospects. Inhabitants and more concerned with aspects of long-term activities such as the economy and how to survive in the longer future (Hofstede, 2001; Hofstede et al., 2010). In contrast, a short-term oriented society/nation is fixated on convention and follows its social commitments with outright results. The aim is to attain current or near future gratification. According to Hofstede (2022), the Long-term orientation (LTOR) dimension of the world is summarised in Figure 5.7. Examples include South Korea, Australia, UK, USA, and Canada. Inhabitants of these societies nurture perseverance, effort, and determination in goals. Everyone is not expectant of instant gratification. In contrast, some countries in Latin America and Africa have low values for the long-term orientation (LTOR).

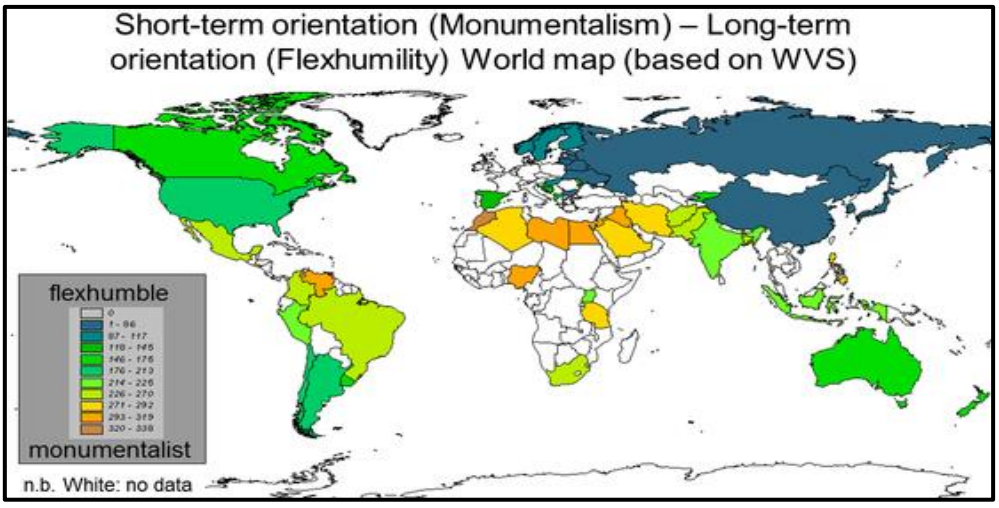

Figure 5.7 Hofstede 2021 Dimension Maps - Long-term orientation (LTOR)

With reference to Figure 5.7, the LTOR index scale theoretically ranges from 0 to about 350. From 0 to about 174, territories within this range identify as more oriented towards long term planning and future wellbeing. The 0 signifies a society ideally 100% long-term oriented. From 175 to about 350, territories identify as more oriented towards short term planning; they focus on immediate results for gratification at present, The 350 index signifies a territory or society ideally 100% short-term oriented. The values of the index for the LTOR range between 0 and 338. However, this interpretation is based on this study's researcher as inferred from Figure 5.7. Otherwise, Hofstede (2022) observes the range as from 0 to 100. This could be erroneous or maybe its interpretation is yet to be updated.

Indulgence versus restraint (IVR)

The Indulgence *versus* Restraint (IVR) dimension measures the degree to which the members of a nation/society regulate their wants and instincts. According to Hofstede et al. (2010), low/weak control is viewed as "indulgent" and strong control as "restraint." Indulgent societies often risk in attaining pleasure. This comes with less moral mastery and the associated low respect for social order. In contrast, those from restrained societies meet such pleasure or happiness with restraint; they are often regulated by strict social standards (Hofstede, 2001; Hofstede et al., 2010). Based on the map by Hofstede (2022), the IVR dimension of the world is summarised in Figure 5.8. Countries with higher values of IVR include Venezuela, Mexico, and Puerto Rico. Inhabitants in these societies are usually optimistic and often attach most value to leisure and free will spending habits. In contrast, those in societies with lower indulgence, such as China, Russia, and North Korea, try to control every inhabitant's desires and impulses, often to be supressed and ridiculed as practices of selfishness.

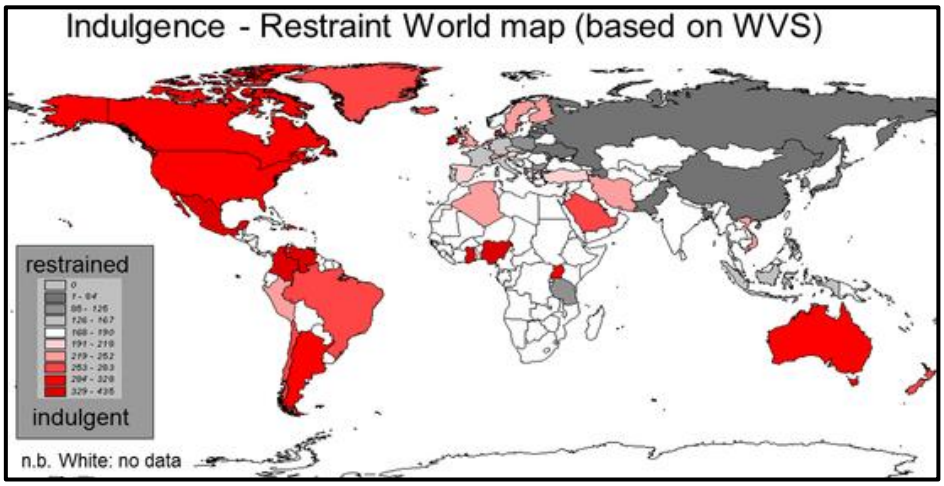

Figure 5.8 Hofstede 2021 Dimension Maps - Indulgence versus Restraint (IVR)

With reference to Figure 5.8, the IVR scale theoretically ranges from 0 to about 430. The 0 signifies a society 100% indulgent. As the scale increases and exceeds a certain threshold, it starts to change towards the measure of a more restrained society. Though Hofstede (2022) states that current values of the index for the indulgence (IVR) range between 0 and 100, this observation is contradictory to that which is as high as over 430 in Figure 5.8. Hofstede (2022)'s interpretation could be erroneous; it is yet to be updated.

5.5.2 Stability and criticism of Hofstede's cultural dimensions

Subscription to Hofstede's cultural dimensions has increased in recent studies between 2010 to date (Sent & Kroese, 2022). However, there remains a section of critics who have questioned the validity and stability of the Hofstede's dimensions (Jackson, 2020; Neelankavil, 2015). Despite the perceived stability of Hofstede's cultural dimensions, these have not been immune from criticism. The "appropriateness of the samples" used in deriving the measures, the "labelling of the terms" and "other biases" (all from (Neelankavil, 2015, pp 51) stand out as key criticisms, questioned also by other scholars.

Firstly, the mode of data collection for the cultural measures has come under criticism as not only outdated. Modes have used less versatile methods whose results are considered not generalisable not even to a single country. Most data have been collected occasionally since 1960s while the latest update occurred in 2015, but not for all countries. As a country evolves and develops over time economically, there is likely to be a societal evolution that affects values, besides the high mobility and migrations around the world, also supported by Jackson (2020) and Sent & Kroese (2022). This is expected to have a bearing on a cultural dimension, yet Hofstede's scores on national cultural dimensions are considered constant over time. Hence, the countries' cultural dimensions compiled by Hofstede have remained the same from the time they were first determined as far back as 1960 and 1970s.

Secondly, the sample used of IBM's global interviews in 1967-1972 pioneer studies have been identified as not representative and deeply flawed. Data collected was unusable for measuring variations in national cultures between countries but beneficial only for the those within IBM's corporate culture, also observed by Neelankavil (2015). Though the large database of employee value scores collected was drawn from over 70 countries, only respondents from about 40 countries representing the largest groups were retained. This brings the validity of measures into question; the comparability even within firms becomes difficult. If more firms were included in the study from different countries, this would have enhanced the validity of the measures. However, the corporate culture is still not equivalent to the national culture. The use of the survey in the IBM study poses a challenge too. Those participating could have represented the values or beliefs of a limited population.

Thirdly, Hofstede's mentioned IBM survey (Minkov & Kaasa, 2020) could be seen as more aligned to business cultures than national cultures. Management attitudes of only IBM senior managers were reviewed. Rather, the principal societal behavioural patterns at a national level, again are very limitative since only a small segment of the USA was used.

Fourthly, the main biases arise from the use of the survey questionnaire instrument whose scales have been criticised for being skewed towards populations in Western societies, also noted by Neelankavil (2015) and Beugelsdijk et al. (2015). This has implications because some terms in questionnaire are likely to have been interpreted differently if extended to other non-US firms or populations (Sent & Kroese, 2022)

In a study by Beugelsdijk et al. (2015), Hofstede's dimensions were examined by reviewing how they have changed over time by repeating Hofstede's dimensions for two generational cohorts using data from the World Values Survey. The scholars found on average that communities ranked higher on Individualism (IDV) and Indulgence versus Restraint (IVR), and lower on Power Distance (PDI). This led to the conclusion that cultural shift is fundamental rather than relative. The nations' culture scores relative to each other are scarcely altered and considered as time invariant (Beugelsdijk et al., 2018).

5.5.3 Review of past studies on relationship between national culture and CSR

The review of recent empirical studies on the relationship between national culture and CSR between 2010 to date shows different and mixed results. This section critically reviews the empirical findings. Comparisons between the studies in the last twelve years are made in chronological order, starting with the latest. Table 5.1 summarises the main empirical studies in this research area.

To date, the findings on the relationship between the national culture and CSR remain inconclusive and range from being positive, negative, mixed, inconclusive to non-significant results. Hence, no consensus on the effect of most of Hofstede's cultural dimensions on CSR exists. Notably, earlier studies before 1991 used only four Hofstede's dimensions that were available without the long-term versus short term orientation (LTOR) that was added that year. It was only in 2010 that the sixth and final dimension to date were added too. These are the

Indulgence Versus Restraint (IVR) based on Hofstede & Minkov (2010)'s and Hofstede et al. (2010)'s evaluation of the World Values Survey data for 93 countries. This situation has made Comparisons between past studies before 1991 with those between 1991 and 2010 and up to date, have been difficult. With this background, this study limited its review to only findings from 2010 to date.

With reference to the relevant key studies summarised in Table 5.1, the power-distance (PDI) dimension was found to be significantly positively related to CSR by about less than 60% of studies by: (Diamastuti et al., 2020; Griffin et al., 2021; F. N. Ho et al., 2012; Kang et al., 2016; Koprowski et al., 2021; Onkenhout, 2020). However, using the same variables, Peng et al. (2012) found a significant but negative relationship. The rest of the studies found an insignificant relationship between the power-distance (PDI) dimension and CSR namely: (Halkos & Skouloudis, 2016, 2017; Pucheta-Martínez & Gallego-Álvarez, 2020) The remainder found inconclusive results between the named variables of interest. The variations in findings just on the PDI dimension covered herein exemplifies the difficulties in consensus. This extends to the remaining five Hofstede's cultural variables as well.

Comparisons of findings between studies has not been easy. Inconsistences and the freedom of research designs, the application of both unvalidated and validated measures for national culture have been common in this area. Griffin et al. (2021) investigated the link between national culture and CSR The scholars operationalised CSR as corporate environmental and social performance. A very large panel dataset of 33,021 firm-year observations collected from 4, 587 firms located in 43 countries over a 13-year duration was employed. One weakness with Griffin et al. (2021)'s study was the use of only one of Hofstede's cultural dimensions. This was individualism (IDV) with another proxy of individualism from EVS for national culture. Though a significant and strong relationship was established between IDV and corporate environmental and social performance (proxy for CSR), comparing with other studies using all six dimensions was deemed less objective. Griffin et al. (2021) used the hierarchal linear modelling (HLM) estimator for regression, not common in the research design for this area of research. Hence, it was difficult to compare with most other studies.

Some studies have focused on enhancing the reliability and robustness of data analysed. As example, using data for 4, 598 firms from 41 nations, Koprowski et al. (2021) used a two-

model approach comprising: one with all variables and the other as stepwise. The emphasis was to enhance the study's reliability and robustness for multiple regression analysis. The two methods produced similar results of "positive influences of the cultural dimensions of power distance index (PDI), individualism index (IDV), and long-term orientation index (LTOR) on CSR performance" (Koprowski et al, 2021, pp 7). In summary, firms in nations with cultures that invest more in CSR performance exhibit higher power-distance (PDI), higher individualism (IDV), lower masculinity or higher feminism (MAS), lower uncertainty avoidance (UAI) and a longer-term orientation (LTOR). Koprowski et al. (2021)'s major contribution was the use of five of Hofstede's dimensions. However, one limitation of the study is the interpretation of what was "positive" or "negative" for the relationships covered herein.

In disparity, Onkenhout (2020)'s study found only the power-distance (PDI) cultural dimension bearing a positive influence on a firm' CSR performance. Only four out of the six Hofstede's cultural dimensions were considered in this study. The rest of the three dimensions had an insignificant effect on CSR namely: uncertainty avoidance (UAI), individualism (IDV), and masculinity (MAS). The strengths of Onkenhout (2020)'s study lay in the use of a large dataset of 165 multinational firms drawn from 23 countries in eight different industries. The study also addressed other areas: the effect of a headquarters' home country sustainable development and the CEO's foreignness.

Another limitation from some past studies has been the use of cross-sectional data of one year, instead of covering a longer duration (Diamastuti et al., 2020; Prof. I. Gallego-Álvarez & Ortas, 2017; Koprowski et al., 2021; Onkenhout, 2020; Orij, 2010; Peng et al., 2012). To illustrate, not only did Diamastuti et al. (2020) use 100 employees from 50 state-run firms based in one country, Indonesia. An uncommon data collection method in this research area was employed: a survey questionnaire. Further, only one-time period was used as cross-sectional data. Diamastuti et al. (2020)'s findings were for two out of the five of Hofstede's dimensions. A significant and positive influence on CSR namely was established with power distance (PDI) and individualism/ collectivism (IDV). Each of the remaining three dimensions exhibited an insignificant negative effect on CSR. Hence, Diamastuti et al. (2020) concluded that not all of Hofstede's cultural dimensions impact on CSR application in Indonesian state firms. Another limitation is that generalisation of findings to other population is less valid; all sample from was from Indonesia. Also, the sample size was about half of the state firms: 50 out of 115. To

affirm, the scholars alluded to this limitation and called for future research that employs larger sample sizes. While this study suffers from the delineated shortcomings, it digressed from the common data collection methods of panel data in this area. However, the findings of Diamastuti et al. (2020) for power distance (PDI) were the same with Onkenhout (2020)'s study in the same year.

Pucheta-Martínez & Gallego-Álvarez (2020)'s study stands out for using a large panel dataset. It was based on 12,759 firm-year observations from 28 countries spanning 2004 to 2015. Its strength lay in the methodological perspective and analysis of data using the generalised method of moments (GMM) to estimate the model as a dynamic panel data estimator. A multivariate analysis was conducted on a total of nine models. In summary, the duo found three of Hofstede's cultural dimensions as impacting environmental disclosure. These were: individualism (IDV), masculinity (MAS) and indulgence (IND). Power distance (PDI) had an insignificant effect. However, no details were available on findings related to two other dimensions: Long-term orientation (LTOR) and Indulgence versus restraint (IVR).

Though Slangen (2019) contributed to this area of research by examining all the six Hofstede's cultural dimensions on CSR, the findings suffer from aspects of validity and reliability because of using cross sectional data for one year. This adds to the number of studies that also had this shortcoming, listed in an earlier paragraph.

Overwhelming evidence exists on the lack of a consistent research design for examining this relationship under study. Not only has this situation exacerbated the congruence in the not-so-helpful categories of findings. This has led to different findings: mixed, inconclusive or insignificant. Hence, the comparison of findings from different studies has been difficult. Examples of these inconsistencies from past studies are identified below.

Though Kucharska & Kowalczyk (2019) established the strongest positive relationship between long-term orientation (LTOR) dimension and CSR, compared with the other cultural dimensions, several shortcomings are identifiable. First, the data sample was very small comprising 539 employees. Second, all were drawn from one industry: construction. Third, a close examination reveals the use of interviews, departing from the panel datasets used in this

area. Outrightly, it is less objective to compare the findings of the named study with most relevant past studies after deviating from the established research designs.

Using a one-off research design, Thanetsunthorn & Wuthisatian (2018)' s enquiry on national cultures and their effect on CSR departed from the tradition. First, the research conceptualised three activities deemed as adding value to employees namely: compensation and benefits (CB), labour rights and diversity (DLR) and training, health, and safety (THS). Second, each of the three were matched with Hofstede's cultural dimensions for the hypothesis development. Third, data on three aspects was collected from the CSR Hub Inc, a not so universally used source for CSR data. Fourth, cross-sectional data was used. Admittedly, the scholars called for future research that applies panel regression over a longer time duration. Doing so is expected to investigate the dynamics between the national culture and employee-based CSR activities. One strength of the study lay in the large panel dataset representing over 8,900 firms from about 48 countries located in 9 different regions A pooled OLS regression was run on the data. Consequently, Thanetsunthorn & Wuthisatian (2018)'s findings were specifically multiple in that cultural configuration models were outputs matched to a range of potential parameters linked to employee aspects supporting CSR activities.

Mixed findings were arrived at when Gallén & Peraita (2018) examined the effect of the six Hofstede's cultural dimensions on CSR. Six years of panel data was collected from 9869 Global Reporting Initiative (GRI) reports, as proxy for CSR, from 44 countries. Using a Feasible Generalised Least Squares (FGLS) and panel-corrected SEs estimator, mixed results were found. Power distance (PDI), Individualism (IDV), Masculinity (MAS) and Long-term orientation (LTOR) were all found to be negatively related with CSR. Only the Uncertainty avoidance (UAI) was positively related. One resultant contribution from Gallen & Peraita (2018)'s study was "the relationships of cultural dimensions with CSR disclosure are not homogeneous between countries. On the contrary, they are strongly influenced by the level of wealth of the countries" (pp 2977).

Prof. I. Gallego-Álvarez & Ortas (2017)'s study used 3917 firms from 59 countries in a cross-sectional data for a single period. Employing quantile regression modelling, the scholars found a significant and positive relationship between CSR and two of Hofstede's cultural dimensions namely: Uncertainty avoidance (UAI) and Long-term orientation (LTOR). A significant and

negative relationship was detected with each of the three of Hofstede's dimensions: Power distance (PDI), Masculinity (MAS) and Indulgent versus restraint (IVR). No effect was observed for Individualism (IDV). One overarching limitation was the use of a single period data as cross-sectional, a criticism aired by numerous scholars. Using a longer duration is likely to have yielded different findings from the ones enumerated herein.

Among the renowned scholars with huge contributions to this area, Halkos& Skouloudis (Halkos & Skouloudis, 2016, 2017) are. The duo carried on two investigations over a period of two successive years. These are covered herein, starting with the earlier study.

Halkos & Skouloudis (2016)'s first study assessed the impact of national culture on a nation's CSR penetration, based on countries' business segments. Theis sample comprised 86 countries. The duo found two of Hofstede's dimensions as having a positive impact on CSR penetration namely: long-term versus (LTOR) short-term orientation and indulgence (IND) versus restraint. However, the uncertainty avoidance (UAI) registered a negative impact. Insignificant, was the effect of the remaining three namely: individualism (IDV), power distance (PDI) and masculinity (MAS). This first study's findings were unclear on how the CSR penetration was measured. So was the choice of 86 countries from the rest of the world. Data sources and sampling methods remain unclear about this study, making it difficult to follow through. This led to the scholars revisiting the study in the following year of 2017, covered next.

To follow up as second study, Halkos & Skouloudis (2017) re-evaluated the link between national culture and CSR penetration. This time, the duo focused on examining this link at a macro level using Hofstede's dimensions. Surprisingly, their findings were almost the same as those from their earlier 2016 study covered in the previous paragraph.

To exemplify a deviation in the measurement of CSR, Disli et al. (2016) used carbon monoxide (CO2) emissions as a proxy for CSR from the environmental perspective. Though the information about the sample size is unclear, data collected was from 69 countries over a 9-year duration for a panel data set. Regression on generalized method of moments (GMM) estimator yielded a significant and negative relationship between Hofstede's Power distance (PDI) cultural measure and the CO2 emissions. This study exemplifies the variations in

measurements of CSR. Also, though all six Hofstede's cultural variables were included, only the PDI was found to have a significant negative effect.

Garcia-Sanchez et al. (2016) assessed the effect of "institutional environment" on CSR disclosure, using data from the Global Reporting Initiative (GRI). This gives guidelines with cultural systems included among the categories. Nevertheless, this deviated from the conventional sources in this research area. Again, this makes the comparisons with other studies complicated and less valid. As one merit, the study employed a robust research design of a panel data set with 1598 firms drawn from 20 countries over a 7-year duration. Data on five of Hofstede's cultural dimensions, with the exclusion of the Indulgence versus restraint (IVR) was collected. Employing an econometrics model, the scholars found four of Hofstede's cultural dimensions with a significant and negative relationship with CSR disclosure. These were: Individualism (IDV), Masculinity (MAS), Uncertainty avoidance (UAI) and Power-distance (PDI). Interpreted in layperson's terms, firms in more collectivist societies (less individualistic) disclose more on CSR than those identified in more individualistic ones. The fifth dimension of Long-term orientation (LTOR) was found to be significant and positively related to CSR disclosure. In summary, using the scholars' words "Concretely, firms located in coercive societies, characterized by higher long-term orientation, higher cultural values of collectivist, feminist and uncertainty avoidance and a lower power distance index, are more sensitive to publishing corporate social responsibility reports" (pp 15).

The study of Kang et al. (2016) used one industry, one limitation in that generalising findings to other populations becomes restricted. The use of a small sample size collected from one country was another limitation. Only the US based hospitality industry was used comprising: 48 from lodgings, 94 from casinos and 223 from restaurants. This transcended in 365 firm-year observations over the years spanning 1993 to 2011. Scores for the cultural dimensions were obtained from Geert Hofstede's website and CSR scores from KLD STAT. The scholars found a significantly positive relationship between uncertainty avoidance (UAI) and the overall CSR score. So was that of power distance (PDI) on both positive and negative CSR scores. However, that of individualism (IDV) was significantly negative on positive and negative CSR scores. Uniquely, masculinity (MAS) was significantly negative related to overall CSR score. Replicating this study in different industries and more non-US based or related environments would help enhance the study's reliability and reduce the industry bias of findings. Third, the

study used only four Hofstede's cultural dimensions, a time when all the current six were available. One strength of the study was the use of 18 years duration of longitudinal data. Thus, the findings are expected to have been more reliable and objective, contrary to those from most previous and recent studies that used a single period duration as cross-sectional data.

Like the majority, Thanetsunthorn (2015)'s study used a single period of data for 2013, instead of a time series based one over a longer duration. As a strength, a robust and very large sample size was employed. It comprised 3055 firms located in 28 countries, specifically of Eastern Asian and European lands. Data sources were the CSR Hub database for the CSR scores, while Hofstede's cultural dimensions were from the founder's website. Upon regressing using OLS method, Thanetsunthorn (2015) found both positive and negative significant effects of Hofstede's cultural dimensions on the CSR dimensions. Nevertheless, a notable limitation is identifiable when controlling for effects on CSR. The scholar used only macro-based variables and none of firm specific type. Having a balance of such variables would have yielded more objective insights and findings on the effect of national culture on CSR. Finally, the scholar called for future research that adds financial performance when analysing the relationship of interest; national culture-CSR relationship. Such an addition will enable identify a CSR component linked with the highest return.

Three studies of interest took place between 2010 and 2012. Though there were a number before this period, this study focused on those from 2010 namely: Orij (2010), (Peng et al., 2012), and F. N. Ho et al. (2012). Each is reviewed next.

F. N. Ho et al. (2012) evaluated the link between national culture in multiple geographical locations and a firm's CSR. Using data from 49 countries comprising 3,680 observations, the scholars established a significant effect on these two constructs of interest. Specially, European countries exerted the highest effect on CSR, when compared with other regions/countries. However, only four Hofstede cultural dimensions were used. By 2012, all the six had been added to Hofstede's website. Therefore, the use of all six was expected. However, F. N. Ho et al. (2012) did give any reason for omitting the two. Therefore, the scholars' findings are only comparable based on the four dimensions.

Peng et al. (2012)'s study is one of the most cited. It is one of the earliest in empirical research within this area. is. The scholars used a wide sample of 1,189 firms at that time, collected from the databases of DJSI and Compustat Global Vantage. Upon examining the relationship between national culture and CSR, Peng et al. (2012) established that all the four Hofstede cultural dimensions used had the power to predict a firm's CSR and its associated commitments. Specifically, individualism (IDV) and uncertainty avoidance (UAI) were found to have a positive link with a firm's CSR practices/activities. The remaining two had a negative effect namely: power distance (PDI) and masculinity (MAS). Despite the big sample size, one overarching limitation of Peng et al. (2012)'s study was the use of cross-sectional data and only four of Hofstede's cultural dimensions.

Orij (2010) is renowned as one of the earliest contributors to this research area. With a sample composed of 600 firms drawn from 22 countries, the scholar found a significant and positive relationship between Hofstede's Individualism (IDV) and CSR disclosure. In contrast, a significant and negative one was established for Power distance (PDI) and Masculinity (MAS). There was no evidence of a relationship with the Long-term Orientation (LTOR). Again, one shortcoming of this study was the use of one period as cross-sectional data collected in 2006 only.

Table 5.1 Summary of empirical findings on CSR - National Culture in last 20 years

Source: Made by the author

Authors	**Sample size**	**Years**	**Area**	**Data analysis methods**	**Independent variables**	**Other variables**	**Summary relationship with CSR or CSP**
Griffin et al (2021)	4,587 firms for 33,021 firm-year obs	13 2003–2015	43 countries	Hierarchical linear modelling (HLM) estimator	2 proxies for Individualism : From Hofstede and EVS	*Dependent:* CSR using E&S scores from Thomson Reuters *Controls*: GDP ADRI Tobin's Q ROA Firm size Sales growth R&D WGIs	Positive significant with: (IDV)
Koprowski et al (2021)	4,598 firms	1 2017	41 countries	Correlations Multiple regression on panel data using two models	Hofstede's 6 cultural dimensions	*Dependent:* CSR indices	Positive significant with: (PDI), (IDV), (LTOR)
Pucheta-Martínez & Gallego-Álvarez (2020)	12,759 firm-year observations	12 2004-2015	28 countries	Multivariate analysis on Generalized Method of Moments (GMM)	Hofstede's 6 cultural dimensions	*Dependent:* Environmental disclosure *Controls:* Legal system Firm size ROA Leverage Board size Board independence CSR committee presence Regional effect Year	Positive significant with: (IDV) (MAS) (IND) Positive insignificant with: (PDI)
Onkenhout (2020)	165 firms	1 2017	23 countries	Multiple regression on panel data	Hofstede's 4 cultural dimensions	*Dependent:* CSR scores *Moderating:* EPI index for HQ's home country sustainable development CEO foreignness *Controls:* Firm size Firm profitability (ROE) Firm industry	Positive significant with: (PDI) Positive insignificant with: (UAI) (IDV) (MAS)
Diamastuti (2020)	50 state-owned firms	1	Indonesia	Multiple regression on survey data	Hofstede's 5 cultural dimensions: PDI, IDV, UAI, MAS and LTOR	*Dependent* CSR scores collected on basis of 1-3% of PAT	Positive significant with: (PDI) (IDV) Negative insignificant with: (UAI) (MAS) (LTOR)

Authors	**Sample size**	**Years**	**Area**	**Data analysis methods**	**Independent variables**	**Other variables**	**Summary relationship with CSR or CSP**
Slangen (2019)	215 firms	1	23 countries	Multiple variate regression	Hofstede's 6 cultural dimensions	*Dependent* ESG scores for CSR *Moderating:* ACWI MSCI Index for state of development *Controls:* Firm size= no of employees Industry type ROE for profitability	Mixed results
Kucharska & Kowalczyk (2019)	539 employees in construction industry	1/2	Poland	Structural equation model (SEM)	Hofstede's 6 cultural dimensions	*Dependent* Unclear how CSR was measured. *Controls:* Firm size Staff position	Positive significant with: (LTOR)
Gallen & Peraita (2018)	9869 GRI reports	6 2007-2012	44 countries	Feasible Generaliised Least Squares (FGLS) and panel-corrected SEs	Hofstede's 6 cultural dimensions	*Dependent* GRI measure from GRI reports *Controls:* Government effectiveness GDP	Negative with: PDI, IDV, MAS, LTOR Positive with: UAI
Thanetsunthorn , & Wuthisatian (2018)	8,940 firms	1	48 countries	Pooled ordinary least square (OLS) regression	Hofstede's 6 cultural dimensions	*Dependent:* CSR linked to CB, DLR and TSH	Mixed effects on the three activities
Gallego-Álvarez & Ortas (2017)	3917 firms	1 2010	59 countries	Quantile regression modelling	Hofstede's 6 cultural dimensions	*Dependent:* CSR scores using a developed score of CESR *Controls:* Firm size ROA TM annual return TM capitalization R&D spending Leverage Economic sector in which firm operates	Positive significant with: (UAI) (LTOR) Negative significant with: (PDI) (MAS) (IVR) No effect with (IDV)
Disli et al (2016)		9 2000-2008	69 countries (developed and developing)	Regression on generalized method of moments (GMM) estimator	Hofstede's 6 cultural dimensions	*Dependent:* CO_2 emission scores as CSR proxy *Controls:* Ratio of trade exports to GDP Fixed capital formation to GDP	Negative significant with: (PDI)
Garcia-Sanchez et al (2016)	1598 firms	7 2004-2010	20 countries		Hofstede's 5 cultural dimensions + Institutional + Legal (7 in total)	*Dependent:* GRI for CSR info disclosures	Negative significant with: IDV, MAS, UAI, PDI, Positive significant with: LTOR

Authors	**Sample size**	**Years**	**Area**	**Data analysis methods**	**Independent variables**	**Other variables**	**Summary relationship with CSR or CSP**
Halkos & Skouloudis (2017); (2016)	N/A	N/A	86 countries	OLS regression	Hofstede's 6 cultural dimensions	*Dependent:* National CSR index *Controls:* GDP Macroeconomic stability (MS) Ease of Doing Business (EDB) Corruption Control (COR)	Positive significant with: (LTOR) (IND) Negative significant with: (UAI) Insignificant with: (IDV) (PDI) (MAS)
Kang et al (2016)	365 obs from: 48 lodgings 94 casinos 223 restaurants	18 1993-2011	USA-based but MNC in hospitality with links to 63 countries	Regression analysis	Hofstede's 4 cultural dimension (Weighted average)	*Dependents:* Total CSR Negative CSR Positive CSR *Controls:* Firm size Leverage Profitability Degree of franchising	Positive significant with: (UAI) on overall CSR score Positive significant with: (PDI) on both + and -CSR scores Negative significant with: (IDVI) on both + and -CSR scores Negative significant with: (MAS) on overall CSR score
Thanetsunthorn (2015)	3055 firms	1 2013	28 countries (Mostly Eastern Asia and Europe)	OLS regression	Hofstede's 6 cultural dimensions	*Dependent:* CSR scores *Controls:* Life Expectancy at Birth Economic Risk Law and Order Human Development Index	Mixed (Both positive and negative significant effects)
Peng et al (2012)	1189 firms	1	25 countries	Binary logistic regression	Hofstede's 4 cultural dimensions	*Dependent:* CSR engagement *Controls:* *Firm-level* Firm size Firm performance Net income per employee *Industry/National level* Prosperity of the country	Positive significant with: (IDV) (UAI) Negative significant with: (PDI) MAS)

Authors	**Sample size**	**Years**	**Area**	**Data analysis methods**	**Independent variables**	**Other variables**	**Summary relationship with CSR or CSP**
Ho et al (2012)	3,680 firm year obs	6 2003-2008	49 countries	Two stage least square (2SLS) regression	Hofstede's 6 cultural dimensions	*Dependent:* CSP scores *Controls:* *Firm-level* Firm size Prior financial performance Growth rate Leverage R&D Marketing-related expenses *Industry* Fixed effects Degree of competitive intensity	Positive significant with: All six
Orij (2010)	600 firms	1 2006	22 countries	T-tests of means Bivariate Pearson correlations OLS linear regression models for different CSD levels	Hofstede's 5 cultural dimensions (MAS, PDI, IDV, UAI, LTOR	*Dependent:* Corporate social disclosure (CSD)	Positive significant with: IDV Negative significant with: PDI, MAS No relation with: LTOR

5.5.4 Review of recent studies using national culture as moderating/control influence

Recently, three empirical studies operationalised the national culture as a controlling influence/control or moderating variable in the relationship between CSR and firm performance. These are briefly covered hereafter, namely: H.-F. Hsiao et al. (2024), Shin et al. (2023a) and Wasiuzzaman et al. (2023). Their findings are mixed, and thereby with no consensus in sight soon. More studies are needed to add to the few carried out in the last two years.

H.-F. Hsiao et al. (2024) operationalised national culture as a moderating variable when investigating the impact of CSR on firm performance. The scholars used a sample of listed firms from 15 countries, over a ten-year duration (2011 to 2020). With respect to Hofstede's cultural dimensions, PDI and UAI were found to have a negative influence on the relationship. IDV had a positive influence.

Using the largest sample size in the deviated area of research where national culture was the moderating variable, Shin et al. (2023) employed 4978 firms drawn from 48 countries over a seventeen (17) year duration. High IDV and MAS exhibited a positive influence on a firm's

ESG performance and financial performance In contrast, high PDI and UAI had lower influence.

When Wasiuzzaman et al. (2023) examined the influence that culture has on the relationship between ESG investments and firm performance, a significant negative influence on profitability was revealed. Only the dimension of PDI and LTOR were found to significantly moderate the named relationship: ESG investments and firm performance. MAS, UAI and IDV did not bear significant influence on the relationship. Though the sample of global 668 firms over an eight-year period (2009 to 2016) was used, all firms were drawn from the energy sector, making these findings less generalizable to other industries.

To facilitate objective comparability, this study opted to operationalise national culture as the independent construct, given that more relevant past studies in this area did so. Hence, Hofstede's cultural dimensions were the independent variables.

5.5.5 Summary of limitations arising from past studies

The review of methodologies used in the key and relevant studies showed evidence of numerous limitations that had a bearing on the validity and findings in this research area.

Firstly, most have used cross sectional data rather than longitudinal or time series, a situation that limits the reliability of the findings. The effects of culture on CSR, is expectantly better observed over a longer duration. Out of the studies in Table 5.1, eight (8) used cross sectional data namely: (Diamastuti et al., 2020; Koprowski et al., 2021; Kucharska & Kowalczyk, 2019; Onkenhout, 2020; Peng et al., 2012; Slangen, 2019; Thanetsunthorn, 2015; Thanetsunthorn & Wuthisatian, 2018). Not only does this affect the reliability of findings, but also makes it difficult for any researcher to compare findings across different studies. On a positive note, only three used a longer data duration namely: (Pucheta-Martínez & Gallego-Álvarez, 2020): 12 years; (Kang et al., 2016b): 18 years; and (F. N. Ho et al., 2012b): 6 years.

Secondly, the inconsistency of the number of Hofstede's cultural dimensions in past studies exists so that comparability between findings remains less uniform. Hofstede (2022)'s fifth dimension of long-term versus short term (LTOR) was added in 1991. The sixth and final one

for indulgent versus restraint (IVR) was added in 2010. Despite this observation, some recent studies chose to use fewer dimensions: four (Onkenhout, 2020a), five (Diamastuti et al., 2020). Few covered all six (Koprowski et al., 2021). Seemingly. the two dimensions that were added on after the original four have received very little attention with regards to their inclusion in examining the national cultures – CSR relationship, also attested to by Slangen (2019).

Thirdly, the sample sizes for the populations of study used vary widely. Some drew these from a single country and others from multiple countries. Since the sample sizes can be measured in terms of the firm-observation years if using panel data, this is expected to give rise to different data layout and collation. Expectantly, scholars using panel data often dictate for the surety of a strong and balanced panel data set. Exceptionally, Pucheta-Martínez & Gallego-Álvarez (2020) stands out as one that used one of the largest sample sizes of 12,759 firm-year observations drawn from firms in 28 countries. However, the study is slightly different from this research area under review. Pucheta-Martínez & Gallego-Álvarez (2020) focused on environmental disclosure rather than CSR, with respect to national culture. In contrast, two studies used only one country for its data subjects namely: Diamastuti et al. (2020), Indonesia; and (Kucharska & Kowalczyk, 2019), Poland.

Fourthly, different data collection methods have been used across the past studies. Though the majority used secondary data from leading databases or firms' websites, two used questionnaire surveys administered to employees namely: (Diamastuti et al., 2020) to senior managers and (Kucharska & Kowalczyk, 2019) to construction staff in middle and lower echelons.

Not only have all the identified shortcomings made the comparison across past studies difficult. There has been an assumed compromise of the validity and reliability of outputs. Also, statistical generalisations to other populations have been limited.

5.5.6 Control variables used in past studies.

To mitigate the possibility of obtaining biased estimates, several control variables have been used at both firm and national levels. Despite this, the inconsistency of variables used in past studies remains common. With reference to Table 5.1, the most common control variables for the last 12 years of studies on the relationship between national cultures and CSR from 2010 are catalogued in the following paragraphs. These are categorised as firm-specific and those of

World Governance Indicators (WGIs).

a) Firm-specific

There exists common control variables and measurements associated to this research area. These are assumed as validated since they have been tested to have a controlling influence on the quantitative-based CSR-related research. These are hereby enumerated.

To control for profitability, common measures used include the return on assets (ROA) and or return on equity (ROE). Most studies measured ROA as the as the ratio of the profit after tax or net income divided total assets value (Boubakri et al., 2021; Prof. I. Gallego-Álvarez & Ortas, 2017; Griffin et al., 2021; Koprowski et al., 2021; Pucheta-Martínez & Gallego-Álvarez, 2020). These studies revealed a positive influence of ROA on the national culture – CSR relationship. Rationally, firms with abundant resources and assets are inclined to invest in CSR activities due to the idle or slack resources, thereby increasing the ROA, also supported by Prof. I. Gallego-Álvarez & Ortas (2017).

To control for the proportion of debt, most studies included "Leverage" or "Financial leverage", defined as the ratio of total debts to total assets value (Boubakri et al., 2021; Prof. I. Gallego-Álvarez & Ortas, 2017; F. N. Ho et al., 2012; Kang et al., 2016; Pucheta-Martínez & Gallego-Álvarez, 2020). A review of the more recent of these studies leads one to conclude mixed findings on the influenced inflicted by the financial leverage, also alluded to in the meta-analytic review findings of Fifka (2013). Past studies have not found common ground on the influence the financial leverage has on the relationship of interest under study.

Over 80% of the relevant studies measured "Firm size" as the natural logarithm of total assets, namely: (Acabado et al., 2020; Boubakri et al., 2021; Prof. I. Gallego-Álvarez & Ortas, 2017; Gamerschlag et al., 2011; Griffin et al., 2021; F. N. Ho et al., 2012; Kang et al., 2016; Koprowski et al., 2021; Kucharska & Kowalczyk, 2019; Onkenhout, 2020; Peng et al., 2012; Pucheta-Martínez & Gallego-Álvarez, 2020). Only Slangen (2019) measured Firm size differently as the number of employees, a deviation from the others. Generally, most of the listed past studies established firm size as having a positive influence on the national culture - CSR link.

"Research and development (R&D)" were measured as the ratio of the R&D spend to total sales value by these studies: (Boubakri et al., 2021; Prof. I. Gallego-Álvarez & Ortas, 2017; Griffin et al., 2021; F. N. Ho et al., 2012).

The above paragraphs on firm specific variables' coverage demonstrated the variations and non-uniformity of the control variables used in past studies. The ones covered in the above paragraphs represented the more common ones. Some studies controlled using one-off variables uncommon in past studies; the validation of such variables is unclear.

Given this summary of commonly used control variables in past studies, this paper study employed Firm size, Return on assets (ROA), Capital intensity (CI) and Financial leverage (FL), to represent firm-specific variables.

b) Country-specific: Using World Governance Indicators (WGIs)

The term "governance" is highly debated by policymaking bodies and researchers. No common agreement exists on a singular definition of what it is. According to Kaufmann et al. (2011), some writers defined governance or institutional quality as "rule of the rulers, typically within a given set of rules" (The World Bank, 2022).

In discussing the methodological and analytical issues for World Governance Indicators (WGIs), Kaufmann et al. (2011) gave an engulfing definition of governance: "the traditions and institutions by which authority in a country is exercised. This includes (a) the process by which governments are selected, monitored and replaced; (b) the capacity of the government to effectively formulate and implement sound policies; and (c) the respect of citizens and the state for the institutions that govern economic and social interactions among them" (Kaufmann et al., 2011, pp 222).

From the point of view of governance, the World Banks' indicators called World Governance Indicators (WGIs) have been used in research with establishing national measures of governance. Since 1996, the WGIs currently cover over two hundred countries on six dimensions (Kaufmann et al., 2011; The World Bank, 2022) of governance namely: Voice and Accountability, Political Stability and Absence of Violence/ Terrorism, Government

Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. About thirty data sources are used to get over hundred variables that are computed to arrive at the six aggregate indicators. The data for aggregating is based on perceptions of governance from surveys, think tanks, non-governmental organizations, commercial business information providers, private and public sector organizations worldwide (Kaufmann et al., 2011; The World Bank, 2022).

The following lists the six WGIs and their definitions as quoted from The World Bank (2022) http://info.worldbank.org/governance/wgi/Home/Documents :

1) **Voice and accountability**: "captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media"

2) **Political Stability and Absence of Violence/Terrorism**: "measures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism".

3) **Government effectiveness:** "captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies".

4) **Regulatory quality**: "captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development".

5) **Rule of law:** captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence".

6) **Control of corruption:** "captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests".

For each indicator, the values of these measures can range between -2.5 to 2.5 (The World Bank, 2022). To exemplify, the higher values depict higher citizen participation (Voice and accountability), more effective governments (Government effectiveness), and higher regulatory quality (Regulatory quality).

Though governance has been frequently featured as a component in many past studies, it often has been used in different contexts and perspectives. For this study, it is vital to examine the controlling influence on the relationship of interest. The inclusion of the WGIs as prescribed by the World Bank on the relationship between national cultures and CSR was desired. To date, few past studies used the WGIs to control for governance in this research area namely: De Villiers & Marques, 2016; Gallén & Peraita, 2018; Griffin et al., 2021. Hence, this paper study added WGIs as a contribution, to establish or compare with the three earlier studies' findings. The influence of WGIs on the link between national cultures and CSR remains inconclusive, from past studies.

When Griffin et al. (2021) found a positive significant impact of individualism (IDV) on the CSR, the WGIs were included as control variables, amongst many others. With 4,587 firms drawn from 43 countries, Griffin et al. (2021)'s panel data set covered a 13-year period between 2003 and 2015 culminating in 33,021 firm-year observations. Using only two WGIs out of the six, they represented the country-specific controls. Government effectiveness was established as significantly positively influential to the national cultures – CSR relationship. Control of corruption faired as significantly negative in influence. If all the six WGIs were included, this study may have revealed more and added to the body of knowledge.

Gallén & Peraita (2018) included the WGI of Government effectiveness in their study. The scholars extracted correlation matrices of sub-grouped panels split in higher, middle, and lower development countries. Gallén & Peraita (2018) found that CSR had a positive and significant correlation with Government effectiveness. Upon regressing, a significant and positive influence was established between Government effectiveness and CSR in all the three sub-grouped samples, except in that with lower developed countries. Further, Government effectiveness was highest in more developed than in middle or lower developed countries. One prominent contribution from Gallén & Peraita (2018) is that Government effectiveness, though positively correlated with CSR, depends on the economic development stage of a country.

De Villiers & Marques (2016) examined the influence three of the six WGIs on CSR disclosure: Voice and accountability, Government effectiveness and Regulatory quality. The duo used 366 European firms over a four-year duration of data (2007 to 2010) resulting in 1,227 firm-year observations. GRI guidelines were used as measure of CSR disclosure. De Villiers & Marques (2016) found "firms in countries with: greater investor protection measures, higher levels of democracy, more government effectiveness, higher quality regulations …. disclose higher levels of CSR" (pp 37), than firms in other countries with less of each of the enumerated. More would have been found about the influence of governance if all the six, instead of three, were included, in this study.

In summary, the WGI of Government effectiveness was included in all the three studies by: De Villiers & Marques, 2016; Gallén & Peraita, 2018; Griffin et al., 2021. Further, Griffin et al (2021) also used the Control of corruption as a control from WGIs. Hence, more studies including more WGIs are required to examine their influence on the national cultures and CSR relationship. There was need for more studies in this under-researched area.

Given this background, this paper study included four WGIs contribution when examining the relationship between national culture and CSR. The WGIs were Regulatory Quality (WGI_{rq}), Rule of Law (WGI_{rol}), Control of Corruption (WGI_{coc}) and Political Stability and Absence of Violence or Terrorism (PSNV). The plan was to compare findings with those from the few relevant past studies .

Different influences of each of these four on the link between national culture and CSR were posited. The following were expected: The higher the World Governance Indicator for Regulatory Quality (WGI_{rq}), the stronger the positive relationship between national culture and CSR; The higher the World Governance Indicator for Rule of Law (WGI_{rol}), the stronger the positive relationship between national culture and CSR; The higher the World Governance Indicator for Control of Corruption (WGI_{coc}), the stronger the positive relationship between national culture and CSR; The higher the World Governance Indicator for Political Stability and Absence of Violence or Terrorism (WGI_{psnv}), the stronger the positive relationship between national culture and CSR. The verifications of these influencing effects were expected to add to knowledge of the few contributions in this area.

5.5.7 Applying Hofstede's Cultural Dimension Framework for Hypotheses Development

The aim of this section was to develop a set of hypotheses informed by the most relevant literature reviewed critically. To assess the common findings and locate the overall trends from past studies, a critical review of the relevant studies was undertaken to gauge the current direction and position of the relationship of interest.

Hofstede's Cultural Dimensions Theory remains predominantly applicable in studies comparing different national cultures and their variations. In attestation of this, Hofstede's studies had been cited over 200,000 times, according to Thach et al. (2021). Hofstede's Cultural Dimensions Theory was established in 1980 by the Dutch management scholar, Geert Hofstede. The scholar focused on determining the dimensions in which cultures vary. These have been used for most studies involving national cultures. The link between national cultures and CSR is not an exception. For this paper study, all the six cultural dimensions proposed by Hofstede (Hofstede, 2001; Hofstede et al., 2010; Hofstede & Minkov, 2010) were used.

5.5.7.1 Power Distance (PDI)

Most studies since 2010 have found a negative relationship between CSR and power distance (PDI) (Gallén & Peraita, 2018; Halkos & Skouloudis, 2016; Peng et al., 2012; Thanetsunthorn, 2015). It is often assumed that firms in higher power-distance regions exude lower degrees of social and environmental performance. Similarly, Disli et al. (2016) found a significant and negative association between PDI and environmental practices. Defining CSR as "sustainability disclosure", Prof. I. Gallego-Álvarez & Ortas (2017) and Garcia-Sanchez et al. (2016) observed that firms in areas of lower PDI showed higher CSR disclosure practices, depicting a negative relationship. Within this area, Kang et al. (2016) observed global firms operating in high PDI nations as not tending to execute more socially responsible activities. Despite more findings of a negative than a positive relationship between national culture and CSR based research, the findings remain inconclusive and misleading. The differences can be attributed to the wide variations and coverage of the sample sizes employed, the variations in CSR measures and that of research designs. Prof. I. Gallego-Álvarez & Ortas (2017) attested to this. Further, most past studies used a cross-sectional design instead of a longitudinal one,

to better capture the effect of two phenomena that take long to observe, national culture and CSR.

From employees' viewpoint, it is expected that firms located in nations with high PDI have more unquestioned loyalty from employees together with other less powerful members. Thus, minimal or no investments in CSR-based activities would be acceptable. In contrast, those in low PDI are envisaged to be more receptive and support CSR-based investments. This is seen as one way of treating everyone equal in society and to eventually heighten the value of life in general.

In summary there exists overwhelming evidence for a negative relationship between PDI and CSR (Disli et al., 2016; Prof. I. Gallego-Álvarez & Ortas, 2017; Gallén & Peraita, 2018; Garcia-Sanchez et al., 2016; Halkos & Skouloudis, 2016; Peng et al., 2012; Thanetsunthorn, 2015). Based on this background of most past studies that found a negative relationship, this study established to replicate the investigation and posited the following Hypothesis 1:

H1 There is a negative relationship between power distance (PDI) cultural dimension and corporate social responsibility (CSR).

5.5.7.2 Individualism (IDV) versus collectivism

Empirical studies on national culture versus CSR relationship have yielded mixed results. This is true in the context of individualism versus collectivism (IDV) dimension. The evidence is almost split midway between the those finding of a negative effect (Halkos & Skouloudis, 2017b; F. N. Ho et al., 2012b; Thanetsunthorn, 2015b) and those a positive one (Disli et al., 2016; Prof. I. Gallego-Álvarez & Ortas, 2017). Though the scholars that found a negative relationship advanced reasons for this, most were less verifiable evidently, rendering them as mere opinions.

Ringov & Zollo (2007) found that firms operating in highly individualistic nations give less prominence to effects of the environmental or social pillars inflicted by businesses. In contrast, firms in more collectivist nations are inclined to participate in CSR activities as evidenced by findings from these studies: Garcia-Sanchez et al., 2016; F. N. Ho et al., 2012; Kang et al.,

2016. Such firms have prioritised the outcomes produced by their activities on communities (F. N. Ho et al., 2012b). This is consistent with firms' propensity for more involvement in the welfare of communities. Such firms go as far as providing CSR-related advice to their stakeholders (Garcia-Sanchez et al., 2016).

Expectantly, more collectivist societies are inclined to be more responsive to multiple stakeholders' interests, supported by García-Sánchez et al (2016). Theoretically and informed by Hofstede, a very low IDV score represents high traits of collectivism. Hence, CSR investments should be more evident in more collective societies. To replicate the tests from past studies by three main contributors: (Halkos & Skouloudis, 2017; F. N. Ho et al., 2012; Thanetsunthorn, 2015), this study proposed the following Hypothesis 2:

H2 There is a negative relationship between degree of individualism (IDV) and corporate social responsibility (CSR).

5.5.7.3 Masculinity (MAS) versus Femininity

Findings from past nine relevant studies detected a negative link between masculinity (MAS) and CSR (Disli et al., 2016; Garcia-Sanchez et al., 2016; Halkos & Skouloudis, 2017; Kang et al., 2016; Orij, 2010; Peng et al., 2012; Ringov & Zollo, 2007; Thanetsunthorn, 2015; Thanetsunthorn & Wuthisatian, 2018). All the listed found that countries with the high degrees of MAS revealed lower social and environmental performance. This depicts a negative relationship between MAS and CSR. In addition, Prof. I. Gallego-Álvarez & Ortas (2017) established a negative effect between MAS and sustainability disclosure. Not only does this represent overwhelming evidence for a negative relationship, but also a move towards a conclusive consensus.

According to Gallén & Peraita (2018), more masculine nations, societies, or global firms tend to pursue activities that produce clear economic accomplishment. Usually, this comes at a disadvantage to those deemed influential to society. Hence, enhancing business performance to bypass rivals is vital in such nations or societies, an observation supported by Kang et al. (2016). On the opposite spectrum, more feminine (less masculine) nations or societies focus on human relationships and the duty of tending for others (Kang et al., 2016b). Hence, firms

located in more feminine nations have greater propensity to carry out activities that enhance the value of life, also confirmed by Garcia-Sanchez et al. (2016).

With this background, previous reasoning, and logic of overwhelming evidence of a negative relationship from all the key nine studies (Disli et al., 2016; Garcia-Sanchez et al., 2016; Halkos & Skouloudis, 2017; Kang et al., 2016; Orij, 2010; Peng et al., 2012; Ringov & Zollo, 2007; Thanetsunthorn, 2015; Thanetsunthorn & Wuthisatian, 2018), this study established to replicate the examination through the following Hypothesis 3:

H3 There is a negative relationship between the degree of masculinity (MAS) and corporate social responsibility (CSR).

5.5.7.4 Uncertainty avoidance (UAI)

Evidence on the link between uncertainty avoidance (UAI) and CSR has been mixed and contradictory. Two key studies found a negative relationship (Garcia-Sanchez et al., 2016; Halkos & Skouloudis, 2017). In contrast, four key studies found a positive relationship (Disli et al., 2016; F. N. Ho et al., 2012; Peng et al., 2012; Thanetsunthorn, 2015). For the latter group, one interpretation was that high UAI cultures were more prone to maintain or even improve environmental quality (Disli et al., 2016).

Like the cultural dimensions reviewed so, consensus on the relationship between UAI and CSR appears remote. Some past studies found that low UAI cultures were more involved in CSR activities/plans than those in high ones (Garcia-Sanchez et al., 2016; Halkos & Skouloudis, 2017; Thanetsunthorn & Wuthisatian, 2018). In addition, nations or societies with high UAI were less adaptive to new formalised or coded demands arising from social and environmental aspects (Garcia-Sanchez et al., 2016b; Ringov & Zollo, 2007). This study posited that firms in nations with less uncertainty avoidance (UAI) are assumed as being more accepting and open to new ideas/changes. With this background, previous reasoning, and logic of a negative relationship, this study established the following Hypothesis 4:

H4 There is a negative relationship between degree of uncertainty avoidance (UAI) and corporate social responsibility (CSR).

5.5.7.5 Long-term Orientation (LTOR)

Some past studies found that inhabitants of a long-term oriented (LTOR) society/nation more inclined to possibly increase CSR activities (Garcia-Sanchez et al., 2016; Halkos & Skouloudis, 2017). Theoretically and from logic, this is expected. Long-term oriented cultures or societies focus on the future consequences of their judgements and hence choose to sacrifice at present for future benefits, supported by Disli et al. (2016). Though Orij (2010) hypothesised a positive link between LTOR and CSR disclosure, the scholars' interpretation appears unclear; the findings were inconclusive. Evidently, there appears to be a form of misinterpretation or inconsistency.

Despite three studies interpreting a positive link between CSR practices and LTOR (Disli et al., 2016; Garcia-Sanchez et al., 2016; Halkos & Skouloudis, 2017), the correct interpretation should have been that for a negative link. This logic can be inferred from the LTOR scale index. As this index decreases towards 0, a society becomes more long-term oriented. If the assumption holds, the longer term oriented a society is, the more should be its investments in CSR practices. Empirically, if using the scale index, this transcends in a negative relationship, because the LTOR decreases with increasing CSR scores.

Affirmed by Hofstede (2022), the rationale is firms in long term planning-oriented countries go beyond by serving wider stakeholders in the long term. Hence, it is expected that the stakeholders of LTOR firms will be inclined to demand for not only positive financial results but also for investing in CSR related areas and actions.

With this background, previous reasoning, and findings of a negative relationship after correcting for an error in interpretation from most past studies (Disli et al., 2016; Garcia-Sanchez et al., 2016; Halkos & Skouloudis, 2017), this study replicated this investigation and proposed the following Hypothesis 5:

H5 There is a negative relationship between degree of long-term orientation (LTOR) and corporate social responsibility (CSR).

5.5.7.6 Indulgence versus Restraint (IVR

Like the preceding cultural dimensions, few studies exist that investigated this sixth cultural dimension. One reason is it was added latter to the first four. Prof. I. Gallego-Álvarez & Ortas (2017) found a negative link between indulgence (IVR) and CSR practices. During the same year, Halkos & Skouloudis (2017) instead found a positive association between IVR and CSR disclosure. For the latter, it was assumed that disclosure was interchangeable and equitable to practices.

There are competing interpretations of the IVR – CSR relationship by key scholars. To exemplify one, Disli et al. (2016) reverberated indulgent societies as being characterized by more wastage and extravagancy when it comes to lifestyle which. This was associated with a possible surge in environmental pollution. In contradiction, Thanetsunthorn & Wuthisatian (2018) observed the willingness of global firms located in indulgent countries or societies to promoting socially responsible activities and practices. However, it appears the latter scholars self-contradicted themselves. Thanetsunthorn & Wuthisatian (2018) found that indulgent nations were more emphatical on moral discipline and order. Therefore, the scholars' conclusion was the yielding of a negative effect on decision making processes related to CSR investments. A further observation was the inclination of members to concentrate on brief pleasure; such could deter attention on long-term bearing implications. This illustrates one contradiction in interpretation of research findings within IVR - CSR relationship research.

With this background, it is assumed that indulgent nations and societies are envisaged to focus less on environmental activities within a society. Based on the logic and reasoning by Prof. I. Gallego-Álvarez & Ortas (2017) and Thanetsunthorn & Wuthisatian (2018), though contradictory between the two, this paper study aimed to replicate this investigation by establishing the following Hypothesis 6:

H6 There is a negative relationship between degree of indulgence (IVR) and corporate social responsibility (CSR).

5.5.8 Variations in influence of the degree of indulgence/restraint in subgroups on the national cultures versus corporate social responsibility

A search of literature in national cultures versus CSR revealed that none has ever examined the differences in ESG performance between varying levels of the degree of indulgence/restraint (IVR) cultural dimension between subgroups. This is based on application of Hofstede's cultural dimensions to the link between national culture and CSR. Examining the stated differences would be of interest to researchers and practitioners.

Disli et al. (2016) echoed indulgent societies as being characterized by more wastage and extravagancy when it comes to lifestyle. It is expected that more restrained societies take corporate social responsibility more seriously as to match the associated investments too. Thanetsunthorn & Wuthisatian (2018) established indulgent nations as being more emphatical on moral discipline and order, their conclusion was the yielding of a negative effect on decision making processes related to CSR issues and plans. It would be of interest to look into the differences between CSR investments for firms located in two competing subgroups of the IVR dimension.

However, no research design or investigation to inform the literature in this area exists. Because firms in more restrained countries are inclined to be more cautious towards meeting the CSR obligations than those in more indulgent countries, this study hypothesised the following:

H7 Firms operating in more restrained countries achieve higher ESG performance than those in more indulgent countries.

Chapter Summary

This ended subchapter and its sections covered the background of the study and the research problem. This is informed and developed from the critical review of the relevant literature. A summary of the relevant theories was provided; the details on theories could be looked up in Chapter 1.

Specifically, the theoretical framework on national cultures posited by Geert Hofstede was covered within this ended subchapter.

The literature review uncovered important gaps, including inconsistencies in theoretical and measurement approaches. The shortcomings emanating from the relevant previous studies in this area of research were identified, together with any inherent methodological deficiencies. All these helped to as inputs in the development of the study's objectives, and the set of hypotheses to be tested.

The next subchapter 5.6 focuses on the research design and methodology, whose insights are informed by the critical literature review conducted. The theoretical model is devised, the variables are identified and operationalised, before arriving at regression models earmarked for testing in the subchapter after the next one.

5.6 Research Design and Methodology

5.6.1 Theoretical Model of Study

The research design is driven by positivistic paradigm. This study embarked on examining the relationship between a firm's CSR and the national culture of its country of domicile/operations. Hence this study employed the methodology of a quantitative and deductive research approach (Hatch, 2013) . Consequently, to test the research hypotheses, this study was premised on the collection of data about the main and well-validated measurements used in this research area

Based on the Theoretical Model in Figure 5.9, the planned study hypothesised the propositions linked to this model, as informed by the relevant literature.

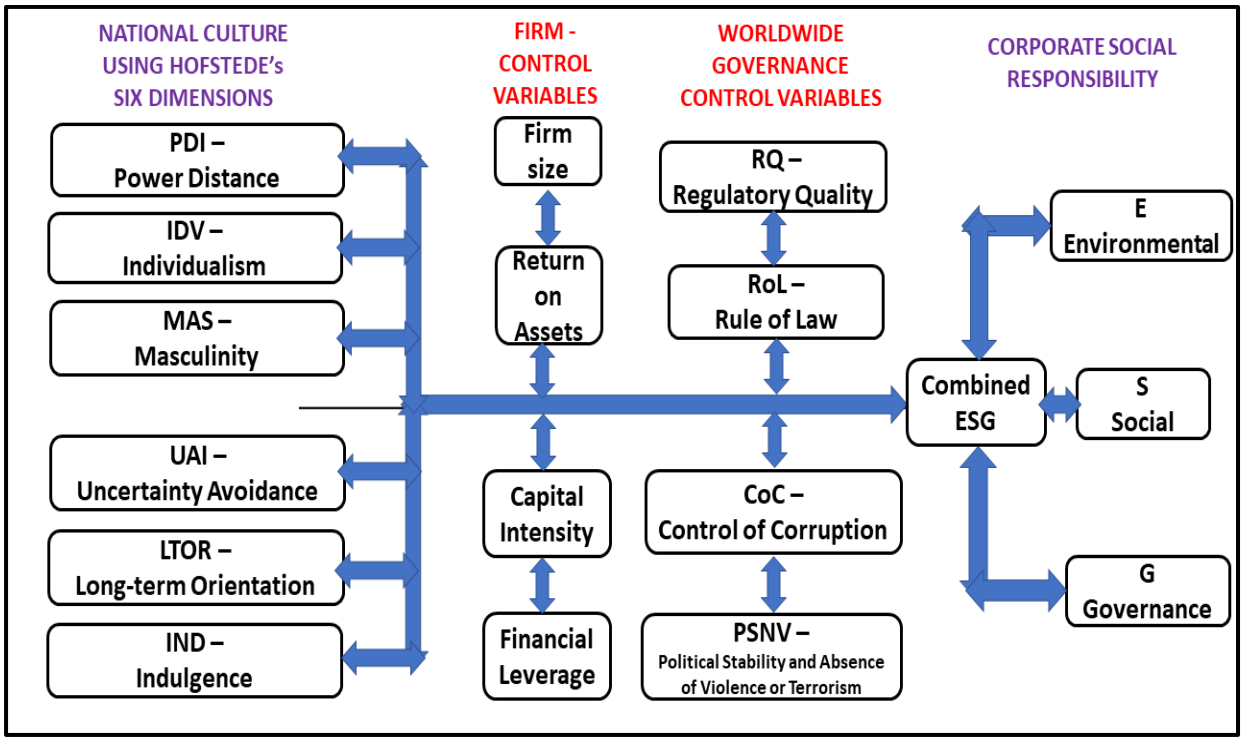

Figure 5.9 The Study's Theoretical Model

Source: Made by the author

The variables that were operationalised are covered hereafter:

The dependent variables

- Combined ESG = Environmental, Social and Governance score (Combined) for measuring CSR

The independent variables

These are based on the six dimensions of culture as posited by Hofstede et al. (2010b) namely:

- PDI = Power Distance
- IDV = Individualism
- MAS = Masculinity
- UAI = Uncertainty Avoidance
- LTOR = Long-term Orientation
- IVR = Indulgence

The control variables

These are split into two categories: Firm-specific and Worldwide Governance-based:

a) Firm-specific:
   - ROA = Return on assets
   - CI = Capital intensity
   - SIZE = Firm size
   - FL = Financial leverage

b) Worldwide Governance – based:
   - WGI_{rq} = Regulatory Quality
   - WGI_{rol} = Rule of Law
   - WGI_{coc} = Control of Corruption
   - WGI_{psnv} = Political Stability and Absence of Violence or Terrorism

5.6.2 Estimation of regression model

Based on the Theoretical Model in Figure 5.9, the principal estimated regression model was posited as in Equation 5.1. It was used to test the developed hypotheses *HI, H2, H3, H4, H5 and H6* where overall CSR uses the combined ESG score as proxy. Hypothesis *H7 was* tested by using correlations, regressions, and comparison of means tests. The latter applied to the subgroups of panel data.

The posited influences of the four WGIs on the relationship between national culture and CSR namely: WGI_{rq} = Regulatory Quality, WGI_{rol} = Rule of Law, WGI_{coc} = Control of Corruption, and WGI_{psnv} = Political Stability and Absence of Violence or Terrorism - were all tested using correlations, regressions, and comparison of means tests.

$$\text{Combined ESG} = \alpha + \beta_1.\text{PDI} + \beta_2.\text{IDV} + \beta_3.\text{MAS} + \beta_4.\text{UAI} + \beta_5.\text{LTRO} + \beta_6.\text{IVR} + \beta_7.\text{SIZE} + \beta_8.\text{ROA} + \beta_9.\text{CI} + \beta_{10}.\text{FL} + \beta_{11}.WGI_{rq} + \beta_{12}.WGI_{rol} + \beta_{13}.WGI_{coc} + \beta_{14}.WGI_{psnv}$$

Equation 5.1 Regression equation - ESG performance versus Hofstede's Cultural Dimensions

5.6.3 Description of variables

Dependent variable

The dependent variable of combined ESG from Refinitiv Eikon (former Thomson Reuters) represented CSR in this study. According to Refinitiv - LSEG (2022), the score is found through three categories which are added to get a relative measure. Figure 5.10 and Table 5.2 give the summary pillars with categories and the detailed materiality matrix for each category respectively.

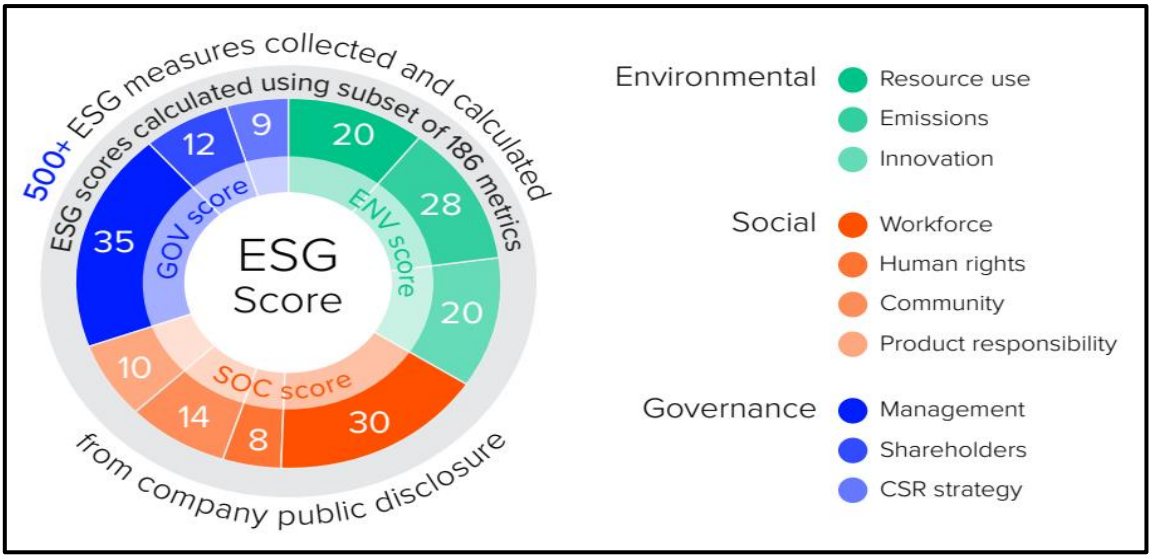

Figure 5.10 Refinitiv-LSEG (2022) - Introduction to ESG pillars and categories, pp 6

The table below provides a detailed view on the ESG themes covered in each category, with the respective data points evaluated as proxies of ESG magnitude per industry group.

Pillars	Catagories	Themes	Data points	Weight method
Environmental	Emmission	Emissions	TR.AnalyticCO2	Quant industry median
		Waste	TR.AnalyticTotalWaste	Quant industry median
		Biodiversity*		
		Environmental management systems*		
	Innovation	Product innovation	TR.EnvProducts	Transparency weights
		Green revenues, research and development (R&D) and capital expenditures (CapEx)	TR.AnalyticEnvRD	Quant industry median
	Resource use	Water	TR.AnalyticWaterUse	Quant industry median
		Energy	TR.AnalyticEnergyUse	Quant industry median
		Sustainable packaging*		
		Environmental supply chain*		
Social	Community	Equally important to all industry groups, hence a median weight of five is assigned to all		Equally important to all industry groups
	Human rights	Human rights	TR.PolicyHumanRights	Transparency weights
	Product responsibility	Responsible marketing	TR.PolicyResponsibleMarketing	Transparency weights
		Product quality	TR.ProductQualityMonitoring	Transparency weights
		Data privacy	TR.PolicyDataPrivacy	Transparency weights
	Workforce	Diversity and inclusion	TR.WomenEmployees	Quant industry median
		Career development and training	TR.AvgTrainingHours	Transparency weights
		Working conditions	TR.TradeUnionRep	Quant industry median
		Health and safety	TR.AnalyticLostDays	Transparency weights
Governance	CSR strategy	CSR strategy	Data points in governance category and governance pillar	Count of data points in each governance category/all data points in governance pillar
		ESG reporting and transparency		
	Management	Structure (independence, diversity, committees)	Data points in governance category and governance pillar	Count of data points in each governance category/all data points in governance pillar
		Compensation		
	Shareholders	Shareholder rights	Data points in governance category and governance pillar	Count of data points in each governance category/all data points in governance pillar
		Takeover defenses		

*No data points available that may be used as a proxy for ESG magnitude/materiality

Table 5.2 Refinitiv - LSEG (2022) - ESG detailed materiality matrix, pp 10

Independent variables

Table 5.3 describes the measurement scale criteria and interpretation for the cultural dimensions. The pioneers (Hofstede, 2001; Hofstede et al., 2010) used these dimensions. Recent scholars who used the same dimensions include: Diamastuti et al., 2020; Koprowski et al., 2021; Kucharska & Kowalczyk, 2019; Onkenhout, 2020; Pucheta-Martínez & Gallego-Álvarez, 2020; Slangen, 2019.

According to Hofstede et al. (2010), all the six culture dimensions are theoretically derived using an instinctive scale running from 0 to 100, with 50 as a midlevel or neutral. The interpretation is for a score under 50, the applicable culture score is relatively low on that scale and for any score above 50, the applicable culture scores is high on that scale.

No	Variable name	Scale measure and interpretation
1	Power Distance (PDI)	0-100 scale, where the nearer to 100, the greater the power distance, and the closer to 0, the lower the power distance
2	Individualism (IDV)	0-100 scale, where the closer to 100, the greater the nation's individualism, and the closer to 0, the greater the collectivism.
3	Masculinity (MAS)	0-100 scale, where the closer to 100, the greater the nation's masculinity, and the closer to 0, the greater the femininity.
4	Uncertainty Avoidance (UAI)	0-100 scale, where the closer to 100, the more the uncertainty avoidance, and the closer to 0, the less the uncertainty avoidance
5	Long-term Orientation (LTOR)	0-100 scale, where the closer to 100, the higher the long-term orientation, and the closer to 0, the higher the short-term orientation.
6	Indulgence versus Restraint (IVR)	0-100 scale, where the closer to 100, the higher the indulgence level, and the closer to 0, the greater the restraint level.

Table 5.3 Hofstede's SIX Cultural Dimensions and Measurement Interpretations

Control variables

Table 5.4 and Table 5.5 summarise the lists of recent scholars who have operationalised and used the control variables related to firms and world governance indicators. These are covered in detail under Section 5.5.6.

No	Variable name	Measure or metric formula used	Past scholars who used similar in National culture versus CSR based research
1	Return on assets (ROA)	Net profits / Total assets	Boubakri et al., 2021; Prof. I. Gallego-Álvarez & Ortas, 2017; Griffin et al., 2021; Koprowski et al., 2021; Pucheta-Martínez & Gallego-Álvarez, 2020.
2	Capital intensity (CI)	Total assets / Total sales	Boubakri et al., 2021; Prof. I. Gallego-Álvarez & Ortas, 2017; Ho et al., 2012; Kang et al., 2016; Pucheta-Martínez & Gallego-Álvarez, 2020.
3	Firm size (SIZE)	Natural logarithm of Total assets book value	Acabado et al., 2020; Boubakri et al., 2021; Prof. I. Gallego-Álvarez & Ortas, 2017; Gamerschlag et al., 2011; Griffin et al., 2021; Ho et al., 2012; Kang et al., 2016; Koprowski et al., 2021; Kucharska & Kowalczyk, 2019; Onkenhout, 2020; Peng et al., 2012; Pucheta-Martínez & Gallego-Álvarez, 2020; Slangen, 2019.
4	Financial leverage (FL)	Total debt / Total assets	Boubakri et al., 2021; Prof. I. Gallego-Álvarez & Ortas, 2017; Griffin et al., 2021; Ho et al., 2012.

Table 5.4 Summary of firm-specific control variables in past empirical studies

Source: Made by the author

No	Variable name	Scholars using WGI measures in National culture versus CSR based research
1	Regulatory Quality (RQ)	De Villiers & Marques, 2016; Gallén & Peraita, 2018; Griffin et al., 2021
2	Rule of Law (RoL)	
3	Control of Corruption (CoC)	
4	Political Stability and Absence of Violence or Terrorism (PSNV)	

Table 5.5 Summary of WGI-based control variables in past empirical studies

Source: Made by the author

In summary, this section developed a set of hypotheses informed by the most relevant literature critically reviewed. All these prepared the foundation for the data analysis using a mixture of methods. This included a correlation and regression analyses on the panel data based on theoretical model depicted in Figure 5.9 to test a set of hypotheses. The next section reviews the relevance of panel data methodologies and their relevance to this research area.

5.7 Relevance of panel data methodologies to this study

Panel data methodologies are particularly relevant to studies investigating the relationship between CSR and national cultures using Hofstede's cultural dimensions (Hofstede, 2001) for several key reasons. These are enumerated next.

5.7.1 Control for Time-Invariant Cultural Differences

National culture, using Hofstede's dimensions (e.g., individualism vs. collectivism, power distance, uncertainty avoidance), is largely stable over time. These cultural traits are deeply embedded in societies and influence corporate behaviour, including CSR practices. Panel data methods, particularly fixed effects models, are adept at controlling for these time-invariant cultural factors, allowing researchers to better isolate the effect of changing CSR policies within a consistent cultural framework (Schunck, 2013; Wooldrigde, 2010). For this paper study on the relationship between CSR and national cultures using 714 firms located in G7 countries, the use of fixed effects to examine the link between was expected. Fixed effects have also been used to control for cultural differences across countries. Especially, this is envisaged when analysing how changes in CSR strategies over time affect corporate outcomes within a specific cultural context has been used in the past (Kostova & Zaheer, 1999).

5.7.2 Examination of Cross-Cultural Variations

Panel data permits researchers to examine how CSR practices vary across countries with different cultural characteristics, as defined by Hofstede's dimensions. By utilizing the cross-sectional dimension of panel data, researchers can analyse how cultural differences influence CSR behaviours and outcomes across multiple countries simultaneously (Kostova & Zaheer, 1999). Under this study, CSR engagement was expected to differ between 714 firms sampled in G7countries with high versus low power distance, using panel data to control for other factors such as industry type, firm size that also vary across countries.

5.7.3 Dynamic Analysis of Cultural Influence

Generally, cultural influences on CSR are not static. This is because globalization and other macroeconomic trends can lead to shifts in cultural norms over time. Panel data methods enable researchers to study these dynamic changes and their impact on CSR, particularly with interaction terms that capture the changing influence of culture on CSR practices (Tihanyi et al., 2014). Hence, researchers might use panel data to examine how the influence of national

culture on CSR evolves in response to increasing globalization, analysing data from multiple countries over several decades to identify trends. However, this was outside the scope of this study.

5.7.4 Handling Cross-Sectional Dependence and Heterogeneity

Firms operating in different countries are possibly influenced by global trends and economic conditions that affect both their CSR practices and the broader cultural context. Advanced panel data techniques, such as the Common Correlated Effects (CCE) estimator, help account for such cross-sectional dependence, ensuring that the influence of culture on CSR is not confounded by global shocks or other common factors (Pesaran, 2006). A study might use CCE to control for global economic conditions that simultaneously affect CSR practices across countries with different cultural traits, allowing for a clearer analysis of the cultural impact.

5.8 Methods' appeal to this area of research

5.8.1 Addressing Unobserved Cultural Influences

National cultures, as measured quantitatively by Hofstede's dimensions, are complex and multifaceted, with many aspects that are difficult to quantify or observe directly. Panel data methodologies, focusing on fixed effects models, are useful in controlling for these unobserved but important cultural influences. This allows researchers to focus on the measurable aspects of CSR and their interaction with culture (Baltagi, 2005). Though a researcher can control for unobserved cultural factors that are stable over time within a country, this study was focused on the link between CSR as the dependent variable and the six Hofstede dimensions as independents. The aim was to examine changes in cultural dimensions arising from those in CSR practices of 714 multinational firms from the G7 countries over a fourteen-year duration.

5.8.2 Exploring Temporal Dynamics in Cultural Influence

Though the national cultures by Hofstede are time invariant, the relationship between national culture and CSR is not static over time since the latter is variant. Panel data allows researchers to examine how this relationship evolves over time. This is particularly important in the context of globalization, where cultural norms may shift as countries become more interconnected (Hofstede et al., 2010a). Panel data methodologies offer the tools to analyse these time-based dynamics effectively. A longitudinal panel study might explore how the impact of cultural

dimensions such as individualism or uncertainty avoidance on CSR practices has changed over the last few decades. This is more applicable when firms in different countries respond to global pressures.

5.8.3 Capturing Cross-National Variability

Hofstede's dimensions present a quantitative framework for comparing national cultures. The actual influence of these cultural traits on CSR can vary widely across different contexts. Panel data methods are well-suited to acquiring this cross-national variability. This permits a more nuanced understanding of how culture impacts CSR across different countries and over time (Hofstede et al., 2010b). For this study, the variations in some cultural dimensions were expected to not vary widely because the sample used of global firms are likely to adopt a similar culture inherent in their corporations, being global players.

5.8.4 Robustness in the Presence of Multicollinearity

When studying the relationship between CSR and national culture, multicollinearity can be an issue due to the close interrelationship between Hofstede's dimensions (e.g., countries that score high on individualism might also score low on power distance). By providing more data points and allowing for the inclusion of interaction terms, panel data methods help mitigate these multicollinearity issues, leading to more robust estimates (Schunck, 2013; Wooldrigde, 2010). High multicollinearity was anticipated in this study. Hofstede's cultural dimensions were expected to be closely interrelated between firms in countries classified to have the strongest economies in the world.

Summary

This ended subchapter and its sections focused on the research design and methodology used for this study. The design yielded the theoretical model depicted in Figure 5.9. Chapter 2 of this dissertation provides the details on Data Sources and Collection Process used for the target population of study. The identification of the locations, sources, and how the sample was drawn are provided therein as well. Further, Chapter 2 identified the sampling strategy and procedures employed. So is the discussion of the reliability and validity of the study's data sample used.

Further, the design was matched to meet quantitative methods and most variables used were well-validated measures in this area of research. The latter were explained, and their selection justified based on the research literature from previous studies on CSR – national cultures, besides being aligned to the research objectives of this study. Consequently, an ordinary least squares (OLS) linear regression model, based on the set of hypotheses devised from the previous subchapter was developed. For the relationship between CSR and national cultures using Hofstede's dimensions, their vitality lies in the ability to control for unobserved cultural influences, handle cross-sectional dependence, and analyse dynamic relationships over time, that make them relevant. The appeal of panel data in this context lies in its robustness in addressing multicollinearity, capturing cross-national variability, and exploring the temporal dynamics of cultural influence on CSR.

The next subchapter of Data Analysis, Results, and Interpretations is founded on this ended subchapter.

5.9 Data Analysis, Results, and Interpretations

This sub-chapter presents the outputs of data analyses and their interpretations. The data analyses encompassed descriptive statistics, robustness diagnostics and model specification tests. Then regression analyses and tests for comparison of means were run and results interpreted. The results and interpretations provide the foundation for the next sub-chapter of Findings and Discussion.

5.9.1 Descriptive Statistics

This section focused on the descriptive statistics of the variables used in model, based on the Theoretical Model in Figure 5.9, under an appropriate section. Figure 5.11 reveals the 15 variables and software characteristics for each, used in the principal model specified in Equation 5.1 Regression equation - ESG performance versus Hofstede's Cultural Dimensions, under an appropriate section.

Variable name	Storage type	Variable label
CombinedESG	double	Combined ESG-Score
PDI	byte	PDI-Power Distance
IDV	byte	IDV - Individualism versus Collectivism
MAS	byte	MAS - Masculinity versus Femininity
UAI	byte	UAI - Uncertainty Avoidance
LTOR	double	LTOR - Long-term Orientation versus Short-term
IVR	double	IVR - Indulgence versus Restraint
Firmsize	float	lnTotalAssets
FL	double	Financial Leverage
CI	double	Capital Intensity
ROA	double	Return on Assets
WGIrq	double	World Governance Indicator - Regulatory quality
WGIrol	double	World Governance Indicator - Rule of law
WGIcoc	double	World Governance Indicator - Control of corruption
WGIpsnv	double	World Governance Indicator - Political Stability and Absence of Violence or Terrorism

Figure 5.11 Variable names and corresponding labels

Source: Made by the author

With reference to Table 5.6, CSR for the firms sampled was measured by the combined ESG score. This ranged from 93.650 to 0.360, with a mean of 51.144. Of the independent variables using Hofstede's six cultural dimensions, Individualism (IDV) had the highest mean at 74.388 while Power-distance (PDI)'s is lowest at 43.926. With respect to the standard deviation, Long-

term orientation (LTOR) had the highest at 24.539, signifying the widest spread around the mean when compared with Power distance as lowest at 10.204.

Variable	Obs	Mean	Std. dev.	Min	Max
Dependent variable:					
CombinedESG Score	9,399	51.144	18.523	0.360	93.650
Independent variables:					
Power-Distance (PDI)	9,996	43.926	10.204	35.000	68.000
Individualism (IDV)	9,996	74.388	16.967	46.000	91.000
Masculinity (MAS)	9,996	67.522	15.801	43.000	95.000
Uncertainty Avoidance (UAI)	9,996	60.836	21.349	35.000	92.000
Long-term Orientation (LTOR)	9,996	56.497	24.539	25.693	87.909
Indulgence vs Restraint (IVR)	9,996	56.319	13.521	29.688	69.420
Control variables (Firm-specific):					
Firmsize	9,865	17.467	2.711	5.969	26.463
Return on Assets (ROA)	9,788	0.070	0.592	-1.787	57.712
Capital Intensity (CI)	9,734	0.167	3.754	0.000	345.406
Financial Leverage (FL)	9,865	0.236	0.179	0.000	2.560
Control variables (World governance specific):					
World Governance Indicator - Regulatory quality (WGI_{rq})	9,996	1.469	0.258	0.642	1.890
World Governance Indicator - Rule of law (WGI_{rol})	9,996	1.582	0.229	0.269	1.891
World Governance Indicator - Control of corruption (WGI_{coc})	9,996	1.563	0.306	0.012	2.070
World Governance Indicator - Political Stability and Absence of Violence or Terrorism (WGI_{psnv})	9,996	0.690	0.307	-0.095	1.275

Table 5.6 Summary statistics of the study's used variables

Source: Made by the author

Firm size, calculated as the natural log of a firm's total assets value, ranged from 5.969 to 26.463 with a mean of 17.467. This implied that there were more large firms than small ones in sample. The capital intensity (CI) revealed the highest standard deviation of 3.754 with an extreme maximum of 345.406, possibly an outlier observation.

5.9.2 Pearson Correlation Analysis and Results

The results of the Pearson correlation analysis are shown in Table 5.7.

	ComESG	PDI	IDV	MAS	UAI	LTOR	IVR	Firm size	ROA	CI	FL	WGI_{rq}	WGI_{rol}	WGI_{coc}	WGI_{psnv}
ComESG	1.000														
PDI	0.072*	1.000													
IDV	0.006	-0.577*	1.000												
MAS	-0.032*	0.164*	**-0.721***	1.000											
UAI	0.037*	**0.813***	**-0.919***	0.560*	1.000										
LTOR	0.050*	0.398*	**-0.894***	0.631*	**0.779***	1.000									
IVR	-0.070*	-0.515*	**0.850***	-0.499*	**-0.872***	**-0.890***	1.000								
Firmsize	0.164*	0.462*	-0.596*	0.634*	0.584*	0.393*	-0.396*	1.000							
ROA	-0.027*	-0.026*	0.032*	-0.018	-0.035*	-0.030*	0.034*	-0.081*	1.000						
CI	-0.052*	-0.011	0.009	-0.023*	-0.015	-0.019	0.021*	-0.030*	-0.030*	1.000					
FL	0.064*	0.005	0.068*	-0.068*	-0.027*	-0.066*	0.014	0.030*	-0.027*	-0.006	1.000				
WGIrq	-0.044*	**-0.744***	0.509*	-0.380*	**-0.714***	-0.321*	0.545*	-0.515*	0.022*	0.016	-0.035*	1.000			
WGIrol	-0.108*	-0.547*	0.361*	-0.326*	-0.543*	-0.291*	0.544*	-0.369*	0.024*	0.022*	-0.071*	**0.785***	1.000		
WGIcoc	-0.086*	-0.415*	-0.001	-0.128*	-0.262*	0.102*	0.212*	-0.257*	0.013	0.031*	-0.097*	0.693*	**0.816***	1.000	
WGIpsnv	-0.180*	0.080*	-0.615*	0.422*	0.423*	0.420*	-0.362*	0.312*	-0.014	0.024*	-0.080*	-0.058*	0.112*	0.351*	1.000

Figures with the asterik symbol (*) at their end denote results statistically signficant at 95% level of siginficance (p<0.05). Implicitly, there is a 95% probability that the results found in the study are the result of a true relationship/difference between groups being compared.

Table 5.7 Pearson correlation coefficients between variables

Source: Made by the author

Table 5.7 shows the Pearson correlation matrix between the dependent variable, Combined ESG and all the independent variables using Hofstede's six cultural dimensions with both the firm specific and worldwide governance specific control variables. Power distance (PDI), Uncertainty avoidance (UAI) and Long-term orientation (LTOR) were all statistically significant ($p < 0.05$) and positively correlated with corporate social responsibility (Combined ESG). However, there was a weak correlation between each pair. Though Individualism (IDV) was positively correlated, it was statistically insignificant. The two Hofstede's cultural dimensions, namely Masculinity (MAS) and indulgence (IVR), were each found to be statistically significant with a weak negative correlation with corporate social responsibility (Combined ESG). A close examination revealed very high correlation coefficients (highlighted in blue) within and between Hofstede's cultural dimensions, the independent variables. This confirmed the possible effect of multicollinearity, also identified in model specification tests. For example, Uncertainty avoidance (UAI) and Individualism (IDV) were statistically significant with a very high negative correlation (coefficient = -0.919).

With reference to the dependent variable, Combined ESG, and the firm-specific control variables, Firm size was found to be statistically significant and positively correlated (coefficient=0.164) with corporate social responsibility (Combined ESG). Financial leverage (FL) was statistically significant and positively correlated with corporate social responsibility at coefficient=0.064. Both Return on assets (ROA) and Capital intensity (CI) were found to be statistically significant and negatively correlated with corporate social responsibility (Combined ESG).

With reference to the dependent variable, the Combined ESG, and the country-specific (World Bank sourced) WGI control variables, all the four WGIs were found to be statistically significant and negatively correlated with corporate social responsibility (Combined ESG). Political stability and absence of violence or terrorism (WGI_{psnv}) exhibited the highest negative correlation (coefficient = -0.180) and Regulatory quality (WGI_{rq}) the lowest (coefficient = -0.044). A close examination revealed high correlations (highlighted in blue) within and between the WGI's. This was consistent with those found by past studies (Gallén & Peraita, 2018; Griffin et al., 2021). Specific examples in the results were between Rule of law (WGI_{rol}) and Control of corruption (WGI_{coc}) at coefficient = 0.816, and that between Regulatory quality (WGI_{rq}) and Rule of law (WGI_{rol}) at coefficient = 0.785, p=0.000.

5.9.3 Robustness Checks and Model Specification Tests

i) Unusual and influential data

It was vital to observe all data for any unusual or substantially differences from other observations, as the presence of such can affect the regression analysis and results. Identification of outliers, leverages and influencers was done by doing scatter diagrams. See Figure 5.12 for resultant scatterplot matrix graph using the Stata command: graph matrix Combined ESG Score PDI IDV MAS UAI LTOR IVR:

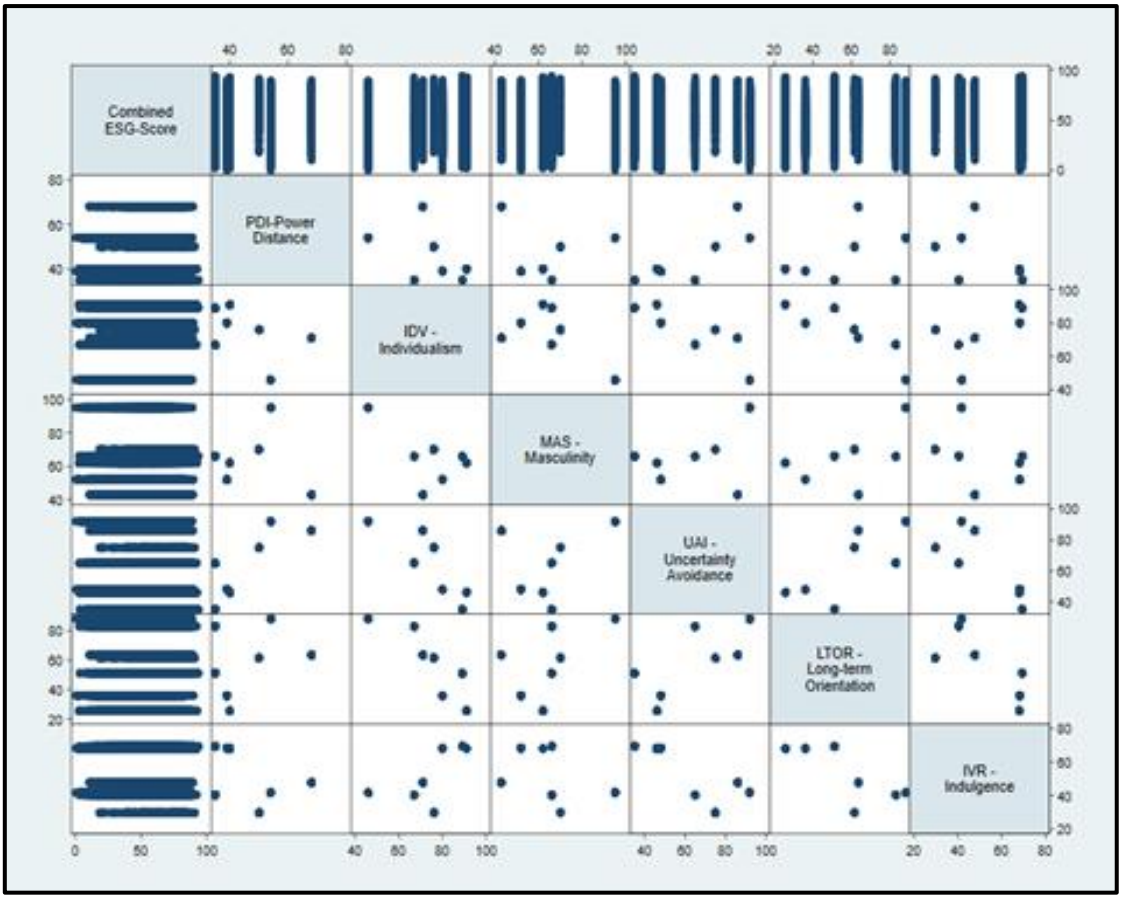

Figure 5.12 Scatterplot matrix for Combined ESG scores versus Hofstede's 6 cultural dimensions
Source: Made by the author

Figure 5.12 shows no data point that was relatively extremely far away from the rest of the data points, meaning no outliers. Neither was there any presence of influencers nor leverages, implying minimum effect on the estimation of regression coefficients, if ran.

ii) Estimated Fixed Effects (FE) Model

After testing for fixed effects in the regression model, all the independent variables were omitted due to collinearity, implying a linear relationship between or among the independent variables. With reference to many causes for collinearity as given by Wooldridge (2013), the one "none of the independent variables is constant" is broken (Gauss-Markov assumptions (MLR.1 through MLR.5). Because the violation of one key condition by Gauss-Markov assumptions MLR of non-collinearity was violated, it meant the fixed effects model cannot be used, "…. if the key explanatory variable is constant over time, we cannot use FE to estimate its effect on y" (Wooldridge, 2013, pp 496).

In this dataset, the fixed effects model results omitted all Hofstede's cultural dimensions, which were all independent variables for this study. This came as no surprise since all Hofstede's measures are constant over time and never change. Such is one criticism advanced when using Hofstede's cultural dimensions. In conclusion, the FE estimator could not be used as it was established inconsistent under omitted variables. Since it is possible that differences across firms located in the seven G7 countries have some influence on the dependent variable of CSR, then the random effects (RE) estimator was considered in turn for its fitness and suitability.

Before applying the RE estimator, it was imperative to identify and determine the degree of collinearity by each independent variable (Hofstede cultural dimensions). The variance inflation factor (VIF) analysis command was run as another check. The results are in Table 5.8. According to the rule, if the VIF is over 10, then it means a variable is judged as composing of a linear combination of other independent variables. The results for VIF analysis were higher than 10 for all except MAS. UAI had the highest at 296.980. This may be interpreted that these variables were redundant. Since the FE estimator was ruled out, there was no need for a second rerun.

Source	SS	df	MS
Model	125543.114	6	20923.852
Residual	3098996.820	9,392	329.961
Total	3224539.930	9,398	343.109

Number of obs =	9,399
F(6, 9392) =	63.410
Prob > F =	0.000
R-squared =	0.039
Adj R-squared =	0.038
Root MSE =	18.165

CombinedESG	**Coefficient**	**Standard error**	**t**	**P > (t)**	**95% confidence interval**	
PDI	0.479	0.117	4.070	0.000	0.248	0.709
IDV	0.464	0.114	4.050	0.000	0.239	0.688
MAS	0.098	0.021	4.800	0.000	0.058	0.139
UAI	-0.195	0.147	-1.320	0.186	-0.484	0.094
LTOR	0.174	0.042	4.180	0.000	0.092	0.256
IVR	-0.337	0.104	-3.230	0.001	-0.541	-0.133
Constant	10.015	20.227	0.500	0.621	-29.634	49.664

Variance inflation factors:

Variable	VIF	1/VIF
UAI	296.980	0.003
IDV	112.700	0.009
IVR	55.540	0.018
PDI	41.390	0.024
LTOR	29.700	0.034
MAS	3.140	0.319
Mean VIF	**89.910**	

Table 5.8 Results of variance inflation factor (VIF) analysis

Source: Made by the author

iii) Estimated Random Effects (RE) Model

It was established in the previous sections that variations across firms were random and not correlated with the independent variables (Hofstede's six cultural variables) in the model. The random effects (RE) estimator was run. Wooldridge (2013) advised that RE cater for time invariant variables. This was the case for all the Hofstede's cultural variables. Hence, the RE permitted the generalising of inferences further than the sample used in a model. The resultant estimated RE model is shown in Table 5.9. There was no need to decide between the estimated FE or RE model as the FE had already been disqualified due to omission of all independent variables. For proof of choice between FE or RE model estimator, the Hausman test results yielded no common coefficient names; nothing was there to test (Schunck, 2013; Wooldridge, 2013). This was expected. Next, the suitability for the RE model as the regression estimator was examined. From Table 5.9, the Wald chi2(6) representing the F-test was found very high at 47.470, implying further scrutiny and testing.

Random-effects GLS regression				Number of obs =		9,399
Group variable: FirmName				Number of groups =		714
R-squared:				Obs per group:		
Within =	0.000			Min=		2
Between =	0.063			Avg=		13.200
Overall =	0.038			Max=		14
				Wald chi2 (6)		47.470
corr(u_i, x) =	(assumed)			Prob > chi2		0.000
Combined ESG	**Coeff**	**Std error**	**t**	**P > (t)**	**95% confidence interval**	
PDI	0.622	0.329	1.890	0.059	-0.023	1.266
IDV	0.410	0.324	1.260	0.206	-0.225	1.045
MAS	0.132	0.058	2.300	0.022	0.019	0.245
UAI	-0.306	0.419	-0.730	0.465	-1.126	0.515
LTOR	0.151	0.118	1.280	0.201	-0.080	0.383
IVR	-0.378	0.300	-1.260	0.208	-0.966	0.210
Constant	15.404	57.743	0.270	0.790	-97.770	128.579
sigma_u	13.815					
sigma_e	11.954					
rho	0.572	(fraction of variance due to u_i)				

Table 5.9 Estimated Random Effects (RE) Model

Source: Made by the author

iv) Deciding between the RE estimator and the OLS regression

To decide between the RE regression that uses the General Least Squares (GLS) method, and the simple Ordinary Least Squares (OLS) regression, the test of Breusch-Pagan Lagrange multiplier (LM) was run. Table 5.10 revealed that the null was accepted. Thus, the random effects were established as more suitable for the RE regression model.

Breusch & Pagan Lagrange Mutiplier Test for Random Effects

Estimated results

	Var	SD = sqrt (Var)
CombESG	343.109	18.523
e	142.895	11.954
u	190.843	13.815

Test Var (u)	=	0.000
Chibar2 (01)	=	18769.190
Prob > Chibar2	=	0.000

Table 5.10 Breusch & Lagrange Multiplier Test results for random effects

Source: Made by the author

5.9.4 Regression analyses and results

The RE model estimator using the General Least Squares (GLS) regression was used as the most suitable after the robustness and model specification tests in the previous section. To test the various hypotheses, subgroups of panel data sets were created namely:

Panel A: the full panel data for all the seven G7 countries for Hypotheses *H1 to H6*

Panel B: the subgroup panel data of more restrained countries versus that of more indulgent countries for Hypothesis *H7*

Panel C: the subgroup panel data of each individual G7 country namely: United Kingdom (UK), United States of America (USA), Germany, Canada, Japan, France, and Italy, for any individual country comparisons.

Panel A, as full panel data set was used to test hypotheses *H1 to H6*. The results are in Table 5.11.

For Hypothesis 1:

H1 There is a negative relationship between power distance (PDI) cultural dimension and corporate social responsibility (CSR).

There is a statistically significant positive relationship between ESG and power-distance (PDI) (coefficient 1.519 at p=0.000). This implies that a unit change in the power distance (PDI) cultural dimension results in a positive change of 1.519 in ESG units of CSR. Hence Hypothesis *H1* is rejected. Note that the PDI cultural dimension was the independent variable with the highest statistically significant positive influence on the dependent variable, ESG (with z-value = 4.510).

Random-effects GLS regression				Number of obs =		9,216
Group variable: FirmName				Number of groups =		713
R-squared:				Obs per group:		
Within =	0.183			Min=		2
Between =	0.149			Avg=		12.900
Overall =	0.139			Max=		14
				Wald chi2 (14) =		1795.070
corr(u_i, x) = (assumed)				Prob > chi2 =		0.000
Combined ESG	**Coeff.**	**Std error**	**z**	**P > (z)**	**95% confidence interval**	
PDI	1.519	0.337	4.510	0.000	0.858	2.180
IDV	-1.030	0.328	-3.140	0.002	-1.674	-0.387
MAS	-0.419	0.065	-6.420	0.000	-0.547	-0.291
UAI	-2.194	0.424	-5.170	0.000	-3.025	-1.362
LTOR	-0.289	0.125	-2.310	0.021	-0.533	-0.044
IVR	-1.832	0.319	-5.750	0.000	-2.456	-1.208
Firmsize	6.625	0.215	30.810	0.000	6.204	7.047
ROA	9.020	1.656	5.450	0.000	5.773	12.266
CI	-0.242	0.118	-2.050	0.040	-0.473	-0.011
FL	8.618	1.315	6.550	0.000	6.040	11.196
WGI_{rq}	5.790	1.114	5.200	0.000	3.606	7.975
WGI_{rol}	-0.040	1.886	-0.020	0.983	-3.736	3.657
WGI_{coc}	8.800	1.271	6.920	0.000	6.309	11.291
WGI_{psnv}	-17.075	0.892	-19.140	0.000	-18.824	-15.326
Constant	212.855	58.309	3.650	0.000	98.571	327.139
sigma_u	13.031					
sigma_e	10.708					
rho	0.597	(fraction of variance due to u_i)				

Table 5.11 Panel A: All G7 countries regression results

Source: Made by the author

For Hypothesis 2:

H2 There is a negative relationship between degree of individualism (IDV) and corporate social responsibility (CSR).

There is a statistically significant negative relationship between ESG and individualistic (IDV) cultural dimension (coefficient -1.030 at p = 0.002). This implies that a unit change in the individualistic (IDV) cultural dimension results in a negative change of 1.030 in ESG units of CSR. Hence Hypothesis *H2* is accepted.

For Hypothesis 3:

H3 There is a negative relationship between degree of masculinity (MAS) and corporate social responsibility (CSR).

There is a statistically significant negative relationship between ESG and masculine (MAS) cultural dimension (coefficient -0.419 at p = 0.000). This implies that a unit change in the masculine (MAS) cultural dimension results in a negative change of 0.419 in ESG units of CSR. Hence Hypothesis *H3* is accepted. Note that the MAS cultural dimension was the independent variable with the highest statistically significant negative influence on the dependent variable, ESG (with z-value = -6.420).

For Hypothesis 4:

H4 There is a negative relationship between degree of uncertainty avoidance (UAI) and corporate social responsibility (CSR).

There is a statistically significant negative relationship between ESG and uncertainty avoidance (UAI) cultural dimension (coefficient -2.194 at p = 0.000). This implies that a unit change in the uncertainty avoidance (UAI) cultural dimension results in a negative change of 2.194 in ESG units of CSR. Hence Hypothesis *H4* is accepted. Note that the UAI cultural dimension was the independent variable with the highest unit change on the dependent variable, ESG (with coefficient -2.194). In other words, it was the most sensitive to change when regressed on ESG, compared with that on the other five independent Hofstede's cultural dimensions.

For Hypothesis 5:

H5 There is a negative relationship between degree of long-term orientation (LTOR) and corporate social responsibility (CSR).

There is a statistically significant negative relationship between ESG and long-term orientation (LTOR) cultural dimension (coefficient -0.289 at p = 0.021). This implies that a unit change in the long-term orientation (LTOR) cultural dimension results in a negative change of 0.289 in ESG units of CSR. Hence Hypothesis *H5* is accepted. Note that the LTOR cultural dimension was the independent variable with the lowest statistically significant negative influence on the dependent variable, ESG (with z-value = -2.310).

For Hypothesis 6:

H6 There is a negative relationship between degree of indulgence (IVR) and corporate social responsibility (CSR).

There is a statistically significant negative relationship between ESG and indulgent (IVR) cultural dimension (coefficient -1.832 at p = 0.000). This implies that a unit change in the indulgent (IVR) cultural dimension results in a negative change of 1.832 in ESG units of CSR. Hence Hypothesis *H6* is accepted.

Regression results on firm-specific control variables

Refer to Table 5.11 for all the G7 countries. The effects of the firm-specific control variables on CSR are analysed. Firm size, financial leverage and ROA were all found with statistically significant positive relationship with ESG. Note that firm size was the highest statistically significant positive influence (z = 30.810), followed by financial leverage (FL) (z = 6.550). CI was the least (z = -2.050). A unit change in capital intensity (CI) yielded a negative change of 2.050 of ESG, that in financial leverage (FL) a positive change of 8.618, and that in firm size a positive change of 6.625. In summary, ROA was the strongest positive influence on CSR at coefficient 9.020. The CI was the least and negative influence at coefficient -0.242.

Regression results on governance (WGI) country-specific control variables and verification of their influence on the national cultures – CSR relationship

From Section 5.5.6, the following were posited about a firm's country of domicile with respect the four country-level World Governance Indicators (WGIs). The latter were investigated for their direction, of their controlling influence on the relationship between national cultures and CSR. The following assumptions were posited for empirical testing:

a) The higher the World Governance Indicator for Regulatory Quality (WGI_{rq}), the stronger the positive relationship between national culture and CSR;

b) The higher the World Governance Indicator for Rule of Law (WGI_{rol}), the stronger the positive relationship between national culture and CSR;
c) The higher the World Governance Indicator for Control of Corruption (WGI_{coc}), the stronger the positive relationship between national culture and CSR;

d) The higher the World Governance Indicator for Political Stability and Absence of Violence or Terrorism (WGI_{psnv}), the stronger the positive relationship between national culture and CSR.

The verifications of these influencing effects were expected to add to knowledge of the few contributions in this area of research. With reference to Table 5.11 for all G7 countries, the effects of the World Governance Indicators (WGI) (prescribed by The World Bank Group) on CSR were analysed to test hypotheses *H8* to *H11*. Out of the four indices in the model, Political stability, and absence of violence (WGI_{psnv}) was found to have the most statistically significant but negative influence (z = -19.140) with an extremely negative relationship (coefficient -17.075) on ESG. This implies that a unit change in WGI_{psnv} resulted in a negative change of -17.075 in ESG. In other words, the more politically stable and the absence of terrorism a country is, the less the CSR investment in that country. Both Control of corruption (WGI_{coc}) (coefficient 8.800, z = 6.920) and Regulatory quality (WGI_{rq}) (coefficient 5.790, z = 5.200) were found to have a statistically significant positive relationship with ESG. When the two WGIs were compared with Political stability and absence of violence (WGI_{psnv}), both were moderately significant as translated from the z-values. The Rule of law (WGI_{rol}) had a very

weak negative relationship with ESG with an insignificantly statistical influence (p = 0.983, over 0.05) at coefficient -0.040.

Hence, with the above enumerated interpretations, each assumption was considered in turn. Refer to the results in Table 5.11.

For Assumption (a):

The higher the World Governance Indicator for Regulatory Quality (WGI_{rq}), the stronger the positive relationship between national culture and CSR. Since both the Regulatory quality (WGI_{rq}) (coefficient 5.790, z = 5.200) and power-distance (PDI) as cultural dimension (coefficient 1.519 at p = 0.000), were found to have a statistically significant positive influence on ESG, Assumption (a) is accepted. However, this is only to the extent of the PDI cultural dimension as representing national culture. In contrast, Assumption (a) is rejected when each or all the remaining five Hofstede's cultural dimensions were considered because each had a negative influence on ESG.

For Assumption (b):

The higher the World Governance Indicator for Rule of Law (WGI_{rol}), the stronger the positive relationship between national culture and CSR. The Rule of law (WGI_{rol}) was found to have a very weak negative influence (coefficient -0.040) on ESG with an insignificantly statistical influence (p = 0.983, since > 0.05). Hence, Assumption (b) is rejected.

For Assumption (c):

The higher the World Governance Indicator for Control of Corruption (WGI_{coc}), the stronger the positive relationship between national culture and CSR. Since both the Control of corruption (WGI_{coc}) (coefficient 8.800, z = 6.920) and power-distance (PDI) as cultural dimension (coefficient 1.519 at p = 0.000), were found to have a statistically significant positive influence on ESG, Assumption (c) is accepted, only to the extent of the PDI cultural dimension as representing national culture. Assumption (c) is rejected. This was the case when each or all the remaining five Hofstede's cultural dimensions were considered because each had a negative influence on ESG.

For Assumption (d):

The higher the World Governance Indicator for Political Stability and Absence of Violence or Terrorism (WGI_{psnv}), the stronger the positive relationship between national culture and CSR. Political stability and absence of violence (WGI_{psnv}) was found to have the most statistically significant but negative influence (z = -19.140) with an extremely negative influence (coefficient -17.075) with ESG. Hence, Assumption (d) is rejected.

Examination of ESG performance between firms located in countries based on IVR subgroups

Panel B comprised the two subgroups' panel data. These were split between firms domiciled in culturally more restrained countries and those in more indulgent countries. Panel B was used to test hypotheses *H7*.

For Hypothesis 7:

H7 Firms operating in more restrained countries achieve higher ESG performance than those in more indulgent countries.

To use the test for comparison of means between the two subgroups, it was necessary to collect the Hofstede's Indulgence versus Restraint (IVR) cultural dimensions for the G7 countries used in this study. Please see Figure 5.13 for the ratings on IVR obtained from Hofstede (2020). Consequently, the G7 countries with the IVR rating below 50 were classified as the group of restrained countries denoted by "Restraint Countries" (France, Japan, Germany, and Italy). ; Those with IVR rating over 50 were denoted by "Indulgent Countries" (Canada, UK, and USA). With reference to Table 5.12, the resultant firm-year observations after the decoding of the countries into the two groups was split as: 4,592 firm-year observations (328 firms) under RestrainedCountries and 5,404 firm-year observations (386 firms) under IndulgentCountries. To gauge the difference between the two subgroups, the comparison of means test was ran. Results are shown in Table 5.13. As expected, firms in RestrainedCountries showed a higher mean ESG performance at coefficient 52.733 than those in IndulgentCountries at coefficient 49.907. Hence Hypothesis *H7* is accepted for firms operating in more restrained countries achieve higher ESG performance than those in more indulgent countries.

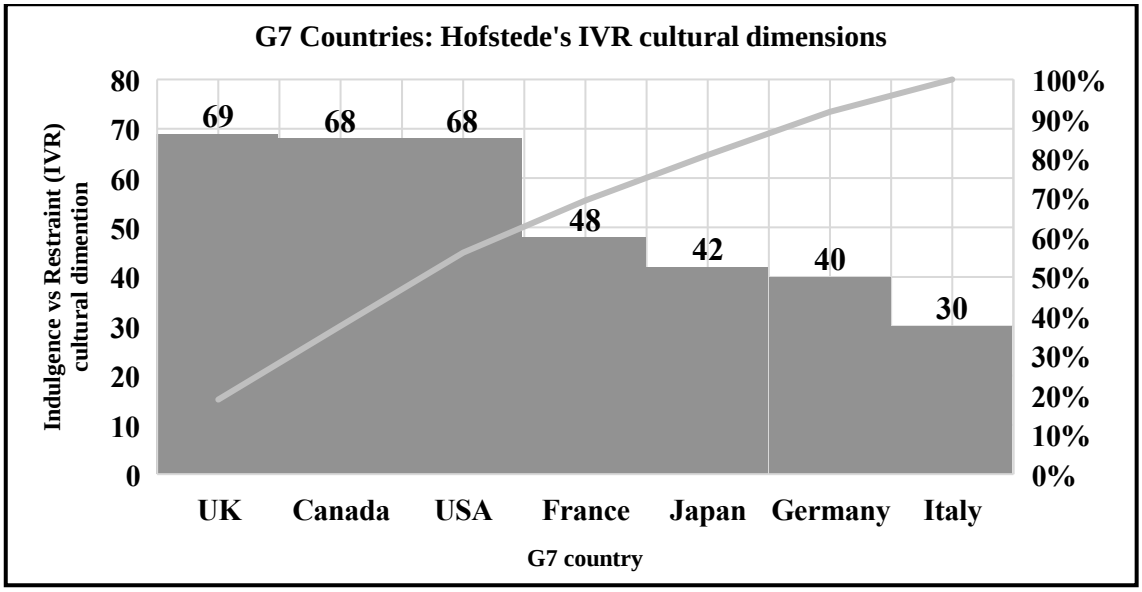

Figure 5.13 Hofstede's IVR cultural dimensions for G7 countries

Source: Made by the author

Firms' subgroups: Indulgent versus Restraint (IVR)	No. of firms	Firm-year obs.	Percent	Cum Percent
Restraint Countries	328	4,592	46%	46%
Indulgent Countries	386	5,404	54%	100
Total	**714**	**9,996**	**100**	

Table 5.12 Firm-year observations for the decoded two IVR subgroups

Source: Made by the author

To test if the mean Corporate performance was higher for the firms in RestrainedCountries than those in IndulgentCountries, the comparison of means test was ran. Refer to Table 5.13 again. Precisely, the firms' means for ROA was higher for those in IndulgentCountries at coefficient 0.090 than 0.047 for firms in RestrainedCountries. The mean for ROE was higher for firms in IndulgentCountries at coefficient 0.263 than 0.111 for those in RestrainedCountries. That for Tobin's Q was also higher for firms in IndulgentCountries at coefficient 2.156 than 0.965 for those in RestrainedCountries. Lastly, the Current ratio (CR) was higher for firms in IndulgentCountries at coefficient 1.938 than 1.817 for those in RestrainedCountries.

Subgroups -Firms in Restraint vs Indulgent Countries	Comb ESG	ROA	ROE	TbQ	CR
Total observations:	9,399	9,788	9,714	9,745	8,325
Restrained Cultural Group					
Mean:	52.733	0.047	0.111	0.965	1.817
Std. err.	0.293	0.001	0.004	0.032	0.023
Std. dev.	18.803	0.057	0.277	2.091	1.467
Observations:	4,113	4,457	4,450	4,398	3,903
Indulgent Cultural Group					
Mean:	49.907	0.090	0.263	2.156	1.938
Std. err.	0.250	0.011	0.077	0.522	0.039
Std. dev.	18.209	0.801	5.618	38.134	2.599
Observations:	5,286	5,331	5,264	5,347	4,422
Mean diff:	2.826	-0.042	-0.153	-1.191	-0.121

Table 5.13 Comparison of means for ESG and CP between the IVR cultural subgroups

Source: Made by the author

With the four observations and based on the study's sample, firms belonging in RestrainedCountries exhibited a lower corporate performance in all four dimensions (operational, financial, market and liquidity) than those in IndulgentCountries. In contrast, firms in RestrainedCountries had a lower mean Corporate performance than those in IndulgentCountries. This was observed for all the four dimensions of corporate performance: operational, financial, market and liquidity.

The most significant cultural dimension per G7 country

Panel C with individual G7 countries subgroups was used to compare characteristics of national cultures amongst each in terms of the single Hofstede's' cultural dimension with the most statistically significant influence on ESG in each country in sample. See Table 5.14 for results.

Firstly, firms in countries with a stakeholder model of corporate governance were reported (France, Germany, Italy, and Japan). France had uncertainty avoidance (UAI) cultural dimension with the most statistically significant positive relationship with ESG (coefficient 0.671, z = 41.640). This implies that France exhibits high intolerance towards uncertainty or ambiguity that nurtures a culture of caution and planning towards ESG activities and performance for firms operating in its territory.

Extracts from Random-effects GLS regression results								
G7 country & its model of corporate governance	**No. of firm-year obs.**	**Most statistically significant cultural dimension**	**Coeff**	**Std error**	**z**	**P > (z)**	**95% conf. interval**	
Stakeholder model:								
France	852	UAI	0.671	0.016	41.640	0.000	0.640	0.703
Germany	944	LTOR	0.612	0.019	32.390	0.000	0.575	0.650
Italy	207	IDV	0.817	0.043	19.010	0.000	0.732	0.901
Japan	2,110	MAS	0.524	0.014	38.430	0.000	0.498	0.551
Shareholder model:								
United Kingdom (UK)	1,700	IDV	0.598	0.013	45.330	0.000	0.572	0.623
United States of America (USA)	2,451	IDV	0.548	0.011	51.850	0.000	0.527	0.569
Canada	1,135	IDV	0.553	0.022	25.510	0.000	0.511	0.596

Table 5.14 Panel C Random-effects GLS regression results for G7 individual countries

Source: Made by the author

Note that this finding is consistent with firms located in nations with a stakeholder model of corporate governance, France being one. Germany had long-term orientation (LTOR) cultural dimension with the most statistically significant positive relationship with ESG (coefficient 0.612, z = 32.390). As a nation renowned for its precision and ingenuity in various industries, Germany is one whose culture is engrossed in long term and system planning. Like France, firms in countries with stakeholder model of corporate governance are more aligned to highly formal planning and policies. These include those related to ESG activities and performance. Italy had individualism (IDV) cultural dimension with the most statistically significant positive relationship with ESG (coefficient 0.817, z = 19.010). Japan had masculinity (MAS) cultural dimension with the most statistically significant positive relationship with ESG (coefficient 0.524, z = 38.430). This is expected with Japan's history of high industrial development and global pioneer in some areas. Its culture and human life are aligned more towards the masculine perspective.

Secondly, the results for firms in countries with a shareholder model of corporate governance were reported (UK, USA, and Canada). All the three reported individualism (IDV) as one having the most statistically significant positive relationship with ESG. These were UK (coefficient 0.598, z = 45.330); USA (coefficient 0.548, z = 51.850) and Canada (coefficient 0.553, z = 25.510). All the three countries symbolise high individualism. This is associated with firms in countries aligned to the shareholder model of corporate governance.

5.10 Findings and Discussion

This section aims to examine the outcomes of the research and compare them with the past findings, to assess if any fresh perspectives have been revealed. The findings to gauge the three research objectives set at the start are specified. These are located to the body of knowledge and labelled as additional or new contributions. Further, discussions of the generalisability of findings to other populations are covered. Finally, the key themes of this section are summarised.

The first objective of this study was to examine the relationship between national cultures and corporate social responsibility using Hofstede's six cultural dimensions.

As hypothesised, this study establishes a statistically significant, negative relationship between corporate social responsibility (CSR) and each of the five of Hofstede's cultural dimensions, namely: individualism (IDV), masculinity (MAS), uncertainty avoidance (UAI), long-term orientation (LTOR) and indulgence versus restraint (IVR. Though initially hypothesised to be negative, a positive relationship is revealed with power distance (PDI). It is imperative to interpret each of these in some details as Hofstede's dimensions need to be carefully figured out logically. This study adds to the list of the respective findings by other earlier ones, as detailed below, one at a time. To summarise the detailed logical interpretations above, this study has uncovered a statistically significant positive relationship between CSR. This is promoted by staff in firms from communities with cultures more collectivistic, feminine, uncertainty tolerant, restrained, long-term oriented, and high-power distance.

A negative relationship between CSR and individualism (IDV) is revealed. This means that as CSR increases, the IDV index decreases moving from individualistic (max IDV index = 91) towards collectivistic (min IDV index = 6) status (Hofstede, 2022, 2001). Empirically, CSR is positively related to collectivistic cultures. For firms, this is supported by staff from communities more collectivist than individualistic. Recent findings with negative relationship for individualism (IDV) include those by Gallén & Peraita, 2018; Garcia-Sanchez et al., 2016; Kang et al., 2016. After the listed three past findings, this study becomes the fourth with a negative finding. Specifically, this negative relationship found may be interpreted that firms domiciled in collectivist (less individualistic) countries vested more interest in CSR

investments and its associated activities. It is expected that decision-making processes on CSR activities or investments be more inclusive of diverse stakeholders. This would comprise individuals focused on enhancing society's life quality than those in for their material benefits, a notion supported by Garcia-Sanchez et al. (2016).

A negative relationship between CSR and masculinity (MAS) is found. This means that as CSR increases, the MAS index decreases moving from more masculine (max MAS index = 104) towards more feminine (min MAS index = 5) status (Hofstede, 2022, 2001). Empirically, CSR is positively related to feminine cultures. For firms, this is supported by staff from communities more feminine than masculine. Other studies that found masculinity (MAS) negatively related to CSR include Diamastuti et al., 2020; Prof. I. Gallego-Álvarez & Ortas, 2017; Gallén & Peraita, 2018; Garcia-Sanchez et al., 2016; Kang et al., 2016; Orij, 2010; Peng et al., 2012. Hence, this study becomes the eighth to demonstrate the negative relationship, after the listed seven past ones. As masculinity decreases, then the scale tips towards more inclusivity of other players and equality. Demands in firms is for more CSR activities to benefit the majority, also supported by Kang et al. (2016). Further, Prof. I. Gallego-Álvarez & Ortas (2017) resounded that firms with high levels of femininity (low masculinity) support more investments in CSR related activities than those otherwise. However, these observations leave much to be desired; there could be more complex factors affecting the masculinity (MAS) cultural dimension.

A negative relationship between CSR and uncertainty avoidance (UAI) is established. This means as CSR increases, the UAI index decreases moving from uncertainty avoidant (max UAI index = 110) towards uncertainty tolerant (min UAI = 0) status (Hofstede, 2022, 2001). Empirically, CSR is positively related to uncertainty tolerant cultures. For firms, this is supported by staff from communities more tolerant than avoidant, to uncertainty. Other studies that found uncertainty avoidance (UAI) as negatively related include Garcia-Sanchez et al., 2016; Halkos & Skouloudis, 2016, 2017. The latter scholars confirmed that firms located in countries with high uncertainty avoidance are more inclined to tolerate or increases investments in CSR activities. Hence, this study becomes the third with same negative finding, after the past listed two.

A negative relationship between CSR and indulgence versus restraint (IVR) is found. This means that as CSR increases, the IVR index decreases moving from indulgent (max IVR index

= 430) towards restrained (min IVR = 0) status (Hofstede, 2022, 2001). Empirically, CSR is positively related to restrained cultures. For firms, this is supported by staff from communities more restrained than indulgent. However, only Prof. I. Gallego-Álvarez & Ortas (2017) found a negative relationship with indulgence versus restraint (IVR). Therefore, this study's finding becomes the second to find a negative relationship.

A negative relationship between CSR and long-term orientation (LTOR) is established. This means that as CSR increases, the LTOR index decreases moving from short-term oriented (max LTOR index = 350) towards more long-oriented (min LTOR = 0) status (Hofstede, 2022, 2001). Empirically, CSR is positively related to long-term oriented cultures. For firms, this is supported by staff from communities more long-term oriented than short-term. The key past studies that found a negative link in this area include that by Diamastuti et al. (2020), though statistically insignificant, and Gallén & Peraita (2018). Hence this study becomes the third, after the first two.

In contrast to the hypothesised, a positive relationship is found between CSR and the power-distance (PDI). This implies that as CSR increases, the PDI index also increases moving from low power distance (min PDI index = 0) towards high power distance (max PDI index =104) status (Hofstede, 2022, 2001). Empirically, CSR is positively related to high power distance cultures. For firms, this is supported by staff from communities high in power distance than low. Hence, this study becomes the seventh for those finding a positive link, after the listed six past ones namely: Diamastuti et al., 2020; F. N. Ho et al., 2012; Kang et al., 2016; Koprowski et al., 2021; Onkenhout, 2020; Thanetsunthorn & Wuthisatian, 2018. In contrast, two studies: Garcia-Sanchez et al. (2016) and Halkos & Skouloudis (2017), found a negative relationship. Evidently, going by the numbers of past studies finding a positive relationship, consensus can be said to be weighing towards a positive link. Implicitly, firms in high power distance cultures are expected to receive unfettered support or minimal resistance from employees going by the hierarchical structure, also attested by Kang et al. (2016). In support, Peng et al. (2012) concluded that "Higher CSP is significantly associated with cultures characterized by higher power distance (less likely to tolerate questionable business practice), more collectivist societies, more masculine, and more uncertainty avoidance (prefer a structured environment)" (pp 9). Hence, this is seen as justification for higher investments in CSR activities with matching results. Though Koprowski et al. (2021) supported this notion, it brings into question

the interests of the powerful in society; these are often seen to preside in such cultures. A change of a set of players assuming power may turn the tables against higher CSR investments in firms.

To summarise the detailed logical interpretations above, this study has uncovered a statistically significant positive relationship between CSR. This is promoted by staff in firms from communities with cultures more collectivistic, feminine, uncertainty tolerant, restrained, long-term oriented, and high-power distance.

Notably, two findings pertaining to the influence of a selection of control variables are worth noting. For the firm-specific controls, firm size was determined as bearing the most significant influence on CSR. For the country-specific controls, political stability and absence of violence (WGIpsnv) was found to have the most significant influence with an extremely negative relationship with CSR.

The second objective of this study was to assess the differences in CSR between firms domiciled in culturally more restrained countries and those in more indulgent ones.

This study detected differences in ESG performance as a measure of CSR between firms in the two subgroups of RestrainedCountries and IndulgentCountries. As initially hypothesised, firms operating in restrained countries (France, Germany, Japan, and Italy) exhibited a higher ESG performance than those in indulgent countries (Canada, UK, and USA). This finding becomes the first using the G7 countries' context of the study population; it adds new knowledge to this research area. Though no prior studies exist, this revelation needs to be cautiously compared with Disli et al. (2016). When it comes to lifestyle, the scholars echoed indulgent societies as being characterized by wastage and extravagancy. Possibly, this may result in a surge in environmental pollution, it was suggested. Thanetsunthorn & Wuthisatian (2018) commented on the willingness of global firms located in more indulgent cultures to promoting CSR activities/practices. The duo perceived indulgent nations as being more emphatical on moral discipline and order. However, the duo concluded a likelihood of yielding a negative effect on decision making processes related to CSR. The comments from the two past studies (Disli et al., 2016; Thanetsunthorn & Wuthisatian, 2018) could be seen as mere pronouncements aimed at explaining possible factors, after their findings. In summary, this study has arrived at this

conclusion: on average, firms domiciled in restrained countries pay and invest more in ESG activities than those in indulgent countries.

Nevertheless, this study's findings on ESG performance variations in the two subgroups of Hofstede's IVR cultural dimension are generalisable only to listed firms in G7 countries. Future research employing more diverse and larger samples that divide datasets into subgroups based on the remaining five Hofstede's cultural dimensions is recommended. These are power distance (PDI), individualism (IDV), masculinity (MAS), uncertainty avoidance (UAI), long-term orientation (LTOR). Doing so is expected to yield more findings of variations of ESG performance and its individual components in designed subgroups. Depending on the research designs, studies that compare the strengths of relationships could go a long way in adding knowledge in this under-researched area.

The third objective of this study was to investigate the controlling influence of four World Governance Indicators (WGI) on the relationship between national culture and CSR. This study detected and established variations in the controlling influence of world.

Out of the four indices, political stability, and absence of violence (WGI_{psnv}) is found to have the most statistically significant but negative influence on CSR. The more politically stable and the absence of terrorism of a country, the less the CSR investment of a firm in that country.

Both control of corruption (WGI_{coc}) and regulatory quality (WGI_{rq}) are found to have a statistically significant positive influence on CSR. The influence is moderately significant for both, compared to WGI_{psnv}. The more control of corruption and regulatory quality of a country, the more the CSR investment of a firm in that country. However, this study's finding on the control of corruption was in opposition to that by Griffin et al. (2021). These scholars found a negative influence. The different results could be partially attributed to the sample sizes used. This discrepancy can be explained by the wide disparity in the sample mix and size between this study under examination and that by Griffin et al. (2021). The latter's sample was wider and bigger than that of this study: 43 countries yielding 33,021 firm-year observations compared to this study's 7 (G7) countries with equivalent 9,996. Also, the bias this study's sample of the G7 countries could be considered as skewed towards countries with greatest economic prowess, thereby affecting the results.

The rule of law (WGI_{rol}) is found to have a very weak statistically insignificant negative influence on CSR. The more rule of law of a country, the less the CSR investment of a firm in that country.

The findings pertaining to the controlling influence of world governance on the link between national culture and CSR contribute to this body of knowledge. Only three past relevant studies exist to date: De Villiers & Marques, 2016; Gallén & Peraita, 2018; Griffin et al., 2021. The limitations of the earlier three lay in investigating only a maximum of two on average out of the six governance indicators (WGIs) prescribed by the World Bank Group. Not only does this study become the first to use four out of the six indicators, but also the fourth to investigate the WGIs, when added to the first three studies.

5.10.1 Findings

This study established variations in ESG performance by comparing corporate social responsibility scores between firms in culturally indulgent countries versus those in restraint ones. More outside the scope was revealed. Firms in culturally restrained countries had a lower mean corporate performance than those in culturally indulgent ones. This was observed for all the four dimensions of corporate performance: operational, financial, market and liquidity. Nevertheless, if guided by the Stakeholders Theory by Freeman (1984). In the long term, it could be argued that investing more in CSR assists in sustaining firms in culturally restrained countries in the long term. The key stakeholders are likely to commit to this. Despite firms in the culturally restrained countries registering lower corporate performance, enhanced CSR investments are likely going to help them go through to recovery, acting as an insurance.

Further investigations pertaining to the individual G7 countries revealed interesting findings for the most significant relative to each of Hofstede's six cultural dimensions. Each country had one most statistically significant positive relationship of a Hofstede cultural dimension with CSR. The breakdown was France - uncertainty avoidance (UAI); Germany - long-term orientation (LTOR); Italy - individualism (IDV); Japan - masculinity (MAS). The three countries identified are all inclined to a stakeholder model of corporate governance; none is from the shareholder model. This is a significant finding because it dismisses public opinion that firms located in stakeholder type of corporate governance countries invest less in CSR than

those in shareholder type. When corporate performance is analysed, it is the firms in shareholder model of corporate governance that revealed better performance.

5.11 Limitations of Study

Despite the findings in this study, several limitations are worth mentioning. In common with all research, the results should be treated with caution.

Firstly, the results of relationships between the various Hofstede's cultural dimensions and CSR based on this study's model only depicts a set of associations between the two and does not equate to causality.

Secondly, the sample of firms used in the empirical analysis is limited to public listed firms on the major world stock exchanges of the largest economies. Hence the results can only be generalisable to similar listed firms in the specific seven countries covered in this study. It is expected that the environmental, social and governance effects will be different in smaller or non-listed firms due to reduced or no regulations and fewer stakeholder groups.

Thirdly, the time invariant effect of Hofstede's cultural variables assumed as being constant over about the last 30 years for each of the countries in this study may have repercussions of the results. In real life, a national culture as posited by Hofstede dimensions are expected to evolve and cannot be constant over even a period of 14 years, as was the period of the panel data for this study.

Fourthly, it is simplistic to assume that a national culture is a good proxy of a corporate culture, as these two are very different even for two firms operating in one country. However, in the absence of any validated measures of corporate culture, Hofstede's cultural dimensions have been adopted as next best proxy, regardless of this identified discrepancy hinging on the validity of findings.

Fifthly, this study's model focused on the seven (G7) countries' cultural variables. Other factors that can influence the CSR activities and levels of investments include both external and internal economic variables, that were not included in this enquiry.

5.12 Recommendations and Further Research

To strengthen the limitations identified in the previous section, the following are recommended plus that for further research:

a) **Causal Ambiguity**: The study identifies associations between Hofstede's cultural dimensions and CSR, but correlation does not imply causation. Future studies might benefit from longitudinal or experimental designs that could better distinguish causative impacts of cultural dimensions on CSR practices (Gelfand et al., 2007).

b) **Cultural Evolution Over Time**: The assumption that national cultures remain constant over decades is a simplification, as cultural values and norms evolve due to global interactions, economic changes, and generational shifts. Studies by Inglehart & Welzel (2001) indicate that cultural changes, particularly in value systems, can be significant within shorter timespans. Future research could include dynamic cultural indicators or recent cultural indexes to account for potential shifts in national cultures.

c) **Corporate vs. National Culture**: While national culture serves as a proxy for CSR attitudes, corporate culture itself can diverge significantly even within the same country, especially in multinational corporations (MNCs). Studies like Hofstede et al. (2010) highlight that internal corporate cultures are influenced by both the local culture and international standards. For more nuanced insights, future research should explore firm-level cultural assessments alongside national culture.

d) **Sample Limitation to Public Listed Firms in G7 Countries**: The focus on large public firms in G7 nations limits the generalizability to other countries and smaller firms. CSR approaches and pressures differ widely across regions, firm sizes, and industry types, especially in non-listed or smaller firms, where regulatory and stakeholder pressures may be reduced (Jamali & Karam, 2018).

e) **External Economic and Institutional Influences**: While WGIs provide a valuable measure of governance, other country-specific economic and institutional factors—such as tax policies, foreign investment levels, and labour laws—also shape CSR behaviours.

Including a broader set of external indicators, as suggested by Matten & Moon (2008), could improve understanding of CSR in varying governance environments.

Recommendations for Further Research

a) **Incorporating Diverse Cultural Measures**: To address the static nature of Hofstede's model, future studies could incorporate alternative or updated cultural measures, such as Schwartz's cultural dimensions, to capture potentially dynamic cultural traits and provide a comparative cultural analysis (Schwartz, 1999).

b) **Sector-Specific Analysis Beyond G7**: Future research should expand the sample to firms from emerging economies or non-G7 countries to evaluate how cultural dimensions and governance indicators influence CSR in diverse economic contexts. Studies such as Arora & Dharwadkar (2011) have noted distinct CSR behaviours in emerging markets, shaped by differing cultural and governance pressures.

c) **Longitudinal Designs to Track Cultural Shifts**: A longitudinal approach could better capture how shifting cultural norms within countries impact CSR practices over time, providing insights into the adaptability of CSR in response to cultural and institutional changes (Roccas & Sagiv, 2010).

d) **Comparative Studies on CSR and WGIs**: Given the mixed results on the influence of different WGIs (e.g., control of corruption, regulatory quality), comparative studies focusing on the individual and combined effects of governance indicators in countries with different cultural dimensions could refine understanding of the governance-CSR relationship (De Villiers & Marques, 2016).

These further works would bolster the academic rigor in this area by acknowledging potential gaps and providing a clearer roadmap for future research efforts.

Summary of Findings

This study revealed a statistically significant, negative relationship between CSR and each of the five of Hofstede's cultural dimensions namely: individualism (IDV), masculinity (MAS), uncertainty avoidance (UAI) and indulgence versus restraint (IVR), and long-term orientation (LTOR). A positive relationship was established between CSR and the power-distance (PDI). Hence, this study adds to the list of the respective findings of other earlier empirical ones.

This study detected differences in ESG performance as a measure of CSR between firms in culturally restrained countries (France, Germany, Japan, and Italy) and those in indulgent ones (Canada, UK, and USA). Firms in more restrained countries exhibited a higher ESG performance than those in more indulgent ones. This finding using the G7 sample becomes the first and hence adds new knowledge to this research area. In contrast, it was established as the opposite for corporate performance between firms in the mentioned subgroups. Firms in culturally indulgent countries outperformed in all four dimensions of corporate performance: operational, financial, market and liquidity.

This study detected and established variations in the controlling influence of world governance on the relationship between national cultures and CSR. The focus was on four World Governance Indicators (WGIs). The higher the regulatory quality of a firm's country, the stronger the positive relationship between only the power-distance (PDI). The higher the control of corruption of a firm's country, the stronger the positive relationship between only power distance (PDI). The higher the rule of law of a firm's country, the stronger a negative but weak relationship between national culture and CSR, besides being statistically insignificant. The higher the political stability and absence of violence or terrorism, the stronger the high negative relationship between national culture and CSR.

The conclusion for this study on the relationship between and national culture and CSR is covered in the next subchapter 5.13. It covers the critical observations, implications to wider society, the future direction, and the contribution to this area.

5.13 Conclusion

This study's findings on the relationship between national culture and CSR, together with the controlling influences of the World Governance Indicators are fourfold.

Firstly, this study has revealed a statistically significant negative relationship between CSR and each of the five of Hofstede's (Hofstede, 2022; Hofstede et al., 2010) cultural dimensions namely: individualism (IDV), masculinity (MAS), uncertainty avoidance (UAI), indulgence versus restraint (IVR), and long-term orientation (LTOR). In contrast, a positive relationship has been established between CSR and the power-distance (PDI). To summarise the detailed logical interpretations above for a lay person, this study has uncovered a statistically significant positive relationship between CSR. This is promoted by staff in firms from communities with cultures more collectivistic, feminine, uncertainty tolerant, restrained, long-term oriented, and high-power distance.

The detailed interpretations for each of the stated findings pertaining to the six Hofstede's cultural dimensions are provided in Section 5.10, the Findings & Discussion chapter. All the above findings would be of benefit to aspects of cultural planning and the associated implications to firms located in G7 countries and those contemplating on opening overseas operations outside but within the named region.

Secondly, this study has found differences in ESG performance, as a measure of CSR, between firms in the two subgroups: RestrainedCountries and IndulgentCountries. The Indulgence *versus* Restraint (IVR) cultural dimension measures the degree to which inhabitants of a society regulate their aspirations and instincts. According to Hofstede et al. (2010), low control is viewed as "indulgence" and strong control as "restraint." It is revealed that firms operating in more restrained countries (France, Germany, Japan, and Italy) have a higher ESG performance than those in more indulgent nations (Canada, UK, and USA). This revelation using the sample of firms in G7 countries becomes the first and hence adds new knowledge to this research area.

Based on the Institutional Theory (Meyer & Rowan, 1977) and Hofstede's cultural dimensions (Hofstede, 2020), the findings between firms in the two subgroups demonstrate how stakeholders' degree of restraint versus indulgence cultural dimension moderates the

relationship between CSR and national culture. Institutional theory broadly states that the behaviour of firms is governed by its institutional environment or field. The constituents of the field include the social context of an organization and its activities with the network of social connections (Doshi & Khokle, 2012). In this context, firms operating in more restrained countries are obligated to follow laws and regulations pertaining to meeting ESG benchmarks. This results in the congruence of firms' social contexts, the scope of their activities, and their network of social relationships within a given country. Also, the behaviours of players and staff of firms become very similar, as posited by the Institutional theory (Meyer & Rowan, 1977). Consequently, this is expected to affect even the firms' organisational structures; they are probable to have stringent compartments that serve the ESG agenda and activities. Yet, the intensity of such congruence for players and staff of firms in more indulgent countries is less prominent, categorically due to predominantly the reference to regulations that serve more as sets of guides on best practice rather than obligatory. Therefore, this study's findings dismiss the public opinion that firms in more indulgent countries invest more in CSR activities to yield better ESG performance. Within the context of firms in G7 countries, it instead are the firms in more restrained countries that are found to invest more in ESG or CSR activities than those in more indulgent ones.

Thirdly, this study has uncovered a contradiction in an expected relationship. Though firms operating in more restrained countries (France, Germany, Japan, and Italy) reveal a higher ESG performance than those in more indulgent countries (Canada, UK, and USA), this is not the case for corporate performance. In contrast, firms in restrained countries record a lower corporate performance than those in indulgent ones. This is observed for all the four dimensions of corporate performance: operational, financial, market and liquidity. Theoretically, the Stakeholder Theory gives a charter for exploring the relationship between ESG performance and corporate performance (Meyer & Rowan, 1977). A probe of interest in this area would be to examine how a change in ESG performance is related to each unit change in individual components of corporate performance measures (operational, financial, market and liquidity). The findings defy the Stakeholder Theory (Freeman, 1984). Instead, they support the Shareholder Theory (Friedman, 1970). While there may not be an immediate or valid explanation for this discrepancy, future replicative studies using more diverse populations may reveal different findings. Given that all firms in sample are drawn from G7 countries with the

highest economic prowess, there might have been some form of population bias of firms used in the sample.

Fourthly, this study has detected variations in the controlling influence of world governance on the relationship between national culture and CSR. The study's focus is on four World Governance Indicators (WGIs). These were Regulatory Quality, Control of Corruption, Rule of Law, and Political Stability & Absence of Violence or Terrorism (The World Bank, 2022). Only three past studies in this area existed at the time of this study (De Villiers & Marques, 2016; Gallén & Peraita, 2018; Griffin et al., 2021). Thus, this remains an under-researched area. The findings are summarised in next sentences. The higher the Regulatory Quality of a firm's country, the stronger the positive relationship between national culture and CSR, where the former is the Power-Distance (PDI) cultural dimension. The higher the Control of Corruption of a firm's country, the stronger the positive relationship between the two constructs of interest. The higher the Rule of Law of a firm's country, the stronger the negative but weak relationship between national culture and CSR. However, this is statistically insignificant. The higher the Political Stability and Absence of Violence or Terrorism, the stronger the high negative relationship between national culture and CSR. Firms used in this G7 sample represent global multinational ones in the seven most industrialised countries. Thus, probable elements of population bias might have been present. Hence, it is recommended that future research investigates the effect of the named four WGIs in non-G7 populations. Using firms drawn from larger and more diverse populations within the world, especially a mix from both developed and developing countries, is encouraged and recommended.

5.13.1 Critical observation and implications to firms or wider society

It is critical to make some critical observations discerning from this study's findings. These would be of interest to the wider society. Based on findings, the concept of CSR and its components is affected by numerous cultural dimensions. For global firms as in G7 countries, knowledge of national cultures would go a long way in devising effective CSR plans, activities, and investments.

The finding that firms operating in culturally restrained countries (France, Germany, Japan, and Italy) reveal a higher ESG performance than those in culturally indulgent countries

(Canada, UK, and USA) may have repercussions to the wider society. Firstly, as newfound knowledge, firms contemplating on investing in businesses where CSR ranks high on agenda would do well to understand the cultural aspects of their target country. The study's finding would have been more attractive if doing so would also transcend in higher corporate performance proxied by operational, financial, market and liquidity measures. This is not the case. Firms in culturally restrained countries exhibit a lower mean corporate performance than those in culturally indulgent ones. Secondly, the future looks promising because the levers of change may begin to move. Firms in culturally indulgent countries may start or accelerate to act. Setting up of CSR sub-committees, assessing their CSR policies for alignment to their national cultures, will all be vital. This could be one way of emulation or catch-up with firms in culturally restrained countries.

It is found that firms in each G7 country inclined to a stakeholder model of corporate governance (France, Germany, Japan, and Italy) show the highest statistically significant positive relationship between ESG performance and a Hofstede cultural dimension, compared to all other G7 countries. These results have implications to firms' management teams in G7 countries. Findings bring into question the perceived higher ESG performances in firms located in countries leaning to a shareholder model of corporate governance (Canada, USA, and UK). The latter group may have larger firms, stock markets, and profits. However, the results show otherwise for CSR, when compared with their counterparts in France, Germany, Japan, and Italy. If more replicated studies find the same or similar knowledge, it may encourage firms from the disparate subgroups to cross examine each other for best practices. Alternatively, rivalry between firms from the two subgroups of the G7 countries may arise.

In general, this study's findings could be of use to the CSR functional management teams in multinational firms in the G7 countries, when planning for CSR investments and activities. Taking cognisance of the national cultures of countries of domicile will enhance quality of decision making and planning. It may be feasible and easier to tailor expected outcomes to specific cultural expectations. Also, findings are of interest to managers that require relevant empirical evidence when contemplating to enter new markets in G7 countries. Knowledge on cultural aspects from the CSR perspective would go a long way in assisting successful international business formations and establishments.

5.13.2 Contributions

This study's contribution to the subject area is quintuple.

Firstly, it adds to the existing body of knowledge on findings for a statistically significant negative or positive relationship between CSR and specified Hofstede's cultural dimensions, summarised in Table 5.1. Findings from all studies in this area remain mixed or inconclusive. It might be long before consensus is reached. Conducting relevant metanalytic reviews would help weigh in locate where the world is. To date, no such reviews exist in the relevant literature. Resultant revisions to research designs could help steer this agenda to a possible direction.

Secondly, this study has pioneered new knowledge in an area not tapped before. Firms operating in culturally restrained countries (France, Germany, Japan, and Italy) reveal a higher ESG performance than those in culturally indulgent ones (Canada, UK, and USA). This finding may have possible implications to affected firms and the wider society. Also, the future looks promising because the levers of change may begin to move. Firms in more indulgent countries may start or accelerate to act. This could include setting up of CSR sub-committees, assessing their CSR policies for alignment to their national cultures. Doing so may be an emulation or catch-up with firms in more restrained countries.

Thirdly, though outside the scope, firms under in culturally restrained countries exhibit a lower mean corporate performance than those in culturally indulgent ones. This is observed for all the four dimensions of corporate performance: operational, financial, market and liquidity. This finding opens room for possible future culturally based research in subgroups of the remaining five Hofstede's cultural dimension.

Fourthly, this study has found new knowledge about firms located in two subgroups of countries based on the model of corporate governance. It is found that each G7 country inclined to a stakeholder model of corporate governance (France, Germany, Japan, and Italy) shows the highest statistically significant positive relationship between ESG performance and a Hofstede cultural dimension, compared to all other G7 countries. These results have implications to firms' management teams in G7 countries as they bring into question the perceived higher ESG

performances in firms located in countries leaning to a shareholder model of corporate governance (Canada, USA, and UK).

Fifthly, this study contributes to the body of knowledge pertaining to the controlling influence of world governance using World Bank's indicators. It is the first to use four out of the six World Governance Indicators (WGI). Second, it is the fourth to investigate the WGIs, when added to the first three previous studies who controlled for less than four of the WGIs in their studies namely: De Villiers & Marques, 2016; Gallén & Peraita, 2018; Griffin et al., 2021.

6. Chapter 6 – THE RELATIONSHIP BETWEEN ESG PERFORMANCE WITH ITS COMPONENTS AND ECONOMIC GROWTH

Abstract

Background

A review of economic literature on the few past empirical studies depicts not only mixed but also inconclusive results regarding the relationship between corporate social responsibility (CSR) and economic growth or the state of the economy. Presumably, this appears to be a new area of research, and thus remaining under-researched. with limited past studies that have been carried out. Specifically, the effect of ESG performance between eras of economic prosperity and economic crisis also begs many questions. When it comes to the controlling influences on the relationship between CSR and economic growth or the state of the economy, there are hardly any investigations in this area of research. All these situations have brought into question the relevance of CSR on economic growth, whether there are economic eras when CSR activities or investments should be prioritised, and what, if any, are country-based controlling influences in this area of research.

Purpose

Firstly, this study examines the relationship between a firm's CSR and its country's economic growth or the state of the economy.

Secondly, the study investigates the differences in the firms' combined Environmental, Social and Governance (ESG) performance between the periods of economic expansion and economic crisis eras.

Thirdly, the controlling influences of a country's human development level, stock market size and natural resource endowment on the link between firms' ESG performance and economic growth, are evaluated.

Design/methodology/approach

The three: Stakeholder (Freeman, 1984a), Shareholder (Friedman, 1970), Resource-Based View (RBV) (Barney, 1991; Wernerfelt, 1984) theories are used as theoretical bases for this study. This is in conjunction with the Economic Growth (Arestis et al., 2007; Lucas, 1988) theories.

The study's sample employs the topmost global equity-performing firms as rated by their indices on respective listings from the Great Seven (G7) countries. A total of 714 firms are included in the study's final sample, breakdown: Canada (87), France (62), Germany (100), Italy (15), Japan (151), United Kingdom (UK) (122) and United States of America (USA) (177). This translates in 9,996 firm-year observations of panel data set.

To examine the link between a firm's individual CSR components namely Environmental, Social and Governance (E. S & G) and its country's economic growth, data is analysed using multiple OLS regression models for the master dataset and the comparison of means tests for the subgroup data sets of interest. To investigate the differences in the firms' combined Environmental, Social and Governance (ESG) performance between the periods of economic expansion and economic crisis eras, the comparison of means tests for the subgroups based on the selected period of interest is run. To assess the controlling influences of a country's human development level, stock market size and natural resource endowment on the link between firms' ESG performance and economic growth, a set of regression models are run.

Findings

This study's findings on the relationship between ESG Performance and Economic Growth are fivefold, as enumerated hereafter.

Firstly, this study has established a statistically significant, strong, and negative relationship between each of a firm's environmental and social performance versus the economic growth of that firm's country of origin. In contrast, a statistically insignificant weaker and positive relationship between a firm's governance performance and the economic growth of the country where the firm is located has been established. Furthermore, this study has revealed a

statistically significant, strong negative relationship between the combined environmental, social & governance (ESG) performance and economic growth.

Though these findings may be inconsistent with the Stakeholder Theory ((Freeman, 1984b) they however support that of the Shareholder Theory ((Friedman, 1970). This latter theory postulates that the overarching business of firms is to enhance profits to increase shareholders' wealth. It is implied that reducing spend on ESG activities or investments act is one way of boosting profits. Hence, Spending on ESG activities or investments is considered as non-mandatory ((Friedman, 1970). Firms are expected voluntarily to satisfy various stakeholders, when able to. Implicitly, it is not always going to be a positive link between each individual component of ESG performance and economic growth, especially when a compromise is envisaged arising from level of profits. The goal is to either reduce costs or increase revenues and ultimately financial performance.

Secondly, this study has proven that firms under the subgroup of HighGDPCountries (Germany, Canada, and USA) exhibit a lower mean of the combined ESG performance than that for under LowGDPCountries (Japan, France, UK, and Italy). Thus, it could be inferred that firms within the G7 countries with lower economic growth invest more in ESG/CSR activities and practices. Applying this finding to the Resource-Based View (RBV) Theory (Barney, 1991; Wernerfelt, 1984), firms in countries with lower economic growth aim to strategically invest in stakeholders' needs, thereby gaining a more competitive edge less easy to copy. In line with the RBV theory, firms view CSR as a competitive-based investment aimed at enhancing their market value, while balancing both shareholder and stakeholder interests. Resource-based theory (Branco & Rodrigues, 2006) argues that CSR increases a firm's value by enhancing its competitive advantage. The resource-based view (RBV) focuses on the internal merits and demerits of the firm in contrast to the external environmental model of competitive advantage where the focus is on the opportunities and threats. Therefore, in the long run, enhancing ESG/CSR investments is envisaged to lead to higher profits and corporate performance in the long term, despite being less profitable in the short run.

Thirdly, it is established that firms under the group of HighGDPCountries exhibit a lower mean of Environmental (E) performance and Governance (G) performances than those under the LowGDPCountries. Nonetheless, the difference in the Governance (G) performance is found

to be small between the two GDP subgroups of firms' countries. If the Economic Growth Theory (Arestis et al., 2007; Lucas, 1988) is applied, this finding could be interpreted that firms in faster economic growing (measured by GDP) countries are less likely to invest in some or all the individual components of ESG performance than those in lower growing ones. The justification could be that the former already have an enhanced insurance due to past ESG investments that they made on their way up.

In contrast, this study has uncovered that firms under the group of HighGDPCountries record a higher mean of Social (S) performance than those under the LowGDPCountries. However, this ought to be taken with caution; the findings are only to be generalisable to similar populations within the G7 countries.

Fourthly, this study has uncovered that firms in the G7 sample used invested more in ESG/CSR activities during the Post Great Recession Era from 2010 to 2019 than during the economic crisis of the Great Recession Era from 2006 to 2009. All things being equal and if generalisable to public-listed firms in the G7 countries, the implication is that a higher ESG/CSR performance is expected during periods of economic prosperity than during that of economic crisis. implying a higher ESG/CSR performance. In addition, this study has revealed that firms recorded a lower mean for each of the individual components during the Great Recession Era (2006-2009) namely for: Environmental (E), Social (S) and Governance (G) performances than during the Post Great Recession Era (2010-2019).

Fifthly, this study has examined the controlling influence of three country-specific control variables on the relationship between ESG/CSR performance and economic growth namely: the level of human development, the degree of natural resources endowment, and the size of the stock market. The findings are enumerated below:

i) This study has established that the higher the level of human development of a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth. No previous studies have investigated this controlling influence in the existing body of knowledge. Therefore, this study's finding on the influence of a country's level of

human development for public listed firms located in G7 countries is the first and hence pioneer.

ii) This study has proved that the more natural resources-endowed a firm's country of location/origin, the stronger the negative relationship between ESG performance including its individual components and country's economic growth. No previous studies have investigated this controlling influence in the existing body of knowledge. Therefore, this study's finding on the influence of the degree of a country's natural resource endowment for public listed firms located in G7 countries is the first and hence pioneer. The justification or inference for this finding is unclear. More replicative studies on this named influence, probably using this study's methods, would be welcomed to shed more light on the controlling influence of this natural resources rent based variable.

iii) This study has verified that the larger the size of the stock market of a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth. However, this last influence is found to be weak, in many respects. Though only one previous study (Zhou et al., 2020a) investigated this controlling influence in the existing body of knowledge, the scholars operationalised the stock market as the total market value of a country in which a firm in study was located. In contrast, this study used the total stock market value per gross domestic product per capita, seen as a more reliable and now a universally validated measure (Lopatta & Kaspereit, 2014; The World Bank, 2022) in this area of research. Therefore, this study's finding on the influence of the size of a country's stock market for public listed firms located in G7 countries becomes the second, after that of the first (Zhou et al., 2020a). However, when based on the use of a more validated measure of the stock market size that adjusts for the economic growth, then this study's finding is the first and hence pioneer, in this area of research on the controlling influence of the size of the stock market. It is recommended that replicative studies are carried out using this study's methods so that comparisons of findings could be easier to make.

Significance

The multiple findings by this study could be of interest to government policy makers or CSR units in firms, who may instead opt to revisit their CSR/ESG related activities and investments in G7 countries. These are enumerated hereafter.

The study's revelation of a statistically significant, strong, and negative relationship between each of a firm's environmental and social performance versus the economic growth of that firm's country of origin has implications for policy makers in G7 countries. Those against the benefits of CSR to economic growth will welcome this finding and justify for reductions or absolute withdrawal of CSR investments or activities. However, this may only be acceptable for firms in non-extractive industries. Those seen to belong to extractive industries are likely expected to maintain or even increase CSR spending to restore the damage done to environment, communities, or societies because of such firms' extractive methods. When this happens, it is likely that both practitioners and government policy makers on CSR would have to agree on a win-win scenario as a compromise.

This study has proven that firms under the subgroup of HighGDPCountries (Germany, Canada, and USA) exhibit a lower mean of the combined ESG performance than that for under LowGDPCountries (Japan, France, UK, and Italy). This is also found true for mean of Environmental (E) performance and Governance (G) performances. In contrast, this study has uncovered that firms under the group of HighGDPCountries record a higher mean of Social (S) performance than those under the LowGDPCountries. Though the findings can safely be generalisable to firms in G7 countries, these differences may signify a varying attitude towards the components of CSR namely: environmental, social and governance, resulting in disparities in the weighting of priorities of ranking for the three components, depending on whether a firm is domiciled in a higher or lower GDP country.

This study has uncovered that firms in the G7 sample used invested more in ESG/CSR activities and its three individual components, E, S, G, during the Post Great Recession Era from 2010 to 2019 than during the economic crisis of the Great Recession Era from 2006 to 2009. All things being equal and if generalisable to the public listed firms in the G7 countries, the implication is that a higher ESG/CSR performance is expected during periods of economic

prosperity than during that of economic crisis. The findings will justify practitioners and government policy makers to lower CSR/ESG activities and investments during times of economic crises or malaise.

This study is pioneer in examining the controlling influence of three country-specific control variables at one time on the relationship between ESG/CSR performance and economic growth namely: the level of human development, the degree of natural resources endowment, and the size of the stock market. The study has also devised a method of categorising, regrouping and ranking country related measures validated by the World Bank as they are all linked to the GDP per capita, before the regression analyses are carried out. Future studies in this area are encouraged that improve on these methods if adopted.

Keywords: *Stakeholder Theory, Resource-Based View (RBV), Economic Growth Theory, ESG performance, Economic growth, Great Seven (G7) countries, Natural resources rent, Human Development Index (HDI), GDP per capita, Stock market size.*

6.1 Background and Introduction

In the areas of business and economics, a general view is assumed that the commitment to invest in CSR is influenced by two key factors. These are the rate of economic growth and the state of the economy, of the country in which firms operate. Few empirical enquiries exist in the literature that have assessed the relationship between the components of CSR (Environmental, Social & Governance) and economic growth. Presumably, this appears to be a new area of research Furthermore, the variations in the same relationship between eras of economic prosperity and economic crisis begs many questions. Relevant literature on whether there are economic eras when CSR activities/investments should be prioritised, remains scanty. When it comes to the controlling influences on the relationship between CSR and economic growth or the state of the economy, there are few that can be assumed as validated in this area. Such observations have brought the relevance of CSR or ESG performance on economic growth into question.

This study relates to and builds on work of Di Simone et al. (2022), Naomi & Akbar (2021), Zhou et al. (2020), S. Ho et al. (2019), Buallay (2019) and Jha & Cox (2015). The study evaluates the relationship between CSR and the economic growth of a firm's domicile. Research in this area is new. It updates the listed past work using a comprehensive sample based on 714 firms headquartered in the Great Seven (G7) countries. The firms are listed on the leading global market indices in United Kingdom, United States of America, Canada, France, Germany, Japan, and Italy as the G7. This study finds a statistically significant, strong, and negative relationship between each of a firm's environmental and social performance versus the economic growth of that firm's country of origin. In contrast, the study finds a statistically insignificant weaker and positive relationship between a firm's governance performance and the economic growth of the country where the firm is located. Furthermore, a statistically significant, strong negative relationship between the combined environmental, social & governance (ESG) performance and economic growth, is detected. The results add to the list of recent studies in this area of research.

As a contribution to this area of research, this study adds new knowledge: it finds firms under the subgroup of HighGDPCountries (Germany, Canada, and USA) exhibit a lower mean of the combined ESG performance than that for under LowGDPCountries (Japan, France, UK, and

Italy). When CSR is split in components, firms under the group of HighGDPCountries exhibit a lower mean of Environmental (E) performance and Governance (G) performances than those under the LowGDPCountries. Nonetheless, the difference in the Governance (G) performance is found to be small between the two GDP subgroups of firms' countries.

Furthermore, this study relates to and builds on the work of J. Lu et al. (2022), Ding et al. (2021), Broadstock et al. (2021), Bae et al. (2021), Albuquerque et al. (2020), Lins et al. (2017), I. Gallego-Álvarez et al. (2014) and Ducassy (2013). Using the same G7 data sample, the study reveals that firms invested more in ESG/CSR activities during the Post Great Recession Era from 2010 to 2019 than during the economic crisis of the Great Recession Era from 2006 to 2009. Also, it is established that firms record a lower mean for each of the individual ESG components during economic crisis periods than during those of prosperity. These findings update and confirm those of the listed past works.

Lastly, as a contribution, this study opts to develop and include three control variables posited to be more relevant and applicable to observe their influence on the link between ESG/CSR performance and economic growth namely: the level of human development, the degree of natural resources endowment, and the size of the stock market. The study devises a method of categorising, regrouping and ranking country related measures validated by the World Bank as they are all linked to the GDP per capita, before the regression analyses are carried out. The findings on each three are summarised. Firstly, study finds that the higher the level of human development of a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth. Secondly, the more natural resources-endowed a firm's country of location/origin, the stronger the negative relationship between ESG performance including its individual components and country's economic growth. Based on the best knowledge of researcher's literature reviewed, no previous studies have investigated the controlling influence in the existing body of knowledge of the first two control variables. Therefore, these findings become the first and hence pioneer. Thirdly, this study verifies that the larger the size of the stock market of a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth. This finding on the influence of the size of a country's stock market becomes the second, after that of the first of (Zhou et al., 2020).

6.2 Objectives of the study

The objectives of this study were threefold. These were to:

1) Examine the link between a firm's individual CSR components namely Environmental, Social and Governance (E. S & G) and its country's economic growth;

2) Investigate the differences in the firms' combined Environmental, Social and Governance (ESG) performance between the periods of economic expansion and economic crisis eras;

3) Evaluate the controlling influences of a country's human development level, stock market size and natural resource endowment on the link between firms' ESG performance and economic growth.

6.3 Research questions of the study

Based on the research objectives, the following were the research questions:

1) What is the relationship between a firm's individual CSR components namely Environmental, Social and Governance (E. S & G) and its country's economic growth?

2) What are the differences in the firms' combined Environmental, Social and Governance (ESG) performance between the periods of economic expansion and economic crisis eras?

3) What are the controlling influences of a country's human development level, stock market size and natural resource endowment on the link between firms' ESG performance and economic growth?

6.4 The outline and structure of the study

The outline and structure of the rest of this study focuses on summarising the relevant and key theories. These are propounded in Chapter 1 of this dissertation. First, the theories related to the field of economics are specifically covered in this paper study. The next part covers the

review of the relevant literature, by focusing on past empirical studies. This helps to identify the research gaps and methodological deficiencies. Both inform the next part of hypotheses' development and the research design/methodology. A theoretical summary of the relevance of panel data methodologies and their relevance to this study are provided. Then data is analysed to test a set of hypotheses. A discussion of the study findings, their interpretation and how these compare with past findings, follows. Finally, conclusions are drawn, along with a discussion of any contributions to theory and practice.

Specifically, the rest of the study's structure was outlined as below:

Section 6.5 focused on the critical review of the relevant literature in corporate social responsibility in the context of the relationship with economic growth / state of the economy. This culminated in the development of the relevant hypotheses that were to be tested.

Section 6.6 reviewed the relevant past studies in this area of research that formed the foundation to develop a set of hypotheses. This section was split into two. First, Section 6.6.1 covered that for the link between CSR and economic growth. Second, Section 6.6.2 covered that for the link between CSR and the state of the economy.

Section 6.6.3 summarised the limitations or shortcomings of past studies and identified aspects of the future research agenda. These helped in shaping the research design and strategy of this study.

Section 6.7 consisted of this study's Research Design and Methodology, that also included the researcher's devised theoretical model, as informed by the gaps identified from past studies.

Section 6.8 and 6.9 covered the relevance of panel data methodologies and their appeal in this area, respectively.

Section 6.10 focused on Data Analysis, Results, and Interpretation.

Section 6.11 covered the Findings and Discussion and how they compare with past studies. This was followed by Conclusions in Section 6.14.

6.5 Literature Review

6.5.1 Definition and measurement of economic growth

The definition of economic growth has so evolved that even associated theories are not easy to unravel. Using the Nobel Prize winner's definition, Paul Romer posited this as "economic growth is an endogenous outcome of an economic system, not the result of forces that impinge from outside. For this reason, the theoretical work does not invoke exogenous technological change to explain why income per capita has increased by an order of magnitude since the industrial revolution. The work does not settle for measuring a growth accounting residual that grows at different rates in different countries" (Romer, 1994, pp 1). The definition from the Oxford Dictionary is "Economic growth is the increase in the production of goods and services per head of population over a stated period of time". That from the Cambridge Dictionary is "an increase in the economy of a country or an area, especially of the value of goods and services the country or area produces".

From an economic authority perspective, economic growth is measured as the rise in both the quantity and quality of economic goods and services produced or delivered by a society (Roser, 2013). The latter is an Oxford economics researcher and founder of OurWorldinData databank. He observed the definition of economic growth as being difficult. So is its measurement. Roser (2013) further explained that "Growth is often measured as an increase in household income or inflation-adjusted GDP, but it is important to keep in mind that this is not the definition of it – just like life expectancy is a measure of population health, but certainly not the definition of population health. Income measures are merely one way to understand the economic inequality between countries and the changing prosperity over time" (Roser, M, 2013, Online Resource, https://ourworldindata.org/economic-growth).

In addition, Roser (2013) posited the Gross Domestic Product (GDP) of an economy as equating to a measure of its total production. More accurately, the GDP is gauged monetarily as the value of all finished products and services made or delivered by a country or region in a defined period. Complications arise when comparisons over periods of time and across regions, territories or countries are executed by price, quality, and currency differences. From the context of CSR, economic growth usually translates in environmental degradation or

depreciation. Economic growth improves quality of human life by enhancing consumption. However, it comes at a cost with a negative effect on environmental landscapes. This may result in economic growth being deemed unsustainable. As the world has finite resources, any indefinite growth is not possible. For instance, there will always be a time when a territory will run out of materials or resources in the process of extracting such resources.

For this study, the key measure of economic growth was proxied as the Gross Domestic Product per capita (GDPPC). Notably, this measurement for economic growth has continuously evolved over the centuries. Universally, Maddison (1983) is renowned for his extensive works on GDPPC measures. Despite his demise in 2010, this British economist' work remains dominant. To date, other research centres such as the Groningen Growth Development Centre have continued this work. This global project has grown into the Maddison Project Database. To date, the database stands out as the key source of long-run measures and constructions pertaining to economic growth. Figure 6.1 depicts a comparison of the GDPPC of the Great Seven countries spanning the period between 1820 to 2018. This is downloadable from OurWorldInData website managed by Max Roser.

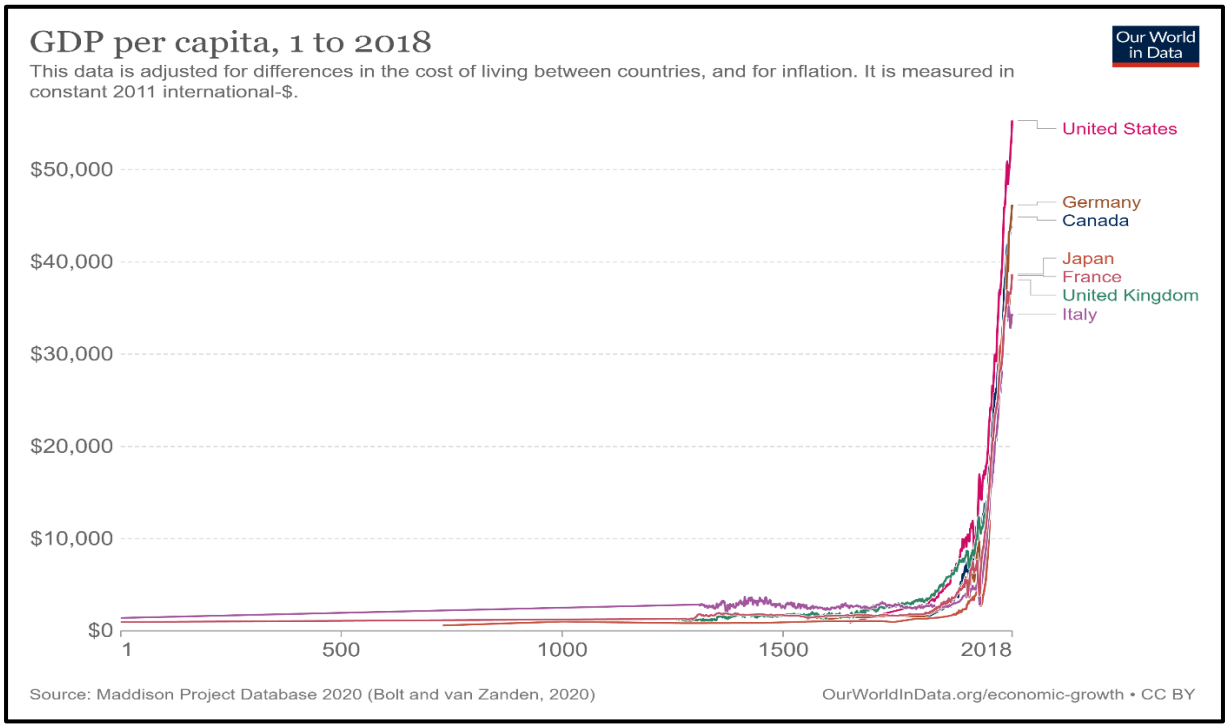

Figure 6.1 G7 countries' GDP per capita (1820-2018)

6.5.2 Key applicable theories

The key theories related to economic growth below need to be taken in context with those specifically related to CSR covered in Chapter 1 of this dissertation. From the CSR perspective, the main ones are the Stakeholder Theory (Freeman, 1984) and the Resource Based View (RBV) Theory (Barney, 1991; Wernerfelt, 1984). From the economic growth perspective, the Economic Growth Theory suffices (Arestis et al., 2007; Lucas, 1988). A synoptical distinction between the first two, often seen as similar is provided below. Thereafter, the theories specific to economic growth and development are covered.

Developments and similarities between Stakeholder Theory and Resource Based View (RBV) Theory

Historically, the two theories are assumed to simultaneously originate from the field pertaining to the strategy of a firm, precisely in strategic management. Despite this, their conceptual designs were different. Both theories involved the management of profit seeking firms in the 1980s. When the scopes are compared, the RBV narrowly focused on sustainable competitive advantage and its interplay with profit maximisation (Barney, 1991; Wernerfelt, 1984). More details on this are provided in Chapter 1. Taking a more general approach, the audience of the Stakeholder Theory's (Freeman, 1984) were strategic managers, who applied its paradigm.

Set of Growth Theories

Arestis et al. (2007) observed that for economic growth, the leading theory is Economic Growth Theory. Nevertheless, the scholars were quick to point out that the new "endogenous growth theory" was a product of the revised growth theory. The latter emanated from the newer neoclassical classification. The evolution of the growth model over approximately the last four decades has occurred. To clarify, Arestis et al. (2007) and Levine (2005) distinguished between the two models of growth theories: the demand-led and supply-led. According to Lucas (1988), the neoclassical growth theory is limited to the 21st century globe. This realisation emanates from its failure to account for the varied growth rates and stages in different parts of the world. The assumed parts fall in geographical or national territories. When endogenous, the growth theory becomes more obsolete. This arises from the notion that growth is a result of internal

forces within a given territory, not from any external ones.

In summary, opponents of the Growth Theory have criticised it for being biased and tailored to more advanced economies. This has been to the detriment of less advanced economies (Onyemelukwe, 2016). Accordingly, Lucas (1988), the theory was based on the mechanics for the study of economic development. Consequently, it led to the birth of Lucas (1988)'s economic growth model. This model posits that all humans maximise their lifetime utilities by taking the most efficient path of consumption and available time in education and production.

Location Theory

The theory is founded within the sub-branch of macroeconomics. It focuses on the location of firms and household populations and how these affect the economic development. According to Capello & Nijkamp (2019), the theory uses a more scientific and methodological approach. It unravels the differences in distribution of resources and activities to identify dimensions affecting the location of the mentioned.

6.6 Empirical Review and Development of Hypotheses

The aim of this section was to develop a set of hypotheses informed by the most relevant literature reviewed critically. The rationale was to identify the gaps in this area and take position in developing a set of hypotheses for testing.

Because the investigation was based on the link between CSR and economic growth. Being different from the state of the economy, it was necessary to review the two assumed relationships under separate sections namely:

- Link between a firm's ESG Performance and its Country's Economic growth

- Link between a firm's ESG Performance and the State of the Economy

These are covered next.

6.6.1 Past empirical studies on a firm's ESG performance and economic growth

The effect of the economic growth of a firm's country of domicile on CSR remains to be established. Despite a period of active studies in this area, consensus from past findings appears remote. Most quantitative enquiries have covered different aspects rather than that pertaining to the relationship under this study. For most studies in this area, the term corporate social responsibility (CSR), corporate social performance (CSP) and environmental, social and governance performance (ESG) are used interchangeably. Also, the controlling influence of a set of growing variables on the main relationship of interest is increasing in use. This could justify their validation if their reliability is tested.

A review of economic literature covering studies on the relationships of interest shows most not only mixed but also inconclusive results. Though a close examination identifies varying schools of thought, the variations are conceptualised to arise from differing time durations and their associated periods. These have been associated with different variables and econometric tools used. Accordingly, this has complicated the analysis of ESG performance with respect to its impact on economic growth. To attest to this controversy, S. Ho et al. (2019) questioned "should the country focus on its economic development through market-oriented policies and regulatory instruments that will bring better ESG performance, or should it promote its ESG performance by employing additional resources through the implementation of ESG policies?" (S. Ho et al., 2019 pp 2).

From public opinion, firms in countries with higher economic growth and prospects are expected to invest more in CSR. This is seen as an avenue to improve firms' corporate performance and image than those in countries with slower economic growth. When it comes to the state of the economy, firms are expected to invest more in CSR during periods of economic boom than during economic bust. Currently, there is limited literature and empirical enquiries on the stated factors and how these affect the ESG performance of the said firms. Hence this paper set to examine the effects of a country's economic growth status, state of the economy and the controlling influences of a set of indicators whose usage is increasing. To date, no precise consensus exists on the relationship between firms' ESG performance and their domiciled country's economic growth. Findings range from positive, negative unclear, mixed, or inconclusive.

Some earlier scholars found a positive relationship between ESG performance and economic growth. These include Alam et al. (2017), Cracolici et al. (2010) and Stern et al. (2015). However, some have cast doubt after finding the opposite. Those that found a negative relationship argued that ESG performance instead stifled economic growth, namely: De La Croix & Michel (2002), Howarth (2012) and Murtin et al. (2011). This discrepancy in findings exemplify the deadlock in this research area created by positive, negative, inconclusive or mixed findings. To some extent, the differences in findings could be attributed to the variations in research designs used. Also, some employed more diverse sample mixes and sizes, types of variables employed and whether they were validated or not. Variations in durations covered for longitudinal data are evident. All these serve as key factors that make comparability across past studies and the arriving at a consensus difficult.

Since economic growth as a variable in CSR-performance research is limited, the variables or proxies for economic growth are borrowed from theoretical textbooks belonging to the field of macroeconomics. Among the prominent theorists include De La Croix & Michel (2002) and Acemoglu (2008), who catalogued over 20 variables for economic growth between themselves. However, neither of the mentioned scholars investigated the CSR-economic growth nexus, nor the influence of economic growth on CSR-performance relationship. Instead, they focused and compounded on theoretical groundings.

Furthermore, research related to studies on economic growth as a controlling factor in this area of research remain limited. Past ones but not a fit for this study include that by Navarro Espigares & González López (2006) who established that firms with CSR activities and commitments contribute positively to their respective nations' economic growth. Operationalising economic growth as the Gross Domestic Product (GDP) per capita, the scholars employed panel data and observed a positive correlation between GDP and the number of CSR-involved firms in a country. Though this past study is not empirically compatible with this study, it confirms the validated measure of GDP per capita as one for measuring economic growth.

The summary of key relevant studies and their findings are shown in Table 6.1, towards the end of this section. These covered the duration between 2000 and 2023 in chronological order starting with the latest. The related literature was critically reviewed in more details with salient

findings highlighted.

Like many CSR related studies taking a quantitative approach, this research area is no exception to the freedom of definitions and names for corporate social responsibility (CSR). This has sometimes rendered difficulties in comparing studies.

Recently, Yousefian et al. (2023) assessed the effects of CSR investments on the economic growth using a sample of 45 European firms in the mining industry between 2018 and 2021. Regressing on a set of fixed models, a positive effect on the economic growth, including that on profitability and value of the firm, was established. Notable limitations are evident. The sample included only mining firms from one region; predominantly small and medium sized ones formed the sample. The economic growth was proxied by labour productivity, thus deviating from the validated measure of GDP. Unless the assumption was to measure the economic growth of a firm, rather than that that of its domicile, this study's findings were deemed less comparable with this G7 firms' study. Also, it is less comparable for the G7 firms which are large and multinational with the SMEs by Yousefian et al. (2023).

Di Simone et al. (2022)'s study represents one latest and relevant study in the CSR versus economic growth relationship. The scholars defined sustainability as exemplifying CSR. Data employed was for 909 most innovative global firms over the 5-year duration from 2013 to 2017. As the dependent, the scholars operationalised the market perceived innovation (MPI). Uncommon in this area, it was calculated as ratio of R&D expenses to total assets multiplied by the market-to-book ratio. As independent, the economic pillar (Ecn-score) from Refinitiv DataStream proxied economic sustainability.

The findings were multiple. Firstly, Di Simone et al (2022) found that MPI is positively related with economic sustainability. Secondly, "Economic sustainability is positively affected by environmental, social, and governance issues, but with different impacts" (pp 14). In detail, when the separate components of ESG were considered, Social (S) pillar yielded the strongest positive relationship with economic sustainability. The remaining two – Environmental (E) and Governance (G) both had a weaker relationship with economic sustainability. Finally, Di Simone et al. (2022)'s findings were verified when controlled for a set of specified conditions: firm size and return on assets (ROA). Firm size, measured as the natural logarithm of revenues,

had a positive influence. So was ROA, which proxied the profitability. In contrast, a negative influence was detected for the ratio of long-term debt to total assets, proxying the financial leverage.

Evidenced above, the scholars departed from the validated measure in CSR related research. Firm size equated the natural logarithm of total assets, rather than that of revenues. ROA was a dependent rather than control variable. Therefore, comparing these with that of past studies using validated and established measures of operationalisation is probable to affect the validity and reliability of findings. Thirdly, the sampling and selection of the most innovative firms was not clearly provided, to help inform other researchers. Consequently, Di Simone et al. (2022)'s study findings were not easy to compare with those of this G7 firm's study. Nevertheless, with this background, previous reasoning, and logic from Di Simone et al (2022), this study posited the following hypothesis:

H1 There is a positive relationship between a firm's environmental performance and its country's economic growth

With reference to Di Simone et al. (2022), when the individual components of ESG were considered, Social (S) pillar yielded the strongest positive relationship with economic sustainability. With this background, previous reasoning, and logic from Di Simone et al. (2022), this study posited the following hypothesis:

H2 There is a positive relationship between a firm's social performance and its country's economic growth

The variations in the operationalisation of economic growth from relevant past studies posed a challenge when comparing with others. There appeared a mismatch in terms of economic growth. In some studies, it was operationalised by economic development. To exemplify, Naomi & Akbar (2021) attempted to devise a theoretical model to assist conceptualise the relationship of interest. The quality of economic development rather than economic growth, was sought for its relationship with CSR/ESG performance. Nonetheless, one strength from the duo's study lay in the superior sample mix, size and duration of the resultant panel data set employed. Thirty-seven (37) OECD countries were used over an eighteen (18) year period from

2000 to 2017 of data. The variables used included ESG scores, natural resource rent, the Corruption Perceptions Index (CPI), Gross Domestic Product per capita (GDP), and the Human Development Index (HDI). No uniformity in measuring economic growth exists, as another limitation affecting the research designs of past studies. To elaborate, though Naomi & Akbar (2021) used the real GDP number from the World Bank as the proxy variable for economic growth. In contrast, some studies used the GDP per capita, different from the real GDP, namely: Ben-Salha et al. (2021), Bhattacharyya & Hodler (2010) and Guan et al. (2020).

Few incidences of detections in bidirectional causality have occurred. When Naomi & Akbar (2021) employed the path analysis, the bidirectional Granger causality between some variables was revealed. Earlier on, S. Ho et al. (2019) had detected the presence of this causality. It was specifically between environmental and social performance versus economic growth. However, Naomi & Akbar (2021) concluded that ESG performance is less likely to be affected by the size of an economy.

As a strength, Naomi & Akbar (2021) included natural resource rent, as a control. However, no correlation between economic growth and ESG performance was found. Further, economic growth proxied by GDP was significantly negatively related to the Environmental pillar (E). In contrast, economic growth was positively related to the Governance pillar (G). Comparisons of the findings on individual E, S and G pillars with those of this G7 firms' study were expected. With this background, motivation, previous reasoning, and logic by Naomi & Akbar (2021), this study posited the following hypothesis:

H3 There is a positive relationship between a firm's governance performance and its country's economic growth

It was posited that a positive relationship between each individual component of CSR scores namely, Environmental (E), Social (S) and Governance (G) with that of economic growth exists as given by the first three hypotheses. If this holds true, a further proposition for a positive relationship between the combined score of Environmental, Social, Governance (ESG) performance and economic growth is postulated. Mathematically, this was expected. With this assumption, this study posited the following hypothesis:

H4 There is a positive relationship between a firm's combined Environmental, Social, Governance (ESG) performance and its country's economic growth

Naomi & Akbar (2021)'s sample comprised the 37 OECD countries over a panel set covering 18 years from 2000 to 2017. However, it was unclear what the unit of the data set was based on. Despite mentioning 666 data points, specifying whether this was the number of firms or countries could be of help to other researchers. This aside, one merit was the use of multiple variables for measuring economic development. Naomi & Akbar (2021) included other variables to justify the measuring of economic development namely: Corruption Perceptions Index (CPI) and the Human Development Index (HDI).

Zhou et al. (2020) serves as one unique study. Its examination of distinctions between developing and developed economies was a merit. The scholars aimed to examine the relationship between firms' ESG practices and the respective countries' macroeconomic performance. Additionally, a large and diverse data sample was used, as another merit. Only surpassed by S. Ho et al. (2019)'s, the scholars drew their data from both developed and developing countries over a 16-year duration spanning 2002 to 2017. The firms' data in sample was based on thirty (30) countries comprising 19 developed and 11 developing (Zhou et al., 2020). However, ESG data was based on the MSCI Country Classification Standard. This implied limited comparison with this G7 firms' study that planned to use Eikon Refinitiv data.

Extracting dynamic panel data from Thomson Reuters/Asset4 ESG scores, Zhou et al. (2020) used the generalised method-of-moments (GMM) estimators. ESG measures were found positively correlated to economic growth in both developed and developing countries. Nonetheless, different effects and degrees of strength were observed when the three ESG pillars were analysed individually within or between each group. Specifically, Zhou et al. (2020) summarised "Firms' average social performance has a statistically significant positive effect on growth in GDP per capita in both developed and emerging economies. Environmental and governance performance has a statistically significant positive effect for growth in GDP per capita in emerging but not developed economies" (pp 5). A downside of this study is identifiable. The scholars used the average ESG scores of publicly listed firms for each country in sample. To remain consistent with most, the individual absolute scores for each firm in each country could have been used. Consequently, comparisons of findings from this G7 firms'

study with those by Zhou et al. (2020) was considered less consistent.

To get more valid findings, using large data samples that encompass many firms from countries across all continents is vital. Doing so is expected to reduce the data biases tenable from disparities in the geography and level of development. Renowned for its largest data sample and geographical coverage, S. Ho et al. (2019) employed data from 118 countries over a 17-year duration spanning 1999 to 2015. Less common, the scholars ran the Granger causality test on panel data created by Dumitrescu & Hurlin (2012). As one pivotal contribution, bidirectional causality between ESG performance and economic growth was detected. Specifically, this occurred between each of the individual pillars of environmental (E), social (S) performance and economic growth. In contrast, a unidirectional relationship was found between the governance (G) performance and economic growth for all countries in sample.

Like most studies, S. Ho et al. (2019)'s had several identifiable limitations. Firstly, the evidence on the categorised income groups was rather mixed than definitive. Secondly, no details were provided on the source of ESG data. Still, that for economic growth as GDP per capita was from the World Bank. Thirdly, besides the control of corruption from the World Governance Indicators' site, no other control variables were used. Nonetheless, the total number of firms used with the equivalent firm-year observations were specified. Fourthly, the categorisation or standardised method of cascading levels of economic development was apparently unavailable. The above enumerated limitations made comparisons of findings with those from past studies less consistent. Use of more categorisations of sub-groups by S. Ho et al. (2019) would have helped a more comparative analysis of groups. Results capable of shedding light on variations in ESG performance on economic growth could have been attained. This is key when geographical regions or groupings are in samples.

To examine the effect of CSR on economic growth, it is advisable to control for the different groups of populations classified by the level of economic development. Very few studies have done so. Though less comparable to this G7 firms' study, Buallay (2019) controlled for categories of economic growth. The focus was to examine the relationship between CSR and a firm's performance, thus an area out of the scope for this paper study. Using a sample of banks, interesting differences were found based on groups and the GDP of bank's countries. Divided into two categories: banks located in high GDP countries and those in low GDP ones, path

analysis was executed to identify the median GDPs. The latter was compared with the variance between the means of the two categories when the *t*-statistic test was run.

Quoting the scholar, (Buallay, 2019) included a macroeconomic variable to address endogeneity threefold: "correlated variables, reverse causality and simultaneity" (Buallay, 2019, p 103), a notion supported by the two scholars: (Larcker & Rusticus, 2007, 2010). The aim was to cater for expected variations in technological knowhow, level of economic development and geographical factors for countries where firms in sample were located. To examine the impact of CSR on financial performance, (Buallay, 2019) used gross domestic product (GDP) and governance (GOV) as controlling variables for the two country-specific macroeconomic factors. 235 banks listed on European Union countries' stock exchanges were studied over a ten (10) year period from 2007 to 2016. This transcended in 2,350 firm firm-year observations of panel data set extracted from the Bloomberg database. Buallay (2019) found that "the governance disclosure tends to be higher with banks locating in high GDP countries. However, the social disclosure, environmental disclosure and ESG score tend to be higher in banks that are in low GDP countries" (pp 106). These findings deviate from what would be expected. Except for the E score, the combined ESG and individual scores are anticipated to be greater in firms in high GDP countries than those in low GDP ones.

The lack of consensus on proxies for economic growth is another challenge in this area. For instance, within the literature of economics, social capital is used interchangeably with economic growth or economic development. Hence, some relevant past studies operationalised economic growth as social capital. To exemplify, Jha & Cox (2015) defined this "as the norms and networks that encourage cooperation, social capital is the most precise social construct to capture altruistic inclinations" (pp 254). A close comparison of this definition to that of economic growth appears to be disparate. A notable merit was the employment of a large sample of 2,595 firms drawn from 50 distinct industries over a 15-year duration (1995 to 2009). This translated into 13,117 usable firm-year observations of panel data. Multiple findings were established from Jha & Cox (2015)'s study. Firstly, firms domiciled in high social capital US counties exhibited higher CSR scores. Secondly, a positive correlation between CSR and social capital was established, though not very strong, using the Pearson's coefficient. Thirdly, certain types of CSR activities or investment drove social capital more than others. However, the study was not devoid of shortcomings, some attested to by the duo.

Jha & Cox (2015) collected data on perceptions linked to social capital from managers using a survey. Firstly, this deviated from the established methods of secondary data from universal databases with ESG scores, as an example. Surveys come with demerits. Selected participants, in this case managers, are assumed to represent the views/perceptions of their populations. Elements of bias are probable when one individual represents multiple individuals. Secondly, the sample used included only US counties. This makes the findings less generalisable to other populations. Thirdly, CSR scores were obtained from Kinder, Lydenberg, and Domini database (KLD). The measurement method is assumed not scientifically objective and biased to US data (Chatterji et al., 2009). Fourthly, measurement for social capital was based on the index method. Earlier scholars created the method (Rupasingha et al., 2002, 2006). Each firm's social capital was identified and linked to its headquarters town or city by the zip code. Doing so brings into questions the reliability and possible bias of the city location and its economic prowess.

More on the non-ubiquitous measures of economic growth, Škare & Golja (2013) used an uncommon measure of national economic growth. Income growth, not the gross domestic product per capita (GDPPC), was used. The duo detected a positive relationship between CSR and income growth. Yet, it is hard to compare the findings with those from past studies that operationalised economic growth as GDPPC. The study's strength lay in the good sample size and countries covered. Data was based on 309 firms located in 26 countries over the nine (9) year period 2000-2008. Regressing on a standard growth model, Škare & Golja (2013) found that "Countries with higher corporate social responsibility penetration as India achieve higher income growth rates. Evidence of the positive link between corporate social responsibility presented in this study encourage but further research on mechanism how socially responsible behaviour affects growth is necessary" (pp 776).

With this background, previous reasoning, and logic from past studies (Buallay, 2019; Jha & Cox, 2015; Škare & Golja, 2013), this study posited the following Hypothesis 5:

H5: Firms in countries with higher economic growth exhibit higher ESG performance and its individual E, S and G components than those in countries with a lower economic growth.

Table 6.1 Summary of empirical findings on link ESG/CSR performance and Economic growth

Source: Made by the author

Authors	**Sample size**	**Years**	**Area**	**Data analysis methods**	**Independent variables**	**Other variables**	**Summary results in relationship with CSR or CSP**
Yousefian et al (2023)	45 Mining firms	4 2018-2021	Europe	Fixed effects regression Content analysis	CSRHub ratings	*Dependent* ROA, ROE, NPM, Tobin's Q. Labour productivity	Positive link between CSR and firm profitability Positive link between CSR and economic growth of firms' nations
Di Simone et al (2022)	909 most innovative firms based on the European Commission's Joint Research Centre (EC JRC)	5 2013-2017	Global	Fixed-effect panel analysis post Hausman Test Regression analysis	MPI as product of R&D expenses and MTB value to measure innovation ESG, E, S & G scores	*Dependent:* Economic sustainability by Econ score from Refinitiv Eikon *Controls:* Firm size (by ln of revenues) Profitability by ROA Financial leverage by LTD/TA ratio	Innovation has a positive relationship with economic sustainability For ESG components, S has the strongest impact on economic sustainability
Naomi & Akbar (2021)		18 2000-2017	37 OECD countries	Path analysis model regression Correlation	*E, S, G and ESG scores *Corruption Perception Index (CPI) *Human Development Index (HDI) *GDP for economic growth	*Dependent:* GDP % of rent for natural resources	No correlation between economic growth (GDP) & natural resource rent Negative significant correlation between GDP and E-score Positive significant correlation between GDP and G-score Negative weak correlation between GDP and natural resource rent Positive significant correlation between GDP and CPI
Zhou et al (2020)	450 country-year observations	16 2002-2017	11 developed countries 19 developing countries	GMM (Generalized method-of-methods estimators	E, S and G scores	*Dependent:* GDP per capita *Controls:* ▪ Total market value (TMV) ▪ FDI inflows ▪ Corruption perception index (CPI) ▪ Inflation	Significant positive effect between GDP and S-score in both country categories E and G scores with significant positive effect on GDP in emerging countries not developed countries
Ho et al (2019)		17 1999-2015	118 countries	Granger Causality Test on panel data	*E. S and G scores *CO_2 emissions *Life expectancy (LE) *Control of corruption control (CoC)	*Dependent:* GDP per capita	Bidirectional relationship between E and S scores versus GDP (economic growth) Unidirectional relationship from G score to GDP.
Buallay (2019)	11,705 firm year observations	10 2008-2017	1,462 listed firms: 932 manufacturing 530 banks from 80 countries	Pooled Data Regression under General Linear Model	E, S, G and ESG scores	*Dependent:* ▪ ROA ▪ ROE ▪ Tobin's Q *Country controls:* ▪ GDP ▪ Governance *Firm controls:* ▪ Total assets ▪ Leverage ▪ Audit quality	ESG positively affect the operational, financial and market performance in the manufacturing sector. ESG negatively affect the operational, financial and market performance in the banking sector
Jha & Cox (2015)	13,117 firm year observations	15 1995-2009	2,595 firms from 50 industries	*Principal component analysis *Pearson's correlation *Multivariate regression	Social capital of firm's HQ, lnMV of firm, Market to book value, Debt, EBITDA, Cash, DIV…..	*Dependent:* CSR ratings by KLD	Firms in high social capital areas showed higher CSR investments Positive correlation between social capital and CSR
Škare & Golja (2013)	25 country observations	9 2000-2008	309 firms from 25 countries	*SAM survey *Archival documents *Regression *Altman Z score	Level of technology % of GDP, Labour force, Education index	*Dependent:* GDP per capita	Positive relationship between income growth (GDP) and CSR Higher CSR investing countries achieve higher income growth rates

6.6.2 Past empirical studies on CSR and the state of the economy

Numerous past studies have investigated the influence of the state of the economy on a firm's propensity to invest in CSR. Like in many relationships within empirical research, the findings remain inconclusive and non-ubiquitous. Debate on the probable phase of an economy when firms increase their CSR investments has been on for over a decade. The phases are mostly categorised into two: harsh economic recessions associated with resultant economic busts or the boom periods of prosperity. During harsh economic conditions, firms generally must deal with deflated sales and low cash deposits or deficits. Hence, the tendency is to cut spend on discretionary activities or projects. CSR spend is not an exception. It is often deemed as a non-core business activity during harsh economic conditions, supported by Aguinis & Glavas (2012).

With this background, it was imperative to define and grasp the key relevant terminologies in this branch of economics. According to Bhattacharya et al. (2020) and the National Bureau of Economic Research (2010), recessions are "defined as a significant decline in economic activity spread across the economy, normally visible in real GDP" ((Bhattacharya et al., 2020, p 2050). The process of determining whether an economy is in recession or expansion is determined by special committees. The National Bureau of Economic Research (2010) gives more insight onto this. This is covered under "The NBER's recession dating procedure", available at: https://www.nber.org/cycles/jan08bcdc_memo.html. Like Aguinis & Glavas (2012), Bhattacharya et al. (2020) indicated the inclination for firms with brand names to cut back on CSR related expenditure or investments, often assumed discretionary.

There were a limited number of relevant past studies in this area. Being referred to are those that examined the correlation or the relationship between the state of the economy and the CSR or ESG performance. The findings remain inconclusive and mixed; these are summarised in Table 6.2 spanning a period of 2010 to 2023.

Challenges pertaining to the different terminologies and proxies for CSR permeate this area too. The Covid19 health era resulted in a global shutdown; it did not spare the stock market and culminated into a crash. Being the latest economic crisis, it gave impetus to the proliferation of studies around the Covid19 era (2020-2022).

J. Lu et al. (2022) assessed the link between sustainability and financial performance in G7 countries over a 17-year duration from 2004 to 2020. Sutainability performance proxied CSR or ESG performance. Several merits of this study are identifiable. First, the 17-year duration of data collected strategically covered two periods. Thses were economic crises namely "pre- and post-two major economic crises: 2007–2008 financial-economic pandemic crisis and the 2020 COVID-19 era. Second, a large data of 2,885 firms from the G7 countries was employed, yielding 21,001 firm-year observations.

Uncommon in this area, J. Lu et al. (2022) found a complex positive relationship in that it was bidirectional, in nature. Two variant observations were detected between: sustainability performance and future profitability; financial performance and subsequent sustainability performance. Further, J. Lu et al. (2022) found that firms with a higher sustainability performance were more gravely affected with respect to their financial performance. However, the benefit of financial performance on sustainability was compensated by more resilience during the financial crisis. During the Covid19 crisis (2020-2022), firms exhibiting a higher sustainability performance were observed as more resilient with a lower drop in their financial performance. For firms with lower sustainability performance, the opposite was found. The scholars concluded the evidence of reduced benefits from sustainability. The suggestion was for sustainability acting as an insurance against downtowns during the Covid19.

Similar findings were observed earlier by scholars (Albuquerque et al., 2020; Ding et al., 2021). However, the reliability of results could have been less given the short two-year duration of Covid19. The short eras may not be long enough to adequately assess differences in CSR activities or investments. Nevertheless, Ding et al. (2021) detected a less fall in share prices. This was during Covid19 for firms that had higher sustainability investments just before the crisis, than those with lower. This revelation was similar with the earlier that used a sample of all US-based stocks by Albuquerque et al. (2020). The latter's findings could be considered less reliable for using all firms from one US-based index of S&P500, making them less generalisable to other populations. Like others, a shorter duration of pre and current Covid19 (approximately 4-5 years data) was used. The finding could be rendered less valid when compared to that by J. Lu et al. (2022). The last scholars used data from seven G7 countries covering a duration of 17 years.

Nevertheless, J. Lu et al. (2022) would have enriched their enquiry by identifying a duration that held both periods of economic expansion and economic recession. Theirs had one for expansion and two for the recession eras. The explanation and benefits of all three remain unclear.

Broadstock et al. (2021) used 300 firms listed on China's CSI300 index constituents. Some shortcomings are identifiable about the research design and methodology used. Firstly, the sample size was all for firms in China. Like many other studies, findings are probable to be less generalisable to other populations. Secondly, like many studies that used the Covid19 as an economic recession era, it covered a relatively short duration (approximately 1-2 years, 2019-2020). Thirdly, an uncommon data collection method was used. Event studies were employed using daily data for stock returns' variables. Assuming the shortcomings mattered less, Broadstock et al. (2021) established three key findings. First, higher ESG-vested firms performed better financially than the lower ESG-vested ones. Secondly, financial risk was reduced by ESG performance, during the crisis period. Third, the function of ESG performance decreased during normal periods, specifically before and after the crisis. In other words, the effectiveness of ESG investments and its associated performance were observed as more pronounced during the crisis period months.

Some studies in this area used periods of economic fluctuations go back between 2000 and 2008. 2000. Engaging the 2007-2008 financial crisis, Demers et al. (2021) found no evidence of highly socially responsible firms delivering higher share returns. Similarly, Bae et al. (2021) found no relationship. Period covered included the Covid19 era in 2020 as recession and 2021 as recovery. Two weaknesses are notable in that by Bae et al. (2021). Though large, the sample solely comprised US-based 1,750 firms, thereby limiting the generalisation of findings to other populations. Only one-year cross sectional data was used. Results could have been different to the one of no evidence of a link between CSR and market returns. Consequently, Bae et al. (2021) established that firms with higher CSR or ESG performance before the pandemic period hardly performed better during the pandemic period. This conclusion ought to be taken with caution, given the highlighted weaknesses. The differences in findings could be attributed to the variant research designs and associated data collection sources and methods. Again, this makes comparisons between studies difficult. It extends to variations in sample sizes, mix of countries covered, the magnitude of the firm-year observations and the duration of data

covered, if using panel data sets.

More robust studies that used data before Covid19 era exist. A challenge is the precision of the economic eras used. Most economic sources have either estimated them or been more precise. A common one is the Great Recession in the late 2000s. Some sources have indicated this as straddling 2008 and 2009. Others have 2006 to 2009. Such has been the variations (Lambert, 2021).

Lins et al. (2017) explored the impact of the state of the economy on CSR, using 1,673 firms from one industry. Unusual, social capital proxied CSR intensity. The theoretical concept and justification for this was from the field of economics, supported by Sacconi & Antoni (2010). Data for social capital was extracted from KLD MSCI ESG Stats database, rather more universal ESG scores from Eikon Refinitiv DataStream, the last deemed more universal and valid. Despite these identifiable shortcomings, Lins et al. (2017) used a two-durations' approach to examine variations in ESG performance between 2000 and 2009. It engulfed eras of two economic crises with a reasonable gap between. The early 2000-2001 span represented a less severe economic recession that adversely affected most developed countries up to November 2001. It coincided with the Enron and WorldCom financial frauds' crises. The 2007-2009 span saw the harsher Great Recession. This was attributed to cheap credit and lax lending standards that escalated a housing bubble (National Bureau of Economic Research, 2010). By comparing firms' performances (profitability, growth, and sales per employee relative) before, during and after the crises, it was possible to detect the disparities.

Consistent with the later findings (Albuquerque et al., 2020; Ding et al., 2021; J. Lu et al., 2022), that by Lins et al. (2017) uncovered that higher CSR-investing firms displayed greater market returns than those in lower ones; this pertained to the 2008-2009 financial crisis. Furthermore, the higher CSR-investing firms exhibited better performance in the three areas stated herein above, when compared to those in lower ones. In conclusion, "This evidence suggests that the trust between a firm and both its stakeholders and investors, built through investments in social capital, pays off when the overall level of trust in corporations and markets suffers a negative shock" (Lins et al., 2017, pp 1785).

I. Gallego-Álvarez et al. (2014) is again another study with a limitation for using a sole industry for firms in sample. It involved 855 global firms from Forbes 2000 list of largest firms, all from the intensive greenhouse gas industry. The scholars' justification for the sole industry was deliberately to examine the firms deemed as the highest natural resources extractors. Such use processes usually exuding high levels of pollution to environment. Generally, firms are expected to invest more in CSR related activities to clean up the environment and any damages caused by extractive production processes. Using data between 2006 to 2009, it covered the 2008-2009 Great Recession. Implicitly, 2006-2007 could be inferred as the pre-era before the recession. To enhance their empirical analysis, I. Gallego-Álvarez et al. (2014) should have added a specified range of the post-crisis period between 2009 to 2013 or thereabout. Doing so would have created three periods: the pre-crisis (2004-2007), the Great Recession crisis (2008-2009) and the post-crisis (2010-2013). Preferably, the spans of pre- and post-crises are recommended to be longer than that of crises ones. The objective is to capture more valid findings. Doing so would have yielded more objective and valid comparisons amongst the three periods. Another limitation was use of a sole industry: intensive greenhouse gas/CO2 emissions. Findings are less likely to be objectively generalisable to other industries.

I. Gallego-Álvarez et al. (2014) found that during an economic crisis, firms increase their CSR investments. The scholars attributed this to mounting pressure to address environmental factors during such periods; it is a strategy to enhance relationships and trust with key stakeholders. The scholars justified the end goal as the retention of long-term profitability for affected firms beyond the crisis period. I. Gallego-Álvarez et al. (2014) recommended future research using longer durations that cover both cyclones of the economy: the expansion or boom and the bust or crisis. Therefore, this G7 firms' study responded to this advice in the quest of improving this methodological deficiency.

With this background, previous reasoning, and logic from past studies (Bae et al., 2021; Broadstock et al., 2021; I. Gallego-Álvarez et al., 2014; J. Lu et al., 2022), this study established the following Hypothesis 6:

H6: Firms operating during an economic expansion era achieve higher ESG performance and its individual E, S and G components than during an economic crisis era.

Table 6.2 Summary of empirical findings on link CSR/ESG performance and State of Economy

Source: Made by the author

Authors	**Sample size**	**Years**	**Area**	**Data analysis methods**	**Crises period events examined**	**Independent variables**	**Other variables**	**Summary results in relationship with CSR or CSP**
Lu et al (2022)	21,001 firm-year obs	17 2004-2020	G7 Countries (Canada, France, Germany, Italy, Japan, UK, USA)	Heckman 2-step method for robustness checks Three-stage least squares (3SLS) regression)	2007-2008 Subprime Lending Financial-economic crisis 2020 Ecological Covid19 pandemic	Average of E and S scores	Dependent: ROA ROE Controls-Firm level: ▪ Board gender diversity ▪ Financial leverage ▪ Firm size Controls-Country level: ▪ GDP ▪ Corporate Governance (WGI)	Positive bidirectional significant: Firms with higher Sus-P more profitable in future Firms with higher financial P more sustainable P in future
Ding et al (2021)	>6700 firms	Jan-May 2020 (5 months)	61 countries	Firm-level regression	Covid19 era Nov/Dec 2019 Covid19 era Jan-May 2020	5 precovid19-2020 corporate characteristics: Financial conditions Global supply chain CSR from Thomson Reuters ASSET4 ESG database Corporate governance Ownership structure	Dependent: Firm's weekly stock returns Controls Firm specific controls provided only	Covid19-induced fall in share returns was lower for firms with stronger pre-2020 finances and high CSR activities CSR activities bolster customer loyalty thereby reducing a firm's susceptibility to economic downturns.
Broadstock et al (2021)	300 firms	6 2015-2020	China	Event studies Regression analysis	Normal period: 11Feb2019 – 31 Mar2019 Covid19 period: 3Feb2020 – 31 Mar2020	ESG scores	Dependent: ▪ Cumulative returns Controls: ▪ Financial leverage ▪ Book-to-market value ▪ Firm size	High-ESG firms have higher stock returns than low-ESG firms During crisis: ESG performance mitigates financial risk
Bae et al (2021)	1750 USA firms	1 2020	USA	Correlations in selected periods Regression analysis	2008 financial crisis: Aug2008– Mar2009 2020 Covid19 period: Feb18– Mar20, 2020 Post 2020 period Mar23–Jun5, 2020	ESG scores	Dependent: ▪ Stock returns Controls: ▪ CEO managerial ability score ▪ Political uncertainty ▪ Corporate culture ▪ Institutional ownership duration ▪ Number of covid cases per state	During crisis: No evidence of CSR & stock returns relationship Conclusion: "Pre-crisis CSR is not effective at shielding shareholder wealth from the adverse effects of a crisis"

Authors	Sample size	Years	Area	Data analysis methods	Crises period events examined	Independent variables	Other variables	Summary results in relationship with CSR or CSP
Albuquerque et al 2020	S&P500 firms	3 2017-2020	USA	Event study Difference-in-differences regression of firm-level Two sets of regressions	Event dates: 1Jan2020 24Feb2020 18Mar2020	E and S scores only	Dependent: ▪ Market return Control: ▪ Firm size ▪ Cash to assets ▪ Tobin's Q ▪ Dividend yield ▪ Volatility ▪ Leverage ▪ Industry type	Shares for higher ES firms showed notably higher returns with lower return volatility, greater OPMs for the first quarter of 2020 (Covid19 era) Stocks for more ES-oriented investors experience less return volatility during the crash.
Lins et al (2017)	1,673 Non-financial firms	10 2000-2009	Global (countries not specified)	Regression analysis	Early 2000 frauds: Enron & WorldCom crisis 2008-2009 (with severe decline in trust) Financial crisis: Aug2008–Mar2009	CSR scores	Dependent: ▪ Market Value ▪ L/T & S/T Debt ▪ Cash Holdings ▪ Profitability Control: ▪ E-index ▪ Board size ▪ CEO not chair ▪ Board ownership ▪ Industry type	Just prior to 2008-9 crisis: ▪ High CSR firms have higher crisis period stock returns than those with low CSR During 2008-9 crisis period: ▪ Strong relationship between CSR and stock returns in high trust regions ▪ High CSR firms showed higher stock returns, growth and sales per employee relative to low CSR firms
Gallego-Álvarez et al (2014)	855 MNCs	5 2006-2009	Forbes Global 2000 Index	Multivariate linear regression on panel data	2008-2009 Economic and Financial crisis Periods outside the 2008-2009 crisis	Economic crisis using dummy-value 1 for 2008 and 2009 and the value 0 for the other periods tested.	Dependent: ▪ Economic: ROA for profitability ▪ Environmental: Ratio of total greenhouse gas emissions (CO_2) divided by the volume of sales of each company. Control: ▪ Firm size ▪ Intensive industry - Gas emissions ▪ Kyoto Protocol	During 2008-9 crisis period: ▪ Relationship between Enviro & Fin performance is stronger than during normal times ▪ Thus, firms encouraged to invest in sustainable projects for boosting relations with stakeholders, with expected higher economic profits in return.
Ducassy (2013)	44 firms 63% on CAC40 French listing	2 2007-2009	France	OLS regressions to Parametric Tests to median CSR levels	2007-2009 Financial crisis and uncertainty	(CSR) Corporate social performance using CFIE ratings	Dependent ▪ Stock market returns proxied by the information ratio Control: ▪ Firm size= No of employees ▪ Financial leverage ▪ ROCE ▪ MTB ratio	During 2007-8 crisis period: • Significant positive link between CSR & Financial performance for the of the crisis (2nd half of 2007), However in early 2007 and after the 1st six months of turmoil, no significant link between the two variables.

6.6.3 Summary of limitations from past studies

The review of methodologies used in key and relevant studies unearthed evidence of numerous limitations. These have a bearing on the validity and findings from the past studies. Table 6.1 summarised those on the relationship between ESG / CSR performance and economic growth. Table 6.2 was for those related to the state of the economy. The next paragraphs summarise the limitations.

Firstly, lack of a universal definition and various names for corporate social responsibility (CSR) make this research area not easy to establish whether varying definitions mean the same with respect to CSR. Examples are Sustainability - Di Simone et al. (2022) ; Sustainability performance - (J. Lu et al. (2022).

Secondly, evidence of findings of relationship between ESG or CSR performance and Economic growth remains mixed and inconclusive. These range from positive, negative, mixed, unidirectional, to bidirectional. See Table 6.1 for the summary findings from each relevant past study. Specifically, some found a bidirectional relationship - (S. Ho et al., 2019; J. Lu et al., 2022; Naomi & Akbar, 2021). Furthermore, no meta-analytic reviews exist in this area. The reviews would help locate and direct where the body of knowledge is headed to.

Thirdly, discrepancies exist in the measurements of key variables. Some are uncommon; others are not empirically validated. The use of unconventional calculation methods is evident. Examples include average scores - (Zhou et al., 2020) versus absolute scores for ESG ratings. The market perceived perception by Di Simone et al. (2022) is another, as a proxy for innovation over the more validated R&D intensity.

Fourthly, no ubiquitous measure of economic growth exists. Though the GDP is used in general, its derivatives have sometimes been used: Real GDP - (Naomi & Akbar, 2021); GDP per capita - (Ben-Salha et al., 2021; Bhattacharyya & Hodler, 2010; J. Guan et al., 2020) Social capital (Jha & Cox, 2015; Lins et al., 2017); Income growth - ((Škare & Golja, 2013).

Fifthly, different data collection methods have been used for certain studies. Though the majority used secondary data from leading databases, one used questionnaire surveys

administered to managers of firms (Jha & Cox, 2015). For more objective data, using large databases is preferable as the measurement tools and how data is prepared are more uniform and standardised.

Sixthly, like many studies in CSR, the use of samples from a sole region or country has been frequent. Besides this being a regional bias in any findings, it renders results less generalisable to other populations: US counties only (Jha & Cox, 2015); US stocks only from S&P500 (Albuquerque et al., 2020); China CSI300 stocks ((Broadstock et al., 2021); US firms (Bae et al., 2021); France (Ducassy, 2013).

Seventhly, to explore the effect of CSR on economic growth and investigate the variations in subgroups of data, it is imperative to introduce controls in the different groups of populations. This could offer more insights about the relationships of interest. Nevertheless, very few studies created subgroups to controlled for such variations, except for Buallay (2019).

Starting from here, the below specifically applies to the relationship between ESG / CSR performance and the state of the economy:

Firstly, the latest economic crisis of Covid19 era (2020-2022) witnessed the proliferation of studies in this area. In some studies, the durations of data used to compare the crisis before and after, have been shorter than expected. These have delivered findings assumed less valid, if not reliable. Examples are: 2 years - (Broadstock et al., 2021; Ducassy, 2013); 4 years - (Albuquerque et al., 2020). In contrast, some used a longer duration between, preferred for more valid findings: 10 years - (Lins et al. (2017).

Secondly, the sample sizes for the populations of study used vary widely. Some have drawn these from a single country and others from multiple countries. Generally, large sample sizes for data have been used. Some are deemed small: 44 firms - (Ducassy; 2013); 300 firms - (Broadstock et al., 2021).

Thirdly, some studies used data drawn only from a sole industry: intensive greenhouse gas- (I. Gallego-Álvarez et al., 2014); Others were not clear about the industries covered by the terminology used: non-financial firms - (Lins et al., 2017).

6.6.4 Theoretical justification for incorporating the three selected variables

In empirical literature examining the relationship between CSR and economic growth, the inclusion of country-specific factors with an influence become key. The common ones include the Human Development Index (HDI), Total Stock Market Value (TSMV), and Total Natural Resources Rent (TNRR). The three are theoretically established in several important dimensions of sustainable development, financial markets, and resource dependency. Such variables help capture the complex and multifaceted ways in which CSR can influence economic growth across different countries. Below is a detailed explanation of the theoretical justification for including these variables, supported by relevant literature.

6.6.4.1 Human Development Index (HDI)

The Human Development Index (HDI) is a combined measure that evaluates a country's average achievements in three key dimensions of human development: health, education, and standard of living (Baumann, 2021). The theoretical justification for using HDI in the study of CSR and economic growth is based on the following arguments:

Social Dimension of CSR: CSR programs are often geared towards improving social outcomes, such as health, education, and overall welfare (Carroll, 1991). With the improvements of these areas, CSR can directly impact a country's HDI. To exemplify, CSR projects on education and healthcare can enhance human capital, a critical driver of economic growth (Becker, 1993; Pyatt & Becker, 1966). Hence, HDI grants researchers to evaluate if CSR contributes to broader social development. Some resultant outcomes could support long-term economic growth (Anand & Sen, 2000; Mauro et al., 2018). For firms included in this G7 firms' study, the staff's quality of the three social outcomes was expected to affect the quality and pace of economic growth.

Link Between Human Development and Economic Growth: Evidence exists on economic growth not only improving GDP but also the quality of life of the population (Todaro & Smith, 2011). Thus, HDI measures this wider concept of development to some extent. An aim of CSR is to achieve sustainable development. Including HDI in the analysis enables the examination of CSR practices on improvements in human well-being that are considered beneficial to viable economic growth (Anand & Sen, 2000; Mauro et al., 2018).

6.6.4.2 Total Stock Market Value (TSMV)

Total Stock Market Value (TSMV) equates to the total market capitalization value of all publicly listed/quoted companies in a country. It is a sensible proxy of the size and depth of a country's financial markets. The theoretical rationale for including TSMV in the study is premised on several key points:

CSR and Financial Market Performance: CSR activities or practices can enhance a firm's image, leading to better financial performance and higher stock prices (Busch & Friede, 2018; Orlitzky et al., 2003; Velte, 2022). A well-developed stock market, depicted by high TSMV, might suggest greater investor confidence in firms that adopt CSR practices. Thus, this suggests that CSR can add towards economic growth by boosting the development and stability of financial markets.

Capital Formation and Economic Growth: Not only is a strong financial market crucial for capital formation, but also vital for economic growth (Augier & Yin, 2022; Levine, 1997). Thus, firms with higher CSR investments could have better access to capital through equity markets, enabling them to invest in growth opportunities. By including TSMV, the study can explore whether the relationship between CSR and economic growth is influenced by the degree of development and efficiency of financial markets (Augier & Yin, 2022; Scholtens, 2006).

Market Efficiency and Resource Allocation: TSMV is a substitute for market efficiency; markets effectively allocate resources to socially responsible companies. Therefore, efficient markets that rate CSR highly can yield more sustainable economic growth by ensuring that investments are directed to firms that contribute positively to social and environmental outcomes (Eccles et al., 2014).

6.6.4.3 Total Natural Resources Rent (TNRR)

Total Natural Resources Rent (TNRR) characterizes the economic rents derived from the extraction of natural resources such as oil, natural gas, minerals, and forests. The inclusion of TNRR in the study is theoretically grounded in the following points:

CSR and Environmental Sustainability: CSR programs and practices often involve environmental stewardship, mostly in countries endowed with natural resources, such as the G7 countries in the study. These efforts are necessary in safeguarding that resource extraction does not lead to environmental deprivation, capable of undermining long-term economic growth (Aneja et al., 2024; Hart, 1995). When TNRR is included, researchers can examine whether CSR practices in resource-rich countries contribute to sustainable economic growth by promoting responsible resource management (Pang et al., 2022; Porter & Van Der Linde, 1995).

Resource Curse Hypothesis: The "resource curse" hypothesis conjectures that high natural resources endowed countries may undergo slower economic growth due to poor governance, corruption, and over-reliance on resource sectors (Rahim et al., 2021; Sachs & Warner, 1995). CSR could play a role in lessening these negative effects by promoting transparency, good governance, and sustainable practices in such resource-dependent economies. Therefore, TNRR is included to investigate if CSR helps reduce the challenges associated with resource dependency and thereby contribute to enhanced economic growth (Auty, 2005).

Economic Structure and Diversification: TNRR also reflects a country's economic structure, particularly its dependence on primary sectors. The relationship between CSR and economic growth might differ in economies with high TNRR. Hence, CSR in these contexts could be pivotal in ensuring that resource extraction is aligned with long-term economic and environmental sustainability (Rahim et al., 2021; Robinson et al., 2006).

Summary

The integration of HDI, TSMV, and TNRR in empirical research allows for a more holistic analysis and comprehensive approach in evaluating the relationship between CSR and economic growth. The rationale can be summarised hereafter. Firstly, the relationship between CSR and economic growth is often complex and thus affected and influenced by multiple dimensions. HDI captures the social impacts of CSR, TSMV reflects the financial market effects, and TNRR addresses environmental and resource-based considerations. Together, these variables enable a comprehensive assessment of how CSR influences different aspects of economic growth across countries (Elkington, 1998; Rahim et al., 2021). Secondly, these

country-specific variables enable comparisons in firms across countries with varying levels of human development, financial market maturity, and natural resource dependence. Doing so is crucial for understanding the context-specific impacts of CSR on economic growth and for detecting CSR activities that are most useful in different settings (Matten & Moon, 2008). Thirdly, incorporating the three variables ensures that the study caters for both short-term economic gains and long-term sustainability, the latter being central to the concept of CSR. This approach aligns with the broader goals of sustainable development, which seeks to balance economic, social, and environmental objectives (Visser & Brundtland, 2013).

To conclude, incorporating HDI, TSMV, and TNRR into this study is theoretically justified because these variables capture essential dimensions of human development, financial market performance, and natural resource management. The use of the named variables enables researchers gain a more comprehensive understanding of how CSR influences economic growth across different national contexts, with a particular emphasis on sustainability and long-term development. Having provided the theoretical justification of including the three control variables, the following assumptions informed by the above their influences on the relationship of interest were posited hereafter.

6.6.5 Variations in the control variables used in the relevant past studies

A review of the control variables assumed to have a significant influence on the link between yields a wide variety in this area. The revelation reduces the ability for objective comparisons of findings. Most past studies have used control variables of their choice.

Theoretically, it is preferred to employ both firm-level and country-level control variables. The last category is vital. It enables to examine the influence on state of the economy, often measurable at country level. Yet, a review of the eight relevant studies showed that five used only firm-specific controls (Albuquerque et al., 2020; Broadstock et al., 2021; Ding et al., 2021; Ducassy, 2013; Lins et al., 2017). Not only could this be considered as researcher bias to fields of accounting and financial management. It also undermines the purpose of research, when influences on the state of the economy require to be controlled for. Consequently, the reliability of the findings could be affected. Ideally, there needs to be a good balance of control variables covering both accounting / financial performance variables and the state of the

economy. The last category needs to be well linked and related to the field of economics. Only three out of the eight studies somehow met this (Bae et al., 2021; I. Gallego-Álvarez et al., 2014; J. Lu et al., 2022).

To contribute to this area, this study opted to develop and include three control variables. The theoretical justifications for their inclusion in this study is provided in the previous Section 6.6.4. They were posited more relevant and applicable as influence on the link between CSR and economic growth or the state of the economy. The specific control variables employed were:

a) Level of Human Development using the Human Development Index (HDI).
b) Total Natural Resources Rent using Total Natural Resources Rent per GDP per capita (TNRRperGDPPC).
c) Total Stock Market Size using Total Stock Market Value per GDP per capita (TSMVperGDPPC).

Controlling influence of the level of human development

Globally, the GDP per capita is the commonest measure for economic growth. However, it hardly caters for the variations and advancements in human societies. It scarcely measures the likelihood of the degree of improvement in human welfare (Brookfield, 2001). A measure developed to capture the level of human development more accurately is the Human Development Index (HDI). It is "based on three indicators: longevity measured by life expectancy at birth; educational attainment measured by a combination of adult literacy (two-thirds weight) and a combined gross primary, secondary, and tertiary enrolment ratio (one-third weight); and standard of living measured by real GDP per capita (PPP$) (Mahlberg & Obersteiner, 2012, pp 4).

The level of human development or human capital is posited to have an influence on economic growth or the state of the economy (Appiah et al., 2019; N. H. Khan et al., 2019; Rahim et al., 2021b; Sinha & Sengupta, 2019). Recently there have been additions to the factors affecting the level of human development. In its 30th report, UNDP (2020) highlighted the changing nature of human development by adding environmental sustainability and inequalities into the

framework. The report recognises human development as weighing in on challenges such as climate change, pandemics, and inequality.

No relevant studies that looked at the state of the economy controlled for this factor. Naomi & Akbar (2021) used the Human Development Index (HDI), but as one of the independent variables. The study aimed to examine the relationship between CSR/Firm performance and economic growth (Table 6.1), not the state of the economy. From public opinion, firms located in countries exhibiting a higher level of human development are assumed to operate in more economically active environments. Thus, society is probable to demand more from such firms. This often happens by giving back to society or investing in correcting any damages to the environment caused by their business. Given these expectations and borrowing from Naomi & Akbar (2021), the following assumption was instead posited on the premise that the level of human development has a controlling influence on the relationship of interest:

Assumption A

The higher the level of human development of a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth.

Controlling influence of the quantity of natural resources endowment

Highly natural resource-endowed countries or regions are renowned for their abundance of oil, gas, coal and other minerals, forestry, to mention a few. The resources are assumed to provide a competitive advantage to the gifted countries capable of being positive drivers of economic growth or development. Over the years, global demand for the limited natural resources has been growing. If this holds, then the degree of natural resource rent of a firm's country of location has an influencing and control effect on the link between CSR and economic growth or the state of the economy.

Theoretically, firms in high natural resource-endowed countries are posited to have a stronger positive CSR and economic growth or the state of the economy, than those in less endowed countries. According to Barma et al. (2011) "Riches from the sector promise to be massive, with resource rents, that is, the difference between revenues and extraction cost, estimated at

about $4 trillion annually, or 7 percent of global GDP" (Barma et al., 2011, pp ix). According to the World Bank, "Total natural resources rents are the sum of oil rents, natural gas rents, coal rents (hard and soft), mineral rents, and forest rents".

(https://databank.worldbank.org/metadataglossary/adjusted-net-savings/series/NY.GDP.TOTL.RT.ZS).

For the trends of this measure compiled for Great Seven (G7) countries from 1970 to 2019 that formed this study's population, please see Figure 6.2.

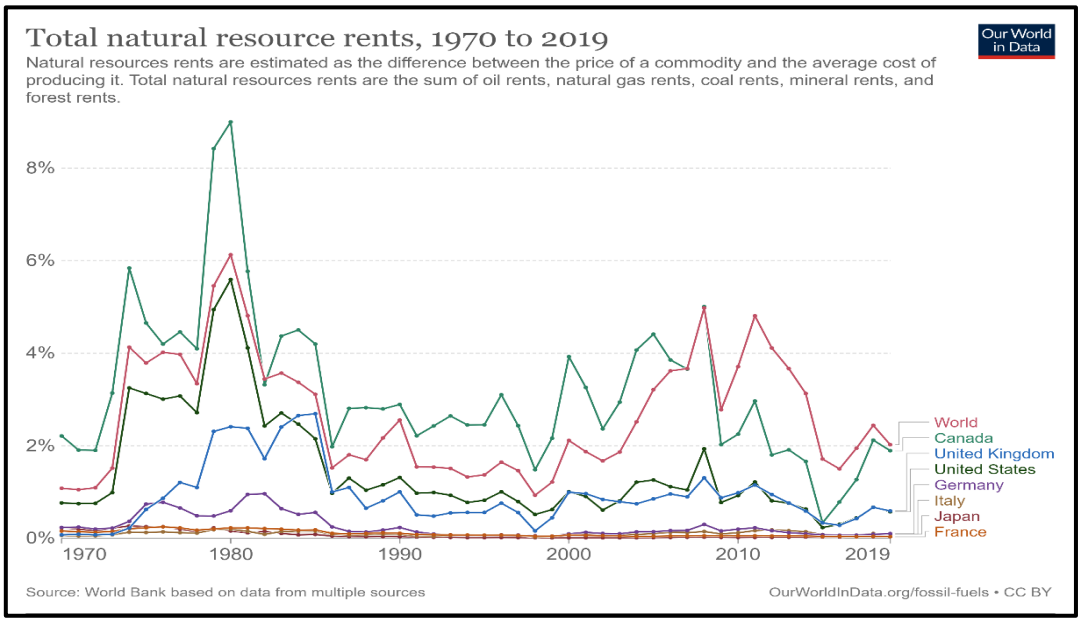

Figure 6.2 Source: OurWorldInData - G7 countries - Natural resources rents (1970-2019)

This common measure developed by the World Bank uses the total natural resources rents as a share of the gross domestic product (GDP) of a given country. No relevant studies in this area controlled for this factor. Instead, Naomi & Akbar (2021) used the natural resources rent as the only dependent variable, when examining the relationship between CSR and economic growth (Table 6.1). No correlation between economic growth (proxied as GDP) & natural resource rent was found (Naomi & Akbar, 2021). Given this background, the following assumption was instead posited on the premise that the degree of natural resource rent has a controlling influence on the relationship of interest:

Assumption B

The more natural resources-endowed a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth.

Controlling influence of the size of the stock markets

A few findings from past studies established that the level of financial development had a controlling influence on the disparities in economic growth across countries (Durusu-Ciftci et al., 2017; Levine, 2003). With this observation, it can be inferred that financial markets nurture economic growth. Especially in free markets, this leads to enhanced and efficient allocation of resources where they are most needed. Yet only Zhou et al. (2020) looked at the controlling influence of the level of financial development, when examining the relationship between CSR and economic growth. The total market value of domestic countries was operationalised as the level of financial development. The study took a more objective approach by dividing the data sample into two subgroups, based on the country of location. From public opinion, firms located in countries with a larger financial market size are assumed to operate in more economically active environments. In such countries, there is demand for firms to give back to society or invest in correcting any damages to the environment caused by their business. Given these expectations and borrowing from the numerous studies and related frameworks (Arestis et al., 2001; Durusu-Ciftci et al., 2017; Levine, 2003; Zhou et al., 2020) the following assumption was posited on the premise that the level of financial development has a controlling influence on the relationship of interest:

Assumption C

The larger the size of the stock market of a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth.

The verifications of the three assumptions were expected to add new knowledge to this research area, with the view that the last two assumptions were new and never applied in past studies before.

6.7 Research Design and Methodology

6.7.1 Theoretical Model

The research design was driven by the positivistic paradigm. Hence this study employed the methodology of a quantitative and deductive research approach (Hatch, 2013). To test a set of research hypotheses, data was collected on the main and well-validated measurements used in this area of research. The aim was to examine the relationship between a firm's CSR and the economic growth of its country of domicile or the state of the economy.

Having reviewed the relevant literature and identified the gaps, a theoretical framework was devised, as displayed in Figure 6.3. The study hypothesised the propositions linked to this model, as informed by the relevant literature.

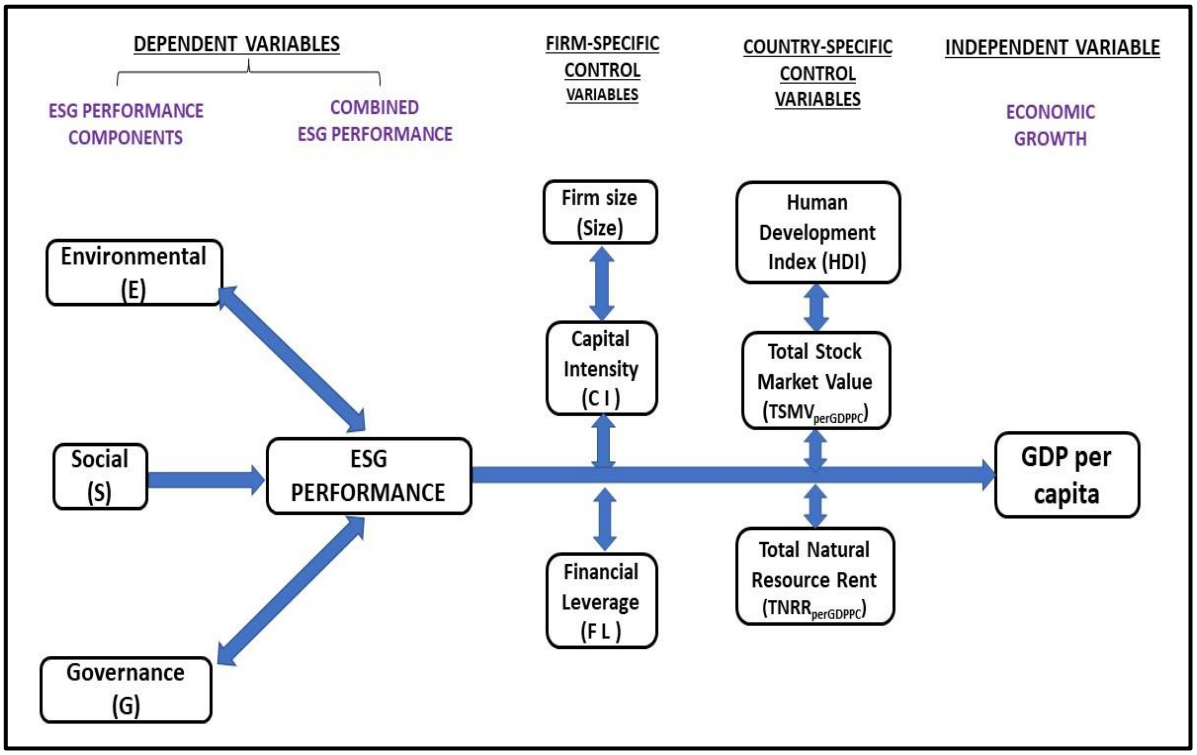

Figure 6.3 The Study's Theoretical Model

Source: Made by the author

The variables that were operationalised are covered hereafter:

Independent variable:

GDP per capita = a nation's gross domestic product per capita where a firm is located

Dependent variables:

E = Environmental performance score

S = Social performance score of a firm

G = Governance performance score of a firm

ESG = Combined ESG performance score of a firm

Firm-specific control variables:

Size = Firm size

CI = Capital intensity of a firm

FL = Financial leverage of a firm

Country-specific control variables:

HDI = Human Development Index of a country

$TSMV_{perGDPPC}$ = Total Stock Market Value per GDP per capita of a country's market indices included in study

$TNRR_{perGDPPC}$ = Total Natural Resource Rent per GDP per capita of a country

6.7.2 Estimation of regression models

Figure 6.4 lists the four estimated regression models used to test the hypotheses.

a) $E = \alpha + \beta_1.GDP + \beta_2.Firmsize + \beta_3.CI + \beta_4.FL + \beta_5.HDI + \beta_6.TSMV_{perGDPPC} + \beta_7.TNNR_{perGDPPC}$

b) $S = \alpha + \beta_1.GDP + \beta_2.Firmsize + \beta_3.CI + \beta_4.FL + \beta_5.HDI + \beta_6.TSMV_{perGDPPC} + \beta_7.TNNR_{perGDPPC}$

c) $G = \alpha + \beta_1.GDP + \beta_2.Firmsiize + \beta_3.CI + \beta_4.FL + \beta_5.HDI + \beta_6.TSMV_{perGDPPC} + \beta_7.TNNR_{perGDPPC}$

d) $ESG = \alpha + \beta_1.GDP + \beta_2.Firmsize + \beta_3.CI + \beta_4.FL + \beta_5.HDI + \beta_6.TSMV_{perGDPPC} + \beta_7.TNNR_{perGDPPC}$

Figure 6.4 Set of model's regression equations – ESG & its individual component performances versus Economic Growth

Source: Made by the author

In summary, a set of hypotheses was developed in the preceding sections as informed by the most relevant literature reviewed. The review also helped to assess the common findings and locate the overall trends from past studies in this area of research. Also, a review of meta-analytical studies was undertaken to gauge the current direction and position of the relationships of interest within this area of research.

6.8 Relevance of panel data methodologies to this study

Panel data methodologies are highly important to studies investigating the relationship between CSR and the economic growth of firms' host territories for various reasons. These allow researchers to control for multiple factors, capture dynamic relationships, and address issues such as endogeneity and heterogeneity, which are central to understanding the complex interactions between CSR activities and economic growth.

6.8.1 Control for Unobserved Heterogeneity

Economic growth in a firm's host territory is shaped by a multitude of factors, many of which are challenging to observe directly. These factors might include regional policies, infrastructure development, and cultural attitudes toward business practices. Panel data methods, especially fixed effects models, are effective in controlling for these time-invariant unobserved factors. Doing so ensures that the observed relationship between CSR and economic growth is not confounded by these underlying characteristics (Baier & Standaert, 2024; Baltagi, 2005; Gormley & Matsa, 2014). For this G7 firms' study, the fixed effects models were anticipated when examine the relationship between the economic growth rate of a firm's host country.

6.8.2 Dynamic Analysis of CSR and Economic Growth

The impact of CSR on economic growth is likely observable in the long term, not immediate. It can show over time as CSR activities contribute to multiple factors. The last could be improved social infrastructure, education, and environmental sustainability, which in turn foster economic growth. Dynamic panel data models allow researchers to investigate these lagged effects and capture the long-term influence of CSR on economic growth (Arellano & Bond, 1991; Halkos et al., 2022). Common examples include the Generalized Method of Moments (GMM). A dynamic panel model might be used to assess how CSR investments in areas like education and healthcare contribute to economic growth in the long run, controlling for past levels of economic growth (Halkos et al., 2022).

6.8.3 Handling Endogeneity

The link between CSR and economic growth is potentially endogenous. Firms may increase their CSR activities in response to economic growth, while at the same time, CSR may contribute to economic growth. Panel data methodologies, particularly those using instrumental variables or GMMs, help address this endogeneity, providing more reliable estimates of the causal impact of CSR on economic growth (Karakaplan & Kutlu, 2017; Wooldrigde, 2010). Researchers might use instrumental variables within a panel data framework to account for the possibility that regions experiencing rapid economic growth might also see increased CSR activities by firms, thus clarifying the direction of causality (Karakaplan & Kutlu, 2017).

6.8.4 Exploring Regional Variability

Economic growth and the impact of CSR vary significantly across different regions or countries. This is caused by differences in economic structures, levels of development, and institutional environments. Panel data facilitates for researchers to explore this regional variability by analysing how the relationship between CSR and economic growth differs across various contexts (Pesaran, 2006). A study might compare the impact of CSR on economic growth across regions with different levels of development, using random effects models to account for differences across regions while examining the overall relationship (Im et al., 2003).

6.9 Methods' appeal to this research area

6.9.1 Robustness to Unobserved Influences

Economic growth depends on numerous factors, many of which are difficult to measure or observe directly. Examples include institutional quality, social capital, and informal economic activities. Panel data methods, particularly fixed effects models, are attractive. They are sought for their control for these unobserved, time-invariant influences. Using them leads to more accurate and reliable estimates of the relationship between CSR and economic growth (Schunck, 2013; Wooldrigde, 2010). By using panel data, researchers can control for region-specific factors like political stability, which might otherwise confound the relationship between CSR and economic growth.

6.9.2 Capturing Long-Term Effects

CSR activities often have long-term impacts on economic growth through channels such as education, infrastructure development, and environmental sustainability. Panel data methodologies are well-suited to capturing these long-term effects by allowing for the inclusion of lagged variables and analysing data over extended periods (Baltagi, 2005). Thus, a longitudinal study might use panel data to track the impact of CSR activities on regional economic growth over a decade, revealing the cumulative effects of sustained CSR efforts. By using a panel data based on 14 years for this G7 firms' study, the long-term effects of CSR on economic growth were anticipated to be captured to yield more valid results.

6.9.3 Addressing Simultaneity and Reverse Causality

The potential for reverse causality is possible in this area. This occurs when economic growth influences CSR as much as CSR influences economic growth; it is a significant concern in this area of research. Panel data methods, especially GMM and instrumental variable approaches, are appealing when faced with this. They assist in addressing these issues of simultaneity, enabling researchers to make stronger causal inference (Arellano & Bover, 1995; Wen & Okolo, 2023). Using GMM, a study could address the simultaneity issue by instrumenting lagged levels of economic growth to isolate the effect of CSR on future economic performance. However, this was outside the scope of the G7 firm's study.

6.9.4 Flexibility in Modelling Complex Relationships

The relationship between CSR and economic growth is often complex and multifaceted. It encompasses various intermediaries such as social infrastructure and human capital development. By including interaction terms and exploring non-linear effects, panel data methodologies offer the much-needed flexibility to model these complex relationships (Schunck, 2013; Wooldrigde, 2010). Researchers could use interaction terms in a panel data model to examine how the effect of CSR on economic growth varies depending on the level of government support for social programs.

Summary

This ended subchapter and its sections focused on the research design and methodology used for this study. The design yielded the theoretical model depicted in Figure 6.3. Chapter 2 of this dissertation provides the details on Data Sources and Collection Process used for the target population of study. The identification of the locations, sources, and how the sample was drawn are provided therein as well. Chapter 2 identified the sampling strategy and procedures employed. So is the discussion of the reliability and validity of the study's data used.

Further, the research design was matched to meet quantitative methods and most variables used were well-validated measures in this research area. The measures were explained, and their selection justified based on the research literature from previous studies on CSR – economic growth. It was necessary to align the measures to the research objectives of this study. Consequently, a set of four regression models was developed.

Lastly, the relevance of panel data methodologies to the relationship between CSR and economic growth in firms' host territories was summarised. Firstly, the methodologies are relevant because they allow researchers to control for unobserved heterogeneity, handle dynamic relationships, and address endogeneity issues, all of which are central to understanding the complex interplay between CSR activities and economic growth. Secondly, their appeal lies in their robustness, flexibility, and ability to capture long-term and regionally variable effects, making them indispensable tools in this area of research.

The next subchapter of Data Analysis, Results, and Interpretations is founded on this ended subchapter.

6.10 Data Analysis, Results and Interpretations

This sub-chapter presents the outputs of data analyses and interpretations. The data analyses encompass descriptive statistics, robustness diagnostics and model specification tests. Then, regression analyses and tests for comparison of means are run and results interpreted. The results and interpretations provide the foundation for the subchapter after this one: Findings and Discussion.

6.10.1 Descriptive Statistics

Figure 6.5 captures the eleven (11) variable names and their respective labels employed.

Variable name	Storage type	Variable label
CombinedESGScore	double	Combined ESG-Score
Escore	double	Envionmental Score
Sscore	double	Social Score
Gscore	double	Governance Score
GDPAnnual	double	Gross Domestic Product per annum
Firmsize	float	lnTotalAssets
CI	double	Capital Intensity
FL	double	Financial Leverage
HDI	float	Human Development Index
TSMVperGDPPC	float	Total Stock Market Value per % of GDP per capita
TNRRperGDPPC	float	Total Natural Resources Rents per % of GDP per capita

Figure 6.5 Variable names and labels' descriptions

Source: Made by the author

Table 6.3 provides an outlook of the summary descriptive statistics. The GDP Annual score as the independent variable representing economic growth, ranged from -0.057 (-5.7%) to 0.059 (5.9%) with a standard deviation of 0.019. Based on 9,399 observations for the four dependent variables, the means of all the individual components of ESG, together with the combined score namely, E, S, G and ESG scores respectively, ranged between 51.144 and 56.724. The Environmental score (EScore) exhibited the highest standard deviation at 28.744, implying it was the most volatile amongst the CSR based measures, for the sample used.

Variable	Obs.	Mean	Std. dev	Min	Max
Dependent variables:					
CombinedESG Score	9,399	51.144	18.523	0.360	93.650
Environmental Score (EScore)	9,399	52.624	28.744	0.000	99.080
Social Score (SScore)	9,399	55.024	23.209	0.160	98.240
Governance Score (Gscore)	9,399	56.724	22.356	0.500	99.250
Independent variable:					
GDPAnnual	9,996	0.009	0.019	-0.057	0.059
Control variables (Firm-specific):					
Firmsize	9,865	17.467	2.711	5.969	26.463
Capital Intensity (CI)	9,734	0.167	3.754	0.000	345.406
Financial Leverage (FL)	9,865	0.236	0.179	0.000	2.560
Control variables (Country-specific):					
Human Development Index (HDI)	9,996	0.914	0.016	0.870	0.948
Total Stock Market Value per GDPPC (TSMVperGDPPC)	9,249	99.306	36.575	18.801	164.894
Total Natural Resources Rent per GDPPC (TNRRperGDPPC)	9,996	0.646	0.846	0.018	5.008

Table 6.3 Summary statistics of variables used

Source: Made by the author

For the firm specific variables, capital intensity (CI) was the most volatile in variations with a standard deviation of 3.754. CI had also the least observations in this category, at 9,734 observations. Some firms did not have data for some years to calculate CI.

For the country specific variables, the range for the Human Development Index (HDI) was very narrow with minimum at 0.870 and maximum at 0.948. This comes as no surprise. Logically, the G7 countries all fall on the high HDI end in the world, as evidenced by the low standard deviation at 0.016. The total stock market value per GDP per capita (TSMVperGDPPC) was the most volatile with respect to the mean, with a standard deviation of 36.575. In contrast, the total natural resources rents per GDP per capita (TNRRperGDPPC) of the sample was more stable than the TSMVperGDPPC, going by the standard deviation of 0.846.

6.10.2 Pearson Correlation Analysis and Results

Table 6.4 displays results for the Pearson correlation analysis matrix for the dependent, independent and the control variables. For correlation with the independent variable of GDPAnnual, only the Environmental score (EScore) was negatively correlated at coefficient -0.002. Others were positively correlated with the GDPAnnual namely: combined ESG score at 0.017, Social score (SScore) at 0.031 and Governance score (GScore) at 0.014. Notably, these correlations were visibly very weak, for both negatives and the positives.

For country-specific control variables, positive correlations were found between total natural resources rents per GDP per capita (TNRRperGDPPC) and GDPAnnual at coefficient 0.018, and HDI at coefficient 0.086. That with GDPAnnual represented the strongest correlation. All correlations with ESG and its individual components were very weak in the order less than 0.030 at best, either negative or positive. These low correlations may signify very weak associations between Economic growth and ESG performance, in general.

Variable	Comb ESG	EScore	SScore	GScore	GDP Annual	Firm size	CI	FL	HDI	TSMV per GDPPC	TNRR per GDPPC
ComESG	1.000										
EScore	0.749	1.000									
SScore	0.763	0.697	1.000								
GScore	0.623	0.408	0.422	1.000							
GDPAnnual	0.017	-0.002	0.031	0.014	1.000						
Firmsize	0.195	0.313	0.117	0.209	0.006	1.000					
CI	0.056	-0.049	-0.051	-0.039	-0.015	-0.053	1.000				
FL	0.052	0.095	0.088	0.017	-0.008	0.018	0.027	1.000			
HDI	0.088	0.042	0.146	0.070	0.222	-0.096	-0.002	0.003	1.000		
TSMVperGDPPC	-0.010	-0.058	0.060	0.065	0.226	-0.118	-0.001	0.039	0.203	1.000	
TNRRperGDPPC	-0.174	-0.231	-0.102	-0.021	0.018	-0.390	0.113	-0.025	0.086	0.295	1.000

Table 6.4 Pearson correlation matrix results for whole sample

Source: Made by the author

6.10.3 Robustness Checks and Model Specification Tests

Appropriateness for Estimated Fixed Effects (FE) or Random Effects (RE) Models

To check the robustness of the posited four regression models in Figure 6.4, relevant checks and model specification tests were vital. It was necessary to examine whether a fixed or random effect model was appropriate for the specified regression model. Model specification tests focused on the Hausman Test. Testing for fixed effects (FE) and random effects (RE) for each of the four regression models were conducted. These were split and renumbered as individual regression models namely Equation 6.1, Equation 6.2 and Equation 6.3 for Environmental (E), Social (S), Governance (G), and Equation 6.4 for the combined ESG performances respectively versus the Economic Growth and a set of control variables:

$$E = \alpha + \beta_1.GDP + \beta_2.Firmsize + \beta_3.CI + \beta_4.FL + \beta_5.HDI + \beta_6.TSMV_{perGDPPC} + \beta_7.TNNR_{perGDPPC}$$

Equation 6.1 Regression Model: Environmental Performance versus Economic Growth

$$S = \alpha + \beta_1.GDP + \beta_2.Firmsize + \beta_3.CI + \beta_4.FL + \beta_5.HDI + \beta_6.TSMV_{perGDPPC} + \beta_7.TNNR_{perGDPPC}$$

Equation 6.2 Regression Model: Social Performance versus Economic Growth

$$G = \alpha + \beta_1.GDP + \beta_2.Firmsiize + \beta_3.CI + \beta_4.FL + \beta_5.HDI + \beta_6.TSMV_{perGDPPC} + \beta_7.TNNR_{perGDPPC}$$

Equation 6.3 Regression Model: Governance Performance versus Economic Growth

$$ESG = \alpha + \beta_1.GDP + \beta_2.Firmsize + \beta_3.CI + \beta_4.FL + \beta_5.HDI + \beta_6.TSMV_{perGDPPC} + \beta_7.TNNR_{perGDPPC}$$

Equation 6.4 Regression Model: Combined ESG Performance versus Economic Growth
Source: All made by the author

For all the four regression models above, their model specification test results favoured the fixed effects (FE) model as more appropriate. To determine the appropriate model for each, the Hausman test was run on each. Each result yielded the Prob chi2 value of less than 0.05 (See Table 6.5 for the summarised results). This implied the fixed effect model as appropriate for each of the four specified regression models in study. Consequently, all the regression analyses and results were based on the fixed effects models and operators.

Equation 5.1: EScore			**chi2 (7) =**	**449.240**
			Prob > chi2 =	**0.000**
Variable name	**------Coefficients------**		**Difference**	**Std. dev.**
	fe (b)	**re (B)**		
GDPAnnual	-35.299	-40.506	5.207	
Firmsize	7.005	5.242	1.763	0.374
CI	-0.071	-0.096	0.025	0.015
FL	9.872	11.370	-1.499	0.451
HDI	760.503	723.081	37.422	9.549
TSMVperGDPPC	-0.121	-0.097	-0.024	0.002
TNRRperGDPPC	-2.510	-2.711	0.201	0.077

Equation 5.2: SScore			**chi2 (7) =**	**316.610**
			Prob > chi2 =	**0.000**
Variable name	**------Coefficients------**		**Difference**	**Std. dev.**
	fe (b)	**re (B)**		
GDPAnnual	-40.028	-41.675	1.647	
Firmsize	4.699	3.070	1.629	0.303
CI	-0.171	-0.188	0.017	0.015
FL	7.452	8.535	-1.083	0.372
HDI	680.039	665.424	14.615	7.772
TSMVperGDPPC	-0.028	-0.017	-0.011	0.002
TNRRperGDPPC	0.750	0.374	0.376	0.064

Equation 5.3: Gscore			**chi2 (7) =**	**69.470**
			Prob > chi2 =	**0.000**
Variable name	**------Coefficients------**		**Difference**	**Std. dev.**
	fe (b)	**re (B)**		
GDPAnnual	3.602	-5.860	9.462	1.361
Firmsize	2.224	2.204	0.019	0.473
CI	-0.411	-0.394	-0.017	0.048
FL	6.193	5.569	0.624	0.876
HDI	235.703	197.236	38.467	13.414
TSMVperGDPPC	-0.032	-0.004	-0.028	0.004
TNRRperGDPPC	-1.104	-0.461	-0.643	0.153

Equation 5.4: Combined ESGScore			**chi2 (7) =**	**248.500**
			Prob > chi2 =	**0.000**
Variable name	**------Coefficients------**		**Difference**	**Std. dev.**
	fe (b)	**re (B)**		
GDPAnnual	-24.300	-25.965	1.665	
Firmsize	3.168	2.268	0.900	0.325
CI	-0.215	-0.224	0.009	0.024
FL	8.769	8.668	0.101	0.505
HDI	513.628	463.106	50.521	8.739
TSMVperGDPPC	-0.029	-0.014	-0.014	0.002
TNRRperGDPPC	-0.695	-1.122	0.427	0.087

Table 6.5 Hausman Test results for the four regression model estimators

Source: Made by the author

6.10.4 Linear Regression Analyses & Comparison of Means for Hypotheses' Testing

To test the effect of performance on the individual components of corporate social responsibility, namely Environmental (E), Social (S), Governance (G) and that of the combined Environmental, Social, Governance (ESG) on economic growth, panel data was analysed using regression analyses. The ultimate was to test the first four hypotheses 1, 2, 3 and 4. For hypotheses 5, the comparison of means tests was used. To examine the effect of economic periods of specified past Great Recession and prosperity eras on ESG performance and its individual components, the comparison of means tests were used to test Hypothesis 6. To examine the controlling influence of a set of country-specific control variables, the comparison of means tests was applied. In summary, data was analysed using regression analyses for testing the first four hypotheses 1, 2, 3 and 4. The fixed effects model estimators using Ordinary Least Squares (OLS) regressions were established as the most appropriate, for all the four models.

To test the various hypotheses, full panel data and subgroups of panel data sets were used namely:

Panel A – the full panel data for all the seven G7 countries (for *H1* to *H4*)

Note that Panels B and C were assigned for use to the study pertaining to CSR and national cultures under Chapter 4. Hence the numbering continues from Panel D in this study as below.

Panel D – the subgroups' panel data of for two groups of country classifications: high economic growth countries and low economic growth countries from the G7 countries in sample (for *H5).*

Panel E - the subgroups' panel data for two periods namely: the four-year Great Recession Era from 2006 to 2009 and the ten-year Post Great Recession Era from 2010 to 2019 (for *H6).*

Panel F comprised the subgroups' panel data of two groups of country classifications: high human developed countries and low human developed countries from the G7 countries in sample.

Panel G (total natural resources rents) comprised the subgroups' panel data of two groups of country classifications: high natural resource-endowed countries and low natural resource-endowed countries from the G7 countries in sample.

Panel H (stock market size) comprised the subgroups' panel data of two groups of country classifications: large stock market-sized countries and small stock market-sized countries from the G7 countries in sample.

Fixed-effects (within) regression results **Group variable: FirmName**				
Dependent:	**Escore**	**SScore**	**GScore**	**Combined ESGScore**
R-squared:				
Within =	0.344	0.353	0.045	0.252
Between =	0.063	0.009	0.037	0.012
Overall =	0.104	0.038	0.041	0.050
Number of obs =	8,519	8,519	8,519	8,519
Number of groups =	714	714	714	714
Avg obs per group =	11.9	11.9	11.9	11.9
F (7, 7798) =	583.780	606.330	51.870	374.730
Prob > F =	0.000	0.000	0.000	0.000
corr(u_i, Xb) =	-0.473	-0.477	-0.157	-0.434
Independent: GDPAnnual				
Coefficient =	-35.299	-40.028	3.602	-24.300
Std. err. =	7.859	6.434	8.921	6.342
t =	-4.490	-6.220	0.400	-3.830
P > (t) =	0.000	0.000	0.686	0.000
95% conf =	-50.704	-52.640	-13.887	-36.732
Interval =	-19.894	-27.417	21.090	-11.867
sigma_u =	28.214	23.121	17.912	17.063
sigma_e =	12.559	10.282	14.258	10.136
rho =	0.835	0.835	0.612	0.739
F test that all u_i=0: F(713, 7798) =	44.390	46.460	16.900	26.230

Table 6.6 Panel A - All G7 countries regression results for all models testing H1 to H4

Source: Made by the author

Panel A represented the full panel data set. It was used to test the first four hypotheses *H1 to H4*. The results are in Table 6.6. The following paragraphs provide explanations of results and their respective interpretations.

Hypothesis 1:

H1 There is a positive relationship between a firm's environmental performance and its country's economic growth.

There is a statistically significant (p = 0.000) strong negative relationship between the Environmental performance (EScore) and Annual GDP (GDPAnnual) (coefficient -35.299); this implies that a unit change in the Environmental performance (EScore) results in negative change of 35.299 units in Annual GDP of a country in which a firm is domiciled. Hence Hypothesis *H1* is rejected.

Hypothesis 2:

H2 There is a positive relationship between a firm's social performance and its country's economic growth.

There is a statistically significant (p = 0.000) strong negative relationship between the Social performance (SScore) and Annual GDP (GDPAnnual) (coefficient -40.028). This implies that a unit change in the Social performance (SScore) results in negative change of 40.028 units in Annual GDP of a country in which a firm is domiciled. Hence Hypothesis *H2* is rejected.

Hypothesis 3:

H3 There is a positive relationship between a firm's governance performance and its country's economic growth.

There is a statistically insignificant (p = 0.686) moderate positive relationship between the Governance performance (GScore) and Annual GDP (GDPAnnual) (coefficient 3.602); this implies that a unit change in the Governance performance (GScore) results in positive change of 3.602 units in Annual GDP of a country in which a firm is domiciled. Hence Hypothesis *H3* is accepted, though statistically insignificant with p = 0.686.

Hypothesis 4:

H4 There is a positive relationship between a firm's combined Environmental, Social, Governance (ESG) performance and its country's economic growth.

There is a statistically significant (p = 0.000) strong but negative relationship between the combined Environmental, Social, Governance (Combined ESGScore) performance and Annual GDP (GDPAnnual) (coefficient -24.300). This implies that a unit change in the combined ESGScore results in negative change of 24.300 units in Annual GDP of a country in which a firm is domiciled. Hence Hypothesis *H4* is rejected.

6.10.5 Comparison of Means for ESG and individual E, S and G performances between two GDP economic subgroups

Panel D comprised the subgroups' panel data for two subgroups of country classifications: high economic growth countries and low economic growth countries from the G7 countries in sample.

Year	Canada	France	Germany	Italy	Japan	UK	USA
2006	3.119	1.738	3.934	1.485	1.356	2.036	1.868
2007	5.836	1.793	3.114	0.976	1.537	1.636	0.912
2008	-0.080	-0.304	1.152	-1.616	-1.141	-1.063	-1.077
2009	-4.030	-3.372	-5.455	-5.712	-5.405	-4.969	-3.387
2010	1.950	1.447	4.340	1.401	4.173	1.153	1.718
2011	2.142	1.700	5.870	0.534	0.070	0.750	0.822
2012	0.663	-0.171	0.230	-3.242	1.657	0.776	1.509
2013	1.254	0.060	0.164	-2.972	2.148	1.458	1.145
2014	1.841	0.479	1.784	-0.918	0.508	1.855	1.783
2015	-0.089	0.754	0.617	0.875	1.330	1.548	2.159
2016	-0.136	0.829	1.408	1.466	0.638	1.149	0.912
2017	1.946	2.077	2.219	1.820	2.336	1.202	1.726
2018	0.597	1.639	0.964	1.136	0.527	0.729	2.391
2019	0.219	1.366	0.281	0.550	0.865	0.895	1.678
Mean	**1.088**	**0.717**	**1.473**	**-0.301**	**0.757**	**0.654**	**1.011**

Table 6.7 G7 Countries: Mean GDP per capita (annual %) (2006-2019)

Source: Made by the author

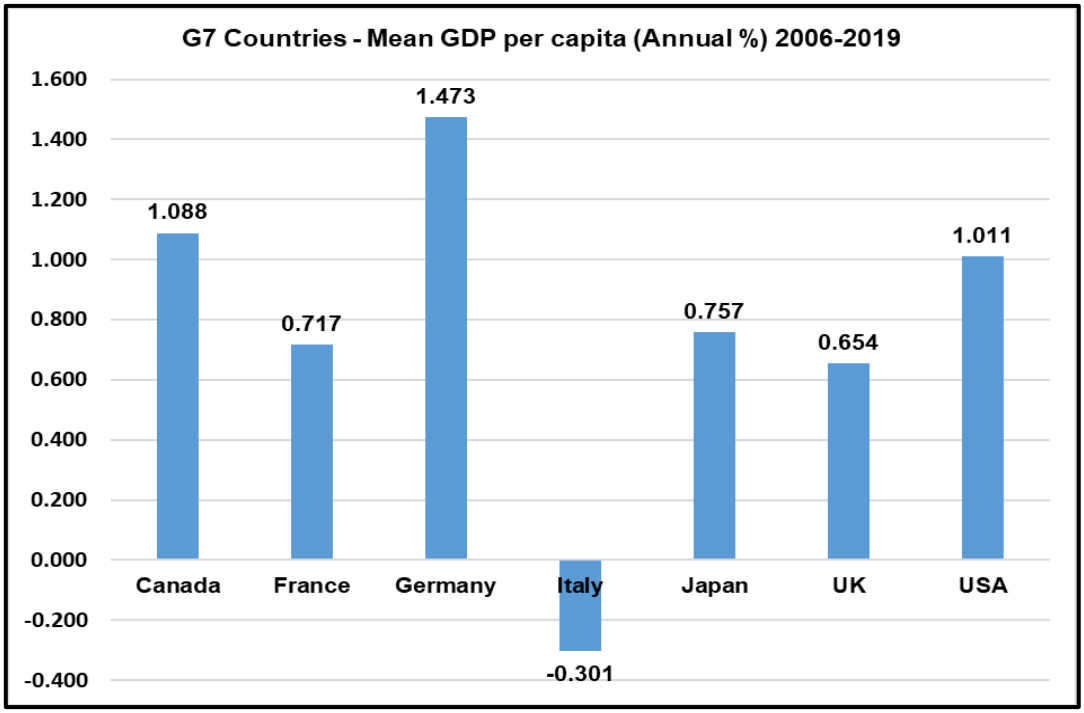

Figure 6.6 G7 Countries: Mean GDP per capita (annual %) (2006-2019)

Source: Made by the author

There was need to create the two groups of the level of economic growth. Hence, the mean GDP for each of the seven G7 countries was computed by summing up individual GDPs per capita (annual percentage) figures over the 14-year period. This sum was divided by the total the number of years. Table 6.7 and Figure 6.6 show the results of the mean GDP per capita (annual percent).

As an arbitrary cut-off threshold GDP per capita value, 0.8% was used to split the two groups. The countries a value above 0.8% s were classified as high economic growth countries denoted by "HighGDPCountries". Those with a value lower than 0.8% were denoted by "LowGDPCountries". With reference to Table 6.7 and Figure 6.6, this resulted decoding the countries into the two respectively as HighGDPCountries comprising Germany, Canada, and USA. LowGDPCountries were made up of Japan, France, UK, and Italy. Table 6.8 reveals the resultant firm-year observations after the decoding of the countries into the two groups: 5,096 firm year observations under HighGDPCountries and 4,900 under LowGDPCountries.

Economic era subgroups: Great Recession versus Post Recession	**No. of firms**	**Firm-year obs.**	**Percent**	**Cum Percent**
Great Recession Era (2006-2009)	204	2,856	29%	29%
Post Recession Era (2010-2019)	510	7,140	71%	100
Total	**714**	**9,996**	**100**	

Table 6.8 Firm-year observations for the decoded two GDP economic subgroups

Source: Made by the author

To test if the mean GDP per capita was higher for the group of HighGDPCountries than that of LowGDPCountries, the comparison of means test was ran using STATA. Results were as shown in Table 6.9. As confirmation and expected, the group for HighGDPCountries had a higher mean GDP per capita at coefficient 0.012 (1. 2%) than that for LowGDPCountries at coefficient 0.007 (0.7%).

To test *H5*, it was necessary to run tests of comparisons of means between the two groups for the combined ESG performance and its individual components namely: Environmental (E), Social (S) and Governance (G) performances. The test results are also shown in Table 6.9. These are interpreted henceforth.

Subgroups -Firms in High vs Low GDP Countries	GDP Annual	ESG Score	Escore	Sscore	Gscore
Total obs	9,996	9,399	9,399	9,399	9,877
High GDP countries					
Mean:	0.012	49.205	48.536	56.503	56.299
Std. err.	0.000	0.279	0.446	0.338	0.331
Std. dev.	0.020	18.791	30.023	22.746	22.291
95% conf.	0.011	48.657	47.662	55.840	55.649
Interval	0.012	49.752	49.411	57.165	56.948
Observations:	5,096	4,530	4,530	4,530	4,530
Low GDP countries					
Mean:	0.007	52.948	56.428	53.648	57.121
Std. err.	0.000	0.259	0.386	0.338	0.321
Std. dev.	0.019	18.086	26.953	23.551	22.412
95% conf.	0.006	52.440	55.671	52.987	56.491
Interval	0.007	53.456	57.185	54.310	57.750
Observations:	4,900	4,869	4,869	4,869	5,347
Mean diff:	0.005	-3.743	-7.892	2.854	-0.822

Table 6.9 Comparison of means for GDP, ESG and its individual components between firms in two GDP economic subgroups

Source: Made by the author

For Hypothesis 5:

H5: Firms in countries with higher economic growth exhibit higher ESG performance and its individual E, S and G components than those in countries with lower economic growth.

The firms in HighGDPCountries recorded a lower mean of ESG performance at coefficient 49.205 than those in LowGDPCountries at coefficient 52.948. Hence Hypothesis *H5* is rejected for the part of firms' ESG performance being higher in countries with higher economic growth than those in countries with lower economic growth. Notably, the observations in the two subgroups had almost a standard deviation at par of approximately 18.000.

For the Environmental (E) performance between the two GDP economic subgroups, firms in HighGDPCountries recorded a lower mean of Environmental (E) performance at coefficient 48.536 than those in LowGDPCountries at coefficient 56.428 (Table 6.9). Hence Hypothesis *H5* is rejected for the part of firms' Environmental (E) performance being higher in countries with higher economic growth than those in countries with lower economic growth.

For the Social (S) performance between the two GDP economic subgroups, firms in HighGDPCountries recorded a higher mean of Social (S) performance at coefficient 56.503 than those in LowGDPCountries at coefficient 53.648 (Table 6.9). Hence Hypothesis *H5* is accepted for the part of firms' Social (S) performance being higher in countries with higher economic growth than those in countries with lower economic growth.

For the Governance (G) performance between the two GDP economic subgroups, firms in HighGDPCountries recorded a slightly lower mean of Governance (G) performance at coefficient 56.299 than those in LowGDPCountries at coefficient 57.121 (Table 6.9). Notably, the difference is small, with less than a unit of the coefficient between the two. If going for precision and ignoring the small difference between the two groups, Hypothesis *H5* is rejected for the part of firms' Governance (G) performance being higher in countries with higher economic growth than those in countries with lower economic growth.

6.10.6 Comparison of Means for performances of GDP, ESG and its individual components performance between two economic eras

To examine the effect of two economic periods of interest, it was vital to split the duration of data into two, specifically the Great Recession (2006-2009) and Post Recession (2010-2019) eras. To examine differences in firms' ESG performance between the two eras, the comparison of means tests was used to test Hypothesis 6, using Panel E.

Economic era subgroups: Great Recession versus Post Recession	No. of firms	Firm-year obs.	Percent	Cum Percent
Great Recession Era (2006-2009)	204	2,856	29%	29%
Post Recession Era (2010-2019)	510	7,140	71%	100
Total	**714**	**9,996**	**100**	

Table 6.10 Firm-year observations for decoded two economic periods' subgroups.

Source: Made by the author

Table 6.10 shows the resultant firm-year observations after splitting the full data set into the two mentioned economic periods by year.

For any population and all things being equal, it is posited that the economic growth would be higher during an economic prosperity era, in this case, the Post Great Recession Era from 2010 to 2019. Hence, to compare the mean GDP per capita for the sample between the Great Recession Era from 2006 to 2009 and the Post Great Recession Era from 2010 to 2019, the comparison of means test using STATA yielded the results in Table 6.11. As expected, for the G7 countries where firms in sample were domiciled, the Post Great Recession Era from 2010 to 2019 revealed a higher mean GDP per capita at coefficient 0.014 (1.4%) than the Great Recession Era from 2006 to 2009 at coefficient 0.002 (0.2%).

To test *H6*, it was necessary to run tests for comparisons of means between the two economic era subgroups for the combined ESG performance and its individual components, namely: Environmental (E), Social (S) and Governance (G) performances. Hence, the test results are also shown in Table 6.11. These are interpreted henceforth.

For Hypothesis 6:

H6 Firms operating during an economic boom era achieve higher ESG performance and its individual E, S and G components than during an economic crisis era.

During the Great Recession Era from 2006 to 2009, firms in sample recorded a lower mean of the combined ESG performance at coefficient 43.983 than during the Post Great Recession Era from 2010 to 2019 at coefficient 53.778 (Table 6.11). These findings could be considered consistent with what is expected. Firms usually reduce ESG investments during financial crises; the last often coincide with economic crises eras. Hence, Hypothesis *H6* is accepted. During an economic boom era, firms in G7countries achieve a higher mean for ESG performance than during an economic crisis era. Notably, the observations for the two economic eras had almost a standard deviation at par of approximately 18.000.

Economic era subgroups: Great Recession versus Post Great Recession	GDP Annual	ESG Score	EScore	Sscore	Gscore
Total observations:	9,996	9,399	9,399	9,399	9,399
Great Recession Era (2006-2009)					
Mean:	-0.002	43.983	41.465	45.921	52.711
Std. err.	0.001	0.358	0.588	0.451	0.461
Std. dev.	0.029	18.004	29.561	22.687	23.176
95% conf.	-0.003	43.281	40.312	45.036	51.808
Interval	-0.001	44.686	42.618	46.805	53.615
Observations:	2,856	2,528	2,528	2,528	2,528
Post Great Recession Era (2010-2019)					
Mean:	0.014	53.778	56.730	58.373	58.201
Std. err.	0.000	0.217	0.330	0.271	0.264
Std. dev.	0.011	18.009	27.316	22.491	21.864
95% conf.	0.013	53.353	56.084	57.841	57.684
Interval	0.014	54.204	57.376	58.905	58.718
Observations:	7,140	6,871	6,871	6,871	6,871
Mean diff:	-0.015	-9.795	-15.265	-12.453	-5.489

Table 6.11 Comparison of means for GDP, ESG and its individual components between firms in two economic era subgroups

Source: Made by the author

During the Great Recession Era from 2006 to 2009, firms in G7 countries recorded a lower mean for the Environmental (E) performance at coefficient 41.465 than during the Post Great Recession Era from 2010 to 2019 at coefficient 56.730 (Table 6.11). Hence, Hypothesis *H5* is accepted. During an economic boom era, firms in G7 countries achieve a higher mean for the Environmental (E) performance than during an economic crisis era.

During the Great Recession Era from 2006 to 2009, firms in G7 countries recorded a lower mean for Social (S) performance at coefficient 45.921 than during the Post Great Recession Era from 2010 to 2019 at coefficient 58.373 (Table 6.11). Hence Hypothesis *H5* is accepted. During an economic boom era, firms in G7 countries achieve a higher mean for Social (S)

performance than during an economic crisis era. Notably, the observations for the two economic periods had almost a standard deviation at par of approximately 23.000. This appears odd, given the disparity between the durations of the two eras under review.

During the Great Recession Era from 2006 to 2009, firms in G7 countries recorded a lower mean of Governance (G) performance at coefficient 52.711 than during the Post Great Recession Era from 2010 to 2019 at coefficient 58.201 (Table 6.11). Hence, Hypothesis *H5* is accepted. Dring an economic prosperity or boom era, firms in G7 countries achieve higher Governance (G) performance than during an economic crisis era.

6.10.7 The controlling influence of a set of country-specific control variables on the ESG performance and economic growth link

To examine the controlling influence of a set of country-specific control variables, the comparison of means tests were run. The specific control variables employed were:

a) Level of Human Development using the Human Development Index (HDI)
b) Total Stock Market Size using Total Stock Market Value per GDP per capita (TSMVperGDPPC)
c) Total Natural Resources Rent using Total Natural Resources Rent per GDP per capita (TNRRperGDPPC)

6.10.7.1 The controlling influence of the Human Development Index (HDI) on the link between ESG performance with its individual components and Economic growth

The aim of this analysis was to examine Assumption A posited in the earlier Section 6.6.5 namely:

Assumption A

The higher the level of human development of a firm's country of location/origin, the stronger is the positive relationship between ESG performance, including its individual components and the country's economic growth.

Panel F comprised the subgroups' panel data of firms split in two subgroups of country classifications. These were high human developed countries and low human developed countries from the G7 sample. To create the two subgroups of the level of human development, the mean Human Development Index (HDI) for each of the seven G7 countries was computed. It entailed summing up individual HDI values (annual) figures over the 14-year period and then dividing the total by the number of years.

Year	Canada	France	Germany	Italy	Japan	UK	USA
2006	0.907	0.870	0.917	0.873	0.892	0.894	0.904
2007	0.908	0.873	0.921	0.877	0.895	0.897	0.906
2008	0.910	0.873	0.923	0.878	0.895	0.900	0.906
2009	0.909	0.872	0.923	0.878	0.896	0.906	0.908
2010	0.911	0.877	0.926	0.882	0.898	0.912	0.911
2011	0.915	0.881	0.931	0.885	0.899	0.908	0.913
2012	0.921	0.882	0.933	0.883	0.905	0.909	0.916
2013	0.923	0.887	0.934	0.882	0.910	0.922	0.917
2014	0.925	0.892	0.937	0.883	0.914	0.924	0.919
2015	0.926	0.892	0.938	0.882	0.918	0.924	0.920
2016	0.928	0.895	0.941	0.887	0.921	0.927	0.922
2017	0.931	0.898	0.944	0.888	0.922	0.930	0.924
2018	0.933	0.901	0.945	0.893	0.923	0.929	0.927
2019	0.937	0.905	0.948	0.897	0.924	0.935	0.930
Mean	**0.920**	**0.886**	**0.933**	**0.883**	**0.908**	**0.916**	**0.916**

Table 6.12 G7 Countries: Mean Human Development Index (HDI) (2006-2019)

Source: Made by the author

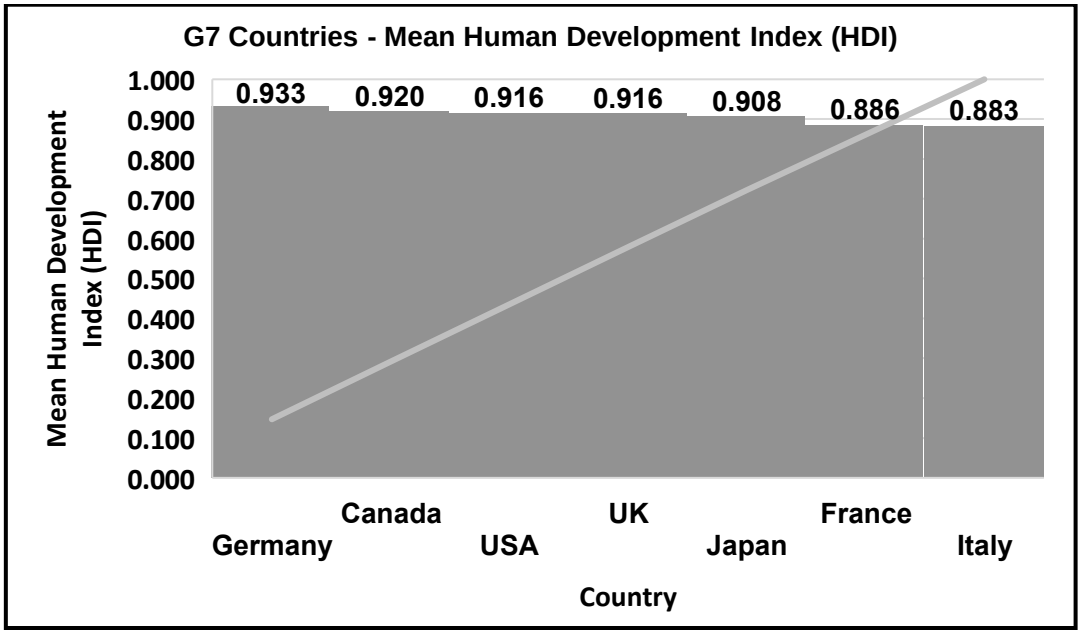

Figure 6.7 G7 Countries: Mean Human Development Index (HDI) (2006-2019)

Source: Made by the author

Table 6.12 and Figure 6.7 show the results of the mean HDI value for each country over the 14-year duration. As an arbitrary cut-off threshold HDI value, 0.908 was used to split firms in the two subgroups. The countries with the HDI value above 0.908 were classified as high human developed countries denoted by "HighHDICountries". Those with a value lower than 0.908 were denoted by "LowHDICountries." With reference to Table 6.12 and Figure 6.7, this resulted in decoding the countries into the two subgroups respectively as HighHDICountries comprising Germany, Canada, USA, and UK. The LowHDICountries were made up of Japan, France, and Italy. Table 6.13 shows the resultant firm-year observations after the decoding of the countries into the two groups: 6,804 firm-year observations under HighHDICountries and 3,192 under LowHDICountries.

Level of human development (HDI) subgroups: High HDI versus Low HDI countries	No. of firms	Firm-year obs.	Percent	Cum Percent
High HDI Countries	486	6,804	68%	68%
Low HDI Countries	228	3,192	32%	100
Total	**714**	**9,996**	**100**	

Table 6.13 Firm-year observations for the two decoded HDI subgroups

Source: Made by the author

To confirm if the mean GDP was higher for the HighHDICountries than LowHDICountries, the comparison of means test using STATA results confirmed so as shown in Table 6.14. The group of HighHDICountries had a higher mean GDP per capita at coefficient 0.010 (1.0%) than that of LowHDICountries at coefficient 0.007 (0.7%).

To examine the strength of relationships, regression tests were run. This aimed to compare between firms in the two HDI groups namely the HighHDICountries (Germany, Canada, USA, and UK) and LowHDICountries (Japan, France, and Italy). The controlling influence of the Human Development Index (HDI) on each of the dependent variables namely ESG, the individual components E, S, and G performances with that of the independent variable, Economic Growth (Annual GDP) was examined and compared between the two stated HDI groups. For results, refer to Table 6.15.

Level of human development (HDI) subgroups: High HDI versus Low HDI countries	GDP Annual	ESG Score	Escore	Sscore	Gscore
Total observations:	9,996	9,399	9,399	9,399	9,399
High HDI Countries					
Mean:	0.010	50.296	50.088	56.669	57.199
Std. err.	0.000	0.234	0.368	0.287	0.281
Std. dev.	0.019	18.433	29.072	22.621	22.146
95% conf.	0.010	49.838	49.366	56.107	56.649
Interval	0.011	50.753	50.810	57.231	57.749
Observations:	6,804	6,230	6,230	6,230	6,230
Low HDI Countries					
Mean:	0.007	52.812	57.610	51.790	55.792
Std. err.	0.000	0.330	0.487	0.426	0.404
Std. dev.	0.019	18.590	27.419	24.001	22.738
95% conf.	0.006	52.164	56.655	50.954	55.000
Interval	0.007	53.459	58.565	52.626	56.584
Observations:	3,192	3,169	3,169	3,169	3,169
Mean diff:	0.004	-2.516	-7.522	4.879	1.407

Table 6.14 Comparison of means for GDP per capita in the two HDI subgroups

Source: Made by the author

For firms in HighHDICountries, there was a statistically significant (p = 0.000) very strong positive relationship (coefficient 618.878) between the ESG performance (combined ESG) and level of human development (HDI). This implies that a unit change in the ESG performance (combined ESG) results in a positive change of 618.878 units in HDI as a control variable, with a concurrent negative change of 33.414 units in the economic growth, as independent variable (Annual GDP) of a country in which a firm is domiciled. For firms in LowHDICountries, there was a statistically significant (p = 0.000) very strong positive relationship (coefficient 493.795). However, it was lower compared to that for firms in HighHDICountries, between the ESG performance (combined ESG) and level of human development (HDI). This implies that a unit change in the ESG performance (combined ESG) results in a positive change of 493.795 units in HDI as a control variable, with a concurrent negative change of 34.866 units in the economic growth, as independent variable (Annual GDP) of a country in which a firm is domiciled. In conclusion, the controlling influence of HDI on the relationship between ESG performance and economic growth is stronger and more statistically significant for firms in HighHDICountries (coefficient 618.878, t = 44.850) than those in LowHDICountries (coefficient 493.795, t = 30.970).

Fixed-effects (within) regression results Group variable: FirmName								
Dependent:	**Combined ESGScore**		**EScore**		**SScore**		**GScore**	
HDI subgroup:	**High HDI countries**	**Low HDI countries**	**High HDI countries**	**Low HDI countries**	**High HDI countries**	**Low HDI countries**	**High HDI countries**	**Low HDI countries**
Number of obs =	6,230	3,169	6,230	3,169	6,230	3,169	6,230	3,169
Number of groups =	486	228	486	228	486	228	486	228
Control variable: HDI								
Coefficient =	618.878	493.795	861.092	689.433	736.780	721.643	459.852	143.037
Std. err. =	13.800	15.946	17.566	20.535	13.561	17.594	19.054	21.964
t =	44.850	30.970	49.020	33.570	54.330	41.020	24.130	6.510
P > (t) =	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Independent: GDPAnnual								
Coefficient =	-33.414	-34.866	-96.263	-59.706	-44.903	-52.918	-12.736	-2.262
Std. err. =	7.621	9.355	9.701	12.047	7.489	10.322	10.523	12.886
t =	-4.380	-3.730	-9.920	-4.960	-6.000	-5.130	-1.210	-0.180
P > (t) =	0.000	0.000	0.000	0.000	0.000	0.000	0.226	0.861

Table 6.15 HDI subgroups: Comparison of HDI's influence on Impact of ESG and its individual components' performances on Economic Growth

Source: Made by the author

For firms in HighHDICountries, there was a statistically significant (p = 0.000) very strong positive relationship (coefficient 861.092) between the Environmental performance (EScore) and level of human development (HDI) (Table 6.15). This implies that a unit change in the Environmental performance (EScore) results in a positive change of 861.092 units in HDI as a control variable, with a concurrent negative change of 96.263 units in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled. For firms in LowHDICountries, there was a statistically significant (p = 0.000) very strong positive relationship (coefficient 689.433). However, this was lower compared to that for firms in HighHDICountries, between the Environmental performance (EScore) and level of human development (HDI). This implies that a unit change in the Environmental performance (EScore) results in a positive change of 689.433 units in HDI as a control variable, with a concurrent negative change of 59.706 units in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled. In conclusion, the controlling influence of HDI on the relationship between Environmental performance and Economic Growth is stronger and more statistically significant for firms in HighHDICountries

(coefficient 861.092, t = 49.020) than those in LowHDICountries (coefficient 689.433, t = 33.570).

For firms in HighHDICountries, there was a statistically significant (p = 0.000) very strong positive relationship (coefficient 736.780) between the Social performance (SScore) and level of human development (HDI). This implies that a unit change in the Social performance (SScore) results in a positive change of 736.780 units in HDI as a control variable, with a concurrent negative change of 44.903 units in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled. For firms in LowHDICountries, there was a statistically significant (p = 0.000) very strong positive relationship (coefficient 721.643). Nevertheless, it was lower compared to that for firms in HighHDICountries, between the Social performance (SScore) and level of human development (HDI). This implies that a unit change in the Social performance (SScore) results in a positive change of 721.643 units in HDI as a control variable, with a concurrent negative change of 52.918 units in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled. In conclusion, the controlling influence of HDI on the relationship between Social performance and Economic Growth is stronger and more statistically significant for firms in HighHDICountries (coefficient 736.780, t = 54.330) than those in LowHDICountries (coefficient 721.643, t = 41.020).

For firms in HighHDICountries, there was a statistically significant (p = 0.000) strong positive relationship (coefficient 456.852) between the Governance performance (GScore) and level of human development (HDI). There was a concurrent negative change of 12.736 units (though statistically insignificant at p = 0.226) in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled. For firms in LowHDICountries, there was a statistically significant (p = 0.000) strong positive relationship (coefficient 143.037). Nonetheless, it was lower compared to that for firms in HighHDICountries, between the Governance performance (GScore) and level of human development (HDI). There was a concurrent weak negative change of 2.262 units in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled.

When the strengths of relationships were compared, the controlling influence of HDI on the relationship between Social performance and Economic Growth was stronger and more

statistically significant for firms in HighHDICountries (coefficient 456.852, t = 24.130) than those in LowHDICountries (coefficient 143.037, t = 6.510).

6.10.7.2 The controlling influence of the Total Natural Resources Rents (TNRR) on the link between ESG performance and its individual components and Economic growth

The aim of this analysis was to examine Assumption B posited in the earlier Section 6.6.5 namely:

Assumption B

The more natural resources-endowed a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth.

Panel G comprised the subgroups' panel data of firms split in two groups of country classifications. These were high natural resource-endowed countries and low natural resource-endowed countries from the G7 countries in sample over the 14-year duration. To create the two groups of the degree of natural resource endowment, the mean Natural Resources Rents Value for each of the seven G7 countries was computed. It entailed summing up individual Total Natural Resources Rents Value as percentages of Gross Domestic Product per capita (TNRRperGDPPC. Table 6.16 and Figure 6.8 show the results of the mean TNRRperGDPPC value for each country over the 14-year duration.

As an arbitrary cut-off threshold for Total Natural Resources Rents Value as percentages of Gross Domestic Product per capita (TNRRperGDPPC), 0.764 was used to split firms in the two subgroups. The countries with a value above 0.764 were classified as High Natural Resource endowed countries denoted by "High Natural Resources-Endowed Countries." This comprised Canada, USA, and UK. Those with a value lower than 0.764 were denoted by "Low Natural Resource Endowed Countries". The last comprised Germany, Italy, France, and Japan.

Year	Canada	France	Germany	Italy	Japan	UK	USA
2006	3.856	0.049	0.167	0.133	0.018	0.955	1.117
2007	3.632	0.049	0.171	0.126	0.022	0.893	1.042
2008	5.008	0.053	0.300	0.152	0.024	1.300	1.935
2009	2.025	0.050	0.160	0.099	0.020	0.870	0.776
2010	2.237	0.056	0.197	0.124	0.019	0.979	0.995
2011	2.969	0.053	0.227	0.172	0.021	1.146	1.327
2012	1.804	0.050	0.165	0.188	0.020	0.941	0.862
2013	1.916	0.049	0.123	0.168	0.023	0.759	0.807
2014	1.649	0.046	0.099	0.146	0.026	0.585	0.676
2015	0.336	0.041	0.076	0.084	0.028	0.328	0.235
2016	0.779	0.040	0.063	0.050	0.024	0.278	0.303
2017	1.232	0.037	0.069	0.070	0.037	0.420	0.442
2018	2.124	0.043	0.086	0.107	0.034	0.661	0.671
2019	1.987	0.034	0.094	0.090	0.092	0.580	0.575
Mean	2.254	0.046	0.143	0.122	0.029	0.764	0.840

Table 6.16 G7 Countries: Mean TNRRperGDPPC (annual) (2006-2019)

Source: Made by the author

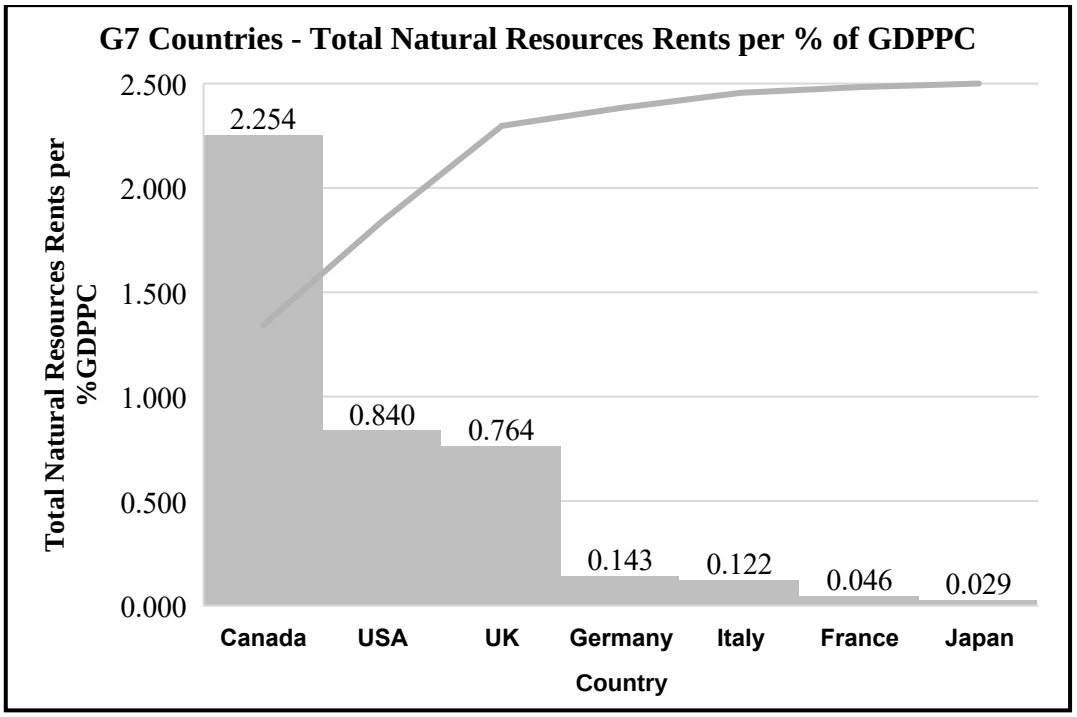

Figure 6.8 G7 Countries: Mean TNRRperGDPPC (annual) (2006-2019)

Source: Made by the author

Level of Total Natural Resources Rent Endowment subgroups: High versus Low countries	No. of firms	Firm-year obs.	Percent	Cum Percent
High Natural Resources-Endowed Countries	386	5,404	54%	54%
Low Natural Resources-Endowed Countries	328	4,592	46%	100
Total	**714**	**9,996**	**100**	

Table 6.17 Firm-year observations for the two decoded TNRR subgroups

Source: Made by the author

Table 6.17 shows the resultant firm-year observations after the decoding of the countries into the two groups: 5,404 firm-year observations under High Natural Resources-Endowed Countries and 4,592 under Low Natural Resources-Endowed Countries.

To test if the mean GDP was higher for the High Natural Resources-Endowed Countries, the comparison of means test using STATA results were revealed in Table 6.18. There was hardly any difference between the two. The two subgroups: firms in High Natural Resources-Endowed Countries and those in Low Natural Resources-Endowed Countries had almost the same mean at coefficient 0.009 (0.9%).

Comparisons were made of the correlations between the control variable, Total Natural Resources Rent as percentage of Gross Domestic Product per capita (TNRRperGDPPC), between the two groups: High Natural Resources-Endowed Countries (Canada, USA, and UK) and Low Natural Resources-Endowed Countries (Germany, Italy, France, and Japan). For results, refer to Table 6.18.

Level of Total Natural Resources Rent Endowment subgroups: High versus Low countries			
	GDP Annual		
	High NRR Group	**Low NRR Group**	**Diff.**
Mean:	0.009	0.009	0.000
Std. err.	0.000	0.000	0.000
Std. dev.	0.017	0.022	0.005
95% conf.	0.009	0.009	0.000
Interval	0.010	0.010	0.000
Observations:	5,404	4,592	

Table 6.18 Comparison of means for GDP per capita between the two TNRR subgroups
Source: Made by the author

To examine the strength of relationships, regression tests were run. This aimed to compare between firms in the two Natural Resources Endowed Rent groups namely the High Natural Resources-Endowed Countries (Canada, USA, and UK) and Low Natural Resources-Endowed Countries (Germany, Italy, France, and Japan). The controlling influence of the Total Natural Resources Rent as percentage of Gross Domestic Product per capita (TNRRperGDPPC) on each of the dependent variables namely ESG, the individual components E, S, and G performances with that of the independent variable, Economic Growth (Annual GDP) was examined and compared between the two stated Natural Resources Endowed groups. For results, refer to Table 6.19.

For firms in High Natural Resources-Endowed Countries, there was a statistically significant ($p = 0.000$) negative moderate relationship (coefficient -5.859) between the ESG performance (combined ESG) and degree of Natural Resources Rent endowed as measured by TNRRperGDPPC. This implies that a unit change in the ESG performance (combined ESG) results in a negative change of 5.859 units in TNRRperGDPPC as a control variable, but with a concurrent positive change of 54.721 units in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled. For firms in Low Natural Resources-Endowed Countries, there was a statistically significant ($p = 0.000$) negative more moderate relationship (coefficient -34.433), more negative compared to that for High Natural Resources-Endowed Countries, between the ESG performance (combined ESG) and degree of Natural Resources Rent endowed as measured by TNRRperGDPPC. This implies that a unit change in the ESG performance (combined ESG) results in a negative change of 34.433 units in TNRRperGDPPC as a control variable, with a concurrent lesser positive change of 10.439 units, compared to that in High Natural Resources-Endowed Countries, in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled. In conclusion, the controlling influence of degree of Natural Resources Rent endowed as measured by TNRRperGDPPC on the relationship between ESG performance and Economic Growth is less negative but more statistically significant for firms in High Natural Resources-Endowed Countries (coefficient -5.858, $t = -23.340$) than those in LowHDICountries (coefficient -34.433, $t = -6.320$). However, the influence of TNRRperGDPPC on Economic Growth was statistically insignificant for firms in Low Natural Resources-Endowed Countries ($t = 1.160$) compared with those in High Natural Resources-Endowed Countries ($t = 5.750$), the latter being statistically significant.

Fixed-effects (within) regression results Group variable: FirmName					NB: NRR = Natural Resources Rent			
Dependent:	**Combined ESGScore**		**EScore**		**SScore**		**GScore**	
NRR subgroup:	**High NRR countries**	**Low NRR countries**	**High NRR countries**	**Low NRR countries**	**High NRR countries**	**Low NRR countries**	**High NRR countries**	**Low NRR countries**
Number of obs =	5,286	4,113	5,286	4,113	5,286	4,113	5,286	4,113
Number of groups =	386	328	386	328	386	328	386	328
Control variable: TNRRperGDPPC								
Coefficient =	-5.859	-34.433	-8.890	-24.337	-6.151	-55.291	-3.845	-35.902
Std. err. =	0.251	5.457	0.329	6.982	0.255	6.451	0.331	6.466
t =	-23.340	-6.310	-27.000	-3.490	-24.100	-8.570	-11.600	-5.550
P > (t) =	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Independent: GDPAnnual								
Coefficient =	54.721	10.439	10.513	1.697	50.820	27.228	51.445	8.351
Std. err. =	9.514	8.973	12.478	11.481	9.673	10.608	12.563	10.633
t =	5.750	1.160	0.840	0.150	5.250	2.570	4.100	0.790
P > (t) =	0.000	0.245	0.400	0.883	0.000	0.010	0.000	0.432

Table 6.19 TNRR subgroups: Comparison of TNRR's influence on Impact of ESG and its individual components' performances on Economic Growth

Source: Made by the author

For firms in High Natural Resources-Endowed Countries, there was a statistically significant (p = 0.000) moderate negative relationship (coefficient -8.890) between the Environmental performance (EScore) and the degree of Total Natural Resources Rents as percentage of GDPPC (TNRRperGDPPC). This implies that a unit change in the Environmental performance (EScore) results in a negative change of 8.890 units in TNRRperGDPPC as a control variable, with a concurrent but positive change of 10.513 units in the Economic Growth, as independent variable (Annual GDP) of a country, though statistically insignificant (p = 0.400. For firms in Low Natural Resources-Endowed Countries, there was a statistically significant (p = 0.000) more moderate negative relationship (coefficient -24.337), more negative compared to that for the group of High Natural Resources-Endowed Countries, between the Environmental performance (EScore) and the degree of the Total Natural Resources Rents as percentage of GDPPC (TNRRperGDPPC). This implies that a unit change in the Environmental performance (EScore) results in a negative change of 24.337 units in TNRRperGDPPC as a control variable, with a concurrent but positive change of 1.697 units in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled.

To conclude, the controlling influence of TNRRperGDPPC on the relationship between Environmental performance and Economic Growth is more moderately stronger negatively for firms in Low Natural Resources-Endowed Countries (coefficient -24.337, p = 0.000) than those in High Natural Resources-Endowed Countries (coefficient -8.890, p = 0.000). In contrast, this relationship is more negatively statistically significant for firms in High Natural Resources-Endowed Countries (t = -27.000) than those in Low Natural Resources-Endowed Countries (t = -3.490).

For firms in High Natural Resources-Endowed Countries, there was a statistically significant (p = 0.000) moderate negative relationship (coefficient -6.151) between the Social performance (SScore) and the degree of Total Natural Resources Rents as percentage of GDPPC (TNRRperGDPPC). This implies that a unit change in the Social performance (SScore) results in a negative change of 6.151 units in TNRRperGDPPC as a control variable, with a concurrent but positive change of 50.820 units in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled. For firms in Low Natural Resources-Endowed Countries, there was a statistically significant (p = 0.000) more moderate negative relationship (coefficient -55.291), more negative compared to that for High Natural Resources-Endowed Countries, between the Social performance (SScore) and the degree of the Total Natural Resources Rents as percentage of GDPPC (TNRRperGDPPC). This implies that a unit change in the Social performance (SScore) results in a negative change of 55.291 units in TNRRperGDPPC as a control variable, with a concurrent but positive change of 1.697 units in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled.

To conclude, the controlling influence of TNRRperGDPPC on the relationship between Social performance and Economic Growth is more moderately stronger negatively for firms in Low Natural Resources-Endowed Countries (coefficient -55.291, p = 0.000) than those in High Natural Resources-Endowed Countries (coefficient -6.151, p = 0.000). In contrast and like the case of the relationship with the Environmental performance, the relationship under study is more negatively statistically significant for firms in High Natural Resources-Endowed Countries (t = -24.100) than those in Low Natural Resources-Endowed Countries (t = -8.570).

For firms in High Natural Resources-Endowed Countries, there was a statistically significant (p = 0.000) moderate negative relationship (coefficient -3.845) between the Governance performance (GScore) and the degree of Total Natural Resources Rents as percentage of GDP per capita (TNRRperGDPPC). This implies that a unit change in the Governance performance (GScore) results in a negative change of 3.845 units in TNRRperGDPPC as a control variable, with a concurrent but positive change of 51.445 units in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled. For firms in Low Natural Resources-Endowed Countries, there was a statistically significant (p = 0.000) more moderate negative relationship (coefficient -35.902), more negative compared to that for High Natural Resources-Endowed Countries, between the Governance performance (GScore) and the degree of the Total Natural Resources Rents as percentage of GDP per capita (TNRRperGDPPC). This implies that a unit change in the Governance performance (GScore) results in a negative change of 35.902 units in TNRRperGDPPC as a control variable, with a concurrent but positive change of 8.351 units in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled.

In conclusion, the controlling influence of TNRRperGDPPC on the relationship between Governance performance and Economic Growth is more moderately stronger negatively for firms in Low Natural Resources-Endowed Countries (coefficient -35.902, p = 0.000) than those in High Natural Resources-Endowed Countries (coefficient -3.845, p = 0.000). In contrast and like the case of the relationship with the Environmental and Social performances, the relationship under study is more negatively statistically significant for firms in High Natural Resources-Endowed Countries (t = -11.600) than those in Low Natural Resources-Endowed Countries (t = -5.550).

6.10.7.3 The controlling influence of the Stock Market Size on the link between ESG performance with its individual components and Economic growth

The aim of this analysis was to examine Assumption C posited in the earlier Section 6.6.5 namely:

Assumption C

The larger the size of the stock market of a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth.

Panel H comprised the subgroups' panel data of firms split in two groups of country classifications. These were large stock market-sized countries and small stock market-sized countries from the G7 sample. To create the two groups of the stock market sizes, the mean stock market size for each of the seven G7 countries was computed. It involved summing up the individual Total Stock Market Values as percentage of Gross Domestic Product per capita (TSMVperGDPPC) using annual figures over the 14-year period and then dividing the total by the number of years. To note, France, Italy, and UK did not have annual data for all the 14-year duration. Hence, the total found was divided by the applicable number of years covered instead. For example, Italy had only 9 years of data and thus the total was divided by 9 years, instead of 14 years.

Table 6.20 and Figure 6.9 show the results of the mean TSMVperGDPPC value for each country over the active and applicable duration of observations up to 14-year period. As an arbitrary cut-off threshold Stock Market Value as percentages of Gross Domestic Product per capita (TSMVperGDPPC), 85.000 was used to split firms in the two subgroups. The countries with the value above 85 were classified as high total stock market value countries. These were denoted as "LargeMarketSizeCountries" comprising USA, Canada, UK, and Japan. Those with a value lower than 85.000 were categorised as "SmallMarketSizeCountries" made up of France, Germany, and Italy.

Year	Canada	France	Germany	Italy	Japan	UK	USA
2006	128.913	104.642	54.684	52.653	100.270	139.171	141.644
2007	148.864	102.997	61.455	48.463	94.567	123.832	137.640
2008	66.559	50.248	29.653	21.675	61.014	63.567	78.473
2009	122.028	72.057	37.885	29.812	62.503	115.279	104.139
2010	134.245	72.264	42.055	25.048	66.465	107.859	114.848
2011	106.666	54.236	31.592	18.801	53.350	109.621	100.263
2012	112.667	67.377	42.139	23.088	55.463	121.054	114.854
2013	114.471	81.834	51.853	28.734	87.162	140.795	142.698
2014	116.042	73.036	44.703	27.165	89.402	115.669	150.026
2015	102.370	85.615	51.102	..	110.124	..	137.688
2016	130.467	87.306	49.456	..	99.033	..	146.307
2017	143.522	105.940	61.293	..	126.202	..	164.894
2018	112.321	84.772	44.130	..	105.141	..	148.273
2019	138.294	..	53.961	..	120.841	..	158.572
Mean	**119.816**	**80.179**	**46.854**	**30.604**	**87.967**	**115.205**	**131.451**

Table 6.20 G7 Countries: Mean TSMVperGDPPC (Annual) (2006-2019)
Source: Made by the author

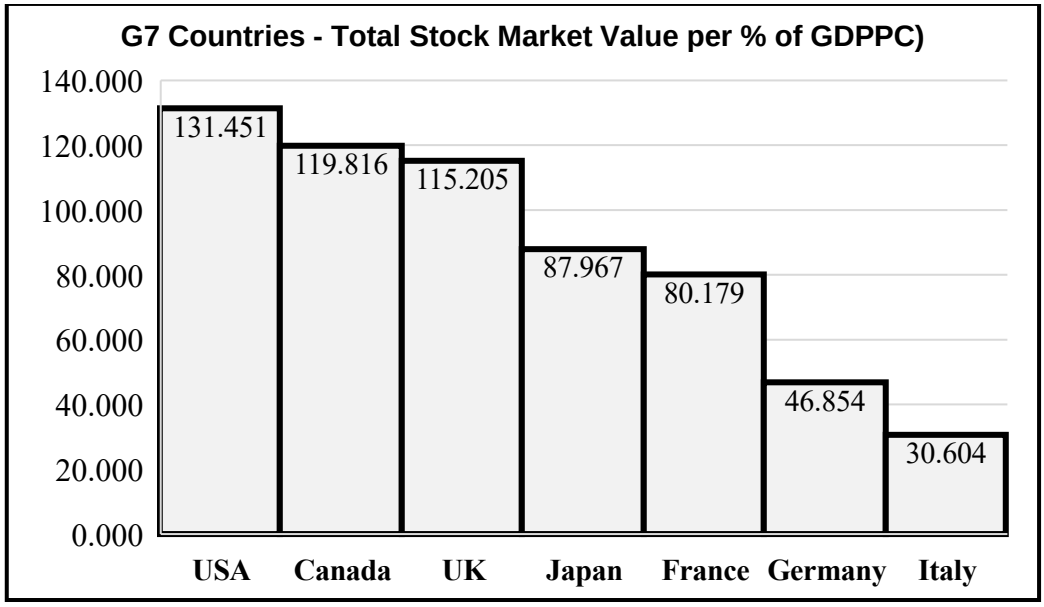

Figure 6.9 G7 Countries: Mean TSMVperGDPPC (annual) (2006-2019)

Source: Made by the author

Table 6.21 shows the resultant firm-year observations after the decoding of the countries into the two subgroups: 7,518 firm-year observations under LargeMarketSizeCountries and 2,478 under SmallMarketSizeCountries.

Size of Total Stock Market Value (TSMV) subgroups: Large versus Small countries	No. of firms	Firm-year obs.	Percent	Cum Percent
LargeMarketSizeCountries	537	7,518	75%	75%
SmallMarketSizeCountries	177	2,478	25%	100
Total	**714**	**9,996**	**100**	

Table 6.21 Firm-year observations for the two decoded Stock Market Size subgroups
Source: Made by the author

To test if the mean GDP per capita was higher for the group of LargeMarketSizeCountries than that for SmallMarketSizeCountries, the comparison of means test using STATA results are as in Table 6.22. Contrary to the expected, the group for SmallMarketSizeCountries had a higher mean GDP per capita at coefficient 0.011 (1.1%) than that for LargeMarketSizeCountries at coefficient 0.009 (0.9%).

Size of Total Stock Market Value (TSMV) subgroups: Large versus Small countries			
	GDP Annual		
	Large TSMV	Small TSMV	Diff.
Mean:	0.009	0.011	0.002
Std. err.	0.000	0.000	0.000
Std. dev.	0.018	0.022	0.004
95% conf.	0.008	0.010	0.001
Interval	0.009	0.011	0.002
Observations:	7,518	2,478	

Table 6.22 Comparison of means for GDP per capita between the two Stock Market Size subgroups
Source: Made by the author

To examine the strength of relationships, regression tests were run. This aimed to compare between firms in the two stock market size groups namely the LargeMarketSizeCountries (USA, Canada, UK, and Japan) and SmallMarketSizeCountries (France, Germany, Italy). The controlling influence of the Total Stock Market Value as percentage of Gross Domestic Product per capita (TSMVperGDPPC) on each of the dependent variables namely ESG, the individual components E, S, and G performances with that of the independent variable, Economic Growth (Annual GDP) was examined and compared between the two stated stock market size groups. For results, refer to Table 6.23.

For firms in LargeMarketSizeCountries, there was a statistically significant (p = 0.000) but very weak positive relationship (coefficient 0.115) between the ESG performance (combined ESG) and the total stock market value as measured by TSMVperGDPPC. This implies that a unit change in the ESG performance (combined ESG) results in a positive change of 0.115 units in TSMVperGDPPC as a control variable, but with a concurrent negative change of 23.539 units in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled. For firms in SmallMarketSizeCountries, there was a statistically significant (p = 0.000) even weaker positive relationship (coefficient 0.065), when compared to those in SmallMarketSizeCountries, between the ESG performance (combined ESG) and total stock market value as measured by TSMVperGDPPC. This implies that a unit change in the ESG performance (combined ESG) results in a positive change of 0.065 units in TSMVperGDPPC as a control variable, but with a concurrent relatively stronger negative change of 46.309 units, compared to firms in LargeMarketSizeCountries, in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled.

In conclusion, the controlling influence of the size of total stock market as measured by TSMVperGDPPC on the relationship between ESG performance and Economic Growth is a very weak positive one in both subgroups. However, it is higher for firms in LargeMarketSizeCountries. Further, the latter group also displayed a more statistically significant relationship with t = 17.550 compared to that for SmallMarketSizeCountries with t = 2.840.

For firms in LargeMarketSizeCountries, there was a statistically significant (p = 0.000) but very weak positive relationship (coefficient 0.125) between the Environmental performance (EScore) and the total stock market value as measured by TSMVperGDPPC. This implies that a unit change in the Environmental performance (EScore) results in a positive change of 0.125 units in TSMVperGDPPC as a control variable, but with a concurrent negative change of 46.369 units in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled. For firms in SmallMarketSizeCountries, there was a statistically significant (p = 0.000) but a weaker negative relationship (coefficient -0.061), when compared to those in SmallMarketSizeCountries, between the Environmental performance (EScore) and total stock market value as measured by TSMVperGDPPC. This implies that a unit change in the Environmental performance (EScore) results in a negative change of 0.061 units in

TSMVperGDPPC as a control variable, and the concurrent relatively stronger negative change of 70.907 units, compared to firms in LargeMarketSizeCountries, in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled.

Fixed-effects (within) regression results **NB: SMV = Stock Market Value** **Group variable: FirmName**								
Dependent:	**Combined ESGScore**		**EScore**		**SScore**		**GScore**	
SMV subgroup:	**Large SMV countries**	**Small SMV countries**	**Large SMV countries**	**Small SMV countries**	**Large SMV countries**	**Small SMV countries**	**Large SMV countries**	**Small SMV countries**
Number of obs =	6,786	1,866	6,786	1,866	6,786	1,866	6,786	1,866
Number of groups =	537	177	537	177	537	177	537	177
Control variable: TSMVperGDPPC								
Coefficient =	0.115	0.065	0.125	-0.061	0.147	0.119	0.047	0.031
Std. err. =	0.007	0.023	0.009	0.027	0.007	0.026	0.009	0.025
t =	17.550	2.840	13.560	-2.240	21.030	4.590	5.500	1.250
P > (t) =	0.000	0.005	0.000	0.025	0.000	0.000	0.000	0.212
Independent: GDPAnnual								
Coefficient =	-23.539	-46.309	-46.369	-70.907	-44.392	-31.585	1.231	-18.242
Std. err. =	8.043	14.996	11.264	17.807	8.553	16.986	10.567	16.444
t =	-2.930	-3.090	-4.120	-3.980	-5.190	-1.860	0.120	-1.110
P > (t) =	0.003	0.002	0.000	0.000	0.000	0.063	0.907	0.267

Table 6.23 Market Size subgroups: Comparison of TSMVperGDPPC's influence on Impact of ESG and its individual components' performances on Economic Growth

Source: Made by the author

In conclusion, the controlling influence of the size of total stock market as measured by TSMVperGDPPC on the relationship between Environmental performance and Economic Growth is a very weak one. This is positive for firms in LargeMarketSizeCountries (coefficient 0.125, p = 0.000) and negative for those in SmallMarketSizeCountries (coefficient -0.061, p = 0.000). Further, firms in LargeMarketSizeCountries display a more statistically significant relationship with t = 13.560 compared to those in SmallMarketSizeCountries with t = -2.240.

For firms in LargeMarketSizeCountries, there was a statistically significant (p = 0.000) but very weak positive relationship (coefficient +0.147) between the Social performance (SScore) and the total stock market value as measured by TSMVperGDPPC. This implies that a unit change in the Social performance (SScore) results in a positive change of 0.147 units in TSMVperGDPPC as a control variable, but with a concurrent negative change of 44.392 units in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm

is domiciled. For firms in SmallMarketSizeCountries, there was a statistically significant (p = 0.000) weaker positive relationship (coefficient +0.119), when compared to those in SmallMarketSizeCountries, between the Social performance (SScore) and total stock market value as measured by TSMVperGDPPC. This implies that a unit change in the Social performance (SScore) results in a positive change of 0.119 units in TSMVperGDPPC as a control variable, and the concurrent relatively weaker negative change of 31.585 units, compared to that for the group of LargeMarketSizeCountries, in the Economic Growth, as independent variable (Annual GDP) of a country in which a firm is domiciled.

In conclusion, the controlling influence of the size of total stock market as measured by TSMVperGDPPC on the relationship between Social performance and Economic Growth is a very weak positive one. It is slightly stronger for firms in LargeMarketSizeCountries (coefficient +0.147, t = 21.030) than for those in SmallMarketSizeCountries (coefficient +0.119, t = 4.590). Further, firms in LargeMarketSizeCountries displayed a more statistically significant relationship going by the t-values indicated herein.

For firms in LargeMarketSizeCountries, there was a statistically significant (p = 0.000) but extremely weak positive relationship (coefficient +0.047) between the Governance performance (GScore) and the total stock market value as measured by TSMVperGDPPC. This implies that a unit change in the Governance performance (GScore) results in a positive change of 0.047 units in TSMVperGDPPC as a control variable, and a concurrent positive change of 1.231 units in the Economic Growth (but statistically insignificant with p = 0.907), as independent variable (Annual GDP) of a country in which a firm is domiciled. For firms in SmallMarketSizeCountries, there was a statistically insignificant (p = 0.212) extremely weaker positive relationship (coefficient +0.031), when compared to those in SmallMarketSizeCountries, between the Governance performance (GScore) and total stock market value as measured by TSMVperGDPPC. This implies that a unit change in the Governance performance (GScore) results in a positive change of 0.031 units in TSMVperGDPPC as a control variable, and the concurrent negative change of 18.2424 units in the Economic Growth (statistically insignificant with p = 0.212), as independent variable (Annual GDP) of a country in which a firm is domiciled.

In conclusion, the controlling influence of the size of total stock market value as measured by TSMVperGDPPC on the relationship between Governance performance and Economic Growth is an extremely weak positive one. It is slightly stronger for firms in LargeMarketSizeCountries (coefficient +0.047, t = 5.500) than for those in SmallMarketSizeCountries (coefficient +0.031, t = 1.250). Further, firms in LargeMarketSizeCountries displayed a statistically significant relationship while those in SmallMarketSizeCountries was not, as evidenced by the t-values and p-values.

Summary

This ended subchapter analysed the data to examine hypotheses concerning the relationship between ESG (Environmental, Social, and Governance) performance and economic growth, using panel data and various country-specific control variables.

Hypotheses Testing:

H1 & H2: Environmental and Social performance were hypothesized to positively impact economic growth, but findings showed statistically significant negative relationships. Both hypotheses were thus rejected.

H3: Governance performance was hypothesized to have a positive impact on economic growth. The study found a weak positive, though statistically insignificant, relationship, accepting H3 but with limited statistical support.

H4: The combined ESG score was hypothesized to positively correlate with economic growth, but the data revealed a significant negative association, leading to the rejection of H4.

Comparison of ESG Performance Across Economic Growth Groups:

The data divided G7 countries into high and low economic growth groups. Firms in lower-growth countries had higher average ESG scores, indicating that economic growth level may

inversely affect ESG investment levels. Notably, only Social performance was higher in high-growth countries, whereas Environmental and Governance scores were lower.

Impact of Economic Eras:

ESG investments were lower during the Great Recession (2006-2009) and increased in the post-recession era (2010-2019), supporting the hypothesis that firms invest more in ESG during economic expansions.

Country-Specific Control Variables:

Human Development Index (HDI): A positive correlation was found between HDI and ESG performance, especially in countries with high HDI levels. Higher HDI strengthens the positive relationship between ESG performance and economic growth.

Natural Resources Rent: Contrary to initial assumptions, countries with higher natural resources endowments showed a negative correlation between ESG performance and economic growth, suggesting that resource wealth might discourage ESG investment.

Stock Market Size: Larger stock markets exhibited a weak positive correlation between ESG performance and economic growth, although the effect was statistically weak.

In summary, the study finds that while Social performance may align more positively with economic growth, Environmental and combined ESG efforts may not inherently boost economic outcomes. Country-specific factors, particularly HDI and market size, influence the ESG-economic growth relationship. These findings suggest nuanced relationships rather than universally positive impacts of ESG on economic growth.

6.11 Findings and Discussion

This section aims to examine the outcomes of the research and compare them with the past findings to assess if any fresh perspectives have been revealed. For the arrangement of this section, the findings to gauge the three research objectives set at the start are specified and located to the body of knowledge. The findings are labelled as additional or new contributions. Further, discussions of the generalisability of findings to other populations are covered. Finally, the key themes of this section are summarised.

The first objective of this study was to examine the link between a firm's individual corporate social responsibility (CSR) components namely Environmental, Social and Governance (E, S, & G) and its country's economic growth.

Firstly, it was initially hypothesised that there is a positive relationship between each of a firm's environmental and social performance versus the economic growth of that firm's country of origin. Yet, this study found a statistically significant negative relationship for each of the two CSR components with economic growth of the country where a firm is located. The finding pertaining to the environment component of CSR is consistent with by Naomi & Akbar (2021). Though the latter deduced this by the Pearson correlation and path analysis methods, this study did so by both the Pearson correlation and fixed effects regression method.

Secondly, as initially hypothesised, this study uncovered a positive but statistically insignificant relationship between a firm's governance performance and the economic growth of the country where the firm is located. This is consistent with the earlier finding by Naomi & Akbar (2021). The latter's findings could be considered more reliable and valid. This is so due to use of a longer 18-year duration compared to this G7 firms' study with 14 years of panel data. Further, Naomi & Akbar (2021) used a sample from 37 Organization for Economic Cooperation and Development (OECD) countries versus only the 7 as in the G7 countries for this study. When this study's findings on all the three components were compared with that by Zhou et al. (2020), all were opposite to what this study found. These differences in findings can be attributed to the research designs of the panel data sets used: Zhou et al. (2020) used 450 country year observations using 30 countries while this study used 9,996 firm year observations using 7 countries.

Thirdly, when the combined ESG score was regressed with economic growth, this study found a statistically significant and strong negative relationship between the combined environmental, social & governance (ESG) performance and economic growth. Comparisons of this with those from past studies was difficult. The few who included the combined ESG scores operationalised it using commonly verified ones, besides the inconsistent sources of data used.

Overall, the variations in research designs, sample sizes and geographical spread could partially explain the difference in results in this area. More studies are required to secure a consensus, preferably verified by a metanalytic review. Unfortunately, no such review has been conducted yet.

Though initially not an objective, firms in high GDP countries (Germany, Canada, and USA) were compared with those in low GDP countries (Japan, France, UK, and Italy), all representing the G7 countries. Contrary to the hypothesised and public opinion, this study established that firms in HighGDPCountries recorded a lower mean of combined ESG performance those in LowGDPCountries. This may indicate that economic growth level may inversely affect ESG investment levels. Firms in HighGDPCountries recorded a lower mean of Environmental (E) performance and Governance (G) performance than those in LowGDPCountries. Nonetheless, the difference in the Governance (G) performance was small between firms in the two GDP subgroups. This study found that firms in HighGDPCountries recorded a higher mean of Social (S) performance than those in LowGDPCountries.

The second objective of this study was to investigate the differences between the firms' combined Environmental, Social and Governance (ESG) performance between the periods of economic expansion and economic crisis eras.

This study found that firms invested more in ESG/CSR activities during the Post Great Recession Era from 2010 to 2019, implying a higher ESG/CSR performance than during the economic crisis of the Great Recession Era from 2006 to 2009. This finding is consistent with that by Bhattacharya et al. (2020). The scholars attested to the inclination for firms with brand names to cut back on CSR related investments as this is often assumed to be discretionary. However, findings of this G7 firm's study contradict those by I. Gallego-Álvarez et al. (2014),

seen to be the most comparable. The scholars used similar economic eras with this G7 firm's study. I. Gallego-Álvarez et al. (2014) observed that during an economic crisis, firms instead increase their ESG/CSR investments. The scholars ascribed this to the mounting pressure to address environmental factors during such periods. Increasing ESG/CSR investments during crisis period is expected to enhance relationships and trust with key stakeholders. Few recent studies have been done in this area. However, they are less comparable and relate to the economic downturn created by the Covid19 of 2020-21 (Bae et al., 2021; Broadstock et al., 2021; J. Lu et al., 2022). The research designs used from the perspective of variable operationalisations and the very short duration of the post Covid19 era used make them less comparable to this G7 firm's study. In summary, there are limited studies to compare findings with. Signs of reaching consensus remain remote. More future studies are recommended to garner more empirical evidence and hopefully help give direction in this area.

The third objective of this study was to compare the controlling influences of a country's human development level, stock market size and natural resource endowment on the link between firms' ESG performance and economic growth. Additionally, the findings on this objective were the key contribution to this area of research . They were novel and thus an addition to new knowledge.

Level of human development

The controlling influence of the level of human development of a firms' country of domicile was analysed using the World Bank's human development index (HDI). Based on correlations, this study revealed that Social (S) performance was the strongest positively correlated for firms in HighHDICountries (Germany, Canada, USA, and UK). In contrast, it was the Governance (G) performance as the strongest for those in LowHDICountries (Japan, France, and Italy). Notably, the Social (S) performance was negatively correlated with HDI for firms in LowHDICountries.

This study established a statistically significant positive influence of the HDI on the relationship between the combined ESG performance and economic growth. Furthermore, the HDI controlling influence was stronger and more statistically significant for firms in HighHDICountries than those in LowHDICountries.

The individual components of the ESG performance were compared between firms in the two HDI subgroups. This study found a statistically significant and stronger positive influence of the human development index (HDI) on the relationship between the component Environmental (E) performance and economic growth. This was stronger than that between the combined ESG performance and economic growth. Also, the HDI controlling influence on the relationship between Environmental (E) performance and economic growth was much stronger and more statistically significant for firms in HighHDICountries than those in LowHDICountries. Similarly, the findings were true for both two remaining individual components of Social (S) and Governance (G) performances.

In summary, this study empirically verified the initial assumption as true. The higher the level of human development of a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth. All the findings submitted above could be generalisable to public listed firms located in the G7 countries. At the time of this G7 firm's study, no relevant studies were available in this area to compare with. If this still is the case, then these findings are new, hence adding new knowledge to this area of research.

Degree of natural resources endowment

The controlling influence of the level of natural resource endowment of a firm's country of domicile was analysed. As a proxy, it was measured by the Total Natural Resources Rent as percentage of Gross Domestic Product per capita (TNRRperGDPPC). Based on correlations, this study found that Social (S) performance was the strongest negatively correlated with TNRRperGDPPC for firms in HighNaturalResource countries (Canada, USA, and UK). Unexpectedly, the same Social (S) performance was the strongest but positively correlated with TNRRperGDPPC for firms in LowNaturalResource countries (Germany, Italy, France, and Japan). In contrast, the earlier findings by Naomi & Akbar (2021) were different: a negative association between ESG performance and natural resource rent was detected. The scholars interpreted this as "better human development inhibits corruption and promotes improved ESG performance" (pp 89). More replications of studies with improvements in research designs would go a long way in revealing the controlling influence on the named relationship in this area.

This study established a statistically significant negative influence of the TNRRperGDPPC on the relationship between ESG performance and economic growth, in both subgroups. However, this was negatively higher for firms in LowNaturalResource countries. Also, the controlling influence of TNRRperGDPPC on the relationship between ESG performance and economic growth was found less negative but more statistically significant for firms in HighNaturalResource countries. In comparison, the influence was statistically insignificant for firms in LowNaturalResource countries than those in HighNaturalResource countries. It was statistically significant for the last. The findings are new. No past studies were available at the time of this study. If this still is the case, the findings bring new knowledge in this area, in the context of this influence on G7 public listed firms. Future replicative studies using varied samples are likely to reveal more on the influence of the natural resource rent-based control.

The individual components of the ESG performance were compared between firms in the two natural resources-endowed subgroups. Though this study detected a negative influence of the TNRRperGDPPC on the relationship between the component Environmental (E) performance and economic growth for firms under both subgroups, that under the LowNaturalResource countries was more negative. It was about three times negative to be more precise. However, for the Environmental (E) performance, the influence of TNRRperGDPPC on this relationship of interest was about six times negatively statistically significant for firms in HighNaturalResource countries than those in LowNaturalResource countries. Similarly, this study found a statistically significant negative influence of the TNRRperGDPPC on the relationship between the component Social (S) performance and economic growth for firms in both TNRR subgroups. Likewise, for the Social (S) performance, the influence of TNRRperGDPPC on the relationship of interest was about three times negatively statistically significant for firms in HighNaturalResource countries than those in LowNaturalResource countries. A similar pattern was observed for the influence on the Governance (G) performance: a statistically significant negative influence for firms in both subgroups.

In summary, and contrary to what was initially assumed, this study verified empirically the opposite, as true. The more natural resources-endowed a firm's country of location/origin, the stronger the negative relationship between ESG performance including its individual components and country's economic growth.

The size of the stock market

The controlling influence of the size of the stock market of a firm' country of domicile was analysed. For each country, the size was measured by Total Stock Market Values as percentage of Gross Domestic Product per capita (TSMVperGDPPC) using annual figures over the 14-year period and then dividing the total by the number of years. Based on correlations, this study found that Social (S) performance was the most influentially positively correlated with TSMVperGDPPC for the firms in LargeMarketSize countries (USA, Canada, UK, and Japan). For firms in SmallMarketSize countries (France, Germany, and Italy), Environmental (E) performance was the most influentially positively correlated.

This study found a statistically significant, but very weak positive influence of the TSMVperGDPPC on the relationship between ESG performance and economic growth for firms in both TMSV subgroups. However, this influence was more positive for firms in LargeMarketSize countries. Also, the latter's group displayed a more statistically significant influence on the relationship of interest by about eight times that of firms in SmallMarketSize countries.

The individual components of the combined ESG performance were compared between firms in the two subgroups of stock market sizes. This study found a statistically significant but very weak positive influence of the TSMVperGDPPC on the relationship between the component Environmental (E) performance and economic growth for firms in LargeMarketSize countries. In contrast, it was a weak negative one for firms in SmallMarketSize countries. This was statistically significant. For the Social (S) performance, this study established both statistically significant positive but very weak influences of the TSMVperGDPPC on the related relationship of interest. Nevertheless, this influence was more statistically significant and positive for firms in LargeMarketSize countries.

In summary, this study empirically verified the initial assumption as true. The larger the size of the stock market of a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth. However, the influence was found to be weak, in many respects. Regardless of this, the finding for positive influences iterated above were coherent with those by past studies

(Durusu-Ciftci et al., 2017; Levine, 2003; Zhou et al., 2020). Hence this study's findings on the influence of the stock market size on the relationship between ESG and its components' performance versus economic growth could be seen as adding to the list of the few earlier findings. More studies replicating this would be required to garner consensus, especially using bigger sample sizes and higher geographical mixes.

6.12 Limitations of Study

Despite the findings in this study, several limitations are worth mentioning. In common with all research, the results should be treated with caution.

Firstly, the results of relationships between economic growth and performances of ESG and corporate metrics (operational, financial and market performance) only depicts a set of associations between the two and does not equate to causality.

Secondly, the sample of firms used in the empirical analysis is limited to public listed firms on the major world stock exchanges of the largest economies. Hence the results can only be generalisable to similar listed firms in the specific seven countries covered in this study. It is expected that the relationship between environmental, social and governance factors on economic growth of a firm's country of origin will be different in smaller or non-listed firms due to reduced or no regulations and fewer stakeholder groups.

Thirdly, the duration of the two global economic periods is invariant. The Great Recession Era from 2006 to 2009 covered four years while the Post Great Recession Era from 2010 to 2019 spanned ten years. The reliability of findings is likely to be affected so that if it were possible to study longer durations for each, different results would be arrived at. This study spanned a period of 14 years, as was the duration of the panel data for this study.

Fourthly, it is simplistic to assume that GDP per capita measure is the only proxy of a country's economic growth. Though the GDP figures were extracted from the World Bank, a global renown body, the authenticity of the figures cannot be absolutely guaranteed as data collection methods may have been not equally adhered to, reliant on the level of development and the capacity of the respective central statistics bodies in the different countries in study.

Fifthly, this study's model focused on the seven (G7) countries' economic growth rates. Other factors that can influence the CSR activities and levels of investments include both external and internal economic variables, that were not included in this enquiry. Examples are the human development levels, national income, balance of payments, cost of corruption, to mention some.

Sixthly, the sample of seven (G7) countries was small and this could have affected the results, besides the bias of countries deemed with the highest economic prowess. For future research, it is suggested that larger samples with a good mix of both developing and developed countries is used. Doing so would give more valid empirical results that can be assumed generalisable to larger populations.

6.13 Recommendations and Further Research

To strengthen the limitations identified in the previous section, the following are recommended plus that for further research:

a) **Causality Limitation**: The study's design is correlational, capturing associations rather than causation. Although correlations between ESG components and economic growth are shown, establishing causality would require experimental or longitudinal approaches to control for external influences (Margolis et al., 2009).

b) **Sample Constraints to Public Listed G7 Firms**: The focus on publicly listed firms within G7 countries restricts the generalizability of results. ESG and economic dynamics may differ widely in non-G7, emerging markets, and smaller non-listed firms due to less stringent regulations and fewer stakeholder demands (Jamali & Karam, 2018).

c) **Economic Period Variability**: The differing timeframes between the Great Recession (2006-2009) and the Post-Great Recession (2010-2019) might bias results, as economic recovery spans typically vary in their duration and intensity. More balanced comparisons with equally defined periods could provide more robust insights (Bae et al., 2021).

d) **GDP per Capita as a Sole Economic Indicator**: Using GDP per capita as the exclusive measure of economic growth limits the analysis. Broader economic measures, such as the HDI may yield a more comprehensive understanding of ESG's impact across economic dimensions (Durusu-Ciftci et al., 2017).

e) **Insufficient Controls for Additional Economic Variables**: The study did not account for other economic factors, such as inflation rates, income distribution, or corruption levels, which could have influenced ESG activities. Future research should include these factors for more nuanced results (Levine, 2003).

Recommendations for Further Research:

a) **Expanded Geographic and Economic Scope**: Including firms from non-G7 and emerging markets could provide insights into how varying economic structures impact the ESG-economic growth relationship, as seen in studies from Arora & Dharwadkar (2011).

b) **Longer and Equally Defined Economic Periods**: Studying economic cycles across equally balanced periods would improve comparability, and longitudinal data could reveal trends over longer spans, as suggested by I. Gallego-Álvarez et al. (2014).

c) **Mixed Methods for Causal Inference**: A mixed-methods approach, combining qualitative interviews with quantitative data, could enhance understanding of causal mechanisms, especially regarding how economic growth influences specific ESG components (Gelfand et al., 2011).

d) Cross-Cultural Comparison on ESG Resilience During Economic Shifts: Future work should compare ESG resilience in diverse economic climates and regulatory landscapes, responding to calls for research in diverse regions by Thanetsunthorn & Wuthisatian (2018).

These further works would bolster the academic rigor in this area by acknowledging potential gaps and providing a clearer roadmap for future research efforts.

Summary of Findings

This study established a negative relationship between each of a firm's environmental and social performance versus the economic growth of that firm's country of origin. In contrast, a positive but statistically insignificant relationship between a firm's governance performance and the economic growth of the country where the firm is located was established. In addition, this study found a statistically significant and strong negative relationship between the combined environmental, social & governance (ESG) performance and economic growth.

This study uncovered that firms invested more in ESG/CSR activities during the Post Great Recession Era from 2010 to 2019, implying a higher ESG/CSR performance than during the economic crisis of the Great Recession Era from 2006 to 2009. In addition, it was revealed that firms recorded a lower mean for each of the individual components during the Great Recession Era from 2006 to 2009: Environmental (E), Social (S) and Governance (G) performances than during the Post Great Recession Era from 2010 to 2019.

Contrary to the hypothesis and public opinion, this study established that firms under the group of HighGDPCountries (Germany, Canada, and USA) recorded a lower mean of combined ESG performance than that for under LowGDPCountries (Japan, France, UK, and Italy). Thus, it could be inferred that firms within the G7 countries with lower economic growth invest more in ESG/CSR activities and practices. Firms under the group of HighGDPCountries exhibited a lower mean of Environmental (E) performance and Governance (G) performances than those under the LowGDPCountries. Nonetheless, the difference in the Governance (G) performance was small between the two GDP subgroups. Also, it was found that firms under the group of HighGDPCountries recorded a higher mean of Social (S) performance than those under the LowGDPCountries.

Three country specific control variables' influence on the relationship of interest were examined. This study confirmed that the higher the level of human development of a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth. Contrary to the initial assumption, it was found that the more natural resource-endowed a firm's country of location/origin, the stronger the negative relationship between ESG performance including its

individual components and country's economic growth. Still more, it was verified that the larger the size of the stock market of a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth. However, this influence was found to be weak, in many respects.

The conclusion for this study on the relationship between CSR and economic growth is covered in the next subchapter 6.14. It covers the critical observations, implications to wider society, the future direction, and the contribution to this area of research.

6.14 Conclusion

This study's findings on the relationship between ESG Performance and economic growth are fivefold.

Firstly, this study has detected a statistically significant, strong, and negative relationship between each of a firm's environmental and social performance versus the economic growth of that firm's country of origin. In contrast, a statistically insignificant weaker and positive relationship between a firm's governance performance and the economic growth of the country of domicile has been uncovered. Furthermore, this study has revealed a statistically significant, strong negative relationship between the combined environmental, social & governance (ESG) performance and economic growth. For all data results used at arriving at the above explained conclusions, please refer to Table 6.6. Though these findings may be seen to be inconsistent with the Stakeholder Theory (Freeman, 1984), they support that of the Shareholder Theory (Friedman, 1970). The latter theory postulates that the overarching business of firms is to enhance profits to increase shareholders' wealth. It is implied that reducing spend on ESG activities/investments is one way of boosting profits. Hence, the spending on ESG activities/investments is considered as non-mandatory (Friedman, 1970). When able, firms are expected to voluntarily satisfy various stakeholders. The goal is to either reduce costs or increase revenues and ultimately financial performance.

Secondly, this study has proven that firms in HighGDPCountries (Germany, Canada, and USA) exhibit a lower mean of the combined ESG performance than those in LowGDPCountries (Japan, France, UK, and Italy). For all data results used, please refer to Table 6.8 and Table

6.9. To infer, firms within the G7 countries with lower economic growth invest more in ESG/CSR activities and practices. When the Resource-Based View (RBV) Theory (Barney, 1991; Wernerfelt, 1984) is applied, firms in countries with lower economic growth aim to strategically invest in stakeholders' needs. They gain a competitive edge less easy to imitate. In line with the RBV theory, firms view CSR as a strategic investment to increase their market value by balancing shareholder and stakeholder interests. The resource-based view (RBV) focuses on the internal strengths and weaknesses of the firm in contrast to the external environmental model of competitive advantage where the focus is on the opportunities and threats. In the long run, enhancing ESG/CSR investments is envisaged to lead to higher profits and corporate performance in the long term. In the short-term, firms could be less profitable. Though this study's panel data covered a duration of 14 years, this may not be long enough to realise the expected benefits in some industry sectors.

Thirdly, it is uncovered that firms in HighGDPCountries exhibit a lower mean of Environmental (E) performance and Governance (G) performances than those in LowGDPCountries. Nonetheless, the difference in the Governance (G) performance is found to be small between firms in the two GDP subgroups. In contrast, it is established that firms in HighGDPCountries record a higher mean of Social (S) performance than those in LowGDPCountries. Please refer to Table 6.9. However, this ought to be taken with caution; the findings are only to be generalisable to similar populations within the G7 countries. If the Economic Growth Theory (Arestis et al., 2007; Lucas, 1988) is applied, then firms in faster economic growing (measure by GDP) countries are less likely to invest in some or all the individual components of ESG performance than those in lower growing ones. The justification could be that the former already have an enhanced insurance acquired from past ESG investments made on their way up. In more detail, the classical theory of economic growth was a combination of economic work done by Adam Smith, David Ricardo, and Robert Malthus in the eighteenth and nineteenth centuries (Eltis, 2016; Smith, 1776; Tieben, 2023). The classical theory states that every economy has a steady state GDP; any deviation from that is temporary and will eventually return (Eltis, 2016). A greater focus on CSR makes a public-listed firm more attractive to investments; this is probable to improve their financial performance. It is assumed that a firm's funders are vested in the worth of social, environmental, and economic concerns. When this occurs, the CSR activities and investments are seen as forms of leverage to boost the share price besides the public viewing such firms as giving back to society.

Fourthly, this study has detected that firms in the G7 sample used invested more in ESG/CSR activities during the Post Great Recession Era from 2010 to 2019 than during the economic crisis of the Great Recession Era from 2006 to 2009. Please refer to Table 6.10 and Table 6.11. If generalisable to the public-listed firms in the G7 countries, one implication is that a higher ESG/CSR performance is expected during periods of economic prosperity than during that of economic crisis. implying a higher ESG/CSR performance. In addition, this study has established that firms recorded a lower mean for each of the individual components during the Great Recession Era (2006-2009) namely: Environmental (E), Social (S) and Governance (G) performances than during the Post Great Recession Era (2010-2019).

Fifthly, this study has examined the controlling influence of three country-specific control variables on the relationship between ESG/CSR performance and economic growth namely: the level of human development, the degree of natural resources endowment, and the size of the stock market.

With reference to Table 6.15, Table 6.19 and Table 6.23, the findings are enumerated below:

i) This study has found that the higher the level of human development of a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth. No knowledge in this area existed at the time of this study. If this is still the case, the finding on the controlling influence of a country's level of human development for public listed firms located in G7 countries becomes the first and hence pioneer.

ii) This study has proved that the more natural resources-endowed a firm's country of location/origin, the stronger the negative relationship between ESG performance including its individual components and country's economic growth. No previous studies have investigated this controlling influence in the existing body of knowledge. Therefore, this study's finding is the first and hence pioneer. More replicative studies, probably using this study's methods, would shed more light on the controlling influence of the natural resources rent on the relationship of interest.

iii) This study has verified that the larger the size of the stock market of a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth. However, this influence is found to be weak, in many respects. Though only one previous study (Zhou et al., 2020a) investigated this controlling influence in the existing body of knowledge, the scholars operationalised the stock market as the total market value of a country in which a firm in study was located. In contrast, this study used the total stock market value per gross domestic product per capita. The latter is deemed a more reliable and universally validated measure (Lopatta & Kaspereit, 2014; The World Bank, 2022) in this area. Therefore, this finding on the influence of the size of a country's stock market for public listed firms located in G7 countries becomes the second, after that of the first by Zhou et al. (2020). However, if based on the use of a more validated measure of the stock market size that adjusts for the economic growth, then this study's finding is the first and hence pioneer. It is recommended that replicative studies are carried out using this study's methods so that comparisons of findings could be easier to make.

6.14.1 Critical observation and implications to firms or wider society

It is important to make some critical observations discerning from this study's findings that would be of interest to wider society. Based on findings, the concept of CSR and its interaction or relationship with economic growth of a firm's country is likely to have ramifications. These may pertain to decision making processes when devising CSR plans, activities, and investments.

This study has found a negative relationship between each of a firm's environmental and social performance versus the economic growth of that firm's country of origin. The two findings of the negative relationships may have implications for policy makers both in business and government bodies, especially within the G7 countries. Questions may arise about whether G7 countries aligned to stakeholder model of corporate governance (France, Germany, Italy, and Japan) ought to continue investing in ESG/CSR activities and investments. Governments of the four listed countries are heavily involved in the monitoring and adherence of overall policy that informs the ESG/CSR activities and priorities. Hence, policy makers pondering to encourage public-listed firms to increase environmental and/or social activities/investments

may be pessimistic, going by this evidence. Equally, CSR units in firms may be so affected that they could instead opt to reduce their CSR/ESG related activities and investments. If this happened, there may be an outcry. Especially, high polluting firms could choose to invest less in environmental activities or investments required to clean up after damage.

This study's revelation on past historical economic eras is interesting. To infer, firms invest less in each of the individual of ESG/CSR components: Environmental (E), Social (S) and Governance (G) performances during eras of economic distress or crisis. As economies recover and expand, investments in the three also start to increase. Considering that the findings are generalisable to similar populations, the appetite for CSR investments could be affected. Some firms may justify their actions to reduce spend on ESG/CSR related activities or investments when economies start to tilt towards a crisis. The opposite could be true. For the former scenario, this may be seen as reasonable because of the expected reduction of business activities and profits. Also, firms whose business activities and processes have a more severe bearing on the health and safety of the public may require to be coerced into acting socially responsible. However, this is likely to be untenable in freer market economies where less government involvement in CSR/ESG policies is present.

This study has established varying controlling influences of some specified country-based factors on the link between ESG/CSR performance and economic growth. This study has confirmed that the higher the level of human development of a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth. Hence, this finding reveals that firms in higher human developed countries are likely to address the demands to ESG/CSR activities than those in less developed countries. It may also be the case that citizens are more vigilant and demand more accountability from firms in higher developed countries. This study has verified that the larger the size of the stock market of a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth. This result may be interpreted that firms in countries with larger stock markets are likely to contribute more to the growth of their countries of domicile. Therefore, firms located in countries with large-sized stock markets are anticipated to have easier access to more sources of finance, than those in countries with small ones. This could be both in terms of variety and the magnitude of funding. Consequently, this privilege

could explain the heightened business activities and the resultant higher ESG/CSR activities or investments in the said locations.

6.14.2 Contribution

This study's contribution to the subject area is threefold.

Firstly, this study's findings add to the existing body of knowledge. It is the finding of a statistically significant negative relationship for each of the two CSR components namely environmental performance and social performance, with economic growth of a firm's country of domicile. Further, this study found a positive but statistically insignificant relationship between a firm's governance performance and the economic growth of the country where the firm is located. These findings on the three components of CSR are consistent with those by Naomi & Akbar (2021), deemed as pioneers. Facilitating for metanalytic reviews on the relationship between CSR and economic growth would assist researcher locate and point the possible direction in this area. To date, no such reviews exist within the relevant literature on the relationship.

Secondly, this study has uncovered that firms invested more in ESG/CSR activities during periods of economic expansion and prosperity than during economic crisis. This finding adds to the existing body of knowledge, though contradictory with the most comparable study by I. Gallego-Álvarez et al. (2014). Therefore, this study adds to the existing body of knowledge using the data for the Great Recession (2006-2009) and Post Great Recession (2010-2019). Though there are a few recent studies that used the Covid19 era as the economic crisis, their research designs were limited as the pre- and post-durations used were deemed too short to observe and CSR phenomenon (Bae et al., 2021; Broadstock et al., 2021; J. Lu et al., 2022).

Thirdly, this study becomes the first to examine three controlling influences of a country's factors at one time namely: human development level, stock market size and natural resource endowment on the link between firms' ESG performance and economic growth. The findings bring new knowledge on the controlling influence the three have on the relationship between CSR and economic growth, as outlined next:

i) This study has found that the higher the level of human development of a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth. No previous studies have investigated this controlling influence in the existing body of knowledge. Therefore, this study's finding is the first and hence pioneer.

ii) This study has proved that the more natural resources-endowed a firm's country of location/origin, the stronger the negative relationship between ESG performance including its individual components and country's economic growth. No previous studies have investigated this controlling influence in the existing body of knowledge. Therefore, this study's finding on the influence of the degree of a country's natural resource endowment for public listed firms located in G7 countries is the first and hence pioneer of this newfound knowledge.

iii) This study has verified that the larger the size of the stock market of a firm's country of location/origin, the stronger the positive relationship between ESG performance including its individual components and country's economic growth. This finding on the influence of the size of a country's stock market becomes the second, after that of the first (Zhou et al., 2020) . However, when the stock market size is adjusts for the economic growth, then this study's finding is the first and hence pioneer. It brings new knowledge to this area of research, on the controlling influence of the size of the stock market.

7. Chapter 7 – OVERALL SUMMARY AND CONTRIBUTIONS

This study explored the relationships between corporate social responsibility (CSR) and corporate performance, national cultures, and economic growth. It employed a three-chapter empirical approach, incorporating three independent papers. These papers are in a format suitable for consideration in peer-reviewed academic journals, pending further development to a publishable stage. Each paper is presented in a separate sub-chapter for easier reference and future expansion, with each abstract positioned at the beginning of the respective chapters. Summaries of the three papers follow.

7.1 Empirical Paper Study One

Located in Chapter 4, the first study examined the "Relationship Between Corporate Social Responsibility and Corporate Performance: Influence of Variations in Industry and Governance Model Types."

Key findings are as follows:

a) Statistically significant but weak positive relationships were found between CSR and four dimensions of corporate performance: operational, financial, market, and liquidity performance. This finding aligns with previous research and is supported by recent meta-analytical studies (Busch & Friede, 2018), contributing to the body of knowledge on CSR's impact. The finding regarding liquidity performance is pioneering, marking the first instance in this research area, and thus adds new knowledge.

b) New insights emerged regarding firms in G7 countries following a stakeholder model of corporate governance (Germany, France, Japan, Italy), which demonstrate higher environmental (E) performance than those in shareholder model countries (Canada, USA, UK). This suggests that firms in shareholder-governance countries may consider maintaining or even reducing environmental CSR activities based on governance model tendencies.

c) Surprisingly, firms in shareholder-governance G7 countries perform better in all corporate performance dimensions than those in stakeholder-governance countries.

d) Firms in extractive industries show higher mean environmental performance than those in non-extractive industries, a finding consistent with a limited number of studies in this area.

e) Extractive industry firms generally underperform in operational, financial, and liquidity performance compared to non-extractive firms but excel in market performance. This contradiction may encourage non-extractive firms to consider reducing CSR investments while providing extractive firms with a rationale to do the same, provided they face no regulatory repercussions for environmental impacts.

This study makes several contributions: it establishes a statistically significant yet weak positive relationship between CSR and corporate performance; it introduces new knowledge on the relationship between CSR and liquidity performance; and it highlights differences in CSR performance across governance models and industry types within the G7 sample.

7.2 Empirical Paper Study Two

The second study, presented in Chapter 5, investigated the "Relationship Between National Cultures and Corporate Social Responsibility – Influence of World Governance Indicators."

Key findings include:

a) Consistent with existing research, this study finds a significant negative relationship between CSR and Hofstede's five cultural dimensions—individualism, masculinity, uncertainty avoidance, indulgence versus restraint, and long-term orientation—while showing a positive relationship with power distance.

b) Firms in "Restrained Countries" (France, Germany, Japan, Italy) have higher ESG performance than those in "Indulgent Countries" (Canada, UK, USA), marking a pioneering finding for CSR research within G7 countries. This might encourage firms in

more indulgent countries to consider establishing CSR sub-committees and aligning CSR policies with national cultural attributes.

c) In contrast, firms in Restrained Countries show lower corporate performance across all dimensions compared to those in Indulgent Countries. This revelation opens avenues for culturally based future research on corporate performance across other Hofstede cultural dimensions.

d) Differences in the controlling influence of World Governance Indicators (WGIs) - regulatory quality, control of corruption, rule of law, and political stability—on the CSR-national culture relationship are observed:

   i) Higher regulatory quality and control of corruption strengthen the positive relationship between CSR and power distance.

   ii) Higher rule of law weakens the CSR-national culture relationship.

   iii) Greater political stability correlates with a strong negative relationship between national culture and CSR.

Due to the focus on firms in industrialized countries, population bias may exist. Expanding future studies to include both developed and developing countries could provide more comprehensive insights into the effects of WGIs on CSR. This study contributes to CSR research using Hofstede's cultural dimensions, revealing differences in CSR performance between restrained and indulgent countries and examining WGIs' influence on the CSR-national culture relationship.

7.3 Empirical Paper Study Three

The third study, located in Chapter 6, evaluated the "Relationship Between ESG Performance With Its Components and Economic Growth." Key findings include:

a) Strong negative relationships are found between environmental and social performance and

economic growth, while governance performance shows a weaker, positive relationship. This aligns with findings by Naomi & Akbar (2021), though further meta-analytic studies are recommended for greater consensus.

b) Firms in high GDP countries (Germany, Canada, USA) have lower combined ESG performance than those in lower GDP countries (Japan, France, UK, Italy), a pioneering finding within G7 countries.

c) Environmental and governance performance are both lower in high GDP countries compared to low GDP countries, though the difference in governance performance is small.

d) Firms invested more in ESG/CSR activities during the post-Great Recession era (2010-2019) than during the recession itself (2006-2009), a finding consistent with past research but contradictory with I. Gallego-Álvarez et al. (2014). Recent studies using the Covid-19 period as a crisis case are limited by the short post-crisis durations examined.

e) The study examined three country-specific control variables influencing the ESG-economic growth relationship: human development level, natural resources endowment, and stock market size:

   i) Higher human development strengthens the positive relationship between ESG and economic growth.

   ii) Greater natural resources endowment strengthens the negative relationship between ESG and economic growth.

   iii) A larger stock market size also strengthens the positive relationship between ESG and economic growth, though this effect is weak.

This study contributes to the research field by being the first to incorporate all three control variables—human development, natural resources endowment, and stock market size—in one study, revealing their nuanced effects on the ESG-economic growth link.

REFERENCES

Abbott, W. F., & Monsen, R. J. (1979). On the Measurement of Corporate Social Responsibility: Self-Reported Disclosures as a Method of Measuring Corporate Social Involvement. *Academy of Management Journal*, *22*(3). https://doi.org/10.5465/255740

Acabado, D. R., Branca, A. S., Catalão-Lopes, M., & Pina, J. P. (2020). Do Distinct CSR Categories have Distinct Determinants? The Roles of Market Structure and Firm Size. *European Management Review*, *17*(1). https://doi.org/10.1111/emre.12341

Acedo, F. J., Barroso, C., & Galan, J. L. (2006). The resource-based theory: Dissemination and main trends. *Strategic Management Journal*, *27*(7). https://doi.org/10.1002/smj.532

Acemoglu, D. (2008). Introduction to modern economic growth. In *Introduction to Modern Economic Growth*. https://doi.org/10.1111/j.1475-4932.2011.00816.x

Aguilera, R. V., Rupp, D. E., Williams, C. A., & Ganapathi, J. (2007). Putting the S back in corporate social responsibility: A multilevel theory of social change in organizations. *Academy of Management Review*, *32*(3), 836–863. https://doi.org/10.5465/amr.2007.25275678

Aguinis, H., & Glavas, A. (2012). What We Know and Don't Know About Corporate Social Responsibility: A Review and Research Agenda. *Journal of Management*, *38*(4). https://doi.org/10.1177/0149206311436079

Ahmad, N., Mobarek, A., & Roni, N. N. (2021). Revisiting the impact of ESG on financial performance of FTSE350 UK firms: Static and dynamic panel data analysis. *Cogent Business and Management*, *8*(1). https://doi.org/10.1080/23311975.2021.1900500

Ahn, S. C., & Schmidt, P. (1995). Efficient estimation of models for dynamic panel data. *Journal of Econometrics*, *68*(1). https://doi.org/10.1016/0304-4076(94)01641-C

Al Hawaj, A. Y., & Buallay, A. M. (2022). A worldwide sectorial analysis of sustainability reporting and its impact on firm performance. *Journal of Sustainable Finance and Investment*, *12*(1). https://doi.org/10.1080/20430795.2021.1903792

Alam, M. R., Kitenge, E., & Bedane, B. (2017). Government effectiveness and economic growth. *Economics Bulletin*, *37*(1).

Albuquerque, R., Koskinen, Y., Yang, S., & Zhang, C. (2020). Resiliency of environmental and social stocks: An analysis of the exogenous COVID-19 market crash. *Review of Corporate Finance Studies*, *9*(3). https://doi.org/10.1093/rcfs/cfaa011

Almeyda, R., & Darmansya, A. (2019). The Influence of Environmental, Social, and Governance (ESG) Disclosure on Firm Financial Performance. *IPTEK Journal of Proceedings Series*, *0*(5). https://doi.org/10.12962/j23546026.y2019i5.6340

Al-Najjar, B., & Anfimiadou, A. (2012). Environmental policies and firm value. *Business Strategy and the Environment*, *21*(1). https://doi.org/10.1002/bse.713

Anand, S., & Sen, A. (2000). Human development and economic sustainability. *World Development*, *28*(12). https://doi.org/10.1016/S0305-750X(00)00071-1

Andersen, M. L., & Dejoy, J. S. (2011). Corporate Social and Financial Performance: The Role of Size, Industry, Risk, R&D and Advertising Expenses as Control Variables. *Business and Society Review*, *116*(2). https://doi.org/10.1111/j.1467-8594.2011.00384.x

Ando, T., & Bai, J. (2015). A simple new test for slope homogeneity in panel data models with interactive effects. *Economics Letters*, *136*. https://doi.org/10.1016/j.econlet.2015.09.019

Appiah, M., Amoasi, R., & Idan Frowne, D. (2019). Human Development and Its Effects on Economic Growth and Development. *International Research Journal of Business Studies*, *12*(2), 101–109. https://doi.org/10.21632/irjbs.12.2.101-109

Arellano, M., & Bond, S. (1991). *The Review of Economic Studies, Ltd. Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations Author(s): Manuel Arellano and Stephen Bond Reviewed work(s): Source: The Review of Economic Studies Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application t o Employment Equations* (Vol. 58, Issue 2).

Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, *68*(1). https://doi.org/10.1016/0304-4076(94)01642-D

Arestis, P., Baddeley, M., & McCombie, J. S. L. (2007). Economic growth: New directions in theory and policy. In *Economic Growth: New Directions in Theory and Policy*.

Arestis, P., Demetriades, P. O., & Luintel, K. B. (2001). Financial Development and Economic Growth: The Role of Stock Markets. *Journal of Money, Credit and Banking*, *33*(1), 16. https://doi.org/10.2307/2673870

Arora, P., & Dharwadkar, R. (2011). Corporate Governance and Corporate Social Responsibility (CSR): The Moderating Roles of Attainment Discrepancy and Organization Slack. *Corporate Governance: An International Review*, *19*(2), 136–152. https://doi.org/10.1111/j.1467-8683.2010.00843.x

Atrill, P., Mclaney, E., & Harvey, D. (2015). Accounting: an introduction. In *Accounting: an introduction*.

Auty, R. M. (2005). Resource Abundance and Economic Development. In *Resource Abundance and Economic Development*. https://doi.org/10.1093/0199275785.001.0001

Bae, K. H., El Ghoul, S., Gong, Z. (Jason), & Guedhami, O. (2021). Does CSR matter in times of crisis? Evidence from the COVID-19 pandemic. *Journal of Corporate Finance*, *67*. https://doi.org/10.1016/j.jcorpfin.2020.101876

Baey, C., & Kuhn, E. (2023). varTestnlme: An R Package for Variance Components Testing in Linear and Nonlinear Mixed-Effects Models. *Journal of Statistical Software*, *107*(6). https://doi.org/10.18637/jss.v107.i06

Bai, J. (2024). Likelihood approach to dynamic panel models with interactive effects. *Journal of Econometrics*, *240*(1). https://doi.org/10.1016/j.jeconom.2023.105636

Baltagi, B. H. (2005). Econometric Analysis of Panel Data - Third Edition. In *John Wiley & Sons*, *2008*.

Barma, N., Kaiser, K., Le, T. M., & Viñuela, L. (2011). *Rents to Riches?* The World Bank. https://doi.org/10.1596/978-0-8213-8480-0

Barnea, A., & Rubin, A. (2010). Corporate Social Responsibility as a Conflict Between Shareholders. *Journal of Business Ethics*, *97*(1). https://doi.org/10.1007/s10551-010-0496-z

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, *17*(1). https://doi.org/10.1177/014920639101700108

Baumann, F. (2021). The Next Frontier—Human Development and the Anthropocene: UNDP Human Development Report 2020. *Environment*, *63*(3). https://doi.org/10.1080/00139157.2021.1898908

Baye, R. S., Olper, A., Ahenkan, A., Musah-Surugu, I. J., Anuga, S. W., & Darkwah, S. (2021). Renewable energy consumption in Africa: Evidence from a bias corrected dynamic panel. *Science of the Total Environment*, *766*. https://doi.org/10.1016/j.scitotenv.2020.142583

Becker, G. (1993). Human capital revisited. In Human capital: A theoretical and empirical analysis with special reference to education. In *Notes and Queries* (Vols s1-IV, Issue 92).

Beliveau, B., Cottrill, M., & O'Neill, H. M. (1994). Predicting corporate social responsiveness: A model drawn from three perspectives. *Journal of Business Ethics*, *13*(9). https://doi.org/10.1007/BF00881333

Belloni, A., Chernozhukov, V., & Hansen, C. (2014). High-dimensional methods and inference on structural and treatment effects. *Journal of Economic Perspectives*, *28*(2). https://doi.org/10.1257/jep.28.2.29

Belloni, A., Chernozhukov, V., Hansen, C., & Kozbur, D. (2016). Inference in High-Dimensional Panel Models With an Application to Gun Control. *Journal of Business and Economic Statistics*, *34*(4). https://doi.org/10.1080/07350015.2015.1102733

Ben-Salha, O., Dachraoui, H., & Sebri, M. (2021). Natural resource rents and economic growth in the top resource-abundant countries: A PMG estimation. *Resources Policy*, *74*. https://doi.org/10.1016/j.resourpol.2018.07.005

Beugelsdijk, S., Kostova, T., Kunst, V. E., Spadafora, E., & van Essen, M. (2018). Cultural Distance and Firm Internationalization: A Meta-Analytical Review and Theoretical Implications. *Journal of Management*, *44*(1). https://doi.org/10.1177/0149206317729027

Beugelsdijk, S., Maseland, R., & van Hoorn, A. (2015). Are Scores on Hofstede's Dimensions of National Culture Stable over Time? A Cohort Analysis. *Global Strategy Journal*, *5*(3). https://doi.org/10.1002/gsj.1098

Beyer, J., Trannum, H. C., Bakke, T., Hodson, P. V., & Collier, T. K. (2016). Environmental effects of the Deepwater Horizon oil spill: A review. In *Marine Pollution Bulletin* (Vol. 110, Issue 1). https://doi.org/10.1016/j.marpolbul.2016.06.027

Bhattacharya, A., Good, V., & Sardashti, H. (2020). Doing good when times are bad: the impact of CSR on brands during recessions. *European Journal of Marketing*, *54*(9), 2049–2077. https://doi.org/10.1108/EJM-01-2019-0088

Bhattacharyya, S., & Hodler, R. (2010). Natural resources, democracy and corruption. *European Economic Review*, *54*(4). https://doi.org/10.1016/j.euroecorev.2009.10.004

Blasi, S., Caporin, M., & Fontini, F. (2018). A Multidimensional Analysis of the Relationship Between Corporate Social Responsibility and Firms' Economic Performance. *Ecological Economics*, *147*. https://doi.org/10.1016/j.ecolecon.2018.01.014

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, *87*(1). https://doi.org/10.1016/S0304-4076(98)00009-8

Boubakri, N., El Ghoul, S., Guedhami, O., & Wang, H. (Helen). (2021). Corporate social responsibility in emerging market economies: Determinants, consequences, and future research directions. In *Emerging Markets Review* (Vol. 46). https://doi.org/10.1016/j.ememar.2020.100758

Brahmana, R. K., & Kontesa, M. (2021). Does clean technology weaken the environmental impact on the financial performance? Insight from global oil and gas companies. *Business Strategy and the Environment*, *30*(7). https://doi.org/10.1002/bse.2810

Brammer, S., Brooks, C., & Pavelin, S. (2006). Corporate social performance and stock returns: UK evidence from disaggregate measures. *Financial Management*, *35*(3). https://doi.org/10.1111/j.1755-053X.2006.tb00149.x

Brine, M., Brown, R., & Hackett, G. (2007). Corporate social responsibility and financial performance in the Australian Context. *Australian Accounting, Business and Finance Journal*.

Broadstock, D. C., Chan, K., Cheng, L. T. W., & Wang, X. (2021). The role of ESG performance during times of financial crisis: Evidence from COVID-19 in China. *Finance Research Letters*, *38*. https://doi.org/10.1016/j.frl.2020.101716

Brookfield, J. F. Y. (2001). Predicting the future. In *Nature* (Vol. 411, Issue 6841). https://doi.org/10.1038/35082701

Brooks, C. (2019). Introductory Econometrics for Finance, FOURTH EDITION. In *Introductory Econometrics for Finance, Fourth Edition*. https://doi.org/10.1017/9781108524872

Bruno, G. S. F. (2005). Estimation and inference in dynamic unbalanced panel-data models with a small number of individuals. *Stata Journal*, *5*(4). https://doi.org/10.1177/1536867x0500500401

Buallay, A. (2019). Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. *Management of Environmental Quality: An International Journal*, *30*(1), 98–115. https://doi.org/10.1108/MEQ-12-2017-0149

Buallay, A. (2020). Sustainability reporting and firm's performance: Comparative study between manufacturing and banking sectors. *International Journal of Productivity and Performance Management*, *69*(3). https://doi.org/10.1108/IJPPM-10-2018-0371

Busch, T., & Friede, G. (2018). The robustness of the corporate social and financial performance relation: A second-order meta-analysis. *Corporate Social Responsibility and Environmental Management*, *25*(4). https://doi.org/10.1002/csr.1480

Cadez, S., & Czerny, A. (2016). Climate change mitigation strategies in carbon-intensive firms. *Journal of Cleaner Production*, *112*. https://doi.org/10.1016/j.jclepro.2015.07.099

Callaway, B., & Sant'Anna, P. H. C. (2021). Difference-in-Differences with multiple time periods. *Journal of Econometrics*, *225*(2). https://doi.org/10.1016/j.jeconom.2020.12.001

Campbell, J. L. (2007). Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility. In *Academy of Management Review* (Vol. 32, Issue 3). https://doi.org/10.5465/AMR.2007.25275684

Cañizares, P. P. (2022). Visualising Corporate Social Responsibility: The evolving role of photographs in Inditex's corporate reporting. *Iberica*, *2022*(43). https://doi.org/10.17398/2340-2784.43.155

Capello, R., & Nijkamp, P. (2019). Handbook of regional growth and development theories: Revised and extended second edition. In *Handbook of Regional Growth and Development Theories: Revised and Extended Second Edition*. https://doi.org/10.4337/9781788970020

Carroll, A. (1979). A Three-Dimensional Conceptual Model of Social Performance A three-dimensional conceptual model of corporate performance. *The Academy of Management Review*, *4*(4).

Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons*, *34*(4). https://doi.org/10.1016/0007-6813(91)90005-G

Carroll, A. B. (1999). Corporate social responsibility: Evolution of a definitional construct. *Business and Society*, *38*(3). https://doi.org/10.1177/000765039903800303

Carroll, A. B. (2021). Corporate Social Responsibility: Perspectives on the CSR Construct's Development and Future. *Business and Society*, *60*(6). https://doi.org/10.1177/00076503211001765

Carroll, A. B., & Shabana, K. M. (2010). The business case for corporate social responsibility: A review of concepts, research and practice. In *International Journal of Management Reviews* (Vol. 12, Issue 1). https://doi.org/10.1111/j.1468-2370.2009.00275.x

CFA Institute. (2015). *Survey of ESG*.

Chan, C. Y., Chou, D. W., & Lo, H. C. (2017). Do financial constraints matter when firms engage in CSR? *North American Journal of Economics and Finance*, *39*. https://doi.org/10.1016/j.najef.2016.10.009

Chatterji, A. K., Levine, D. I., & Toffel, M. W. (2009). How well do social ratings actually measure corporate social responsibility? *Journal of Economics and Management Strategy*, *18*(1). https://doi.org/10.1111/j.1530-9134.2009.00210.x

Chovancová, J., Petruška, I., Rovňák, M., & Barlák, J. (2024). Investigating the drivers of CO2 emissions in the EU: Advanced estimation with common correlated effects and common factors models. *Energy Reports*, *11*. https://doi.org/10.1016/j.egyr.2023.12.057

Clarkson, P. M., Li, Y., Richardson, G. D., & Vasvari, F. P. (2008). Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. *Accounting, Organizations and Society*, *33*(4–5). https://doi.org/10.1016/j.aos.2007.05.003

Clemens, B., & Bakstran, L. (2010). A framework of theoretical lenses and strategic purposes to describe relationships among firm environmental strategy, financial performance, and environmental performance. *Management Research Review*, *33*(4). https://doi.org/10.1108/01409171011030480

Clement, R. W. (2005). The lessons from stakeholder theory for U.S. business leaders. *Business Horizons*, *48*(3). https://doi.org/10.1016/j.bushor.2004.11.003

Coelho, R., Jayantilal, S., & Ferreira, J. J. (2023). The impact of social responsibility on corporate financial performance: A systematic literature review. In *Corporate Social Responsibility and Environmental Management* (Vol. 30, Issue 4). https://doi.org/10.1002/csr.2446

Colin Cameron, A., Gelbach, J. B., & Miller, D. L. (2011). Robust inference with multiway clustering. *Journal of Business and Economic Statistics*, *29*(2). https://doi.org/10.1198/jbes.2010.07136

Comincioli, N., Poddi, L., & Vergalli, S. (2012). Does Corporate Social Responsibility Affect the Performance of Firms? *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2124932

Cordeiro, J. J., & Sarkis, J. (1997). Environmental proactivism and firm performance: evidence from security analyst earnings forecasts. *Business Strategy and the Environment*, *6*(2). https://doi.org/10.1002/(sici)1099-0836(199705)6:2<104::aid-bse102>3.0.co;2-t

Cracolici, M. F., Cuffaro, M., & Nijkamp, P. (2010). The measurement of economic, social and environmental performance of countries: A novel approach. *Social Indicators Research*, *95*(2). https://doi.org/10.1007/s11205-009-9464-3

Dangelico, R. M., & Pontrandolfo, P. (2015). Being 'Green and Competitive': The Impact of Environmental Actions and Collaborations on Firm Performance. *Business Strategy and the Environment*, *24*(6). https://doi.org/10.1002/bse.1828

Das, P. (2019). Econometrics in theory and practice: Analysis of cross section, time series and panel data with stata 15.1. In *Econometrics in Theory and Practice: Analysis of Cross Section, Time Series and Panel Data with Stata 15.1*. https://doi.org/10.1007/978-981-32-9019-8

Dat, N. M., Dai, N. Q., & Ngoc, P. B. (2022). The Impact of Corporate Social Responsibilities (CSR), Entrepreneurship, and Financial Factors on the Financial Performance of the Banks in ASEAN Countries. *Contemporary Economics*, *16*(2). https://doi.org/10.5709/ce.1897-9254.479

De La Croix, D., & Michel, P. (2002). A theory of economic growth: dynamics and policy in overlapping generations. In *A Theory of Economic Growth*. Cambridge University Press. https://doi.org/10.1017/cbo9780511606434

De Villiers, C., & Marques, A. (2016). Corporate social responsibility, country-level predispositions, and the consequences of choosing a level of disclosure. *Accounting and Business Research*, *46*(2). https://doi.org/10.1080/00014788.2015.1039476

Deegan, C. (2002). Introduction: The legitimising effect of social and environmental disclosures – a theoretical foundation. In *Accounting, Auditing & Accountability Journal* (Vol. 15, Issue 3). https://doi.org/10.1108/09513570210435852

Delmas, M. A., & Burbano, V. C. (2011). The drivers of greenwashing. In *California Management Review* (Vol. 54, Issue 1). https://doi.org/10.1525/cmr.2011.54.1.64

Demers, E., Hendrikse, J., Joos, P., & Lev, B. (2021). ESG did not immunize stocks during the COVID-19 crisis, but investments in intangible assets did. *Journal of Business Finance and Accounting*, *48*(3–4). https://doi.org/10.1111/jbfa.12523

Di Simone, L., Petracci, B., & Piva, M. (2022). Economic Sustainability, Innovation, and the ESG Factors: An Empirical Investigation. *Sustainability (Switzerland)*, *14*(4). https://doi.org/10.3390/su14042270

Diamastuti, E., Nastiti, T. A., & Khoirina, M. M. (2020). The influence of hofstede's cultural dimensions on corporate social responsibility implementation: a study on state-owned companies in Java, Indonesia. *The Indonesian Accounting Review*, *10*(2). https://doi.org/10.14414/tiar.v10i2.1843

DiMaggio, P. J., & Powell, W. W. (2000). The iron cage revisited institutional isomorphism and collective rationality in organizational fields. *Advances in Strategic Management*, *17*. https://doi.org/10.1016/S0742-3322(00)17011-1

Ding, W., Levine, R., Lin, C., & Xie, W. (2021). Corporate immunity to the COVID-19 pandemic. *Journal of Financial Economics*, *141*(2). https://doi.org/10.1016/j.jfineco.2021.03.005

Disli, M., Ng, A., & Askari, H. (2016). Culture, income, and CO2 emission. In *Renewable and Sustainable Energy Reviews* (Vol. 62). https://doi.org/10.1016/j.rser.2016.04.053

Donaldson, T., & Preston, L. E. (1995). The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications. *Academy of Management Review*, *20*(1). https://doi.org/10.5465/amr.1995.9503271992

Doshi, V., & Khokle, P. (2012). An Institutional Perspective on Corporate Social Responsibility. *Vikalpa: The Journal for Decision Makers*, *37*(2).

Dowling, J., & Pfeffer, J. (1975). ORGANIZATIONAL LEGITIMACY : Social Values and Organizational Behavior between the Organizations seek to establish congruence. *The Pacific Sociological Review*, *18*(1).

Ducassy, I. (2013). Does Corporate Social Responsibility Pay Off in Times of Crisis? An Alternate Perspective on the Relationship between Financial and Corporate Social Performance. *Corporate Social Responsibility and Environmental Management*, *20*(3). https://doi.org/10.1002/csr.1282

Dumitrescu, E. I., & Hurlin, C. (2012). Testing for Granger non-causality in heterogeneous panels. *Economic Modelling*, *29*(4). https://doi.org/10.1016/j.econmod.2012.02.014

Durusu-Ciftci, D., Ispir, M. S., & Yetkiner, H. (2017). Financial development and economic growth: Some theory and more evidence. *Journal of Policy Modeling*, *39*(2), 290–306. https://doi.org/10.1016/j.jpolmod.2016.08.001

Easterby-Smith, M., Thorpe, R., & Lowe, A. (2002). Management research: An introduction (SAGE series in management research). *Byg DTU Og NCC*, *205*.

Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science*, *60*(11). https://doi.org/10.1287/mnsc.2014.1984

Egri, C. P., & Ralston, D. A. (2008). Corporate responsibility: A review of international management research from 1998 to 2007. In *Journal of International Management* (Vol. 14, Issue 4). https://doi.org/10.1016/j.intman.2007.09.003

Elkington, J. (1998). Partnerships from cannibals with forks: The triple bottom line of 21st-century business. *Environmental Quality Management*, *8*(1). https://doi.org/10.1002/tqem.3310080106

Eltis, W. (2016). The classical theory of economic growth, second edition. In *The Classical Theory of Economic Growth, Second Edition*. https://doi.org/10.1007/9780230598201

Endrikat, J., Guenther, E., & Hoppe, H. (2014). Making sense of conflicting empirical findings: A meta-analytic review of the relationship between corporate environmental and financial performance. *European Management Journal*, *32*(5). https://doi.org/10.1016/j.emj.2013.12.004

Fazaalloh, A. M. (2024). FDI and economic growth in Indonesia: a provincial and sectoral analysis. *Journal of Economic Structures*, *13*(1). https://doi.org/10.1186/s40008-023-00323-w

Feng, M., Wang, X., & Kreuze, J. G. (2017). Corporate social responsibility and firm financial performance: Comparison analyses across industries and CSR categories. *American Journal of Business*, *32*(3–4).

Fernando, S., & Lawrence, S. (2014).
A theoretical framework for CSR practices: integrating legitimacy theory, stakehol der theory and institutional theory. *Journal of Theoretical Accounting …*.

Fifka, M. S. (2013). Corporate Responsibility Reporting and its Determinants in Comparative Perspective - a Review of the Empirical Literature and a Meta-analysis. *Business Strategy and the Environment*, *22*(1). https://doi.org/10.1002/bse.729

Fiori, G., di Donato, F., & Izzo, M. F. (2011). Corporate Social Responsibility and Firms Performance - An Analysis on Italian Listed Companies. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1032851

Freeman, E. (1984). Strategic Management: A Stakeholder Approach. In *Strategic Management: A Stakeholder Approach*.

Freeman, E. (2016). A Stakeholder Theory of the Modern Corporation. In *The Corporation and Its Stakeholders*. https://doi.org/10.3138/9781442673496-009

Freeman, E., & Dmytriyev, S. (2020). Corporate Social Responsibility and Stakeholder Theory: Learning From Each Other. *Symphonya. Emerging Issues in Management*, *1*. https://doi.org/10.4468/2017.1.02freeman.dmytriyev

Freeman, E., Dmytriyev, S. D., & Phillips, R. A. (2021). Stakeholder Theory and the Resource-Based View of the Firm. *Journal of Management*, *47*(7). https://doi.org/10.1177/0149206321993576

Friedman, M. (1970). A Friedman doctrine - The Social Responsibility of Business Is to Increase Its Profits. *New York Times Magazine*, *6*(Newspaper Article).

Frynas, J. G., & Stephens, S. (2015). Political Corporate Social Responsibility: Reviewing Theories and Setting New Agendas. *International Journal of Management Reviews*, *17*(4). https://doi.org/10.1111/ijmr.12049

Fujii, H., Iwata, K., Kaneko, S., & Managi, S. (2013). Corporate Environmental and Economic Performance of Japanese Manufacturing Firms: Empirical Study for Sustainable Development. *Business Strategy and the Environment*, *22*(3). https://doi.org/10.1002/bse.1747

Galant, A., & Cadez, S. (2017). Corporate social responsibility and financial performance relationship: A review of measurement approaches. *Economic Research-Ekonomska Istrazivanja* , *30*(1). https://doi.org/10.1080/1331677X.2017.1313122

Gallego-Álvarez, I., García-Sánchez, I. M., & da Silva Vieira, C. (2014). Climate Change and Financial Performance in Times of Crisis. *Business Strategy and the Environment*, *23*(6). https://doi.org/10.1002/bse.1786

Gallego-Álvarez, Prof. I., & Ortas, Prof. E. (2017). Corporate environmental sustainability reporting in the context of national cultures: A quantile regression approach. *International Business Review*, *26*(2), 337–353. https://doi.org/10.1016/j.ibusrev.2016.09.003

Gallén, M. L., & Peraita, C. (2018). The effects of national culture on corporate social responsibility disclosure: a cross-country comparison. *Applied Economics*, *50*(27), 2967–2979. https://doi.org/10.1080/00036846.2017.1412082

Gamerschlag, R., Möller, K., & Verbeeten, F. (2011). Determinants of voluntary CSR disclosure: Empirical evidence from Germany. *Review of Managerial Science*, *5*(2). https://doi.org/10.1007/s11846-010-0052-3

Garcia, A. S., Mendes-Da-Silva, W., & Orsato, R. (2017). Sensitive industries produce better ESG performance: Evidence from emerging markets. *Journal of Cleaner Production*, *150*. https://doi.org/10.1016/j.jclepro.2017.02.180

Garcia-Sanchez, I. M., Cuadrado-Ballesteros, B., & Frias-Aceituno, J. V. (2016). Impact of the Institutional Macro Context on the Voluntary Disclosure of CSR Information. *Long Range Planning*, *49*(1). https://doi.org/10.1016/j.lrp.2015.02.004

Garriga, E., & Melé, D. (2004). Corporate social responsibility theories: Mapping the territory. *Journal of Business Ethics*, *53*(1–2). https://doi.org/10.1023/B:BUSI.0000039399.90587.34

Gelfand, M. J., Erez, M., & Aycan, Z. (2007). Cross-Cultural Organizational Behavior. *Annual Review of Psychology*, *58*(1), 479–514. https://doi.org/10.1146/annurev.psych.58.110405.085559

Goll, I., & Rasheed, A. A. (2004). The moderating effect of environmental munificence and dynamism on the relationship between discretionary social responsibility and firm performance. *Journal of Business Ethics*, *49*(1). https://doi.org/10.1023/B:BUSI.0000013862.14941.4e

Gregory, A., Whittaker, J., & Yan, X. (2016). Corporate Social Performance, Competitive Advantage, Earnings Persistence and Firm Value. *Journal of Business Finance and Accounting*, *43*(1–2). https://doi.org/10.1111/jbfa.12182

Griffin, D., Guedhami, O., Li, K., & Lu, G. (2021). National culture and the valueto implications of corporate environmental and social performance. *Journal of Corporate Finance*, *71*. https://doi.org/10.1016/j.jcorpfin.2021.102123

Guan, J., Kirikkaleli, D., Bibi, A., & Zhang, W. (2020). Natural resources rents nexus with financial development in the presence of globalization: Is the “resource curse” exist or myth? *Resources Policy*, *66*. https://doi.org/10.1016/j.resourpol.2020.101641

Guan, Y., & Fu, G. H. (2022). A Double-Penalized Estimator to Combat Separation and Multicollinearity in Logistic Regression. *Mathematics*, *10*(20). https://doi.org/10.3390/math10203824

Guillén, M. F., Powell, W. W., & Dimaggio, P. J. (1992). The New Institutionalism in Organizational Analysis. *Reis*, *59*. https://doi.org/10.2307/40183831

Guimarães, P., & Portugal, P. (2010). A simple feasible procedure to fit models with high-dimensional fixed effects. *Stata Journal*, *10*(4). https://doi.org/10.1177/1536867x1101000406

Hakimi, A., Boussaada, R., & Karmani, M. (2023). Corporate social responsibility and firm performance: a threshold analysis of European firms. *European Journal of Management and Business Economics*. https://doi.org/10.1108/EJMBE-07-2022-0224

Halkos, G., Nomikos, S., & Tsilika, K. (2022). Evidence for Novel Structures Relating CSR Reporting and Economic Welfare: Environmental Sustainability—A Continent-Level Analysis. *Computational Economics*, *59*(2). https://doi.org/10.1007/s10614-020-10091-5

Halkos, G., & Skouloudis, A. (2016). Cultural dimensions and corporate social responsibility: A cross-country analysis. *Munich Personal PePEc Archive (MPRA)*, *1*.

Halkos, G., & Skouloudis, A. (2017). Revisiting the relationship between corporate social responsibility and national culture: A quantitative assessment. *Management Decision*, *55*(3). https://doi.org/10.1108/MD-12-2016-0868

Hamilton, J. T. (1995). Pollution as news: Media and stock market reactions to the toxics release inventory data. *Journal of Environmental Economics and Management*, *28*(1). https://doi.org/10.1006/jeem.1995.1007

Harrison, J. S., Freeman, E., & de Abreu, M. C. S. (2015). Stakeholder theory as an ethical approach to effective management: Applying the theory to multiple contexts. *Revista Brasileira de Gestao de Negocios*, *17*(55). https://doi.org/10.7819/rbgn.v17i55.2647

Hart, S. L. (1995). A Natural-Resource-Based the Firm. *Academy of Management*, *20*(4).

Hart, S. L., & Ahuja, G. (1996). Does it pay to be green? An empirical examination of the relationship between emission reduction and firm performance. *Business Strategy and the Environment*, *5*(1). https://doi.org/10.1002/(sici)1099-0836(199603)5:1<30::aid-bse38>3.0.co;2-q

Hatch, M. J. (2013). Theory Organization Modern, Symbolic, and Postmodern Perspectives. In *Oxford University Press* (Vol. 3, Issue 2).

Ho, F. N., Wang, H. M. D., & Vitell, S. J. (2012). A Global Analysis of Corporate Social Performance: The Effects of Cultural and Geographic Environments. *Journal of Business Ethics*, *107*(4). https://doi.org/10.1007/s10551-011-1047-y

Ho, S., Oueghlissi, R., & Ferktaji, R. El. (2019). The dynamic causality between ESG and economic growth: Evidence from panel causality analysis. *Https://Mpra.Ub.Uni-Muenchen.De/95390/*, *MPRA Paper*(95390).

Hofstede. (2022). *Hofstede Insights*. Hofstede Insights.

Hofstede, G. (2001). Geert Hofstede, Culture's Consequences: Comparing Values, Behaviours, Institutions, and Organizations Across Nations,. In *Sage Publications*.

Hofstede, G. (2020). Compare countries - Hofstede Insights. In *Cultures and Organizations, Software of the Mind*.

Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). Cultures and Organizations: Software of the Mind, Third Edition. In *McGraw-Hill Education; 3 edition*.

Hofstede, G., & Minkov, M. (2010). Long- versus short-term orientation: New perspectives. *Asia Pacific Business Review*, *16*(4). https://doi.org/10.1080/13602381003637609

Horak, S., Arya, B., & Ismail, K. M. (2018). Organizational Sustainability Determinants in Different Cultural Settings: A Conceptual Framework. *Business Strategy and the Environment*, *27*(4). https://doi.org/10.1002/bse.2018

House, R. J. (2004). Leadership, culture and organizations: The GLOBE study of 62 societies. *Recherche*, *67*.

Howarth, R. B. (2012). Sustainability, Well-Being, and Economic Growth. *Minding Nature*, *5*(2), 32–39.

Hsiao, C. (2014). *Analysis of Panel Data*. Cambridge University Press. https://doi.org/10.1017/CBO9781139839327

Hsiao, H.-F., Zhong, T., & Wang, J. (2024). Does national culture influence corporate social responsibility on firm performance? *Humanities and Social Sciences Communications*, *11*(1), 5. https://doi.org/10.1057/s41599-023-02538-5

Huang, X. '"Beryl"', & Watson, L. (2015). Corporate social responsibility research in accounting. *Journal of Accounting Literature*, *34*(1), 1–16. https://doi.org/10.1016/j.acclit.2015.03.001

Hubbard, G. (2009). Measuring organizational performance: Beyond the triple bottom line. *Business Strategy and the Environment*, *18*(3). https://doi.org/10.1002/bse.564

Ikram, M., Sroufe, R., Mohsin, M., Solangi, Y. A., Shah, S. Z. A., & Shahzad, F. (2020). Does CSR influence firm performance? A longitudinal study of SME sectors of Pakistan. *Journal of Global Responsibility*, *11*(1). https://doi.org/10.1108/JGR-12-2018-0088

Im, K. S., Pesaran, M. H., & Shin, Y. (2003). Testing for unit roots in heterogeneous panels. *Journal of Econometrics*, *115*(1). https://doi.org/10.1016/S0304-4076(03)00092-7

Inglehart, R., & Welzel, C. (2001). *Modernization, Cultural Change, and Democracy*. Cambridge University Press. https://doi.org/10.1017/CBO9780511790881

Iwata, H., & Okada, K. (2011). How does environmental performance affect financial performance? Evidence from Japanese manufacturing firms. *Ecological Economics*, *70*(9). https://doi.org/10.1016/j.ecolecon.2011.05.010

Jackson, T. (2020). The legacy of Geert Hofstede. In *International Journal of Cross Cultural Management* (Vol. 20, Issue 1). https://doi.org/10.1177/1470595820915088

Jaggi, B., & Freedman, M. (1992). AN EXAMINATION OF THE IMPACT OF POLLUTION PERFORMANCE ON ECONOMIC AND MARKET PERFORMANCE: PULP AND PAPER FIRMS. *Journal of Business Finance & Accounting*, *19*(5). https://doi.org/10.1111/j.1468-5957.1992.tb00652.x

Jain, P., Vyas, V., & Roy, A. (2017). Exploring the mediating role of intellectual capital and competitive advantage on the relation between CSR and financial performance in SMEs. *Social Responsibility Journal*, *13*(1). https://doi.org/10.1108/SRJ-04-2015-0048

Jamali, D. (2008). A stakeholder approach to corporate social responsibility: A fresh perspective into theory and practice. *Journal of Business Ethics*, *82*(1). https://doi.org/10.1007/s10551-007-9572-4

Jamali, D., & Karam, C. (2018). Corporate Social Responsibility in Developing Countries as an Emerging Field of Study. *International Journal of Management Reviews*, *20*(1), 32–61. https://doi.org/10.1111/ijmr.12112

Jensen, M. (2001). Value maximisation, stakeholder theory, and the corporate objective function. *European Financial Management*, *7*(3). https://doi.org/10.1111/1468-036X.00158

Jensen, N., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs, and capital structure. *Journal of Financial Economics*, *3*(4).

Jeong, K. S., & Park, C. K. (2016). The effect of Corporate Social Responsibilities on the quality of corporate reporting. *Journal of Distribution Science*, *14*(6). https://doi.org/10.15722/jds.14.6.201606.75

Jha, A., & Cox, J. (2015). Corporate social responsibility and social capital. *Journal of Banking and Finance*, *60*. https://doi.org/10.1016/j.jbankfin.2015.08.003

Kacapyr, E. (2015). A Guide to Basic Econometric Techniques. In *A Guide to Basic Econometric Techniques*. https://doi.org/10.4324/9781315706856

Kaler, J. (2006). Evaluating stakeholder theory. *Journal of Business Ethics*, *69*(3). https://doi.org/10.1007/s10551-006-9089-2

Kang, K. H., Lee, S., & Yoo, C. (2016). The effect of national culture on corporate social responsibility in the hospitality industry. *International Journal of Contemporary Hospitality Management*, *28*(8). https://doi.org/10.1108/IJCHM-08-2014-0415

Karakaplan, M. U., & Kutlu, L. (2017). Handling endogeneity in stochastic frontier analysis. *Economics Bulletin*, *37*(2). https://doi.org/10.2139/ssrn.2607276

Karim, S., Manab, N. A., & Ismail, R. B. (2020). The dynamic impact of board composition on CSR practices and their mutual effect on organizational returns. *Journal of Asia Business Studies*, *14*(4). https://doi.org/10.1108/JABS-07-2019-0214

Karki, D., Bhattarai, G., Dahal, R. K., & Dhami, K. (2023). Should income be diversified? A dynamic panel data analysis of Nepalese depository financial institutions. *Investment Management and Financial Innovations*, *20*(3). https://doi.org/10.21511/imfi.20(3).2023.28

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2011). The worldwide governance indicators: Methodology and analytical issues. *Hague Journal on the Rule of Law*, *3*(2). https://doi.org/10.1017/S1876404511200046

Khan, I., Jia, M., Lei, X., Niu, R., Khan, J., & Tong, Z. (2023). Corporate social responsibility and firm performance. *Total Quality Management & Business Excellence*, *34*(5–6), 672–691. https://doi.org/10.1080/14783363.2022.2092467

Khan, N. H., Ju, Y., & Hassan, S. T. (2019). Investigating the determinants of human development index in Pakistan: an empirical analysis. *Environmental Science and Pollution Research*, *26*(19). https://doi.org/10.1007/s11356-019-05271-2

Koprowski, S., Mazzioni, S., Baú Dal Magro, C., & Silva da Rosa, F. (2021). National Culture and Corporate Social Responsibility. *Review of Business Management*, *23*(3), 488–502. https://doi.org/10.7819/rbgn.v.23i3.4115

Kostova, T., & Zaheer, S. (1999). Organizational legitimacy under conditions of complexity: The case of the multinational enterprise. *Academy of Management Review*, *24*(1). https://doi.org/10.5465/AMR.1999.1580441

Kucharska, W., & Kowalczyk, R. (2019). How to achieve sustainability?—Employee's point of view on company's culture and CSR practice. *Corporate Social Responsibility and Environmental Management*, *26*(2). https://doi.org/10.1002/csr.1696

Lambert, S. L. (2021). The Effects of Recessions on Earnings Forecasts and Fundamental Signals. *International Journal of Business*, *26*(2).

Lanis, R., & Richardson, G. (2013). Corporate social responsibility and tax aggressiveness: A test of legitimacy theory. *Accounting, Auditing and Accountability Journal*, *26*(1). https://doi.org/10.1108/09513571311285621

Larcker, D. F., & Rusticus, T. O. (2007). Endogeneity and empirical accounting research. *European Accounting Review*, *16*(1). https://doi.org/10.1080/09638180701269905

Larcker, D. F., & Rusticus, T. O. (2010). On the use of instrumental variables in accounting research. *Journal of Accounting and Economics*, *49*(3). https://doi.org/10.1016/j.jacceco.2009.11.004

Lech, A. (2013). Corporate Social Responsibility and Financial Performance. Theoretical and Empirical Aspects. *Comparative Economic Research. Central and Eastern Europe*, *16*(3), 49–62. https://doi.org/10.2478/cer-2013-0018

Levine, R. (1997). Financial Development and Economic Growth: Views and Agenda. *Journal of Economic Literature*, *35*(2).

Levine, R. (2003). More on Finance and Growth: More Finance, More Growth? *Review*, *85*(4). https://doi.org/10.20955/r.85.31-46

Levine, R. (2005). Chapter 12 Finance and Growth: Theory and Evidence. In *Handbook of Economic Growth* (Vol. 1, Issue SUPPL. PART A). https://doi.org/10.1016/S1574-0684(05)01012-9

Li, T., Wang, Y., & Zhao, D. (2016). Environmental Kuznets Curve in China: New evidence from dynamic panel analysis. *Energy Policy*, *91*. https://doi.org/10.1016/j.enpol.2016.01.002

Lin, C. S., Chang, R. Y., & Dang, V. T. (2015). An integrated model to explain how corporate social responsibility affects corporate financial performance. *Sustainability (Switzerland)*, *7*(7). https://doi.org/10.3390/su7078292

Lins, K. V, Servaes, H., & Tamayo, A. (2017). Social Capital, Trust, and Firm Performance: The Value of Corporate Social Responsibility during the Financial Crisis. *Journal of Finance*, *72*(4). https://doi.org/10.1111/jofi.12505

Lopatta, K., & Kaspereit, T. (2014). The World Capital Markets' Perception of Sustainability and the Impact of the Financial Crisis. *Journal of Business Ethics*, *122*(3). https://doi.org/10.1007/s10551-013-1760-9

Lu, J., Rodenburg, K., Foti, L., & Pegoraro, A. (2022). Are firms with better sustainability performance more resilient during crises? *Business Strategy and the Environment*, *31*(7). https://doi.org/10.1002/bse.3088

Lu, W., Chau, K. W., Wang, H., & Pan, W. (2014). A decade's debate on the nexus between corporate social and corporate financial performance: A critical review of empirical studies 2002-2011. *Journal of Cleaner Production*, *79*. https://doi.org/10.1016/j.jclepro.2014.04.072

Lucas, R. E. (1988). On the mechanics of economic development. *Journal of Monetary Economics*, *22*(1). https://doi.org/10.1016/0304-3932(88)90168-7

Luo, X., & Bhattacharya, C. B. (2006). Corporate social responsibility, customer Satisfaction, and market value. *Journal of Marketing*, *70*(4). https://doi.org/10.1509/jmkg.70.4.1

Lyon, T. P., & Montgomery, A. W. (2015). The Means and End of Greenwash. *Organization and Environment*, *28*(2). https://doi.org/10.1177/1086026615575332

Maddison, A. (1983). A Comparison of Levels of GDP Per Capita in Developed and Developing Countries, 1700–1980. *The Journal of Economic History*, *43*(1). https://doi.org/10.1017/S0022050700028965

Mahlberg, B., & Obersteiner, M. (2012). Remeasuring the HDI by Data Envelopement Analysis. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1999372

Mahoney, L. S., Thorne, L., Cecil, L., & LaGore, W. (2013). A research note on standalone corporate social responsibility reports: Signaling or greenwashing? *Critical Perspectives on Accounting*, *24*(4–5). https://doi.org/10.1016/j.cpa.2012.09.008

Makni, R., Francoeur, C., & Bellavance, F. (2009). Causality between corporate Social performance and financial performance: Evidence from Canadian firms. *Journal of Business Ethics*, *89*(3). https://doi.org/10.1007/s10551-008-0007-7

Manescu, C. (2010). Economic Implications of Corporate Social Responsibility and Responsible Investments. In *Geson Hylte Tryck*.

Manuel Arellano and Stephen Bond. (1991). Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations. *Review of Economic Studies*, *58*.

Margolis, J. D., Elfenbein, H. A., & Walsh, J. P. (2009). Does it Pay to Be Good...And Does it Matter? A Meta-Analysis of the Relationship between Corporate Social and Financial Performance. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1866371

Marquis, C., Toffel, M. W., & Zhou, Y. (2016). Scrutiny, norms, and selective disclosure: A global study of greenwashing. *Organization Science*, *27*(2). https://doi.org/10.1287/orsc.2015.1039

Martínez-Ferrero, J., & Frías-Aceituno, J. V. (2015). Relationship between sustainable development and financial performance: International empirical research. *Business Strategy and the Environment*, *24*(1). https://doi.org/10.1002/bse.1803

Matten, D., & Moon, J. (2008). 'Implicit' and 'explicit' CSR: A conceptual framework for a comparative understanding of corporate social responsibility. *Academy of Management Review*, *33*(2). https://doi.org/10.5465/AMR.2008.31193458

Mattingly, J. E. (2017). Corporate Social Performance: A Review of Empirical Research Examining the Corporation–Society Relationship Using Kinder, Lydenberg, Domini Social Ratings Data. *Business and Society*, *56*(6). https://doi.org/10.1177/0007650315585761

McWilliams, A., & Siegel, D. (2000). Corporate social responsibility and financial performance: Correlation or misspecification? *Strategic Management Journal*, *21*(5). https://doi.org/10.1002/(SICI)1097-0266(200005)21:5<603::AID-SMJ101>3.0.CO;2-3

Menguc, B., & Ozanne, L. K. (2005). Challenges of the 'green imperative': A natural resource-based approach to the environmental orientation-business performance relationship. *Journal of Business Research*, *58*(4). https://doi.org/10.1016/j.jbusres.2003.09.002

Meyer, J. W., & Rowan, B. (1977). 22. Meyer, Rowan, 1977. Institutionalized Organizations. *American Journal of Sociology*, *83*(2).

Minkov, M., & Kaasa, A. (2020). A test of Hofstede's model of culture following his own approach. *Cross Cultural and Strategic Management*, *28*(2). https://doi.org/10.1108/CCSM-05-2020-0120

Mishra, S., & Suar, D. (2010). Does corporate social responsibility influence firm performance of Indian companies? *Journal of Business Ethics*, *95*(4). https://doi.org/10.1007/s10551-010-0441-1

Montabon, F., Sroufe, R., & Narasimhan, R. (2007). An examination of corporate reporting, environmental management practices and firm performance. *Journal of Operations Management*, *25*(5). https://doi.org/10.1016/j.jom.2006.10.003

Moser, D. V., & Martin, P. R. (2012). A broader perspective on corporate social responsibility research in accounting. In *Accounting Review* (Vol. 87, Issue 3). https://doi.org/10.2308/accr-10257

Murtin, F., De Serres, A., & Alexander, H. (2011). *The ins and outs of unemployment: The role of labour market institutions*.

Namazi, M., & Namazi, N.-R. (2016). Conceptual Analysis of Moderator and Mediator Variables in Business Research. *Procedia Economics and Finance*, *36*. https://doi.org/10.1016/s2212-5671(16)30064-8

Naomi, P., & Akbar, I. (2021). BEYOND SUSTAINABILITY: EMPIRICAL EVIDENCE FROM OECD COUNTRIES ON THE CONNECTION AMONG NATURAL RESOURCES, ESG PERFORMANCES, AND ECONOMIC DEVELOPMENT. *Economics and Sociology*, *14*(4). https://doi.org/10.14254/2071-789X.2021/14-4/5

National Bureau of Economic Research. (2010). *The NBER's recession dating procedure*. https://www.nber.org/cycles/jan08bcdc_memo.html

Navarro Espigares, J. L., & González López, J. M. (2006). Corporate Social Responsibility and Economic Growth/Responsabilidad social corporativa y crecimiento económico. *Estudios de Economia Aplicada*, *24*.

Neelankavil, J. P. (2015). International Business Research. In *International Business Research*. https://doi.org/10.4324/9781315689876

Ngwakwe, C. C. (2009). Environmental Responsibility and Firm Performance : Evidence from Nigeria. *International Journal of Human and Social Sciences*, *4*(6).

Novitasari, M., & Tarigan, Z. J. H. (2022). The Role of Green Innovation in the Effect of Corporate Social Responsibility on Firm Performance. *Economies*, *10*(5). https://doi.org/10.3390/economies10050117

Ntim, C. G., & Soobaroyen, T. (2013). Black Economic Empowerment Disclosures by South African Listed Corporations: The Influence of Ownership and Board Characteristics. *Journal of Business Ethics*, *116*(1), 121–138. https://doi.org/10.1007/s10551-012-1446-8

Okafor, A., Adeleye, B. N., & Adusei, M. (2021). Corporate social responsibility and financial performance: Evidence from U.S tech firms. *Journal of Cleaner Production*, *292*, 126078. https://doi.org/10.1016/j.jclepro.2021.126078

Onkenhout, N. (2020). *National Culture and CSR: The Influence of National Culture on CSR Performance and the Moderating Effects of Headquarters' Home Country Sustainable Development and CEO Foreignness* [Master Thesis]. University of Groningen.

Onyemelukwe, C. C. (2016). The Science of Economic Development and Growth: The Theory of Factor Proportions. In *The Science of Economic Development and Growth: The Theory of Factor Proportions*. https://doi.org/10.4324/9781315500133

Orens, R., Aerts, W., & Cormier, D. (2010). Web-Based Non-Financial Disclosure and Cost of Finance. *Journal of Business Finance and Accounting*, *37*(9–10). https://doi.org/10.1111/j.1468-5957.2010.02212.x

Orij, R. (2010). Corporate social disclosures in the context of national cultures and stakeholder theory. *Accounting, Auditing and Accountability Journal*, *23*(7). https://doi.org/10.1108/09513571011080162

Orlitzky, M., Schmidt, F. L., & Rynes, S. L. (2003). Corporate social and financial performance: A meta-analysis. *Organization Studies*, *24*(3). https://doi.org/10.1177/0170840603024003910

Peng, Y.-S., Dashdeleg, A.-U., & Chih, H. L. (2012). Does National Culture Influence Firm's CSR Engagement: a Cross Country Study. *International Proceedings of Economics Development and Research*, *58*.

Perone, G. (2024). The relationship between renewable energy production and CO2 emissions in 27 OECD countries: A panel cointegration and Granger non-causality approach. *Journal of Cleaner Production*, *434*. https://doi.org/10.1016/j.jclepro.2023.139655

Pesaran, M. H. (2006). Estimation and inference in large heterogeneous panels with a multifactor error structure. In *Econometrica* (Vol. 74, Issue 4). https://doi.org/10.1111/j.1468-0262.2006.00692.x

Pesaran, M. H., Shin, Y., & Smith, R. P. (1999). Pooled Mean Group Estimation of Dynamic Heterogeneous Panels. *Journal of the American Statistical Association*, *94*(446). https://doi.org/10.1080/01621459.1999.10474156

Pope, J., Annandale, D., & Morrison-Saunders, A. (2004). Conceptualising sustainability assessment. *Environmental Impact Assessment Review*, *24*(6). https://doi.org/10.1016/j.eiar.2004.03.001

Porter, M. E., & Van Der Linde, C. (1995). American Economic Association Toward a New Conception of the Environment-Competitiveness Relationship. *Source: The Journal of Economic Perspectives*, *9*(4).

Prado-Lorenzo, J. M., Gallego-Álvarez, I., García-Sánchez, I. M., & Rodríguez-Domínguez, L. (2008). Social responsibility in Spain. Practices and motivations in firms. *Management Decision*, *46*(8). https://doi.org/10.1108/00251740810901417

Pucheta-Martínez, M. C., & Gallego-Álvarez, I. (2020). Corporate Environmental Disclosure Practices in Different National Contexts: The Influence of Cultural Dimensions. *Organization and Environment*, *33*(4). https://doi.org/10.1177/1086026619860263

Putra, D. G., Saputra, S. E., Setiawan, P., Susanti, N., & Syamra, Y. (2023). Board of Commissioners and Corporate Social Responsibility Disclosure: The Role of Corporate Performance As Moderation. *MAKSIMUM*, *13*(1). https://doi.org/10.26714/mki.13.1.2023.85-96

Pyatt, G., & Becker, G. S. (1966). Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education. *The Economic Journal*, *76*(303). https://doi.org/10.2307/2229541

Rahim, S., Murshed, M., Umarbeyli, S., Kirikkaleli, D., Ahmad, M., Tufail, M., & Wahab, S. (2021). Do natural resources abundance and human capital development promote economic growth? A study on the resource curse hypothesis in Next Eleven countries. *Resources, Environment and Sustainability*, *4*. https://doi.org/10.1016/j.resenv.2021.100018

Refinitiv - LSEG. (2022). *Environmental, Social and Governance Scores from Refinitiv*.

Rehman, S. U., Bresciani, S., Yahiaoui, D., & Giacosa, E. (2022). Environmental sustainability orientation and corporate social responsibility influence on environmental performance of small and medium enterprises: The mediating effect of green capability. *Corporate Social Responsibility and Environmental Management*, *29*(6). https://doi.org/10.1002/csr.2293

Riffe, D., Lacy, S., & Fico, F. (2014). Analyzing media messages: Using quantitative content analysis in research. In *Analyzing Media Messages: Using Quantitative Content Analysis in Research*. https://doi.org/10.4324/9780203551691

Rindfleisch, A., Malter, A. J., Ganesan, S., & Moorman, C. (2008). Cross-sectional versus longitudinal survey research: Concepts, findings, and guidelines. In *Journal of Marketing Research* (Vol. 45, Issue 3). https://doi.org/10.1509/jmkr.45.3.261

Ringov, D., & Zollo, M. (2007). Corporate responsibility from a socio-institutional perspective: The impact of national culture on corporate social performance. *Corporate Governance*, *7*(4). https://doi.org/10.1108/14720700710820551

Roberts, P. W., & Dowling, G. R. (2002). Corporate reputation and sustained superior financial performance. *Strategic Management Journal*, *23*(12). https://doi.org/10.1002/smj.274

Robinson, J. A., Torvik, R., & Verdier, T. (2006). Political foundations of the resource curse. *Journal of Development Economics*, *79*(2). https://doi.org/10.1016/j.jdeveco.2006.01.008

Robson, C. (2002). Real World Research. 2nd. In *Edition. Blackwell Publishing. Malden*.

Roccas, S., & Sagiv, L. (2010). Personal Values and Behavior: Taking the Cultural Context into Account. *Social and Personality Psychology Compass*, *4*(1), 30–41. https://doi.org/10.1111/j.1751-9004.2009.00234.x

Romer, P. M. (1994). The Origins of Endogenous Growth. *Journal of Economic Perspectives*, *8*(1). https://doi.org/10.1257/jep.8.1.3

Roser, M. (2013, January 18). *Economic Growth*. Our World Data. https://ourworldindata.org/

Roy, A., & Goll, I. (2014). Predictors of various facets of sustainability of nations: The role of cultural and economic factors. *International Business Review*, *23*(5). https://doi.org/10.1016/j.ibusrev.2014.01.003

Rupasingha, A., Goetz, S. J., & Freshwater, D. (2002). Social and institutional factors as determinants of economic growth: Evidence from the United States counties. *Papers in Regional Science*, *81*(2). https://doi.org/10.1007/s101100100091

Rupasingha, A., Goetz, S. J., & Freshwater, D. (2006). The production of social capital in US counties. *Journal of Socio-Economics*, *35*(1). https://doi.org/10.1016/j.socec.2005.11.001

Sacconi, L., & Antoni, G. D. (2010). Social Capital, Corporate Social Responsibility, Economic Behaviour and Performance. In *Social Capital, Corporate Social Responsibility, Economic Behaviour and Performance*. https://doi.org/10.1057/9780230306189

Sachs, J., & Warner, A. (1995). Natural Resource Abundance and Economic Growth. NBER Working Paper 5398. *NBER*.

Salditt, M., & Nestler, S. (2023). Parametric and nonparametric propensity score estimation in multilevel observational studies. *Statistics in Medicine*, *42*(23). https://doi.org/10.1002/sim.9852

Saunders, M., Lewis, P., & Thornhill, A. (2019). Research Methods for Business Students by Mark Saunders, Philip Lewis and Adrian Thornhill 8th edition. In *Research Methods For Business Students*.

Schneider, B., Ehrhart, M. G., & MacEy, W. H. (2013). Organizational climate and culture. In *Annual Review of Psychology* (Vol. 64). https://doi.org/10.1146/annurev-psych-113011-143809

Scholtens, B. (2006). Finance as a driver of corporate social responsibility. *Journal of Business Ethics*, *68*(1). https://doi.org/10.1007/s10551-006-9037-1

Scholtens, B. (2008). A note on the interaction between corporate social responsibility and financial performance. *Ecological Economics*, *68*(1–2). https://doi.org/10.1016/j.ecolecon.2008.01.024

Schreck, P. (2011). Reviewing the Business Case for Corporate Social Responsibility: New Evidence and Analysis. *Journal of Business Ethics*, *103*(2). https://doi.org/10.1007/s10551-011-0867-0

Schunck, R. (2013). Within and between estimates in random-effects models: Advantages and drawbacks of correlated random effects and hybrid models. *Stata Journal*, *13*(1). https://doi.org/10.1177/1536867x1301300105

Schwartz, S. H. (1999). A Theory of Cultural Values and Some Implications for Work. *Applied Psychology*, *48*(1), 23–47. https://doi.org/10.1111/j.1464-0597.1999.tb00047.x

Seifert, B., Morris, S. A., & Bartkus, B. R. (2003). Comparing Big Givers and Small Givers: Financial Correlates of Corporate Philanthropy. *Journal of Business Ethics*, *45*(3). https://doi.org/10.1023/A:1024199411807

Seifert, B., Morris, S. A., & Bartkus, B. R. (2004). Having, Giving, and Getting: Slack Resources, Corporate Philanthropy, and Firm Financial Performance. *Business & Society*, *43*(2). https://doi.org/10.1177/0007650304263919

Sent, E. M., & Kroese, A. L. J. (2022). Commemorating Geert Hofstede, a pioneer in the study of culture and institutions. *Journal of Institutional Economics*, *18*(1). https://doi.org/10.1017/S174413742000051X

Seo, M. H., & Shin, Y. (2016). Dynamic panels with threshold effect and endogeneity. *Journal of Econometrics*, *195*(2). https://doi.org/10.1016/j.jeconom.2016.03.005

Sharma, C., & Khanna, R. (2024). Do trade and technology foster employment growth? Evidence from Indian industries. *Managerial and Decision Economics*, *45*(2). https://doi.org/10.1002/mde.4048

Shin, J., Moon, J. J., & Kang, J. (2023). Where does ESG pay? The role of national culture in moderating the relationship between ESG performance and financial performance. *International Business Review*, *32*(3). https://doi.org/10.1016/j.ibusrev.2022.102071

Shocker, A. D., & Sethi, S. P. (1973). An Approach to Incorporating Societal Preferences in Developing Corporate Action Strategies. *California Management Review*, *15*(4). https://doi.org/10.2307/41164466

Sinha, A., & Sengupta, T. (2019). Impact of natural resource rents on human development: What is the role of globalization in Asia Pacific countries? *Resources Policy*, *63*. https://doi.org/10.1016/j.resourpol.2019.101413

Škare, M., & Golja, T. (2013). How important are CSR companies for nations' growth? *Journal of Business Economics and Management*, *14*(4). https://doi.org/10.3846/16111699.2013.820664

Škare, M., & Golja, T. (2014). The impact of government CSR supporting policies on economic growth. *Journal of Policy Modeling*, *36*(3). https://doi.org/10.1016/j.jpolmod.2014.01.008

Slangen, M. (2019). *National Culture and CSR: The Influence of National Culture on CSR and the Moderating Effect of State of Development*.

Smircich, L. (2017). Concepts of culture and organizational analysis. In *The Anthropology of Organisations*. https://doi.org/10.4324/9781315241371-20

Smith, A. (1776). An inquiry into the wealth of nations. *Strahan and Cadell, London*.

Stern, S., Wares, A., & Orzell, S. (2015). *Social Progress Index 2015 - Methodological Report*.

Story, J., & Neves, P. (2015). When corporate social responsibility (CSR) increases performance: Exploring the role of intrinsic and extrinsic CSR attribution. *Business Ethics*, *24*(2). https://doi.org/10.1111/beer.12084

Sun, L., & Abraham, S. (2021). Estimating dynamic treatment effects in event studies with heterogeneous treatment effects. *Journal of Econometrics*, *225*(2). https://doi.org/10.1016/j.jeconom.2020.09.006

Sung, B., & Park, S. Do. (2018). Who drives the transition to a renewable-energy economy? Multi-actor perspective on social innovation. *Sustainability (Switzerland)*, *10*(2). https://doi.org/10.3390/su10020448

Surroca, J., & Tribó, J. A. (2008). Managerial entrenchment and corporate social performance. *Journal of Business Finance and Accounting*, *35*(5–6). https://doi.org/10.1111/j.1468-5957.2008.02090.x

Tenaw, D., & Beyene, A. D. (2021). Environmental sustainability and economic development in sub-Saharan Africa: A modified EKC hypothesis. *Renewable and Sustainable Energy Reviews*, *143*. https://doi.org/10.1016/j.rser.2021.110897

Thach, N. N., Ngan, T. H., Linh, N. T. X., & Nam, O. Van. (2021). Reconsidering Hofstede's Cultural Dimensions: A Different View on South and Southeast Asian Countries. In *Studies in Computational Intelligence* (Vol. 898). https://doi.org/10.1007/978-3-030-48853-6_21

Thanetsunthorn, N. (2015). The impact of national culture on corporate social responsibility: evidence from cross-regional comparison. *Asian Journal of Business Ethics*, *4*(1). https://doi.org/10.1007/s13520-015-0042-2

Thanetsunthorn, N., & Wuthisatian, R. (2018). Cultural configuration models: corporate social responsibility and national culture. *Management Research Review*, *41*(10). https://doi.org/10.1108/MRR-08-2017-0254

The World Bank. (2022). *World Governance Indicators (WGIs)*.

Tieben, B. (2023). Neoclassical macroeconomics. In *Routledge Handbook of Macroeconomic Methodology*. https://doi.org/10.4324/9781315745992-20

Tihanyi, L., Graffin, S., & George, G. (2014). Rethinking governance in management research. In *Academy of Management Journal* (Vol. 57, Issue 6). https://doi.org/10.5465/amj.2014.4006

Todaro, M., & Smith, S. C. (2011). Economic Development (11th ed.). In *Economic Development*.

Trumpp, C., & Guenther, T. (2017). Too Little or too much? Exploring U-shaped Relationships between Corporate Environmental Performance and Corporate Financial Performance. *Business Strategy and the Environment*, *26*(1). https://doi.org/10.1002/bse.1900

Turker, D. (2009). Measuring corporate social responsibility: A scale development study. *Journal of Business Ethics*, *85*(4). https://doi.org/10.1007/s10551-008-9780-6

UNDP. (2020). Human Development Report 2020: The Next Frontier Human Development and the Anthropocene Briefing note for countries on the 2020 Human Development Report Albania. *UNDP: New York, NY, USA*.

Unerman, J. (2000). Methodological issues - Reflections on quantification in corporate social reporting content analysis. *Accounting, Auditing & Accountability Journal*, *13*(5). https://doi.org/10.1108/09513570010353756

Uyar, A., Abdelqader, M., & Kuzey, C. (2023). Liquidity and CSR: a chicken and egg story. *Society and Business Review*, *18*(1). https://doi.org/10.1108/SBR-01-2022-0032

van Eyden, R., Difeto, M., Gupta, R., & Wohar, M. E. (2019). Oil price volatility and economic growth: Evidence from advanced economies using more than a century's data. *Applied Energy*, *233–234*. https://doi.org/10.1016/j.apenergy.2018.10.049

Vásquez-Ordóñez, L. R., Lassala, C., Ulrich, K., & Ribeiro-Navarrete, S. (2023). The impact of corporate social responsibility on the financial performance of renewable energy firms. *Economic Research-Ekonomska Istrazivanja*, *36*(2). https://doi.org/10.1080/1331677X.2023.2174152

Velte, P. (2017). Does ESG performance have an impact on financial performance? Evidence from Germany. *Journal of Global Responsibility*, *8*(2). https://doi.org/10.1108/JGR-11-2016-0029

Velte, P. (2019). The bidirectional relationship between ESG performance and earnings management – empirical evidence from Germany. *Journal of Global Responsibility*, *10*(4). https://doi.org/10.1108/JGR-01-2019-0001

Velte, P. (2022). Meta-analyses on Corporate Social Responsibility (CSR): a literature review. *Management Review Quarterly*, *72*(3). https://doi.org/10.1007/s11301-021-00211-2

Veronica Siregar, S., & Bachtiar, Y. (2010). Corporate social reporting: empirical evidence from Indonesia Stock Exchange. *International Journal of Islamic and Middle Eastern Finance and Management*, *3*(3). https://doi.org/10.1108/17538391011072435

Visser, W. (2009). Corporate Social Responsibility in Developing Countries. In *The Oxford Handbook of Corporate Social Responsibility*. https://doi.org/10.1093/oxfordhb/9780199211593.003.0021

Visser, W., & Brundtland, G. H. (2013). Our Common Future ('The Brundtland Report'): World Commission on Environment and Development. In *The Top 50 Sustainability Books*. https://doi.org/10.9774/gleaf.978-1-907643-44-6_12

Wagner, M., Van Phu, N., Azomahou, T., & Wehrmeyer, W. (2002). The relationship between the environmental and economic performance of firms: an empirical analysis of the European paper industry. *Corporate Social Responsibility and Environmental Management*, *9*(3). https://doi.org/10.1002/csr.22

Wang, L., Li, S., & Gao, S. (2014). Do greenhouse gas emissions affect financial performance? - An empirical examination of Australian public firms. *Business Strategy and the Environment*, *23*(8). https://doi.org/10.1002/bse.1790

Wang, Q., Dou, J., & Jia, S. (2016). A Meta-Analytic Review of Corporate Social Responsibility and Corporate Financial Performance: The Moderating Effect of Contextual Factors. *Business and Society*, *55*(8). https://doi.org/10.1177/0007650315584317

Wasim, D., Khan, S. A., Suhail, M., & Shabbir, M. (2023). New penalized M-estimators in robust ridge regression: real life applications using sports and tobacco data. *Communications in Statistics: Simulation and Computation*. https://doi.org/10.1080/03610918.2023.2293648

Wasiuzzaman, S., Ibrahim, S. A., & Kawi, F. (2023). Environmental, social and governance (ESG) disclosure and firm performance: does national culture matter? *Meditari Accountancy Research*, *31*(5), 1239–1265. https://doi.org/10.1108/MEDAR-06-2021-1356

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, *5*(2). https://doi.org/10.1002/smj.4250050207

Wintoki, M. B., Linck, J. S., & Netter, J. M. (2012). Endogeneity and the dynamics of internal corporate governance. *Journal of Financial Economics*, *105*(3). https://doi.org/10.1016/j.jfineco.2012.03.005

Wood, D. J. (1991). Revisited Corporate Social Performance. *The Academy of Management Review*, *16*(4).

Wooldridge, J. M. (2013). Introductory Econometrics A Modern Approach, Fifth Edition. *Cengage Learning, South-Western*.

Wooldrigde, M. J. (2010). Econometric Analysis of Cross Section and Panel Data, Second Edition. In *Advanced Studies in Theoretical and Applied Econometrics* (Vol. 50).

Wu, H., Luo, S., Li, S., Xue, Y., & Hao, Y. (2024). Fostering Urban Inclusive Green Growth: Does Corporate Social Responsibility (CSR) Matter? *Journal of Business Ethics*, *189*(4). https://doi.org/10.1007/s10551-023-05561-3

Wu, Y., Zhang, K., & Xie, J. (2020). Bad Greenwashing, Good Greenwashing: Corporate Social Responsibility and Information Transparency. *Management Science*, *66*(7), 3095–3112. https://doi.org/10.1287/mnsc.2019.3340

Wulansari, R. A., & Dasuki, T. M. S. (2024). Pengungkapan Corporate Social Responsibility dan Likuiditas Dalam Meningkatkan Kinerja Keuangan. *Journal of Innovation in Management, Accounting and Business*, *3*(1). https://doi.org/10.56916/jimab.v3i1.567

Yang, S. L. (2016). Corporate social responsibility and an enterprise's operational efficiency: considering competitor's strategies and the perspectives of long-term engagement. *Quality and Quantity*, *50*(6). https://doi.org/10.1007/s11135-015-0276-z

Young, S., & Thyil, V. (2014). Corporate Social Responsibility and Corporate Governance: Role of Context in International Settings. *Journal of Business Ethics*, *122*(1), 1–24. https://doi.org/10.1007/s10551-013-1745-8

Yousefian, M., Bascompta, M., Sanmiquel, L., & Vintró, C. (2023). Corporate social responsibility and economic growth in the mining industry. *The Extractive Industries and Society*, *13*, 101226. https://doi.org/10.1016/j.exis.2023.101226

Zhang, J., & Liu, Z. (2023). The Impact of Corporate Social Responsibility on Financial Performance and Brand Value. *Sustainability*, *15*(24). https://doi.org/10.3390/su152416864

Zhang, L., Zeng, Q., Wang, S., & Li, N. (2022). Corporate Social Responsibility and Corporate Performance: A Meta-Analysis. *Industrial Engineering and Innovation Management*, *5*(2), 9–22. https://doi.org/10.23977/ieim.2022.050202

Zhou, X., Caldecott, B., Harnett, E., & Schumacher, K. (2020). The Effect of Firm-Level ESG Practices on Macroeconomic Performance. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3618748