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**The effects of financial indicators on the level of Corporate Social
Responsibility of firms from developing countries**

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TABLE OF CONTENTS

| | |
|---|-----------|
| DESIGNATIONS AND ABBREVIATIONS..... | 4 |
| INTRODUCTION..... | 5 |
| 1 LITERATURE REVIEW | 11 |
| 1.1 CSR concept overview | 11 |
| 1.2 Determinants of CSR..... | 16 |
| 1.3 Framework for CSR in developing countries | 17 |
| 1.3.1 Theoretical base of prior research..... | 20 |
| 1.3.1.1 Stakeholder theory | 20 |
| 1.3.1.2 Resource-based theory | 21 |
| 1.3.1.3 Legitimacy theory | 18 |
| 1.3.1.4 Institutional theory | 23 |
| 1.5 Prior research on CSR and financial indicators..... | 24 |
| 1.5.1 CSR and accounting-based indicators | 27 |
| 1.5.1.1 CSR and market value..... | 27 |
| 1.5.1.2 Resource-based theory | 21 |
| 1.5.1.3 Legitimacy theory | 22 |
| 1.5.1.4 Institutional theory | 21 |
| 1.5.2 Prior research on CSR and financial indicators | 22 |
| 1.5.2.1 Institutional theory | 27 |
| 1.5.2.2 CSR and market value..... | 27 |
| 1.5.2.3 CSR and organizational slack | 28 |
| 1.5.2.4 CSR and firm's financing..... | 29 |
| 1.5.3 Explaining inconsistent results of previous literature..... | 29 |
| 1.6 Chapter summary and justification of this study | 32 |
| 2 THEORETICAL FRAMEWORK..... | 34 |
| 2.1 Linking to theories | 34 |
| 2.2 Research questions, objectives, and hypotheses..... | 37 |
| 2.2.1 Profitability as a financial determinant of CSR..... | 37 |
| 2.2.2 Slack resource base as a financial determinant of CSR..... | 38 |
| 2.2.3 Leverage as a financial determinant of CSR..... | 38 |
| 2.3 Summary of the conceptual model | 39 |
| 3 RESEARCH METHODOLOGY | 40 |
| 3.1 Research paradigm..... | 40 |
| 3.1.1 Ontology and Epistemology..... | 40 |
| 3.1.2 Methodology and Methods | 40 |
| 3.2 Research onion..... | 40 |
| 3.3 Data collection | 42 |
| 3.3.1 Data..... | 42 |
| 3.3.2 Variables specification..... | 44 |
| 3.3.2.1 Dependent variables..... | 45 |
| 3.3.2.2 Independent variables | 47 |

| | | |
|----------|---|------------|
| 3.3.3 | Section summary..... | 50 |
| 3.4 | Research methods | 50 |
| 3.4.1 | Data analysis | 51 |
| 3.4.1.1 | Static versus dynamic model?..... | 51 |
| 3.4.1.2 | Endogeneity issue | 51 |
| 3.4.2 | Estimation methods..... | 53 |
| 3.4.2.1 | Generalized Method of Moments (GMM)..... | 53 |
| 3.4.2.2 | Linking main study model to hypotheses | 54 |
| 3.4.3 | Additional estimation methods | 56 |
| 3.4.4 | Regression effects specifications | 57 |
| 3.5 | Section summary..... | 58 |
| 4 | EMPIRICAL RESULTS | 59 |
| 4.1 | Descriptive statistics | 59 |
| 4.1.1 | Overall sample | 59 |
| 4.1.2 | Statistics by region | 62 |
| 4.1.3 | Visual representation of variables..... | 64 |
| 4.2 | Results of preliminary tests..... | 67 |
| 4.3 | Regression results | 71 |
| 4.3.1 | Profitability as a motivator of CSR and its pillars | 71 |
| 4.3.2 | Slack resources as a motivator of CSR and its pillars | 88 |
| 4.3.3 | The effect of Leverage on CSR and its pillars..... | 96 |
| 4.4 | Chapter summary | 105 |
| | CONCLUSIONS..... | 108 |
| | RECOMMENDATIONS | 108 |
| | REFERENCE | 115 |
| | APPENDIXES | 136 |

DESIGNATIONS AND ABBREVIATIONS

| | |
|--------|---------------------------------------|
| CSR | Corporate Social Responsibility |
| CSP | Corporate Social Performance |
| CR | Current Ratio |
| ENV | Environmental pillar |
| ESG | Environmental, Social, and Governance |
| FP | Financial performance |
| GSIR | Global Sustainable Investment Review |
| GMM | Generalized Method of Moments |
| GOVEFF | Government effectiveness |
| GOV | Governance pillar |
| GRI | Global Reporting Initiative |
| KLD | Kinder, Lydenberg, and Domini |
| LnTA | Natural logarithm of Total Assets |
| LnGDP | Natural logarithm of GDP per capita |
| LR | Likelihood Ratio |
| LEV | Leverage |
| OLS | Ordinary Least squares |
| ROA | Return on Assets |
| SDGs | Sustainable Development Goals |
| SOC | Social pillar |
| SRI | Socially responsible investment |
| 2SLS | Two-stage least squares |
| TQ | Tobin's Q |
| UN | The United Nations |
| VIF | Variance Inflation Factor |
| VOI | Voice of stakeholders |
| WBGI | World Bank Government Indicators |
| J-B | Jarque-Bera |

INTRODUCTION

The purpose of Introduction is to provide an overview of this study. This includes presenting general background of the concept under research interest, summarizing main research provisions, including statement of research problem, purpose and objectives, and brief description of methodological base. Introduction also highlights significance and novelty of current research, suggesting theoretical and practical contributions of study results. The structure of this thesis is also provided.

Background and research provisions

While Corporate Social Responsibility (CSR) is a relatively novel term, the question regarding which role business should play in society has an old root, with discussions of morality in business practices tracing back to the times of ancient thinkers such as Cicero. Since then, various political, environmental, and economic changes and challenges have been modifying the face of the global business environment, accompanied by growing social expectations. Formal writings on the concept of social responsibility that is used today can be traced back to the 1950s, the time which is also marked by recognition of the growing power of corporations [1]. Various authors of that period noted that the influence of big business has grown to such an extent, that an old non-intervention approach to corporate operations was no longer valid [2, 3]. Thus, economic and social power in the hands of large corporations also raised economic and social responsibilities. With its first appearance in a series of articles published in Harvard Business Review in the 1950s, by the end of the 1960s, the idea of business responsibility to society became mainstream. This era was marked by increased public scrutiny which put firms under the spotlight, thereby revealing their harmful practices. Instances of social judgment include boycotts of firms accused in violation of labor rights, and consumer, environmental, and women's movements [4]. Big corporate scandals such as Enron, Tyco, and Worldcom also contributed to the development of the social responsibility agenda. Thus, CSR has progressed from being merely a discussion topic of academics, scholars, and practitioners, to the status of an element of corporate strategy by the 2000s [5]. An accounting framework that incorporates a "triple bottom line" (TBL), namely economic, social, and environmental performance was proposed [6]. The economic line of TBL refers to the economic value that business contributes to the surrounding economic system in terms of its prosperity and support of future generations. The social line of TBL refers to fair business practices in terms of labor and community, addressing a range of social issues, such as fair pay, community involvement, and employee relations. Finally, the environmental line of TBL focuses on organizations' efficient use of environmental resources and minimization of their environmental footprint.

Nowadays, the social responsibility of business extends well beyond human rights protection, addressing a range of social issues and leading to the emergence of the CSR concept. While no universal definition exists [7], CSR generally refers to the integration of social and environmental issues in business operations, as well as in organizational interactions with various stakeholder groups (not only limited to primary stakeholders, such as investors and employees). This era is marked by

tremendous growth in sustainability disclosure, development of reporting standards, and sustainable investment. According to Global Sustainable Investment Alliance (GSIA), global sustainable investment in the United States, Canada, Japan, Australasia, and Europe reached \$35.3 trillion at the start of 2020 compared to \$13.6 trillion in 2012, which represents a growth of 160% [8].

A growing number of firms globally as part of their strategic agenda incorporated 17 Sustainable Development Goals (SDGs) set by the United Nations (UN) in 2015 for both developed and developing countries, targeted at decreasing poverty, improving health and education, as well as promoting equality, and economic growth [9]. Though the degree of CSR implementation varies around the world, there has been a dramatic shift towards sustainability reporting globally in recent years, with 80% of companies worldwide reporting sustainability according to the KPMG Survey of Sustainability Reporting [10]. According to this survey, leading positions in the number of reporting firms are held by the Americas, reaching an impressive 90%, followed by Asia Pacific (84%), Europe (77%), and the Middle East and Africa (59%). This growth is in large part driven by increased regulations and laws, accompanied by better management's understanding of the importance of the power of environmental, social, and governance factors on corporate image, performance, and market value. Global reporting standards guidelines such as Global Reporting Initiative (GRI) standards, are promoting the practice of sustainability reporting, thereby helping businesses to take responsibility for their impacts and creating a common language to communicate these impacts. The GRI framework presents one of the most widely recognized sustainability reporting systems globally [11]. While voluntarily in their nature, GRI guidelines provide a number of advantages which substantially contribute to the improvement of corporate sustainability reporting [12].

Recognizing the importance of social issues to business success, many firms started tracking their operational changes and improvements to CSR projects [13]. This reflects a modern reality that business is part of an ecosystem where its markets can be curtailed and the productivity of its suppliers and distributors can be restricted by social conditions [14].

The emergence of the COVID-19 pandemic in 2019, also contributed to putting business responses to social issues under greater attention. The traditional way business operated has been challenged by the pandemic and resulted in the reassessment of values attributed to goods and services. Due to the interruption of operations, many firms were put on the edge of survival, but at the same time faced enormous pressure to support not only their immediate stakeholders but also society and the community in general [15]. Socially responsible business behavior was expected during the pandemic, including modification of CSR policies to the pandemic environment [16]. This is in line with Vegt et al. [17], who observed that mutual dependency between the individual and business intensifies during the period of crisis, putting the responsibility on the firm to support society, disregarding the impact on profitability. Business responses to the pandemic varied, ranging from the strong support of stakeholders by bearing additional expenses, to huge lay-offs. In this way, the pandemic tested the sincerity of business to social issues.

CSR has also become an important topic in an academic research agenda. Initially, CSR was mainly addressed in management research, while in the accounting and finance literature sustainability issues have a shorter history. The interest from the accounting and finance side has risen as recognition of changes brought by CSR not only to firms' profitability but also to the face of the financial industry: asset screening on social responsibility criteria emerged, CSR rating agencies established and sustainability indices and funds experienced the explosive growth since the first discussions of CSR. Investment decision-making that incorporates Environmental, Social, and Governance (ESG) considerations in the investment strategy, known as a socially responsible investment (SRI) also emerged [18]. In contrast to the descriptive approach which is mainly applied in management studies, accounting and finance research on CSR is more empirical. Finding the link between CSR and different economic variables presents a common subject in finance-related areas of knowledge. In particular, exploring the link between CSR and financial performance has grasped academic attention and remains a topic of continuous debate. Not surprisingly, as undertaking CSR entails the contribution of firms' monetary and non-monetary resources, it is important to shed the light on the relationship between CSR and firms' financials.

However, despite the wide coverage of CSR-financial performance link in academic literature, no consensus neither on the magnitude nor the direction of the relationship between the two has been reached to date. Numerous reasons were suggested explaining the inconsistent results of previous literature, including a vague definition of CSR, different assessment and research methods, and study settings. The complexity of the relationship between CSR and financial performance is also contingent on other factors that should be recognized and accounted for in the experimental research [19]. Moreover, as CSR is all about an interplay of business with other actors in the environment, the context of CSR implementation contributes to varying results of prior academic research [20]. While the CSR concept is generally considered a Western phenomenon as it emerged and developed in Western countries, the applicability of readily-available CSR solutions from developed countries to the rest of the world is under question due to inherent societal differences that should be considered.

Recognizing the growing social role that business inevitably plays in society as seen from recent global shocks such as the pandemic, increased sustainability reporting, and adherence to global sustainability standards motivated this study. A particular focus of this research is exploring potential determinants of CSR in developing countries' context, with specific attention paid to financial indicators. CSR in developing economies deserves special consideration due to inherent differences in national-level institutions [21, 22]. Specifically, CSR in developing countries possesses a set of unique features, such as less presence in corporate strategies and lower political orientation [23]. In addition, it has spontaneous and altruistic characteristics, with more reliance on a mix of personal and religious beliefs, primarily directed at the needs of local communities [24]. While socially responsible practices take place extensively, in developing countries their nature is less formal and more

philanthropic [25]. Complex social and environmental problems which are present in developing countries also call for the development of specifically relevant CSR solutions [26].

Thus, an infant stage of formal CSR in developing countries creates a **research problem** of vague causalities of social behavior by firms in these economies, as the “why CSR” question [27] in the context of developing countries remains unanswered. Despite a large body of academic studies on CSR which has emerged in recent decades, the main focus of prior research has been the effects of CSR on various business aspects, leaving the predecessors of socially responsible behavior strikingly neglected [28]. The meta-analysis conducted by Margolis and Walsh [29] revealed that 85% of prior studies employed CSR as the explanatory variable, while studies utilizing CSR as the dependent variable are scarce. This study addresses the issue by examining potential contributors to socially responsible practices by firms from developing part of the world. Particularly, this study examines whether the financial condition of the firm as presented by its financial indicators, plays a significant role in its eagerness to engage in socially responsible practices. Considering that CSR knowledge and its integration into business processes in developing countries is only gaining momentum, this study takes an initial perspective that the availability of resources and financial condition of a firm largely determines its eagerness to engage in social and environmental initiatives, which is then empirically tested.

Particularly, the **main purpose** of this study is to examine the impacts, if any, of financial indicators of firms from developing countries on their level of CSR. To achieve this goal, the following research objectives are set in this study:

- Determine the direction and significance of the impact of profitability of firms from developing countries on CSR and CSR pillars.
- Determine the direction and significance of the impact of slack resources of firms from developing countries on CSR and CSR pillars.
- Determine the direction and significance of the impact of the level of leverage of firms from developing countries on CSR and its pillars.

The effects of financial indicators on the level of CSR are examined by utilizing instrumental variable estimation technique to address potential endogeneity and heterogeneity issues, which present serious flaws surrounding prior research examining the CSR-financial performance link. This study also recognizes the complexity of the CSR concept and suggests a multi-layered approach by adding variables at the macro-level that have the potential to influence the socially responsible behavior of firms from developing countries as well. Financial indicators in this study are categorized into profitability, slack resource, and leverage measures. Effects of financials on the overall CSR, as well as separate CSR pillars (Environmental, Social, and Governance), are examined. Statistical data processing was performed by applying Microsoft Excel and E-views 12 statistical package.

Research significance and novelty

This study is significant in the following ways. Firstly, it addresses the CSR concept which has been gaining great importance in modern times characterized by the turbulent global economic, political, and social environment. By focusing on

developing countries, this study adds knowledge for a better understanding of the drivers of CSR in the developing parts of the world, thereby calling for more effective implementation of CSR mechanisms that consider the peculiarities of CSR in these countries. Thus, the theoretical contribution of this research is presenting novel evidence on the topic based on the unique research design. A better understanding of the drivers of CSR in the developing world and specifically, the role of financial indicators, can contribute to the creation of a theoretical and methodological base for studying CSR in developing countries and setting new research tasks. From the practical side, the findings of this study can be useful for implementing, developing, and improving the CSR strategies of firms in developing economies. Understanding the role that financial indicators play in the shape of CSR in developing countries suggests an avenue for the encasement of corporate strategies with consideration of CSR initiatives and their interactions with the firm's finances. Determining the stimulus of firms to undertake CSR can serve as a foundation for creating more effective reporting and monitoring mechanisms.

The scientific novelty of this research comes from the following factors. Firstly, the novel research setting of this study contributes new evidence to the ongoing discussion regarding the direction and magnitude of the relationship between CSR and firms' financial performance. Prior works are concentrated on examining the effect of CSR on financial performance, while in this study, CSR itself acts as a variable under interest. Secondly, this study utilizes non-traditional financial indicators, such as measures of slack resources and leverage, in addition to standard profitability measures observed in prior research. Moreover, individual CSR pillars (environmental, social, and governance) are examined separately in this study, while in previous works using overall CSR score is more commonly observed. Thirdly, this study applies a multi-layered approach that considers both firm-specific factors and external effects, thereby addressing the complexity of the CSR concept. In particular, for the sources of external effects, this study applies the theoretical framework for CSR in developing countries [30], based on which CSR determinants at the macro-level are identified. Namely, in addition to financial indicators, this study examines macro-level measures, government effectiveness, and the power of public voice, as potential contributors to the socially responsible behavior of the firm. Moreover, the study addresses the critique that prior related research on the topic is often subject to limitations of methods. Thus, this study suggests examining the CSR-financial performance relationship utilizing a dynamic linear model which is not commonly observed in previous studies. Particularly, the Generalized Method of Moments (GMM) estimator is employed as the main method of this study, with results from Two-Stage Least Squares (2SLS) and Ordinary Least Squares (OLS) regressions shown for comparative purposes. Finally, the novelty of the study comes from the multiple-country setting. Though CSR research evidence from individual developing countries is growing, the generalized picture of the drivers of CSR in the developing world supported by empirical research is missing.

Thesis structure

This research is organized as follows.

Introduction chapter introduces the topic of the current study by providing the research background, stating the research problem, goal and objectives, summarizing the methodological foundation of this study, and presenting the significance and novelty of undertaking this research.

The first chapter of this study is devoted to the Literature review which consists of several sections and subsections. In particular, it presents an overview of the CSR concept, following a discussion of the peculiarities of CSR in different country settings, including presenting a framework for CSR discussion in the context of developing part of the world. After that, criticism of CSR is presented, which raises an important issue regarding the role of CSR to business, followed by the discussion of prior academic studies which examined the relationship between CSR and a firm's financials, their theoretical foundation, and the main findings. The chapter is closed by presenting research gaps in previous literature which this study intends to fulfill.

The second chapter discusses the Theoretical framework of this study which consists of three sections. In particular, the beginning section of this chapter builds links to existing theories, forming the basis for the next section which states the research questions, objectives, and hypotheses. The final section summarizes the conceptual framework of the study.

Chapter 3 presents the Research methodology of this study. It introduces a research paradigm, which involves the discussion of the philosophical foundation of the phenomenon being studied. It also presents the research approach applied in this study in the form of six layers of a "research onion". After the presentation of a research methodology, the Data collection section follows which describes the data and scope of the current study, illustrates the approach to data collection, presents and justifies sources of data, and specifies variables. The next section presents the Research methods utilized in this study. It includes a discussion of preliminary tests which were performed to check variables for different statistical biases. This section also highlights potential endogeneity issues and suggests the instrumental variable technique as a solution. GMM estimator is presented as the main estimation method of this study, accompanied by classical estimation techniques such as OLS and 2SLS utilized for comparison purposes.

Chapter 4 presents the Results of this study. The chapter is divided into several sections and subsections. It opens by presenting descriptive statistics of utilized data, and a visual breakdown of variables. Then, the results of preliminary tests on data validity are demonstrated. The regression results section follows, with findings presented and discussed for each of the hypotheses set in Chapter 2 of this study. The chapter summary is presented at the end.

In the Conclusion presented at the end of this study, the research objectives and hypotheses are reviewed based on the obtained results. The conceptual model is revisited. Based on the findings of this study, research recommendations are made. Limitations of the study are also discussed and opportunities for future research are set. The list of references and appendices concludes this study.

1 LITERATURE REVIEW

The main purpose of the Literature review is to present and discuss previous literature related to the topic of current research to identify research gaps. The following sections are included. Section 1.1 presents the origins of the CSR concept. Section 1.2 discusses potential determinants of socially responsible behavior. The next section discusses the peculiarities of CSR in countries with different levels of economic development, including suggesting the framework for developing countries in particular. Section 1.4 presents points for which CSR is criticized. Section 1.5 discusses the role of CSR in business success, including the discussion of previous works examining the CSR-financial performance link and summarizing causes for inconsistent conclusions found in prior literature. Finally, research gaps that this study intends to fulfill are presented in subsection 1.6.

1.1 CSR concept overview

CSR presents an “umbrella” term that unites different fields of knowledge such as economy and sociology [31]. However, there is no consensus either on the exact definition of CSR or on the exact responsibilities of firms towards society, as the CSR concept is still evolving. In the study by Dahlsrud [32], at least 37 definitions of CSR were identified and examined. According to this author, one of the most frequently cited definitions which appears in the academic literature is the one by the Commission of the European Communities [32,p. 7]: CSR is “*a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis*”. Another example of definition which is often utilized according to Dahlsrud [32,p. 7] is given by World Business Council for Sustainable Development: CSR is “*a commitment of business to contribute to sustainable economic development, working with employees, their families, the local communities and society at large to improve their quality of life*”. While recognizing the absence of a universal definition, different practices and theories on CSR have three common grounds: corporate impact on society beyond legal requirements, the interaction of firms with its stakeholders, and interplay with wider society [33].

One of the most popular constructs of CSR which is widely applied in the literature and practice is presented by Carroll’s CSR pyramid [34], which summarizes social expectations from business in four responsibility layers: economic, legal, ethical and philanthropic. The foundation of the pyramid is presented by the economic responsibility of business to society which makes businesses responsible for the generation of profits, the creation of workplaces, and the production of goods and services that are needed and desired by society [4,p. 3]. The second layer of the pyramid in the form of laws and regulations reflects a view of society regarding fair business operations. Businesses are expected to comply with the laws and regulations of different authorities, meet contact requirements with other stakeholders and ensure the provision of goods and services in compliance with standards and rules. The third layer of the pyramid calls for volunteer ethical business behavior built on the principles of

morality and justice even in the absence of formal regulations. Philanthropic responsibility is positioned at the top of Carroll's pyramid, calling for voluntary contributions of business to the community and expecting the former to take the role of a good citizen. Carroll's definition reflects the important notion that CSR at its basic level presents initiatives that contribute to the improvement of society [35].

In addition to the lack of a single definition, due to the social construction of CSR concept, its estimation presents a complex task. Measures for CSR are multiple and diverse, including different methods for determining constituents for CSR performance [36]. Applying ESG metrics serves as a common way to address the problem of CSR assessment. Quantifying CSR based on ESG indicators allows for assessing Corporate Social Performance (CSP). Prior studies applied CSR and CSP terms interchangeably, though some differences exist. Particularly, while the main focus of CSR is accountability towards society in terms of actions, CSP deal with outcomes of socially responsible practices [37]. CSP is a way in which a firm configures social responsibility principles, as well as the relatedness of its policies, programs, and outcomes in the context of social relationships [38].

Measurement strategies to assess CSP include corporate disclosures, ratings, social audits, and managerial CSP principles and values [39]. Disclosure-based measures apply content analysis of qualitative and quantitative data disclosed in the firm's documents and websites to measure CSR. Examples of studies utilizing this approach include the ones by Moore [40], Karagiorgos [41], Luethge and Han [42], Jose and Saraf [43], Jizi, Nehme and Salama [44], and Orazayeva and Arslan [45]. Another category of studies applied rating-based measures of CSR based on the scores provided by rating agencies, such as Kinder, Lydenberg, and Domini's (KLD's) database. This method is commonly observed in prior literature [46-48]. Social audits are based on a systematic assessment of the implementation of CSR initiatives, though this approach is rarely applied in prior studies due to the broad scope of assessment [49]. Perceptual measures of CSR include opinion surveys and interviews with the firm's stakeholders to assess the level of its CSR commitment [50, 51]. Finally, CSR can be estimated financially based on the money spent on the social initiative. Expenses on CSR include but are not limited to donations, labor issues, and environmental protection. A quantitative measure of CSR can be met in the studies by Navarro [52], Brammer and Miligton [53], and Bolanle [54].

Another difficulty in quantifying CSR presents its multidimensional nature, which calls for the aggregation of several facets [55]. In a substantial number of studies, overall scores are applied to evaluate CSP, with equal weights assumed for each ESG factor, though other scholars questioned the validity of such an approach [56]. For example, findings by Capelle-Blancard and Petit [57] argued that composite ESG scores tend to overweight controversial issues, leaving environmental concerns underweighted. Additionally, these authors observed that firms facing CSR criticism are usually exposed in one single area. For example, a firm can be criticized for poor corporate governance, despite being environmentally friendly and the other way round. Thus, equally-weighted ESG indicators fail to capture significant differences which exist between industries.

Such a lack of guidance concerning CSR phenomenon calls for developing additional knowledge on CSR constructs in a specific context. While at the conceptual level, the definitions of CSR have not experienced a significant change over time, the environment in which business operates is rapidly changing, amending social and legal context, and thereby calling for novel CSR management tools in addition to existing solutions.

1.2 Determinants of CSR

The determinants of CSR surprisingly received very little coverage in prior literature which mainly focused on the effects of social responsibility on various aspects of firm performance, rather than examined antecedents of CSR themselves. Moreover, based on a literature review of 76 empirical research papers, Ali et al. [58] found crucial differences between the driving forces of CSR disclosure in developed and developing countries. Particularly, these authors observed that in developed countries interests of specific stakeholders impact CSR disclosure, while in developing countries the reporting of CSR information is more dependent on external forces. In addition, these authors found that the relative power of stakeholders to influence CSR reporting in developing countries is weak.

Among the firm characteristics, three driving forces of social behavior are mainly addressed in prior research, namely size, industry, and financial performance. The size of the firm repeatedly appears in previous literature as a significant factor that determines the level of socially responsible behavior. Larger firms tend to exhibit more socially responsible behavior due to higher public scrutiny and more visibility [59]. Prior research on both developed and developing economies found that a firm's size has a positive effect on CSR disclosure [58,p. 578].

Some prior works also presented evidence that the degree of social responsibility depends on the type of industry. For example, Useem [60] observed that businesses that deal directly with customers make more charitable contributions than business-to-business industries. While customers as individuals can incorporate their social attitudes in buying decisions, purchasing managers are more likely to concentrate on costs, rather than social considerations. The level of industry maturity also can influence CSR, with social responsibility initiatives being used to differentiate their product and compete on non-price attributes in case of a mature market. Socially responsible initiatives can also act as a source of information asymmetry reduction, especially in industries that exhibit more reliance on the trust of customers, acting as a proxy of quality and honesty [61].

In addition to firm size and industry type, the third factor which commonly appears in the literature is financial performance characteristic [58,p. 2]. Among the early limited literature on the determinants of CSR, the works of Ullmann [62] and Roberts [63] can be named, which produced "slack resource theory". According to this theory, undertaking social responsibility initiatives largely depends on firm resource availability. This implies that profitability is an important factor that drives social responsibility. However, the studies on both developed and developing countries

produced mixed results with regard to the magnitude and direction of the relationship between CSR disclosure and financial performance.

The driving forces of CSR can also be viewed from the perspective of stakeholders' power, according to which the degree of social responsibility depends on the relative power of various stakeholder groups. While shareholders may be interested in CSR which does not hinder a firm's profits, other groups of stakeholders may push to undertake activities that may lead to additional expenditures. Barnea and Rubin [64] also observed that the ownership structure of the firm influences the level of CSR. Individual managers' perceptions of CSR, their personal values, and management awareness of social issues are also named among the potential motivators of CSR [65].

From the perspective of institutional theory, the decision of the firm to undertake CSR can also depend on a range of institutional influences, constraints, and regulations. Social, political, and cultural factors put a unique footprint on CSR, contributing to the variations among countries. The existence of industry organizations and professional bodies and the promotion of CSR through education are expected to increase social commitment. In addition, an extremely high or extremely low competitive environment is detrimental to the development of CSR [66]. In the former case, there is a potential that firms will act socially irresponsibly in order to save resources and ensure survival, while in the latter case, the absence of any competitive pressure can restrain firms from undertaking CSR. Government initiatives and regulations were also found to impact CSR disclosure. Some prior research named the absence of government regulation as a significant factor that leads to the non-disclosure of CSR information [67].

Table 1 summarizes prior research on the determinants and motives of CSR for both developed and developing countries. Among the internal factors, firm size and industry type most frequently appear in the literature as the driving forces. Regarding the external factors, previous research examined various factors, with ownership characteristics among the most commonly included under examination.

Table 1 - Determinants of CSR and CSR disclosure in prior research

| Authors | Country | Determinants | |
|--------------------------|--------------|--|------------------------------------|
| | | Internal | External |
| 1 | 2 | 3 | 4 |
| Cormier et al. (2005) | Germany | Size (+), Industry (+), age of assets (+), risk (+), financial performance (0) | Public pressure (+), ownership (+) |
| Tagesson et al. (2009) | Swedish | Size (+), industry (+), financial performance (+) | Ownership (+) |
| Chih et al. (2010) | 34 countries | Size (+), financial performance (0) | Legal enforcement (+) |
| Hou and Reber (2011) | USA | Size (+), industry (+) | |
| Haniffa and Cooke (2005) | Malaysia | Size (+), industry (+), multiple listing, financial performance (+) | |

Continuation of table 1

| 1 | 2 | 3 | 4 |
|-------------------------------|--------------------|---|--|
| Alsaeed (2006) | Saudi Arabia | Size (+), industry (0), financial performance (0), firm age (0) | |
| Rizk et al. (2008) | Egypt | Industry (+) | Ownership (+) |
| Sobhani et al. (2009) | Bangladesh | Industry (+) | |
| Buniamin (2010) | Malaysia | Size (+), Industry (+) | |
| Huang and Kung (2010) | Taiwan | Industry (+), leverage (-) | Govt (+), consumers (+), suppliers (-), employees (+), competitors (+), shareholding concentration (-) |
| Khan (2010) | Bangladesh | Size (+), financial performance (+) | |
| Saleh et al. (2010) | Malaysia | Size (+), financial performance (0) | Institutional ownership (+) |
| Khan et al. (2013) | Bangladesh | | Managerial ownership (-), public ownership (+), foreign ownership (+) |
| Chiu and Wang (2014) | Taiwan | Size (+), media visibility (+) | Global supply chain (+), international capital markets (+) |
| Concalves et al. (2014) | Brazil | Size (+), industry (+) | |
| Kansal et al. (2014) | India | Size (+), industry (+) | |
| Bhatia and Makar (2019) | Russia | Industry (+) | International listing (+), board size (+), board independence (+) |
| Menassa and Dagher (2020) | UAE | Size (+), financial performance (+) | |
| Malik et al. (2020) | Pakistan | Size (+) | Ownership (0) |
| Gomez and Garcia (2020) | Latin America | Industry (+), governance quality (+) | |
| Fahad and Nidheesh (2021) | India | Firm age, financial leverage with different effects on CSR pillars, firm size (+) | Ownership with different effects on CSR pillars |
| Rahman and Alsayegh (2021) | 20 Asian countries | Firm size (+), financial performance (+), leverage (+) | |
| Note - Compiled by the author | | | |

1.3 CSR in global settings

The context of CSR implementation should be given special consideration, as CSR is all about the interplay of business with other actors in the environment. Different societal settings change the face of CSR due to inherent differences between societies [20,p. 2]. As CSR is generally considered a Western phenomenon, not surprisingly prior research mainly covered developed economies, leaving developing and emerging countries understudied. Western approaches to CSR are more widely known due to the thicker margin between social and economic issues in Anglo-Saxon economies. Such developed countries as the USA and the UK early adopted an understanding that business should engage with the community and bring value to society through its operations [68]. In the area of CSR reporting, the USA is considered a pioneer [69]. The institutional context of these countries is relatively well-developed and stable, allowing for fruitful development and implementation of CSR. Strong legal enforcement mechanisms and the power of non-governmental organizations also contribute to enmeshing socially responsible behavior by business.

However, in developing parts of the world CSR deserves particular attention because of the inherent differences in national-level institutions [23,p. 407]. Though in recent decades a growing number of studies covering CSR in developing countries has emerged, the research mainly consists of country-specific case studies [70], with a vague general picture characterizing the nature of CSR in this part of the world. In developing countries, CSR can carry different meanings, taking other forms of a social contract [33,p. 506]. The following peculiarities attributed to developing countries call for a separate discussion of CSR in these economies as argued by Visser [23,p. 475]. First of all, they are characterized by high growth potential, while social and environmental issues are still standing acute. In addition, the impact of foreign investment and globalization has brought both negative and positive societal and environmental effects. These factors contribute to the different contexts of CSR in the developing world, questioning the applicability of readily-available solutions from the Western world. CSR conceptions that are developed locally are better at handling regional social and environmental issues, as they are designed to respond to specific country's challenges, including healthcare, poverty, and education, while the main themes on the CSR agenda in Western economies address fair trade, consumer protection and responsible investment [25,p. 83].

The order of layers in Carroll's CSR pyramid should be also modified when applied to developing countries' context. As suggested by Visser [23,p. 489], the economic responsibility layer should be followed by philanthropic, legal, and ethical dimensions. Economic responsibility is left at the baseline of the pyramid, as it has special relevance in the developing world due to problems of poverty and unemployment, which are commonly present in these countries. After the economic layer, philanthropic responsibility follows, which is contrary to the classical pyramid, where the legal dimension goes second. This author also argued that in developing parts of the world, philanthropic tradition has a particular strength, and is considered a norm. Furthermore, firms are motivated to improve the well-being of the community in which they operate. The legal layer was moved upper the pyramid due to the

argument that in developing economies regulative environment is weak, lacking enforcement and control mechanisms. Ethical responsibility of business was placed at the top of the pyramid, thereby mirroring a poor ethical business environment, with corruption and low transparency commonly going hand in hand.

1.3.1 Framework for CSR in developing countries

Recognizing the peculiarities of developing countries concerning CSR, Orazayeva and Arslan [30,p. 27] suggested a framework for the analysis of CSR in that part of the world. In particular, these authors summarized the drivers, limitations, and benefits of CSR practices in developing economies as discussed in the following section.

1.3.1.1 Drivers of CSR in developing countries

Concerning the main driving forces of CSR in developing countries, *religion, history, government* and *globalization* were presented by the aforementioned authors. While CSR as a concept emerged in developed economies, a philanthropic tradition based on charity and community involvement has deep roots and is commonly practiced in developing countries [71]. The alignment with principles of CSR when looked through the prism of responsibility to others can be found in Buddhism, Islam, Christianity, and Hinduism religions which are widely practiced in the developing world. Religion disinclines destructive social and environmental effects by advocating that everything in life is interconnected [72]. Furthermore, religion is argued to discourage risk-taking, thereby leading to more socially responsible initiatives [73]. The social behavior of a firm is impacted by the region's religious environment, despite the religious beliefs of individual managers [74]. Consistency with CSR can also be found in the environmental balance which is advocated by most religious doctrines [75].

A positive relationship between the religious aspect and CSR was commonly supported by previous studies. For example, Chapple and Moon [76] on a sample of Asian countries observed that India had the most developed CSR disregarding its lowest gross national product, which was attributed to strong adherence to Hinduism doctrines. Catholic tradition in Brazil encouraged the creation of the Christian Association of Business Executives which increased the country's social consciousness [77]. Su [78] also demonstrated that in more religious areas of China, higher levels of CSR were observed.

In developing countries where religious ties are weaker, the historical background was named as a contributor to the implementation of CSR initiatives [30,p. 25]. As an example, in South Africa, the call for social justice and CSR practices was raised by the apartheid past. Transitional economies, which experienced a paradigm shift from a planned economy to capitalism, have rooted a mentality that social issues are only the government's responsibility. Understanding of CSR value in these countries is low, with individual needs placed above those of a community and CSR viewed merely as a marketing instrument [79].

Governments in developing countries should also take an important part in promoting CSR [80]. However, governments in developing economies are commonly characterized as weak and inefficient, with a lack of enforcement mechanisms. In this case, firms can take the role of an alternative government and fulfill gaps in the provision of social services [31,p. 502]. For example, in Latin America, private firms make community contributions despite any government incentives, driven by the motive to improve safety in the society where they operate [81].

Globalization contributed to the growing popularity of CSR via the expansion of international operations which in turn put multinational firms under pressure to consider the social environment in the countries where they conduct business. Vertically-integrated firms with suppliers from developing economies bear responsibility for the social and environmental behavior of the latter [82]. Though, the scope of multinational firms tends to cover social issues at the micro-level, avoiding macro-level problems such as corruption [83]. In case when firms from developing parts of the world are playing in the international arena, CSR can be viewed as an instrument to access markets in developed economies and gain a competitive advantage [84]. Furthermore, regional firms face stringent international standards, which drive higher disclosure, including the one on sustainability initiatives.

1.3.1.2 Factors hindering CSR in developing countries

Among the common factors which hold back CSR development in developing economies, Orazayeva and Arslan [30,p. 26] named corruption, lack of regulation, and inactive civil society. In particular, corruption was argued to demotivate firms from establishing a long-standing relationship with stakeholders such as customers, employees, and local communities as firms' tender results mainly depend on the attitudes of government officials. Corruption has many other negative effects which contradict CSR nature, including violation of employees' rights, environmental damage, and low product quality. Concerning regulation, developing countries are characterized by poor regulation of firms' sustainability initiatives, with a focus of government regulation on economic issues, rather than social ones [85]. Weak stakeholder activism also contributes to low CSR activity in developing countries. Furthermore, consumers in developing parts of the world exhibit higher price sensitivity and may avoid buying environmentally-friendly products if they have a higher price [86].

1.3.1.3 Benefits of CSR to business and society in developing countries

CSR can bring at least three benefits when implemented in the context of developing countries: act as a win-win strategy, bring competitive advantage and improve the bottom-line of the firm. In the case of a win-win strategy, by contributing to the living standards of the country of operation, a firm can build synergetic value, by creating a more stable society and safer environment for its business [87]. For example, improved social well-being can provide a workforce and expand the customer base [88]. CSR initiatives can also help firms to gain a competitive advantage through higher differentiation, brand loyalty, and cost reduction. Furthermore, a firm can

improve its relationship with various stakeholder groups [89] and attract new investors [90]. Finally, prior studies presented evidence that CSR is a value-enhancing activity that increases investment trust, expands market opportunities, and receives positive reaction from capital markets [91].

1.4 The case against CSR

Despite the growing popularity of the CSR concept, and its rapid expansion to different parts of the world, it is not free from criticism. For example, positive contribution of CSR to the country's development is not proven. Mainstream CSR practices are criticized for an overemphasis on corporate reputation, which distracts the focus from actual problems falling under the scope of CSR [92]. Firms can also exaggerate their true commitment to socially responsible behavior, using the CSR label as a form of public relations or even corporate manipulation. Environmental activities are especially subject to "green wash" [93]. In addition, CSR can lead to bias towards the interests of the firm's primary stakeholders, overlooking other social groups that can also be indirectly impacted by the firm's operations [94]. Newell's [95] argument that "CSR can work, for some people, in some places, on some issues, some of the time", supports the view that applying one model of CSR is not appropriate in the global outlook.

Additional criticism presented by David and Blomstein [96] is that engagement of business in social issues can entail excessive concentration of power in the hands of big corporations. However, business lacks the legitimacy to bear such type of social role, as "government's job is not business, and business's job is not government" [97]. Furthermore, under the mask of social responsibility firms can be trying to save themselves, rather than society, by applying a weak form of self-regulation, thereby outpacing stricter governmental rules which could have existed otherwise [98].

Furthermore, in its nature, CSR is a very broad and comprehensive concept, with a variety of definitions and measurement approaches. Lack of bounded concept and agreement on fundamentals in this field leads to a different understanding of CSR among individuals, firms, and society overall, leading to increased frustration. A range of issues falling under the scope of CSR as diverse as corporate governance, philanthropy, environment protection, and community development complicate the issue [33,p. 500]. Moreover, interpretations of CSR by individuals and institutions experience modifications over time.

Last, but not least, numerous studies devoted their efforts to understanding the relationship between CSR and business success. From the perspective of the traditional business management theory, CSR can be viewed as being a "bad capitalism school", thereby translating Friedman's [99] famous statement that the only social responsibility of business is to utilize its resources to increase profits. This view sees CSR as a misguided principle that hinders shareholder profits. In addition, firms are argued to be incompetent in dealing with social problems [33,p. 505]. Therefore, the involvement of firms in activities unrelated to business can result in the dilution of the main business objective [87,p. 87]. The opposite school of thought pioneered by Freeman [100] suggests that business is a full actor in society which has social obligations to various

stakeholders beyond mere purpose of profit maximization. These two perspectives on the role of CSR to business and its performance suggest completely different avenues of business development, thereby making CSR and business success a topic of hot academic discussion. A large body of literature examined the direction and significance of the relationship between CSR and firm's financials, as discussed in the section that follows.

1.5 CSR and financial performance

The following sections discuss prior studies on the role of CSR to business and its performance by presenting theoretical basis of prior research, illustrating examples of previous works with inclusion of different financial indicators and suggesting reasons for inconsistent results.

1.5.1 Theoretical base of prior research

The role of CSR to business can be examined from different theoretical angles, creating the ground to explain why or why not firm exhibits socially responsible behavior. Discussion of the most commonly utilized theories, namely stakeholder theory, resource-based theory, institutional and legitimacy theories is presented below.

1.5.1.1 Stakeholder theory

Stakeholder theory recognizes that the interests of groups and individuals who can or are impacted by business objectives are important to be considered in a firm's strategic decisions. The basic notion of stakeholder theory is that corporate management bears responsibility for multiple stakeholders, thus it should balance the interest and create value for several parties [101, 102]. Stakeholders include, but are not limited to, customers, shareholders, suppliers, employees, governments, financial institutions, and non-governmental organizations. Various classifications of stakeholders can be found in prior literature, such as internal and external [103], voluntary and involuntary [104], strategic and moral [105], single and multiple issues [106], and primary and secondary [107].

Prior literature presented different kinds of interpretations and classifications of stakeholder theory, though according to Fernando and Lawrence [108], two main branches stand out, namely the ethical branch and the managerial branch. The ethical branch suggests that a firm should treat all its stakeholders fairly, irrespective of the stakeholder's power [109]. All stakeholders should be considered by the firm, not only privileged parties who possess the control of firm's critical resources. Under this perspective firm's management is responsible to bring benefit to all stakeholders, disregarding the effects of such treatment on corporate financial performance. The moral role of the firm is standing before the firm's economic motives under the ethical branch of stakeholder theory. In the case of conflicting interests of different stakeholders, this theoretical branch suggests that optimal balance should be achieved [110].

On the other hand, a managerial branch of stakeholder theory divides stakeholders based on their saliency to the firm. In this way, rather than being responsible for all

stakeholders, the managerial perspective selects economically powerful ones. The main complexity presents selecting critical stakeholders and deciding on the extent of responsibility to be exerted [111]. For example, from the view of the shareholders, CSR can be perceived as a value-destroying activity, which leads to suboptimal resource allocation and inefficient markets, diverting the firm from its main objective of profit maximization [99,p. 33], and going in contradiction with founding principles of property rights and the free market [112]. In addition, shareholders can be confused by extra-cost not related to main business operations incurred through CSR. On the other hand, for some investors who value social initiatives, a firm's engagement in CSR activities can be attractive [113].

Concerning CSR-related research, many empirical studies utilized a stakeholder framework, with a managerial branch of the theory more frequently examined. From the perspective of stakeholder theory, the firm undertakes CSR initiatives and CSR disclosures to execute its accountability to all stakeholders (ethical branch) and selected ones (managerial branch). By disclosing CSR-related information, the firm acknowledges stakeholders' right-to-know certain business aspects [108,p. 151]. In return, an improved relationship with the firm's stakeholders can bring value to the firm. Enchased stakeholder-management mechanisms of monitoring and enforcement can prevent management to divert attention from organizational goals [114]. Addressing and satisfying the interests of multiple stakeholders can lead to higher operational efficiency and cost reduction [115]. Furthermore, a firm can create a competitive advantage and improve its reputation through CSR, thereby attracting customers, and increasing sales and the firm's profits.

Socially responsible initiatives can also be viewed as a reflection of a firm's management attitudes and values, which in turn contributes to reducing information asymmetry [116]. Firms with strong CSR were found to enhance information disclosure [117] and earnings forecasts [118]. Thus, stakeholder theory suggests a positive relationship between CSR and financial performance achieved through the satisfaction of the interests of various stakeholder groups [119]. Though, a critical question regarding CSR in the framework of stakeholder theory remains unanswered: whether firms have the potential to successfully balance the conflicting demands of various stakeholder groups, including the devotion of a firm's resources to different CSR dimensions [120].

1.5.1.2 Resource-based theory

Based on the premises of stakeholder theory, a resource-based view is developed, which connects CSR and available firm resources. According to the resource-based perspective, the competitive advantage of the firm is facilitated by innovative projects which in turn are dependent on the extra resources [101,p. 120]. In case of few resources available, the firm may restrain from involvement in CSR activities, with priority given to the activities that bring profit [121, 122]. Extra financial resources can be characterized as organizational slack, which helps the firm to adapt to external and internal pressures and adjust strategy when needed [123]. Commitment to socially

responsible initiatives is enhanced through the availability of organizational slack [124].

Earlier works on CSR from a resource-based perspective focused mainly on environmental aspects and their effects on firm performance. For example, Hart [125] argued that improved environmental performance can bring new resources to the firm by the means of creating a competitive advantage. Arora and Dharwadkar [126] observed that organizational slack leads to a higher level of social responsibility.

1.5.1.3 Legitimacy theory

Legitimacy theory is based on the concept that firms must operate within the norms and values of the society of which the firm is a part and ensure the legitimacy of their actions. Because society permits them to conduct business, use resources, and access the market, the firm is expected to perform in line with its social system [127, 128]. Particularly, as a firm's survival and growth are largely dependent on the society of its operations, society's system of values should be adopted [129]. The focus of legitimacy theory is a firm's relationship with society as a whole and the appropriateness of a firm's behavior for social norms and values. In case of disparity between a firm's and society's value systems, a threat to the firm's legitimacy system exists [130].

Three types of legitimacy were identified by Suchman [131], namely pragmatic, moral and cognitive. According to the pragmatic view, firms are supported by society due to rational self-interest. Thus, by fulfilling the demands and expectations of multiple stakeholders, the firm can gain pragmatic legitimacy. Under cognitive legitimacy, any firm's actions are taken for granted by society if they are unavoidable or necessary to social layers. Firms engaged in harmful practices, such as sin industries (e.g. tobacco, nuclear power), are considered less legitimate. Cognitive legitimacy can be gained by engaging in practices and demonstrating behaviors that are acceptable and desirable by society. Finally, moral legitimacy refers to the moral judgment of a firm's behavior [132]. Moral legitimacy can be achieved through the support and improvement of social welfare [133].

CSR initiatives undertaken by the firm can serve as a tool to communicate its legitimacy to society [134]. Legitimacy theory is widely used in studies that elaborate on CSR disclosures [135]. For example, it was applied to explain a firm's motives for voluntarily environmental disclosures and commitment to the reduction of carbon emissions [129,p. 314], which in turn have implications for the firm's financial performance. Though, evidence of no relationship between CSR and legitimacy is also found in prior literature [136].

Legitimacy theory received a portion of criticism due to its loose definition [137] and lack of prescription of what exactly needs to be done by the firm, thereby acting as a "blind man hammer" [138]. It also ignores the threats to businesses that exist in a social environment, such as competitors and substitute products. Furthermore, legitimizing corporate actions presents a difficult task as social norms, values, and expectations are in a dynamic, rather than a static state, thereby creating a "legitimacy gap" [126,p. 140].

1.5.1.4 Institutional theory

The institutional theory argues that institutional ecosystems, such as formal (e.g. regulation, trade unions) and informal institutions (e.g. culture, religion, consumption practices) largely contribute to determining organizational social behavior [139]. The term “institution” generally refers to the established norms, practices, and beliefs which are present in different aspects of society. From the economic perspective, institutional theory suggests that members of society tend to act in their self-interests in the competition for economic resources, while from the sociological view, societal actors (individuals, groups, and firms) are argued to compete for social approval or “social legitimacy” in addition to economic resources [133,p. 445].

Several frameworks were proposed considering different institutional elements that could either drive or restrain a firm to act in a socially responsible way. For example, Campbell [21,p. 90] developed several propositions which increase the likelihood of firms engaging in socially responsible practices. In particular, he proposed that economic climate, level of competition, and institutional conditions such as regulation, monitoring, and norms, shape corporate social behavior. Matten and Moon [22,p. 406] also suggested an interesting framework directed at understanding differences in CSR on a cross-national level. By comparing European and American approaches to CSR, these authors identified two CSR forms: implicit and explicit ones. Implicit CSR refers to mandatory social obligations imposed on a firm by its environment, while explicit CSR refers to voluntary programs at the firm's discretion. Though, Jamali and Neville [140] criticized prior frameworks for separating national institutional pressures from the organization itself. In turn, these authors suggested a multi-layered approach that puts the organizational field at the center of micro-and macro-level institutional pressures. A more recent example of the application of institutional perspective to explain the motivations of a firm's socially responsible behavior, particularly in developing countries was proposed by Pilato [141]. Particularly, this author discussed five institutional roles which shape socially responsible behavior in developing and emerging regions: the state, financial markets, human capital, social capital, and corporate governance.

From the institutional perspective, firms undertake CSR practices for legitimacy and efficiency [142]. In the former case, firms are argued to engage in CSR due to regulative, normative, and cognitive institutional pressures, while in the latter scenario firms' socially responsible behavior is attributed to strategic motives to improve corporate efficiency [133,p. 450]. While merely legitimacy purpose is not expected to have a strong relationship with financial performance, enhanced corporate efficiency can have a positive impact. The role of institutional factors in determining the CSR-financial performance relationship has been theoretically and empirically demonstrated by several studies [143]. These factors were argued to impact the level of conversion of social performance into economic one [35,p. 40].

Thus, different theoretical basis of prior research contributes to varying conclusions regarding the relationship between socially responsible behavior and business success, as presented in further section.

1.5.2 Prior research on CSR and financial indicators

Previous studies demonstrated no consensus on the topic regarding the relationship between CSR and financial performance, though a positive link between the two is commonly observed [144]. As argued by Waddock and Graves [124,p. 305], the relationship can take the form of a “virtuous circle”, with causation occurring in both ways. Particularly, these authors suggested that better social performance can result in improved financials, and the other way round, improved financials can lead to higher social performance of the firm.

An overview of some empirical research focused on the relationship between CSR and financial performance is summarized in Table 2, highlighting the variety of utilized measures and delivered findings. Three streams of studies can be highlighted: (1) CSR and accounting-based performance, (2) CSR and market-based performance, and (3) CSR and cost of financing. Though, it should be noted that prior research is mainly concentrated on examining the impact of CSR on firm’s financial performance, while the effect of financials on socially responsible behavior of the firm is left strikingly neglected. As shown in Table 2 previous studies produced mixed results regarding both the significance and magnitude of CSR-financial performance link. In addition, studies vary widely in terms of research design, as seen from different proxies for CSR and financial performance indicators, as demonstrated in columns (2) and (3) of the following table, respectively.

Studies which observed positive impact of CSR on financial performance named cost reduction, higher operational efficiency, and improved competitiveness among the driving forces of such positive relationship. In contrast, the ones which demonstrated negative and insignificant effect of CSR on financial indicators attributed this to agency problem, greenwashing, and extra costs related to CSR. In addition, the research design of the studies, in particular, proxies utilized for CSR and financial performance variables contribute to varying results seen in previous works. For example, positive impact of CSR on firm’s market value is attributed to decreased uncertainty of future cash flows. Studies which observed negative or insignificant link between market value and CSR named managerial altruism and shareholder perceptions of CSR as a diversion from firm’s main operations as the reasons of such a relationship. With regard to firm’s cost of financing, previous studies presented evidence that CSR can decrease cost of debt through risk reduction obtained via less information asymmetry and risk of future litigations. The detailed discussion of previous works which examine the relationship of CRS and financial performance is presented in the following section.

Table 2 – Prior studies of CSR-financial performance relationship

| Authors (Year) | CSR indicator | Financial performance indicator | Findings |
|-------------------------------|--|--|---|
| 1 | 2 | 3 | 4 |
| Bragdon and Marlin (1972) | Pollution indices | Earnings, ROE, ROC | Positive relationship |
| Alexander and Buchholz (1978) | CSR surveys | Stock market performance | Not significant relationship |
| Shane and Spicer (1983) | Pollution indices | Stock market performance | Positive relationship |
| Freedman and Stagliano (1991) | Social news disclosure | Market value | Negative relationship |
| Jaggi and Freedman (1992) | Pollution reports | ROA, ROE, Net income, P/E, CF/Equity, CF/Assets | Weak negative relationship in the short-run |
| Preston and O’Bannon (1997) | Fortune survey | ROA, ROE, ROI | Positive relationship |
| Waddock and Graves (1997) | CSP index | ROA, ROE, and ROS | Positive relationship |
| Dowell et al. (2000) | Environmental and Social performance from IRRC | Tobin’s Q | Positive relationship |
| Carter et al. (2000) | Surveys and interviews to determine environmental purchasing construct score | Net Income, Cost of Goods sold | Positive relationship |
| Moore (2001) | Six social performance measures based on CSR disclosures and surveys | ROA, ROC | No significant relationship |
| Kumar et al. (2002) | Social behavior | Stock market value | Positive relationship |
| Seifert et al. (2003) | Philanthropic contributions | ROA, ROE, ROS | No significant relationship |
| Goll and Rasheed (2004) | Survey of top executives | ROS, ROA | Positive relationship with the environment as a moderator |
| Lorraine et al. (2004) | Event study | Abnormal return | Not significant relationship |
| Wagner (2005) | Emissions output | ROCE, ROE, ROS | U-shaped relationship |
| Brammer et al. (2006) | Community, environmental, and employee performances | Stock market return | Negative relationship |
| Barnett and Solomon (2006) | Social screening intensity score | Risk-adjusted performance | Curvilinear relationship |
| Luo and Bhattacharya (2006) | CSR rating by Fortune America’s Most Admired Corporations (FAMA) | Tobin’s Q and stock return | Positive relationship through customer satisfaction as a mediator |
| He et al. (2007) | Survey of middle and top managers | Self-evaluation of the firm’s relative performance | Positive relationship |

Continuation of table 2

| 1 | 2 | 3 | 4 |
|-------------------------------|--|-------------------------------------|--|
| Chih et al. (2010) | Listing in Dow Jones Sustainability Index (DJSI) | ROA | Not related |
| Guidry and Paten (2010) | Published sustainability reports | Share price | No significant relationship |
| Garcia-Castro et al. (2011) | KLD index | ROA, ROE, P/E, Tobin's Q | No significant relationship |
| Barnett and Salomon (2012) | KLD Index | ROA, Net income | U-shaped relationship |
| Lioui and Sharma (2012) | Environmental strengths and concerns | ROA and Tobin's Q | Negative relationship |
| Attig et al. (2013) | CSR score built by authors | Credit rating | Positive relationship |
| Yang (2016) | CSR engagement level | Market-to-book ratio | In the short-run negative relationship; in the long-run positive relationship |
| Goel and Misra (2017) | Sustainability reporting | ROCE, ROE, ROS, Tobin's Q, P/E, P/B | Positive relationship |
| Zakari (2017) | Social expenses | Earnings, Earnings after tax, EPS | Positive relationship |
| Blasi et al. (2018) | A normalized measure of CSR performance | Stock market return | Positive relationship |
| Platonova et al. (2018) | CSR disclosure | ROA, ROE | Positive relationship |
| Fijakowska et al. (2018) | CSR/Sustainable reports | ROE, ROA | Not significant relationship |
| Resmi et al. (2018) | Investments in CSR | ROA, EPS | No significant relationship between ROA and EPS |
| Cho et al. (2019) | Korea Economic Justice Institute (KEJI) index | ROA, Tobin's Q | Partial positive correlation |
| Salvi et al. (2019) | Adjusted ESG score | ROA, Tobin's Q | Positive relationship |
| Nirino et al. (2020) | ESG score by Thomson Reuters | ROA, ROE, ROS | Positive relationship with social performance, Insignificant relationship with environmental performance |
| Pham and Tran (2020) | ESG disclosure scores | ROA, ROE, Tobin's Q | Indirect positive relationship of CSR on financial performance through reputation |
| Note - Compiled by the Author | | | |

1.5.2.1 CSR and accounting-based indicators

The positive relationship of CSR with accounting-based indicators such as Return on Assets (ROA) and Return on Equity (ROE) found in prior studies [145, 146] was attributed to cost reduction and higher operational efficiency obtained via active stakeholder engagement. For example, Stojanovic et al. [147] observed the positive impact of CSR on employees' loyalty, which in turn was argued to improve a firm's competitiveness and performance. Employee-related CSR can not only boost motivation and loyalty [148] but also result in increased sales per employee [17,p. 975]. By building a trustful relationship with its stakeholders, a firm can enhance its reputation and create a competitive advantage [149]. Awareness and endorsement of customers about a firm's socially responsible acts can contribute to sales growth [150]. Another way around, irresponsible behavior can be punished is by boycotting firms' products and services, thereby destroying revenues [151].

Though, the effect is less pronounced in countries with a weak institutional environment, where consumers exhibit higher price sensitivity and divert from socially responsible products in case of the higher price tag [152]. Additionally, the latter authors argued that gains from CSR depend on firms' size, with larger firms experiencing higher gains compared to private ones. Crifo et al. [153] also argued that type of CSR dimension under research consideration matters, as these authors observed a positive significant relationship only with certain aspects of social responsibility. These authors argued that CSR initiatives should interact effectively to have a positive impact on a firm's financials.

Some other studies reported a negative and non-significant link between CSR and accounting-based performance. For example, Nollet et al. [154] documented a negative relationship between two measures of performance when a linear model was applied. These authors also noted that the non-linear model produced contrary results, with the relationship between CSR and accounting-based performance following a U-shaped curve, thereby arguing that a certain threshold should be met to realize gains from CSR initiatives. As argued by Franco et al. [155], CSR involves both benefits and costs, and mere undertaking socially responsible initiatives is not enough to improve a firm's financials. Hypocritical behaviors such as greenwashing can even discourage a firm's stakeholders [156] and bear reputational risks, which together with expenses on CSR initiatives, can be detrimental to a firm's profitability. Similarly, McWilliams and Siegel [157] argued that CSR activities entail additional costs which are beyond the scope of management consideration. These authors viewed the original business purpose of increasing shareholder wealth as already a fulfillment of social obligation through creating job places and developing the economy. Barnea and Rubin [158] also suggested that CSR is negatively related to financial performance, by arguing that management pursues their interests under the vague of CSR, thereby creating an agency problem and deteriorating the firm's financials.

1.5.2.2 CSR and market value

Unlike accounting-based measures of profitability, market-based indicators produce a picture regarding a firm's long-term profitability, growth potential, and risk

of future cash flows. The studies examining the relationship between CSR and market value also delivered mixed results. Some studies reported a positive relationship, suggesting that social initiatives signal the market regarding prospects of positive cash flows [159]. For instance, Jiao [160] observed that the market value of the firm is positively affected by the stakeholder welfare score which reflects the public assessment of how effectively the firm meets stakeholders' expectations. Improved market prices of firms with more stringent and higher quality CSR disclosure were presented by Jizi et al. [44,p. 80] on the sample of financial institutions. This observation is consistent with Richardson et al. [161] who argued that sustainability disclosure improves a firm's market value by decreasing the uncertainty of future cash flows.

However, a negative relationship between CSR and shareholder wealth was also documented. For example, Brammer et al. [56,p. 100] observed a negative link between social performance and stock returns. These authors suggested that lower returns of socially responsible stocks could be a result of investor altruism or penalty for excessive engagement in activities that are not directly related to business. In addition, it was noted that the effect on corporate performance varies for different CSR dimensions. The negative relationship can signal divergence from market expectations and anticipated cash flow reduction.

Evidence of no significant relationship between CSR and stock returns can be found in the study by Orazayeva and Arslan [45,p. 71]. In particular, these authors examined the role of CSR disclosures in the market performance of Russian firms and observed insignificant link, suggesting that increased sustainability reports are driven by other motives rather than stock price movement. Cavaco and Crifo [120,p. 3225] also argued that the relationship between CSR and market profitability is not straightforward, with the economic advantage of a firm's social activities being realized in the medium or long-term. In addition, the effectiveness of CSR expenses was argued to depend on other moderating factors such as reputation, corporate governance, and innovations [162].

1.5.2.3 CSR and organizational slack

Organizational slack refers to actual or potential resources allowing a company to adapt successfully to changes in the internal environment and external forces [123,p. 30]. While organizational slack can have various discretionary levels, financial slack refers to unabsorbed financial resources with no immediate commitment. As CSR presents a voluntary activity, in the context of CSR-financial performance discussion, the dependence of CSR on the availability of slack resources presents a logical argument. A higher degree of freedom in terms of available resources allows for undertaking social and environmental ideas and projects which entail a longer time frame for implementation and generation of outcomes.

Though slack resource hypothesis is not commonly addressed in the research of CSR-financial performance relationship. A prior review by Margolis and Walsh [29, p. 270] observed that out of 127 studies, only 22 applied the slack-resource hypothesis with CSR as the dependent variable.

1.5.2.4 CSR and firm's financing

A growing body of research argues that a firm's cost of financing can be reduced through sustainability practices. This can be accomplished due to the lower risk associated with CSR [163]. In particular, investment in a more socially responsible firm is considered less risky compared to a firm with a low level of corporate responsibility, as the latter can be subject to uncertain externalities in the future, thereby increasing its cost of capital. Stable relationships built with various social groups further reduce the risk of litigation and supervision [164]. In addition, positive reputations and a moral image generated through CSR among stakeholders [149,p. 780], can contribute to less vulnerability of such firms in periods of crisis [165]. Strong CSR also leads to higher information disclosure, which in turn leads to a reduction of information asymmetry, contributing to lower equity costs [166]. Enhanced communication is also achieved by higher analysts' coverage of firms demonstrating socially responsible behavior [156,p. 140].

An inverse relationship between the level of a firm's CSR and its cost of capital was demonstrated by several empirical studies. For example, El Ghouli et al. [167] observed that firms with high social responsibility in terms of employee and environment-related issues have lower costs of financing when compared to firms representing "sin" industries, such as tobacco and nuclear power. "Sin" firms were also argued to have a lower investor base as they are ignored by socially responsible investors and have higher risk due to uncertain future claims. Similarly, Chava [168] showed that environmental issues are not neglected by both lenders and investors. The results of this study presented that firms faced with environmental issues have higher capital costs. This study also argued that environmentally-friendly production is rewarded with lower interest rates. The beneficial effect of environmental risk management on cost of capital was also presented by Sharfman and Fernando [169].

Matthiesen and Salzman [170] argued that cultural differences should be considered when studying the link between CSR and the cost of financing. The underlying argument is that people's attitudes toward environmental and social issues are shaped by culture [171]. These authors found a more pronounced effect of cost of equity reduction via sustainability in cultures with higher institutional collectivism and lower assertiveness.

1.5.3 Explaining inconsistent results of previous literature

Several reasons were named in prior studies to explain the absence of consensus regarding the CSR-financial performance relationship. They include research design differences and other technical issues such as sample selection and specification of variables [172]. The lack of consensus on the definition of CSP and financial measures also contributes to the ambiguity of the relationship between the two [143,p. 56]. The diverse and multidimensional nature of CSR complicates the assessment of the level of a firm's social commitment [173]. Additionally, some authors attributed inconsistent results to the failure of prior studies to distinguish between external and internal types of CSR [174].

Economic indicators applied in the CSR-financial performance relationship are also subject to bias [29,p. 270]. Particularly, accounting-based measures are based on historical data and are not free from managerial control and accounting manipulations [175]. Market-based measures are derived from the prospects of future earnings and are subject to market distortion.

Some authors argued that the relationship between CSR and financial performance is very complex, and including additional variables in the model is critical. For example, including moderating factors, or contingency factors which can impact the strength of the relationship was suggested [176]. Such factors express the conditions under which CSR can be translated into financial performance. However, prior studies also differ in the type of variables to moderate the CSR-financial performance relationship. Based on a review of 270 papers, Ye et al. [177] observed that 41 of them utilized moderating effects. Concerning moderators, these authors divided them into two groups: external and internal indicators. Internal moderators include firm characteristics, governance, strategy, and CSR engagement. External indicators include industry, institutional environment, and social, cultural, and economic ones.

Corporate governance was observed to moderate the relationship by prior research. The quality of a firm's operations was argued to depend on such managerial characteristics as management efficiency [178] and leadership [179]. The studies examining governance as a moderator include the one by Suteja et al. [180], who observed a negative CSR-financial performance link while using the moderating effect of earnings management.

Several studies argued that CSR is impacted by the ownership characteristics of the firm. For example, the impact of family ownership on different aspects of CSR was examined by Block and Wagner [181] who observed that family-owned firms exhibit less response to the community dimension of CSR, while more response is given to employee-, environment- and product-related aspects. The impact of government ownership on CSR was studied by Li and Zhang [182], who reported a negative association between the two, which authors attributed to political interferences. Concerning institutional ownership, earlier work on the topic of ownership effects by Johnson and Greening [183] argued that the impact on the aspects of corporate social performance varies from ownership type, observing positive association of pension fund ownership on people- and product-related aspects while finding no relationship of social performance with the ownership by mutual funds and investment bank funds. Tokas and Yadav [184] viewed ownership from an international perspective by investigating the impact of foreign ownership on CSR expenditure and reported a positive relationship. Orazayeva and Arslan [185] presented among the few works on the effects of employee ownership, observing a negative insignificant link between CSR and a firm's financials when employee ownership was considered as a moderator.

Industry variables used as a moderator can be found in prior studies [186], which argued that multi-sector analysis is biased in the calculation of CSP due to the impact of industry specificities [187]. Furthermore, the power of stakeholders varies in different sectors of the economy [188]. In their multi-sectoral analysis, Blasi et al. [189]

took into consideration industry peculiarities and provided evidence of a non-linear relationship between CSR and financial performance over time, suggesting a negative relationship in the short run and a positive one in the long run. In the airline industry, Orazayeva and Arslan [190] found no significant impact of CSR on financial performance, even after controlling for airline type. These authors suggested that CSR initiatives in the airline industry are not considered value-additive by the market.

Concerning external moderators, the diversity of institutional characteristics is argued to contribute to the complexity of the CSR and financial performance relationship. Country-level institutional factors have a particular influence on the strength of the relationship between the two [191, 192]. Unique countries' characteristics result in different shapes of CSR [101,p. 120]. According to the meta-analysis by Karyawati et al. [49,p. 230], the relationship between CSR and financial performance in developed and developing countries varies due to the differences in the institutional processes. The developed countries are characterized by stronger institutional forces, including law enforcement, leading to more intensive CSR practices [193]. This "rule of law" according to Chambers et al. [194] encourages CSR, thereby acknowledging and enacting both legal and non-legal responsibilities. Not surprisingly, CSR in these countries is often included as part of corporate strategy [195]. Additionally, the long history of corporations allowed them to grow enough to shift the focus to non-financial activities [196]. Stronger economic capacity in developed regions and the power of civil societies also contributed to the development of CSR. The well-established institutional environment allows socially responsible firms to avoid accrual costs, thereby improving financial performance. Conversely, developing countries have weak enforcement mechanisms, while social and environmental issues are standing acute. This calls for a separate discussion of CSR in developing countries' context as presented in this study.

In addition to different conditions which shape the CSR-financial performance relationship, previous studies differ in the range of mediating factors utilized. While moderators indicate "*when* doing good can be transferred to doing well", mediators present "*how*" this could be accomplished [197]. In the framework of the CSR-financial performance relationship, mediating factors can be subdivided by the direct outcome of CSR, such as reputation, customer satisfaction, and competitive advantage, and process indicators, which present processes affected by CSR, including operations and the firm's strategy. Among mediators, reputation is most commonly observed in previous studies which examine the relationship between CSR and financial performance [198]. The underlying argument is that a trustful relationship with a firm's stakeholders which can be achieved through CSR can enhance its reputation and corporate image. In turn, a good reputation can attract more investors and reduce transaction costs, thereby leading to better financials. In addition, by considering reputation as an intangible asset, a firm's competitive position can be improved [199]. Competitive advantage is also named among CSR outcomes that have a positive impact on profitability. It can be achieved by attracting human capital and customer satisfaction comes from the satisfaction of stakeholders with CSR initiatives [200].

Customer satisfaction presents another mediating factor of the CSR-financial performance relationship. Customer-related dimension of CSR, targeted at improving product quality and service can contribute to customer satisfaction and motivate purchase decisions [201]. In addition, customer loyalty can be enhanced through CSR activities, decreasing customer defection and positively affecting financial results [202]. The study by Luo and Bhattacharya [203] applied customer satisfaction as a moderator and observed a positive relationship between CSR and a firm's market value.

Process indicators of the CSR-financial performance relationship are more difficult to evaluate. An example of a process mediator includes a firm's strategy, which can be strengthened by the means of CSR. CSR can bring to the firm such capabilities as innovation and organizational learning, indirectly improving profitability [204]. In addition, operational costs can be reduced via CSR acting as a risk mitigation instrument which brings down information asymmetry [205].

Thus, the complexity of CSR concept resulted in various study designs adopted by different authors, producing no universal answer with regards to the role of CSR to business and its success.

1.6 Chapter summary and justification of this study

The prior academic literature provides no single definition of CSR, though the idea that a firm should benefit the welfare of society beyond legal requirements is a common ground on which various definitions of CSR are built. CSR has become a public issue due to evolving public view which reconsiders business from a source of "social ills" to a solution to global problems [206]. Early works on CSR discussed whether it has a point of existence from a business perspective. More recently, academic interest has experienced a shift from the "whether" to the "why" CSR question, which represents a natural progression given the growing scope and scale of CSR [27,p. 60].

The effect of CSR on a firm's financial performance presents an important topic in the research agenda. The relationship between two variables has been studied by various techniques, approaches, and perspectives. Stakeholder theory, Resource-based theory, Legitimacy theory, and Institutional theory have been applied to explain CSR-financial performance link. The range of financial indicators was utilized by previous research to examine if there is any value brought to the firm by socially responsible initiatives. However, the consensus regarding the direction and magnitude of CSR and financial performance relationship has not been reached to date, leaving a question open.

Based on a review of prior literature the following gaps which this study aims to fill in were identified, thereby enhancing understanding of the relationship between CSR and a firm's financials. Firstly, prior studies mainly concentrated on the effect of CSR on financial performance, while the research on the determinants of CSR and, particularly, the role of firm's financial condition is limited. Secondly, the aggregate measure of CSR was mostly explored in previous studies. Though, the linkage between financial performance and different aspects of social responsibility, such as social,

environmental, and governance initiatives can vary. In addition to the aggregate measure of CSR, this study tests whether variation in results depends on different responsibility pillars. Moreover, a range of financial indicators utilized by prior studies is quite scarce, with a focus on studying the relationship between CSR and a firm’s accounting-based ratios, such as ROA and ROE. This study attempts to extend the range of financial indicators by introducing slack resource indicator and the amount of leverage in addition to traditional profitability measures. Thirdly, external factors can have a substantial influence on the degree of socially responsible behavior. Prior studies on the determinants of CSR mainly focused on the micro-level, considering firm-related factors. In this study, the call for more research to explore macro-level factors is addressed. Finally, the focus of this paper is countries from developing and emerging regions, or “understudied” ones [207], as prior research on CSR mainly covered the developed world [208]. CSR in developing economies deserves special consideration due to inherent differences in national-level institutions. As noted by Visser [23,p. 475], CSR in developing countries is less present incorporate strategies and is less politically oriented. In addition, it has spontaneous and altruistic characteristics, with more reliance on a mix of personal and religious beliefs, primarily focusing on the needs of local communities. While socially responsible practices take place extensively, their nature is less formal and more philanthropic. Complex social and environmental problems which are present in developing countries setting also call for the development of specifically relevant CSR solutions. The literature review has shown that studies of the CSR-financial performance relationship in separate emerging and developing markets are growing. However, this study tries to provide an overall picture that gives an insight into the current state of the CSR-financial performance relationship relevant to this part of the world. Figure 1 presents literature gaps identified in the process of the review of prior works and how this study intends to fill them in.

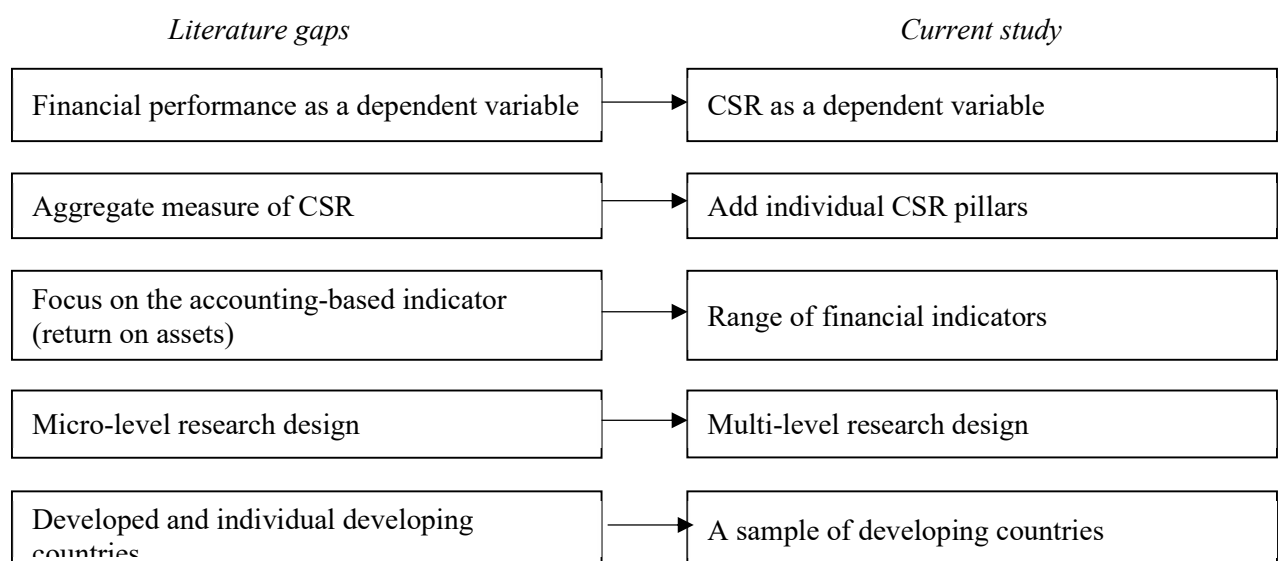


Figure 1 – Literature gaps

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2 THEORETICAL FRAMEWORK

As discussed in previous chapter, the determinants of CSR and the role of financial indicators, especially for the firms from developing economies, received limited academic coverage, calling for further investigation. This study intends to contribute additional knowledge to the field by suggesting a novel set of factors which have the potential to affect firm's socially responsible behavior, thereby addressing the "why CSR" question [27,p. 60] in the context of developing countries. This Chapter presents theoretical framework of this study and is organized as follows. Section 2.1 presents theoretical foundation of current research. Section 2.2 describes research questions, objectives and formulates study hypotheses. Finally, Section 2.3 summarizes the conceptual model applied in current study.

2.1 Linking to theories

Literature review showed that most of the previous works concentrated on the impact of socially responsible behavior on firm's financials. However, in developing countries where CSR has been only gaining momentum recently, the causalities of social behavior by firms are unclear and call for additional consideration to determine the shape of CSR. This study addresses the issue through examination of financial indicators themselves as potential determinants of CSR. The theoretical basis of this study is built on several grounds.

Firstly, recognizing the peculiarities of developing countries which were discussed in Section 1.3.1, this work agrees with Visser [23,p. 475] that in developing parts of the world economic responsibility of business should be given the highest priority among other layers of Carroll's pyramid of social responsibility [34,p. 40]. Hence, in these countries the capacity of the firm to bring 'economic multipliers', such as income and investment generation, production of safe goods and services, creation of work places, investment in human capital, transfer of technology and creation of ties with local businesses, presents founding provision for socially responsible behavior. However, in order to make such economic contributions to local community and environment, business should possess adequate resources. This in turn is consistent with the *resource-based perspective*, according to which limited internal resources can restrain firm's investment on social matters [121,p. 601]. In particular, resource-based view attributes particular importance to the internal factors which contribute to performance differences between the firms, which can bring benefits to the latter. Putting a resource-based lens, this study suggests that for firms from developing countries profit-generating ability is an important factor which can affect inclusion of CSR initiatives in their strategic agenda, and proposes *profitability* as one of the three types of financial indicators which can impact socially responsible behavior utilized in this study. In addition to profitability, the study also suggests *organizational slack* as an indicator of resource availability. Prior studies argued that organizational slack can support innovations and strategic behaviors [209]. Moreover, organizational slack makes firm more adaptive to different pressures and increases likelihood of CSR engagement [102,p. 305]. In addition, viewing CSR as an arena of managerial

discretion, the likelihood of a firm engaging in CSR depends on resource availability [152,p. 270]. Thus, resource availability shaped either by the level of profits or organizational slack is proposed as another potential and logical determinant of socially responsible behavior.

The *level of debt* is proposed as a third financial indicator utilized in this study. The role of the debt level on the level of firm's social responsibility is examined through the lens of *stakeholder theory*. Particularly, firms characterized by the good treatment of their stakeholders (employees and customers) tend to employ less debt in their capital structure, in order to build higher protection from bankruptcy risk [210]. In contrast, higher-leveraged firms are more likely to have higher future bankruptcy risk and entail higher pressure from the side of creditors [211]. In contrast, a lower leverage profile eases access to funds for additional investment, thereby creating opportunities for investment in CSR initiatives. Thus, the level of debt is argued to impact the degree of firm's CSR commitment.

However, this study also recognizes the complexity of the CSR concept, its multidimensional nature and its dependence on a wide variety of factors, which extend well beyond firm-level ones. According to literature review by Ali et al. [212], both internal and external factors contribute to the eagerness of firms to disclose CSR-related information in developing countries. Thus, a multi-layered approach is applied in this study, which in addition to financial condition of the firm, examines some potential external determinants of business social behavior. In particular, taking the inputs from the theoretical framework on the determinants of CSR in developing markets which were introduced in our prior paper [30,p. 25] and presented in Section 1.3.1 of this study, the roles of government and stakeholders in shaping CSR are examined as discussed below.

Utilizing *government effectiveness* as a factor affecting socially responsible behavior is based on the premises of *institutional theory* which argues that institutional ecosystems contribute to organizational commitment to social matters [144,p. 405]. While government should play a vital role in the promotion of CSR, developing countries commonly suffer from weak governance systems which hinder the creation of a fruitful environment for CSR development [30,p. 27]. Weak enforcement mechanisms and low value attributed to CSR in developing countries slow down the incorporation of CSR in firms' operations. On the other hand, more effective governments are expected to have stricter regulations, less corruption, and more transparency, therefore enhancing the implementation of socially responsible practices.

With regards to the role of stakeholders, this study proposes *public voice* as another potential external determinant of CSR in developing countries founded on the ground of *stakeholder theory*. In particular, higher social pressure which demands reforms in the public sector [213], exhibits stronger stakeholder activism and has more freedom of expression, is expected to contribute to a higher social commitment from the business side. Summary of theoretical grounds of current research is presented in Figure 2.

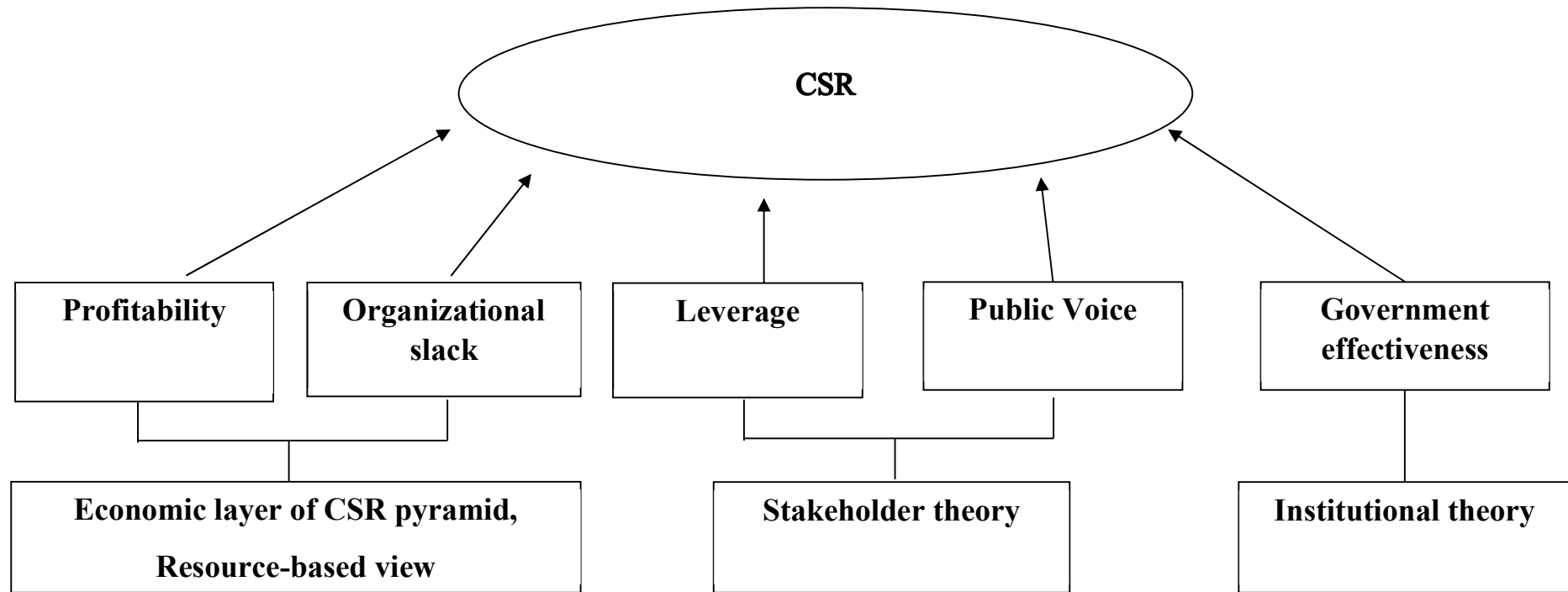


Figure 2 – Theoretical grounds of this study

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2.2 Research questions, objectives, and hypotheses

On the theoretical base discussed in Section 2.1, the research questions, objectives, and hypotheses underlying this study were formulized. In particular, the study attempts to answer three main research questions regarding the role of financial indicators in molding socially responsible behavior by building next hypotheses.

2.2.1 Profitability as a financial determinant of CSR

The first research question and research objective of this study are stated as follows:

Research question (RQ₁): *Does a higher firm's profitability motivate more corporate social responsibility in developing countries' context?*

Research objective (RO₁): *Determine the direction and significance of the impact of profitability on CSR of firms from developing countries.*

The relationship between CSR and financial performance presents a topic of hot academic debate, as discussed in the Literature review part of this study. Though, it should be also noted that studies examining the CSR-financial performance link vary in their views regarding the causality of the relationship between these variables. In particular, three views can be distinguished: a) prior CSR has a positive impact on financial performance b) prior financial performance has a positive influence on CSR c) the relationship between CSR and financial performance is recursive. In this study, the second view regarding the positive effect of financial performance on CSR is examined. In particular, this study proposes that in the context of developing countries where economic issues are standing particularly acute, profit maximization leads the business agenda. In addition, taking the resource-based perspective, higher profitability creates more resources which in turn can be employed for socially responsible initiatives. Thus, the following hypotheses are stated:

H_{1a1}: *Higher profitability measured by accounting-based indicator is associated with a higher level of CSR.*

To address the issue of different effects depending on the type of performance indicator, in this study market-based measures of profitability are also examined:

H_{1a2}: *Higher profitability measured by market-based indicator is associated with a higher level of CSR.*

In addition to the impact on the overall CSR, this study investigates whether profitability measures motivate the specific type of social responsibility in the context of developing countries. Namely, the hypotheses are specified as follows:

H_{1b1,2}: *Higher profitability (accounting- and/or market-based) is associated with a higher level of Environmental responsibility.*

H_{1c1,2}: *Higher profitability (accounting- and/or market-based) is associated with a higher level of Social responsibility.*

H_{1d1,2}: *Higher profitability (accounting- and/or market-based) is associated with better Corporate governance.*

2.2.2 Slack resource base as a financial determinant of CSR

The second research question and research objective of this study are stated as follows:

Research question (RQ₂): *Does a higher firm's slack resource base motivate higher social responsibility in developing countries' context?*

Research objective (RO₂): *Determine the direction and significance of the impact of slack resources on the CSR of firms from developing countries.*

This study proposes slack resource indicator proxied by the current ratio as another potential financial determinant of CSR. As shown in the Literature review section, profitability ratios have been mainly applied in the related research examining the financial performance-social responsibility link, leaving other financial indicators of firms' performance quite neglected. This study argues that slack resource base is also an important indicator of a firm's financial performance, as it presents the firm's ability to meet short-term financial obligations when billed. In this study, the current ratio is applied as an indicator of a firm's slack resources. Prior research also operationalized this indicator as a measure of available slack [214-216].

H₂: *Higher slack resource base is associated with higher CSR.*

Additionally, this study examines whether there is any preference for a specific type of responsibility in the context of developing countries. A separate examination of the CSR pillars allows for assessing the importance attributed to different composites of CSR. The hypotheses are stated as follows:

H_{2a}: *Higher slack resource base is associated with a higher level of Environmental responsibility.*

H_{2b}: *Higher slack resource base is associated with a higher level of Social responsibility.*

H_{2c}: *Higher slack resource base is associated with better Corporate governance.*

2.2.3 Leverage as a financial determinant of CSR

The final research question and objective of this study are stated as follows:

Research question (RQ₃): *Does a firm's level of leverage influence social responsibility in developing countries' context?*

Research objective (RO₃): *Determine the direction and significance of the impact of the level of leverage on CSR of firms from developing countries.*

The third financial indicator examined in this study is the level of leverage. In this way, the study addresses the critique that previous research mostly ignored smart financing decisions as a function of CSR [217]. Based on the premises of stakeholder theory, this study hypothesizes that the relationship between the level of leverage and CSR is inverse. The hypotheses of this study with regard to the level of debt are stated as follows:

H₃: *The association between a firm's level of leverage and CSR is negative.*

H_{3a}: *A higher level of leverage is associated with a lower level of Environmental responsibility.*

H_{3b}: *A higher level of leverage is associated with a lower level of Social responsibility.*

H_{3c}: A higher level of leverage is associated with weaker Corporate governance.

2.3 Summary of the conceptual model

This study presents an integrated perspective to determine factors which can impose an effect on socially responsible behavior in developing countries. Explanatory variables include both internal motives, as well as external factors beyond the firm's control. For internal motives, which also presents main focus of this study, financial indicators of the firm are selected. In particular, profitability, availability of slack resources and the level of debt are utilized, based on the theoretical basis of Carroll's CSR pyramid, resource-based perspective and stakeholder theory. Concerning the external factors, government effectiveness and public voice are employed, founded on the institutional theory and stakeholder theory, respectively. Such a multi-level framework which relies on multiple factors and theoretical grounds is dictated by the multidimensional nature of CSR concept. Having discussed the hypotheses of this study, the main conceptual model can be summarized as follows (figure 3):

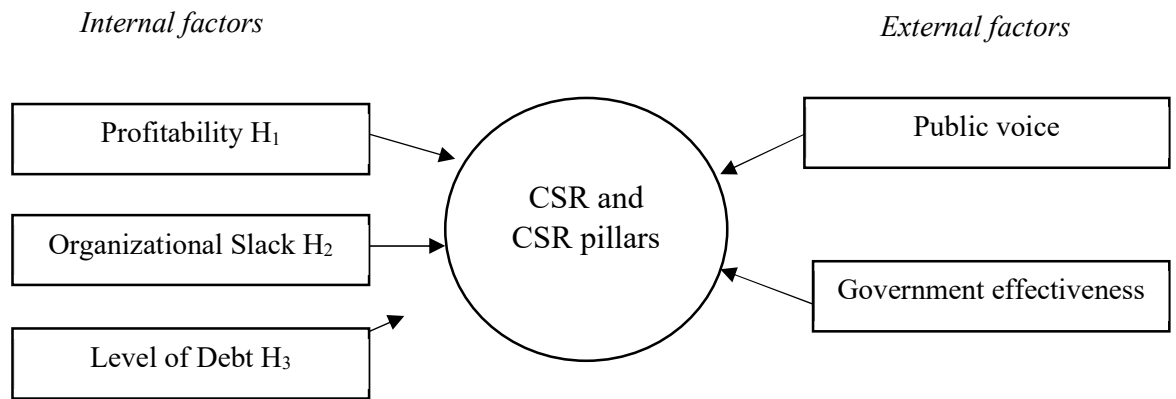


Figure 3 - Main research framework

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3 RESEARCH METHODOLOGY

The following chapter introduces philosophical and methodological basis of current study, including presentation of research paradigm and stages of undertaking research process.

3.1 Research paradigm

Developing research paradigm presents an important step in the research process as it allows researchers to build a philosophical foundation of the phenomenon being studied. It presents a framework for conducting research founded on researchers' beliefs about the nature of reality, what additional knowledge can be attained on the object of the world and by which means. Research paradigm encompasses the assumptions regarding ontology, epistemology, methodology and methods [218], as discussed further.

3.1.1 Ontology and Epistemology

As noted by Grix [219], "*ontology and epistemology are to research what 'footings' are to a house: they form the foundations of the whole edifice*". *Ontology* presents researchers' assumptions about nature of reality, how it exists and what knowledge can be found. It can take two different forms, objectivism and subjectivism. The former refers to the research perspective that portrays reality as external and independent of social actors. In other words, it views reality as an objective construction which does not depend on people's cognition. On the other hand, the latter view suggests that social phenomenon is a result of perceptions and actions of social actors concerned with their existence.

Epistemology refers to the philosophical branch concerned with the nature of knowledge and processes employed for knowledge acquisition and validation [220]. Thus, it is concerned with the methods utilized by researchers to explore the nature of the phenomenon. It is represented by two main school of thoughts: positivism and interpretivism. Positivism adopts the philosophical tradition of the natural scientist, whereby social phenomena is governed by laws and application of scientific methods allows to formulate these laws and produce factual statements. In this way, researchers act as an objective observer who study the phenomena existing independent from them and not affected or disturbed when studied. According to positivism, the world exists "out there", and can be studied in a more or less static form.

The other epistemological branch is interpretivism. Unlike the former approach, it denies existence of single verifiable reality which is independent from human senses. Interpretivists believe in multiple socially constructed realities, where truth and reality are created by individuals, rather than discovered. According to interpretivism, the reality is affected by different perspectives of the researchers, thus multiple knowledges can exist on the same phenomena. Observers' cultural background, language, past knowledge, experience and other factors affect the research conducted, creating a gap between the data collected and its representative reality [221].

3.1.2 Methodology and Methods

Methodology presents “an articulated, theoretically informed approach to the production of data” [222]. It can be viewed as a plan of action which justifies choice of research methods [223]. It answers the question of how the phenomenon would be studied by the researcher. *Methods* refer to specific instruments utilized for collecting and analyzing data.

3.2 Research onion

On the basis of theoretical grounds discussed in prior section, research design of current study was developed and presented in the form of “research onion” [224] in Figure 4. In particular, the research methodology utilized in this study can be summarized by the means of peeling of six layers of the research onion.

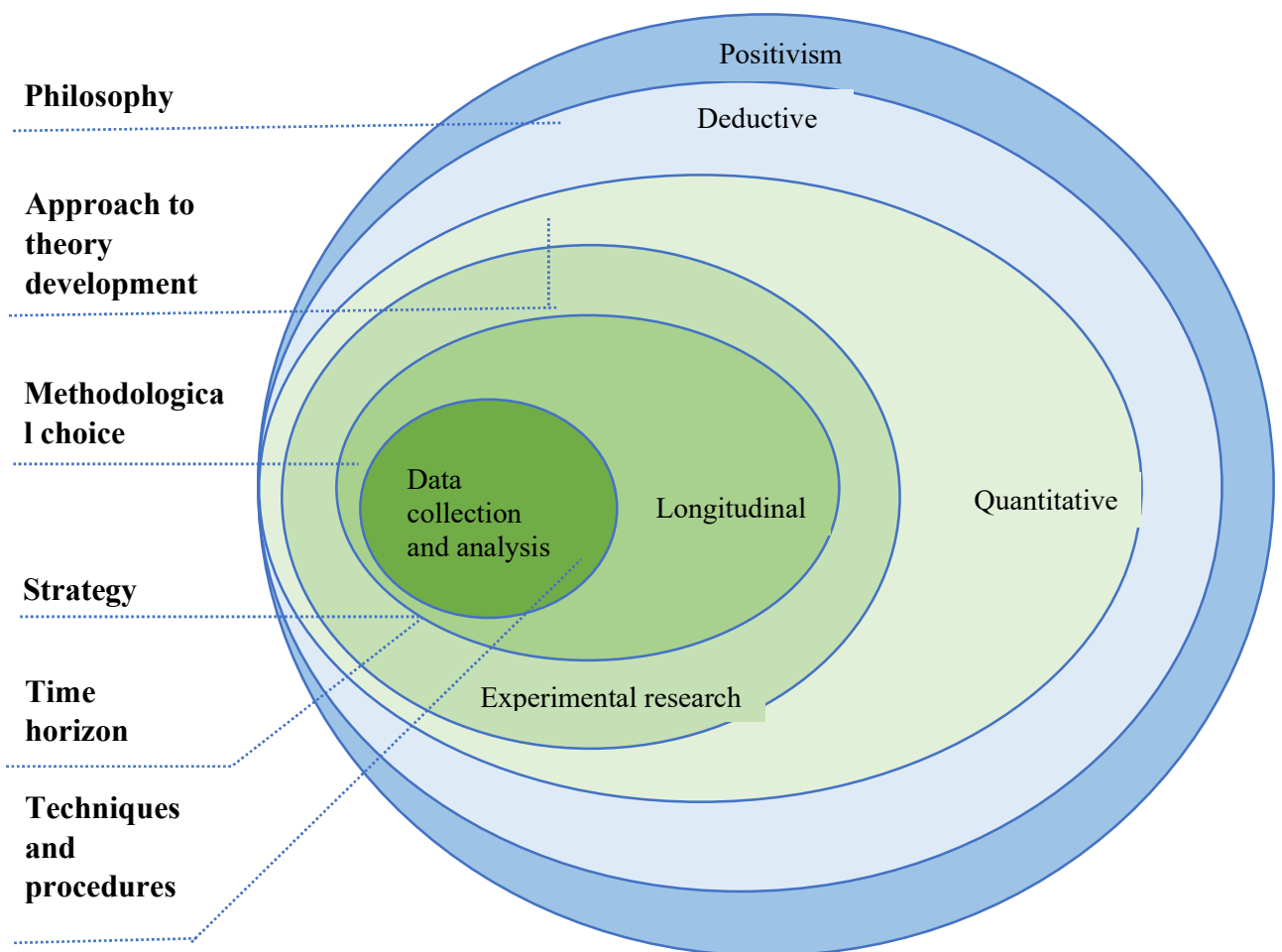


Figure 4 - Research onion

Note - Compiled by the author

The very *first layer* is presented by research philosophy. While different types of philosophies exist as shown in section 3.1.1, this study applies *positivism* philosophy which takes the perspective that knowledge exists outside of what is being studied. It takes the view that there is only one reality and the researcher should take the role of

an observer. According to this philosophy, knowledge is gained from empirical research. The phenomena are being studied by the means of collecting facts and testing hypotheses. In empirical business research, a positivistic paradigm is argued to be a preferred method [225]. Following the positivist philosophy, this study is based on experimental research whereby causal relationship between phenomena is studied by putting forward hypotheses. Quantifying the features of social reality, which this study is all about, is consistent with positivism, as epistemology of the latter is based on the assumption of constant features of social reality, that can be isolated and specified as a variable.

The second layer of the onion is presented by the research approach. In this study *deductive approach* is applied as the research on financial performance and CSR relationship can be explained by well-established theories, such as stakeholder theory or institutional theory, as discussed in Chapter 2 of this study. Deductive approach begins with hypotheses formulation, which are then accepted or rejected based on the results of statistical analysis. The main goal of such approach is to measure, control, predict and understand causalities [226].

The third layer refers to methodological choice, which is the *quantitative method* in case of this study. Quantification is consistent with positivist philosophy, which involves isolating a particular feature of social reality and conceptualizing it as a variable. With regards to *the fourth layer* presented by the research strategy, experimental research is applied as it involves manipulating one variable against other variables, thereby assessing their relationship, which is the case of this study. *The fifth* onion's layer describes the choice of time horizon. This study, utilizing several points in time for data, suggests that a longitudinal time horizon is applied. Finally, based on the prior layers, *data collection* and *data analysis* (research methods) were chosen as described in further sections.

3.3 Data collection

This chapter discusses approach to data collection, sources of data, and variables specification utilized in this study.

3.3.1 Data

This study is based on panel data or a dataset in which the behavior of entities (firms) is observed across time, thereby providing multiple observations on each constituent of the sample [227]. Such data combines the characteristics of time-series and cross-sectional data: similar to the former data type, it presents observations collected at regular frequencies, while similar to the latter data type, it contains observations across a collection of individuals. Panel data has several advantages, including a higher degree of freedom and lower collinearity between independent variables through a large number of data points. In addition, by helping to examine a dynamic change, it helps to identify and assess effects unobservable by pure time-series or cross-sectional data [228] and to model dynamic adjustment.

This study covers “understudied” countries as referred to in the paper by Fainshmidt et al. [207,p. 310]. In particular, the geographical scope of this work

includes developing countries coming from five regions: Asia, Africa, Latin America, East Europe, and the Middle East. Despite growing attention to this part of the world, academic research faces a complexity of very limited, incomplete, and frequently unreliable archival data. The multi-country setting of this study is chosen to draw a general picture describing the state of CSR in developing economies. The period of examination is limited to the five most recent years at the point of this study, beginning from 2016 to 2020. Such a relatively short timeline is dictated by unavailable data on CSR performance as social responsibility reporting is only gaining momentum in the business agenda of firms from emerging economies.

Data utilized in this study comes from secondary sources at both firm- and macro-levels. In particular, for the main variables of interest, which are presented by CSR and financial indicators, data is obtained from the Refinitiv database. Prior CSR literature also commonly applied existing social responsibility ratings provided by different agencies, with KLD scores among the most widely cited [229]. Refinitiv ESG database presents one of the most comprehensive databases in the field, with coverage above 80 percent of the global market capitalization with a history dating back to 2002. Employing publicly available CSR scores allows this study to apply the multi-country setting, and increase the comparability and replicability of the results. With regards to the macro-level, which includes government effectiveness, the voice of stakeholders, and GDP per capita, data comes from the World bank ratings based on opinion surveys, and World bank macro-indicators. A more detailed discussion of the list of variables is presented in a Section 3.3.2 of this study.

The country and firm selection procedures were undertaken as follows. Firstly, the initial country set consisted of 68 “understudied” economies, representing 33% of the Gross World Product in terms of Purchasing Power Parity [207,p. 312] was checked for availability of macro-level data, leaving a total of 40 countries remaining. From each of the selected countries, up to ten publicly-traded firms with the largest market capitalization traded on the national exchanges were chosen. Publicly-listed firms traded on the national exchanges of the countries under consideration were selected due to more stringent disclosure requirements for public firms, thereby overcoming the flaws of less transparent reporting and the absence of benchmarks for fair value estimation of private firms [230]. Constituents of national indices were identified based on the Refinitiv database. The selection process is illustrated in figure 5.

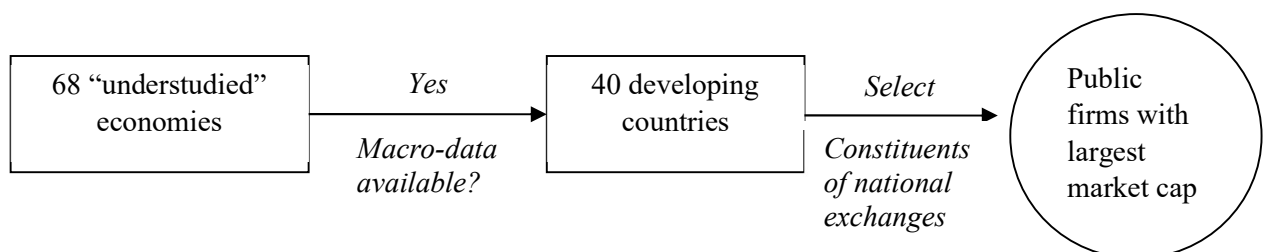


Figure 5 - Data selection process

Note – Compiled by the author

Selected firms were checked for the availability of financial and CSR data. After removing outliers, extreme observations, and missing values, data for 110 firms representing 20 countries was collected, giving in a total of 519 observations of unbalanced data (table 3).

Table 3 - Sample size

| Description | Numb. of obs. |
|-------------------------------|---------------|
| Initial # of observations | 750 |
| Missing firm-level data | -149 |
| Outliers | -82 |
| Final number of observations | 519 |
| Note - Compiled by the Author | |

The list of countries falling under the scope of this study is presented in Appendix A. Additionally, the industry set does not include the financial sector (banks, valuation, insurance, and real estate agencies), due to industry specifics in terms of CSR and financial indicators unrelated to the purposes of this study. The industry breakdown is presented in Appendix B.

3.3.2 Variables specification

The following set of variables is utilized in this study: CSR and CSR pillars' score, accounting- and market-based financial indicators, macro-level, and control variables as summarized in Table 4.

Table 4 - Variable specification

| Variable name | Measurement | Code |
|------------------------------|--|--------|
| 1 | 2 | 3 |
| Dependent variables | | |
| (1) CSR | Overall CSR score | CSR |
| (2) Environmental pillar | Environmental score | ENV |
| (3) Social pillar | Social score | SOC |
| (4) Governance pillar | Governance score | GOV |
| Independent variables | | |
| (1) Financial indicators | | |
| (a) Profitability | | |
| Accounting-based performance | Return on Assets | ROA |
| Market-based performance | Tobin's Q is measured as the sum of equity's market value and debt's book value by the total firm's assets | TQ |
| (b) Organizational slack | Current Assets to Current Liabilities | CR |
| (c) Leverage | Debt as a per centage of Total assets | LEV |
| (2) Macro-level variables | | |
| (a) Government effectiveness | World Bank Government Indicators | GOVEFF |
| (b) Voice of stakeholders | World Bank Government Indicators | VOI |
| (3) Control variables: | | |

Continuation of table 4

| 1 | 2 | 3 |
|-------------------------------|-------------------------------------|-------|
| Size | Natural logarithm of Total Assets | LnTA |
| GDP per capita | Natural logarithm of GDP per capita | LnGDP |
| Note - Complied by the Author | | |

3.3.2.1 Dependent variables

Dependent or response variables present variables of interest that are being measured in the experiment. Based on the main purpose of this study, CSR and its pillars are dependent variables.

Lack of a unified approach to measuring CSR due to its multi-dimensional nature and solid theoretical base complicates the assessment of the CSR-financial performance relationship. Different methods for CSR assessment, such as content-analysis, surveys, and reputational indices have both advantages and disadvantages, as summarized by Barauskaite and Streimikiene [231], with no single approach outpacing the others. In particular, while content analysis possesses benefits in terms of the flexible selection of available data, it is also subject to inaccuracy and bias due to the absence of calculation units and uniform selection criteria. Furthermore, understanding and interpretation of selected indicators by different authors can vary. In addition, this method implies that social disclosure mirrors actual social performance [232], which represents a questionable assumption. Similar to content-analysis, surveys and questionnaires have the advantage of flexible data selection, though they can also contain possible measurement errors and subjectivity. Additionally, respondents may restrain from disclosing important information and provide incorrect answers [231,p. 280]. Finally, using reputational indices presents the most commonly applied method to measure CSR due to the ease of access and comparability between firms. Though, it also has flaws in terms of the absence of a scientific base, private firm's set up, and limited coverage.

In this particular study, for a proxy of firms' level of social responsibility, readily-available ESG scores developed by Refinitiv are used. Refinitiv is one of the world's largest providers of financial markets data and infrastructure, and is part of London Stock Exchange Group. According to Refinitiv, its ESG scores are designed to transparently assess a firm's commitment, effectiveness, and performance across ten dimensions related to the environment, society, and corporate governance pillars (emissions, innovation, human rights, workforce, etc.) based on verifiable reported data. Refinitiv applies pillar weights which are based on a materiality matrix that considers the importance of each ESG topic to various industries, thereby incorporating industry differences. Table 5 depicts the main themes covered by ESG scores developed by Refinitiv for each of the environment, social, and governance pillars.

Table 5 - Refinitiv ESG scores thematical coverage

| Pillar | Category | Themes | Description |
|--|------------------------|---|---|
| Environmental (E) | Emissions | Emission, waste, biodiversity, environmental management system | The score is designed to assess the firm’s commitment and effectiveness toward decreasing emissions in the process of operations and production |
| | Innovation | Product innovation, green revenues, research and development (R&D), and capital expenditures | The score assesses the firm’s capacity to create new environmental technologies and processes through the reduction of environmental costs for its customers |
| | Use of resources | Water, energy, sustainable packaging, environmental supply chain | The score captures the firm’s performance and capacity to reduce the use of materials and to improve supply chain management through eco-efficient solutions |
| Social (S) | Community | Community involvement | The score estimates the firm’s commitment to protecting public health, respecting business ethics, and being a good citizen |
| | Human rights | Respect for human rights | The score assesses the effectiveness of a firm in respecting human rights conventions |
| | Product responsibility | Product quality, data privacy, responsible marketing | The score measures a firm’s capacity to produce goods and services by integrating health and safety, data privacy, and integrity. |
| | Labor | Workforce diversity and inclusion, career development and training, working conditions, health and safety | The score measures how effectively a firm responds to such labor-related issues as health and safety, diversity, equal and development opportunities, and job satisfaction. |
| Governance (G) | CSR strategy | CSR strategy, reporting, and transparency on ESG issues | The score measures the firm’s commitment to effectively communicate its approach toward integrating social, environmental, and governance issues in its day-to-day operations |
| | Management | Structure (independence, diversity, committees), compensation | The score measures the firm’s commitment and effectiveness toward the best corporate governance principles |
| | Shareholders | Shareholder rights and takeover defenses | The score assesses how effective a firm manages the equal treatment of its shareholders and anti-takeover defenses |
| <p>Note – Adopted by the Author from “Environmental, Social and Governance scores from Refinitiv” available at https://www.refinitiv.com/en/sustainable-finance/esg-scor2</p> | | | |

The pillar weights are normalized to percentage scores starting from 0 (poor ESG performance and reporting transparency) to 100 (excellent ESG performance and reporting transparency). The score range is presented in table 6.

Table 6 - Refinitiv ESG scores ranking

| Score range | Grade | Description |
|---|-------|--|
| 0<=score<=0,083 | D- | Low transparency of reporting ESG information and poor relative ESG performance |
| 0,083<score<=0,167 | D | |
| 0,167<score<=0,25 | D+ | |
| 0,25<score<=0,333 | C- | Moderate degree of transparency of reported ESG information, satisfactory relative ESG performance |
| 0,333<score<=0,417 | C | |
| 0,417<score<=0,50 | C+ | |
| 0,50<score<=0,583 | B- | Above average degree of transparency of ESG reporting, good relative ESG performance |
| 0,583<score<=0,667 | B | |
| 0,667<score<=0,750 | B+ | |
| 0,750<score<=0,833 | A- | High degree of transparency of ESG reporting, excellent relative ESG performance |
| 0,833<score<=0,917 | A | |
| 0,917<score<=1 | A+ | |
| Note – Adopted by the Author from “Environmental, Social and Governance scores from Refinitiv” available at https://www.refinitiv.com/en/sustainable-finance/esg-scor2 | | |

The selection of Refinitiv ESG scores in this study is made for several reasons. Firstly, the transparency of these scores is achieved through reliance on publicly available information, with the score also penalized for not reporting highly material data. Secondly, relying on publicly-available weights facilitates comparison between firms, industries, and countries and increases study replicability. Moreover, readily-available ranking is applied in this study to overcome subjectivity or data mining which may occur in the case of utilizing other approaches such as content analysis, surveys, and questionnaires.

Last, but not least, the methodology of these scores takes into account industry differences by assigning different materiality weights based on the importance of the ESG factor to a particular sector. In particular, the materiality of particular issue to the industry is determined by applying two methods. The first approach determines the relative weight based on a relative median value for a firm in that industry group. This applies to numeric data points with social and environmental impact. The second method is applicable to the Boolean data points, or the ones which takes values “Yes” or “No” and refer to the level of disclosure of material data points in particular industry group. Category weights of an industry group are determined by dividing magnitude weight of a category by sum of magnitudes of all categories. The relative weight assigned to a data point ranges from 1 to 10. Table 7 depicts the relative materiality matrix of ESG issues to the industries falling under scope of this study.

Table 7 – Materiality of ESG factors by industry

| Industry Group | Environmental | | | Social | | | | Governance | | |
|-----------------------------------|---------------|------------|--------------|--------------|------------------------|-----------|-----------|------------|--------------|--------------|
| | Emission | Innovation | Resource use | Human rights | Product responsibility | Workforce | Community | Management | Shareholders | CSR strategy |
| Aerospace and defense | 4 | 4 | 3 | 7 | 3 | 5 | 5 | 10 | 3 | 2 |
| Agricultural Chemicals | 9 | 9 | 9 | 10 | 5 | 6 | 5 | 10 | 3 | 2 |
| Passenger transportation services | 7 | 3 | 7 | 5 | 4 | 8 | 5 | 10 | 3 | 2 |
| Transport infrastructure | 7 | 2 | 7 | 6 | 3 | 9 | 5 | 10 | 3 | 2 |
| Metals and Mining | 10 | 2 | 10 | 10 | 2 | 7 | 5 | 10 | 3 | 2 |
| Automobiles and auto parts | 6 | 10 | 5 | 9 | 5 | 6 | 5 | 10 | 3 | 2 |
| Chemicals | 9 | 9 | 9 | 10 | 5 | 6 | 5 | 10 | 3 | 2 |
| Coal | 10 | 1 | 10 | 3 | 1 | 5 | 5 | 10 | 3 | 2 |
| Construction Materials | 10 | 8 | 10 | 7 | 3 | 7 | 5 | 10 | 3 | 2 |
| Electrical components | 7 | 6 | 8 | 5 | 2 | 4 | 5 | 10 | 3 | 2 |
| Food, retail, and distribution | 6 | 3 | 4 | 5 | 8 | 6 | 5 | 10 | 3 | 2 |
| Healthcare | 3 | 1 | 4 | 3 | 6 | 4 | 5 | 10 | 3 | 2 |
| Machinery | 5 | 10 | 4 | 6 | 5 | 4 | 5 | 10 | 3 | 2 |
| Oil and Gas | 7 | 7 | 9 | 10 | 4 | 8 | 5 | 10 | 3 | 2 |
| Paper products | 10 | 9 | 10 | 6 | 1 | 7 | 5 | 10 | 3 | 2 |
| Renewable energy generation | 6 | 6 | 6 | 1 | 3 | 3 | 5 | 10 | 3 | 2 |
| Semiconductors | 6 | 7 | 6 | 9 | 5 | 6 | 5 | 10 | 3 | 2 |
| Software and IT services | 1 | 2 | 2 | 2 | 4 | 2 | 5 | 10 | 3 | 2 |
| Telecommunication services | 4 | 4 | 4 | 8 | 9 | 8 | 5 | 10 | 3 | 2 |
| Household products and services | 6 | 4 | 6 | 8 | 10 | 7 | 5 | 10 | 3 | 2 |
| Uranium | 10 | 1 | 10 | 1 | 3 | 3 | 5 | 10 | 3 | 2 |
| Water and Utilities | 9 | 8 | 9 | 3 | 2 | 8 | 5 | 10 | 3 | 2 |

Note – Adopted by the Author from “Environmental, Social and Governance scores from Refinitiv” available at <https://www.refinitiv.com/en/sustainable-finance/esg-scor2>

3.3.2.2 Independent variables

Independent or explanatory variables present variables that are being manipulated in the experimental study to explore their effects on the response variable. In this study, independent variables are composed of the ones reflecting firms' financial indicators, macro-level, and control variables.

Financial indicators

Though compared to CSR, the financial performance contains much less controversy in terms of its measurement, prior literature has not reached a consensus regarding which financial indicators to analyze in the framework of CSR. In this study, the link between social responsibility with both accounting-based and market-based indicators is explored. While accounting-based variables reflect a firm's internal effectiveness [233], market-based ones are argued to capture a firm's modernity, thereby reflecting changes in CSR at a quicker pace [231,p. 281]. By using this approach, the effects of short-term as well as long-term firms' financial performance on CSR are assessed. In this study firm's financial performance is examined on three levels: profitability (accounting- and market-based performance), slack resources, and the amount of leverage.

Accounting-based profitability indicator in this study is proxied by Return on Assets (ROA) which is a common metric applied in prior literature, thereby facilitating comparison with the findings of other studies [162,p. 5]. ROA mirrors the firm's profit-generating ability concerning its assets. The ratio is obtained for each firm from the "Financial summary" section of Refinitiv database calculated as follows:

$$ROA = \frac{\text{Income before discontinued operations and extraordinary items}}{\text{Average total assets}}$$

For market-based performance, a forward-looking measure proxied by Tobin's Q is used. This measure presents an assessment of a firm's growth potential [146,p. 581] and the public's trust [221,p. 4] and frequently appears in previous works. Tobin's Q is calculated by dividing the sum of equity's market value and debt's book value by the total firm's assets [222,p. 7]. Input values for calculation of Tobin's Q are derived from Refinitiv database.

In addition to profitability ratios, the extent of the relationship between CSR and current ratio, which is measured as a ratio of current assets to current liabilities is examined [201,p. 852]. By introducing the current ratio, this study measures whether slack resources as proxied by the current ratio, have an impact on a firm's willingness and ability to invest in socially responsible initiatives [223,p. 7]. Finally, with regards to leverage, the ratio of total debt as a per centage of total assets is employed in this study as a proxy. The ratio is obtained from Refinitiv database.

Macro-level variables

Macro-level variables utilized in this study present additional factors which can impact the degree of CSR. Particularly, government effectiveness and public voice were included in the analysis. While approaches to measure government effectiveness vary, this study utilizes the one presented in the paper by Sanchez et al. [213,p. 570].

In particular, as a proxy of government effectiveness World Bank Government Indicators [234] are applied. These indicators were proposed by Kaufmann et al. [235] and are argued to present the most relevant index to assess the effectiveness of a country's government [236,237]. This research dataset summarizes the views on the quality of governance based on the responses of a large number of enterprise and citizen and expert surveys. WGBI reflects the opinions on the quality of public and civil services, as well as the degree of independence from political pressures, and the quality and credibility of government's policies in terms of formulation and implementation. The ranking of government effectiveness ranges from 0 (the lowest) to 100 (the highest). With regards to the public voice, WGBI's ranking of the country's voice and accountability are applied. In particular, these indicators rank countries based on the degree of freedom of expression, association, and free media of their citizens from 0 (the lowest) to 100 (the highest).

Control variables

Control variables present extraneous variables, which are included in the experiment to remove their impact on other variables. In this study, control variables are introduced at the firm-level (firm's size) and macro-level (country's GDP). Considering that CSR and its pillar weights utilized as dependent variables in this study are already adjusted for industry effects, additional industry controls are not included.

Firm size: Prior literature presented extensive evidence that CSR and firm size are closely related [238]. The underlying assumption is that larger firms are more subject to public scrutiny, thereby facing a higher possibility of litigation for ignorance of social and environmental issues [6,p. 4]. In addition, larger firms tend to invest more in socially responsible initiatives than smaller ones [239]. Furthermore, larger firms in general possess more surplus resources that can be directed to communal and social development [165,p. 61]. Firm size is the most common control variable observed in prior studies which examine CSR-financial performance relationship [144,p. 405]. As a proxy of the firm's size in this study natural logarithm of total assets is applied.

GDP per capita: Multi-country setting of this study calls for additional controls concerning country-specific effects. GDP per capita is utilized to control for these effects. Data on GDP per capita is obtained from the World Bank database [235,p. 2].

3.3.3 Section summary

This section describes the data selection and collection procedures utilized in this study. Variables specification as well as sources of data are presented. In particular, the study covers 110 firms representing 20 countries from developing regions, covering the period from 2016 to 2020. Using secondary sources for data is justified. Variables are divided into dependent variables (CSR and CSR pillars) and independent variables (financial indicators, macro-level and control variables).

3.4 Research methods

The following section describes the research methods and techniques applied in this study. All statistical analysis was performed by applying EViews 12 statistical package.

3.4.1 Data analysis

At the first stage of analysis, variables were checked on the presence of heteroskedasticity and multicollinearity. Heteroskedasticity refers to a situation of unequal variance of residuals over a range of measured values. By increasing the variance of coefficient estimates due to heteroskedasticity, the standard ordinary least squares (OLS) regression model can provide biased results and lead to incorrect conclusions. The likelihood ratio (LR) test with a null hypothesis of homoscedastic residuals is performed to detect the presence of heteroskedasticity. With regards to multicollinearity that presents a case of correlation of independent variables in the regression model, the Variance Inflation Factor (VIF) test was utilized. A large VIF is an indicator of a highly collinear relationship of an independent variable to other variable.

3.4.1.1 Static versus dynamic model?

Static linear models present the most commonly applied approach in academic research examining CSR-financial performance relationship [240]. However, this study follows another strand of literature that employs dynamic linear models to address endogeneity issues related to CSR-financial performance link. According to Roodman [241], dynamic panel estimators are growing in popularity in academic research due to their applicability in several cases, including:

- 1) panels with few periods and large size;
- 2) the presence of heteroskedasticity and autocorrelation within individual variables;
- 3) dynamic dependent variable which depends on its past values;
- 4) independent variables which are not exogenous, or in other words exhibit correlation with previous or possibly current error terms;
- 5) a linear functional relationship
- 6) fixed individual effects.

Obtaining both short-term and long-term elasticities presents an additional advantage of dynamic models [242]. The dynamic specification is also crucial for obtaining consistent estimates for other variables in the model [243] and avoiding omitted variable bias. Furthermore, static models are subject to main econometric biases, such as endogeneity, as discussed below.

3.4.1.2 Endogeneity issue

Endogeneity presents one of the most pervasive pitfalls surrounding empirical studies in the field of corporate finance [244]. In CSR-financial performance research, potential endogeneity is also a serious issue, which can partially explain variation in results regarding the direction and magnitude of the relationship between variables [245]. Though, studies which accounted for the endogeneity of the CSR-financial performance relationship are quite limited [246]. CSR research before 2008 rarely even discussed the issue of endogeneity [247].

Endogeneity refers to situations when the explanatory variable exhibits a correlation with the error term [248]. Results obtained by static models can produce

biased results due to the omission of variable or unobserved heterogeneity as the range of potential determinants of CSR is very extensive [249]. In other words, while the direct relationship between CSR and financial performance may not exist, these variables can be subject to spurious correlation through the third variable [250]. Additionally, the potential reverse causality of the variables under interest can contribute to endogeneity. Finally, as this study examines the sample from countries with limited disclosure, some variables can be subject to errors due to variations in standards and conventions [251]. Not controlling for endogeneity can provide biased results and overstate the relationship between CSR and financial performance [47,p. 355].

In this study endogeneity of the explanatory variable was checked by applying the Hausman test, which represents the most widely used approach to examining the endogeneity of regressors [252]. This test helps to determine the presence of a correlation of unique errors with regressors against a null hypothesis of zero correlation. A significant p-value in the Hausman test indicates the presence of fixed effects. Performing such robustness testing presents an important element of statistical inference in academic research across various fields of knowledge [253]. In case of the absence of fixed and random effects, data is poolable and the use of OLS can provide consistent results. However, if the effects are present more advanced techniques that account for fixed and random effects should be given consideration.

Particularly, fixed-effects presents a regression model which allows intercept to vary freely across individuals or groups while controlling for individual-specific characteristics which are constant across time. Under this model, the fixed effect is eliminated through mean differencing, thereby presenting a “within” estimator. Fixed effects estimation avoids the problem of heterogeneity by controlling all higher-level variance and between effects [254]. A big drawback of the fixed-effects model is that by removing higher-level variance, a large amount of important information is lost. Thus, higher-level variances and their significance become a black box [255]. Measuring the effects of time-invariant variables becomes impossible as all degrees of freedom at a higher level are lost. Furthermore, in the fixed-effects model any estimates of the parameter deal only with a small portion of the variance in that variable, as higher-level variance has been removed [256]. As an example, Ben Lahouel et al. [257] illustrated that after controlling for endogeneity, the positive link between CSR and financial performance disappears, while the fixed-effects model based on the same sample provided different results. These authors concluded that not accounting for endogeneity can lead to inflated results, incorrect interpretations, and theoretical propositions regarding CSR-financial performance link.

Unlike the fixed-effects model, the random-effects model assumes variations across entities to be random and uncorrelated with the independent variable, allowing time-invariant variables to play the role of explanatory variables. While in the fixed-effects model the intercept or constant captures differences among individuals, in the random-effect model the differences are reflected in the error term of each individual. However, both fixed- and random- effects models require strong exogeneity, meaning that independent variables in the regression equation are not dependent on the response

variable [258]. This puts into question the relevance of fixed- and random-effects models for this study, as there is a possibility of a circular relationship between CSR and financial performance, thereby leading to considering other techniques as discussed in the section that follows.

3.4.2 Estimation methods

The following section discusses estimation techniques on which empirical analysis of this study is based. In particular, it presents main regression model which is aimed to address potential endogeneity issue, as well as two additional regression techniques employed for comparison purposes. Additionally, this section links selected estimation methods to the hypotheses raised in this study.

3.4.2.1 Generalized Method of Moments (GMM)

Numerous techniques are available to moderate endogeneity issues, such as the third-factor effect, instrumental variable estimation technique, or application of lagged dependent variable [259]. Though, the majority of scholars highlight the superiority of the Generalized Method of Moments (GMM) and two-stage least squares (2SLS) estimation approaches [260]. As argued by Velte [261], the GMM approach should become the “best practice” in the field of CSR research due to the endogeneity problems present in the CSR-financial performance relationship.

Thus, to control for the problem of potential endogeneity, the Instrumental Variable (IV) estimation technique [262] is utilized in this study. IV technique uses at least one instrument, Z , with correlates with the variable of concern, X , but not with the model error term, e , by assumption or by construction. IV regression splits the explanatory variable into a part that correlates with the error term and one with no correlation:

$$\text{Corr}(Z_i, X) \neq 0$$

$$\text{Corr}(Z_i, e_i) = 0$$

Particularly, the Generalized Method of Moments (GMM) is utilized as the main estimation method of this study, as it is argued to deliver consistent estimates, overcoming the presence of endogeneity and measurement errors [175,p. 65]. Two main types of GMM are presented in the limited prior research which applied non-static estimation techniques to address the CSR-financial performance relationship. The first type proposed by Arellano and Bond [263] relied on a “difference” approach to produce valid instruments. Particularly, first-differencing is applied to panel data to remove the time-invariant fixed effect and show that lagged values of dependent variables present appropriate instruments for the variable in first-difference. An alternative type of GMM, or system GMM, was suggested by Blundell and Bond [264]. This type of GMM additionally to first-differencing applies the lagged first differences as instruments in the levels equation, based on the assumption of no correlation between first differences of instrument variables and fixed effects. System GMM is argued to improve model efficiency due by allowing to introduce more instruments [241,p. 90].

In this study, first-difference GMM estimation is implemented. Lagged values of the explanatory variables are used as instrumental ones [251,p. 351]. Namely, the lag of the dependent variable (CSR) is applied as endogenous [265]. In this regard, the CSR level in the current period is argued to depend on the level of the prior period's CSR. In such model specifications where the current dependent variable is affected by its lagged value, dynamic panel data GMM is applicable [266]. The lag of the dependent variable is argued to control for the potential problem of reverse causality [267] and serial autocorrelation in the model.

To test the consistency of utilized GMM estimators, a test of second-order serial correlation is performed in the first place. The validity of the assumption is supported in the case of obtaining a correlation of residuals in first differences (AR(1)), and no correlation in second differences (AR(2)) [263,p. 280].

3.4.2.2 Linking main study model to hypotheses

Based on the above discussion of GMM estimation method and hypotheses proposed in Chapter 2, the following empirical models are specified for the hypotheses on the impacts of profitability, slack resources and leverage on CSR and CSR pillars examined in this study.

Profitability as a determinant of CSR

The first hypothesis of this study examines the effects of profitability on the level of CSR and individual CSR pillar in particular. It applies two measures of profitability, namely accounting-based and market-based indicators. Empirical models for each of the specific hypothesis based on GMM estimator are constructed below.

H_{1a1}: CSR and accounting-based profitability

$$(1) CSR_{i,j,t} = a_0 + CSR_{i,j,t-1} + AP_{i,j,t} + MF_{i,j,t} + X_{i,j,t} + \varepsilon_{it}$$

H_{1a2}: CSR and market-based profitability

$$(2) CSR_{i,j,t} = a_0 + CSR_{i,j,t-1} + MP_{i,j,t} + MF_{i,j,t} + X_{i,j,t} + \varepsilon_{it}$$

H_{1b1}: Environmental pillar and accounting-based profitability

$$(3) ENV_{i,j,t} = a_0 + CSR_{i,j,t-1} + AP_{i,j,t} + MF_{i,j,t} + X_{i,j,t} + \varepsilon_{it}$$

H_{1b2}: Environmental pillar and market-based profitability

$$(4) ENV_{i,j,t} = a_0 + CSR_{i,j,t-1} + MP_{i,j,t} + MF_{i,j,t} + X_{i,j,t} + \varepsilon_{it}$$

H_{1c1}: Social pillar and accounting-based profitability

$$(5) SOC_{i,j,t} = a_0 + CSR_{i,j,t-1} + AP_{i,j,t} + MF_{i,j,t} + X_{i,j,t} + \varepsilon_{it}$$

H_{1c2}: Social pillar and market-based profitability

$$(6) SOC_{i,j,t} = a_0 + CSR_{i,j,t-1} + MP_{i,j,t} + MF_{i,j,t} + X_{i,j,t} + \varepsilon_{it}$$

H_{1d1}: Governance pillar and accounting-based profitability

$$(7) \text{ GOV}_{i,j,t} = a_0 + \text{CSR}_{i,j,t-1} + \text{AP}_{i,j,t} + \text{MF}_{i,j,t} + X_{i,j,t} + \varepsilon_{it}$$

H1d2: Governance pillar and market-based profitability

$$(8) \text{ SOC}_{i,j,t} = a_0 + \text{CSR}_{i,j,t-1} + \text{MP}_{i,j,t} + \text{MF}_{i,j,t} + X_{i,j,t} + \varepsilon_{it}$$

where CSR is overall social responsibility score for sample firm *i* of country *j* at year *t*, ENV, SOC and GOV refer to environmental, social and governance pillars, AP and MP proxies for accounting- and market-based profitability ratios, MF states for macro-effects of government effectiveness and public voice, *X* refers to control variables, namely firm's size and country's GDP.

Organizational slack as a determinant of CSR

The second hypothesis of this study examines the effects of organizational slack on the degree of CSR and individual CSR pillar in particular. As a measure of organizational slack, current ratio is applied. Empirical models for each of the specific hypothesis based on GMM estimator are constructed below.

H2: CSR and organizational slack

$$(9) \text{ CSR}_{i,j,t} = a_0 + \text{CSR}_{i,j,t-1} + \text{CR}_{i,j,t} + \text{MF}_{i,j,t} + X_{i,j,t} + \varepsilon_{it}$$

H2a: Environmental pillar and organizational slack

$$(10) \text{ ENV}_{i,j,t} = a_0 + \text{CSR}_{i,j,t-1} + \text{CR}_{i,j,t} + \text{MF}_{i,j,t} + X_{i,j,t} + \varepsilon_{it}$$

H2b: Social pillar and organizational slack

$$(11) \text{ ENV}_{i,j,t} = a_0 + \text{CSR}_{i,j,t-1} + \text{CR}_{i,j,t} + \text{MF}_{i,j,t} + X_{i,j,t} + \varepsilon_{it}$$

H2c: Governance pillar and organizational slack

$$(12) \text{ SOC}_{i,j,t} = a_0 + \text{CSR}_{i,j,t-1} + \text{CR}_{i,j,t} + \text{MF}_{i,j,t} + X_{i,j,t} + \varepsilon_{it}$$

where CSR is overall social responsibility score for sample firm *i* of country *j* at year *t*, ENV, SOC and GOV refer to environmental, social and governance pillars, CR proxies for current ratio, MF states for macro-effects of government effectiveness and public voice, *X* refers to control variables, namely firm's size and country's GDP.

Leverage as a determinant of CSR

The third hypothesis of this study examines the effects of the level of leverage on the degree of CSR and individual CSR pillar in particular. As a measure of leverage, ratio of debt as a percentage of total assets is applied. Empirical models for each of the specific hypothesis based on GMM estimator are constructed below.

H3: CSR and leverage

$$(13) \text{ CSR}_{i,j,t} = a_0 + \text{CSR}_{i,j,t-1} + \text{LEV}_{i,j,t} + \text{MF}_{i,j,t} + X_{i,j,t} + \varepsilon_{it}$$

H3a: Environmental pillar and leverage

$$(14) \quad ENV_{i,j,t} = a_0 + CSR_{i,j,t-1} + LEV + MF_{i,j,t} + X_{i,j,t} + \varepsilon_{it}$$

H3b: Social pillar and leverage

$$(15) \quad ENV_{i,j,t} = a_0 + CSR_{i,j,t-1} + LEV_{i,j,t} + MF_{i,j,t} + X_{i,j,t} + \varepsilon_{it}$$

H3c: Governance pillar and leverage

$$(16) \quad SOC_{i,j,t} = a_0 + CSR_{i,j,t-1} + LEV_{i,j,t} + MF_{i,j,t} + X_{i,j,t} + \varepsilon_{it}$$

where *CSR* is overall corporate social responsibility score for sample firm *i* of country *j* at year *t*, *ENV*, *SOC* and *GOV* refer to environmental, social and governance pillars, *LEV* proxies for ratio of debt to assets, *MF* states for macro-effects of government effectiveness and public voice, *X* refers to control variables, namely firm's size and country's GDP.

3.4.3 Additional estimation methods

In addition to the main model, classical techniques, namely OLS and 2SLS, are utilized in this study to explore the relationship between dependent and independent variables for comparison purposes. OLS brings the sum of the squared errors to a minimum, while SLS presents OLS regression which is implemented in two stages. OLS is based on the assumption that explanatory variables are orthogonal to the error terms. 2SLS distinguishes between regressors and instrumental variables, with an allowance for these categories to overlap [241,p. 92]. Instruments enhance the explanatory power of the model by accounting for unexpected behavior between variables and finding their true correlation.

General regression specification of this study based on the OLS approach, which examines the effect of financial indicators on CSR according to the hypotheses stated in Chapter 3 is formulated as follows:

$$CSR_{i,j,t} = a_1 + FI_{i,j,t} + MF_{i,j,t} + X_{i,j,t} + \varepsilon_{it}$$

where *CSR* refers to overall corporate social responsibility score for sample firm *i* of country *j* at year *t*, *FI* proxies for the firm's financial indicators measured by accounting- and market-based profitability ratios, current ratio, and leverage, *MF* states for macro-effects of government effectiveness and public voice, *X* refers to control variable, namely firm's size and country's GDP. For the hypotheses examining the effects of individual CSR pillars, Environment (*ENV*), Social (*SOC*), and Governance (*GOV*) variables are specified as dependent ones, thereby replacing the *CSR* variable from equation (2).

However, the ignorance of panel data structure by the OLS approach results in two problematic issues. Firstly, standard errors can be understated, leading to overstated significance levels. Secondly, estimates of the regression coefficients can be inefficient. Though, despite the problem with endogeneity, the application of the OLS approach is very commonly observed in previous studies examining links between CSR and financial performance. As noted by Gujarati and Porter [268], OLS

presents one of the most popular regression approaches. Similarly, this study utilizes OLS for comparison purposes with the main model of this study presented in the previous section, thereby assessing the presence of potential endogeneity.

Recognizing a situation with endogeneity when the OLS approach can be subject to biased and inconsistent results [248,p. 40], this study also applies the 2SLS estimator which presents an extension of OLS, which is argued to perform better in the presence of endogeneity. This estimator is based on a maximum likelihood method. In addition to OLS, 2SLS presents a popular approach utilized in CSR-related studies. 2SLS utilizes four types of variables: dependent, endogenous, exogenous, and instrument. The dependent variable presents the response variable, which is regressed on the endogenous and exogenous variables. Exogeneous variables are independent variables that are included in both stages of 2SLS regression and exhibit zero correlation with the random error values in the second stage of SLS. Endogenous variables act as the dependent variable in the first stage of 2SLS and are regressed on all instrument and exogeneous variables. Fitted values from these regressions replace original endogenous variables in the second stage of 2SLS. In line with Zahid et al. [246,p. 3100], in this study 2SLS model is specified as follows:

$$1st\ stage: \quad y_{i,j,t} = a_1 + \beta_{1j,t} + y_1 X_{i,j,t} + \varepsilon_{1it}$$

$$2nd\ stage: \quad \beta_{1j,t} = a_2 + \theta Z_{i,j,t} + y_2 X_{i,j,t} + \varepsilon_{2it}$$

where a_1 and a_2 are constant of two stages, y_{ijt} is dependent variable or sample firm i of country j at year t , $\beta_{1j,t}$ present endogenous independent variables (FI and MF), $\theta Z_{i,j,t}$ are instrumental variables, $y_1 X_{i,j,t}$ and $y_2 X_{i,j,t}$ are control variables at each stage, ε_{1it} and ε_{2i} present error terms at each stage.

According to the 2SLS model, firstly fitted values of the endogenous independent variables are obtained by estimating the second stage of the equation (2). Then the first stage is estimated based on these fitted values. The coefficient can be considered as a marginal effect on the dependent variable of the change of 1 in the independent variable [160,p. 2555]. In this study, lagged value of CSR (-1 period) is an instrumental variable in 2SLS, consistently with Li et al. [259,p. 14].

3.4.4 Regression effects specifications

Additionally, the following statistics are presented in the effects specifications of regression models:

R^2 : measures the goodness of fit of a model or how well the regression line fits the real data points.

Standard Error (S.E.) of regression: presents a summary measure of the size of the equation's errors.

Sum of squared residuals: measures the sum of squares of residuals, showing the discrepancy between the data and the estimation model.

Durbin-Watson statistic: test for first-order serial correlation in the residuals of a regression.

F-statistic: indicates the predictive power of all the independent variables.

J-statistic (GMM): tests the validity of overidentifying restrictions. The null hypothesis is that the overidentifying restrictions are satisfied.

3.5 Section summary

This section discusses data analysis and estimation techniques utilized in this study. In particular, it presents preliminary tests used to check variables for the presence of different statistical biases, such as heteroskedasticity and multicollinearity. After that, endogeneity issue is discussed, which presents a serious problem in the research in the area of corporate finance. It also discusses the inappropriateness of fixed- and random- effects models in the context of current study and suggests instrumental variable techniques. GMM estimator is presented as the main model of this study. Using this estimation technique is justified due to presence of potential endogeneity problems in the CSR-financial performance relationship. Particularly, first differencing GMM technique is applied and links to study hypotheses are created. Specifications of classical estimation techniques, namely OLS and 2SLS regressions are also presented, which are employed in this study for comparison purposes with the results of GMM estimator.

4 EMPIRICAL RESULTS

The following chapter presents the empirical results of examining the effects of financial indicators on the level of firms' CSR. The chapter opens up with presentation of descriptive statistics of utilized data, followed by presentation and discussion of the main research findings based on running empirical models on the hypotheses specified in Chapter 3 of this study.

4.1 Descriptive statistics

4.1.1 Overall sample

Table 8 presents descriptive statistics for all the variables under examination in this study, depicted in three panels. *Panel A* refers to the measures of CSR, including overall CSR score and separate scores for each of the three CSR pillars. The mean CSR score is 49,02%, which indicates satisfactory relative CSR performance and a moderate level of transparency of CSR reporting in developing countries on average.

Maximum and minimum CSR scores are 87,50% and 4,17%, respectively, which shows that both excellent and poor CSR performance is presented in the sample countries set. Among CSR pillars, the highest average score is observed for social pillar, SOC (51,67%), and the lowest average score is observed for environmental pillar, ENV (46,92%), while the mean governance pillar, GOV score (49,59%) is standing somewhere in between. The highest variability of values as presented by standard deviation is found for the environmental, ENV pillar (25,03%). With regards to normality, a slight divergence of CSR and CSR pillars from the properties of normal distribution, which is the skewness of 0 and kurtosis of 3, is detected. Particularly, values in Panel A are slightly negatively skewed, thereby indicating a longer tail on the left side of the distribution relative to the right one. In terms of kurtosis, slightly less-picked than normal distribution is observed. Significant Jarque-Bera (J-B) test-statistic also shows that sample data deviates from the properties of normal distribution.

Panel B provides descriptive statistics for financial indicators utilized in this study. With regards to profitability indicators, the average ROA value is 6,14%, while maximum and minimum ROA values are 72,50% and -81,51%, respectively. The distribution of ROA is non-normal, as indicated by significant J-B statistics, negative skewness, and high kurtosis. Tobin's Q distribution also diverges from normality, demonstrating positive skewness, peaked kurtosis, and significant J-B statistic. CR, which stands for the financial indicator of slack resources in this study, has a mean value of 1,63, a maximum of 11,87, and a minimum of 0,15, with non-normal distribution. Average debt as a percentage of total assets is 81,72% for the sample under examination. LEV is also non-normally distributed (kurtosis of 8,66 and skewness of 4,07) and has the highest variance among all the study variables, as demonstrated by its standard deviation (92,48).

Panel C presents statistics for macro variables, namely government effectiveness (GOVEFF) and public voice (VOI). For the former variable, the average value is 64,15%. Instances of very strong as well as poor government effectiveness are present,

as seen from the maximum (100%) and minimum (27,88%) values of GOVEFF. Close to the normal distribution of GOVEFF is observed, with slight divergence from the side of skewness and kurtosis and insignificant J-B statistic. With regards to VOI, the mean value is 51,73%, while the maximum value is 81,64% and the minimum value is 4,83%, reflecting a strong and weak extent of voice and accountability.

Panel D summarizes descriptive statistics for control variables, presented by natural logarithms of Total assets (LnTA) and GDP per capita. LnTA is negatively skewed and highly peaked compared to normal distribution. For LnGDP close to the normal distribution is observed, as indicated by insignificant J-B.

Table 8 - Descriptive statistics

| Description | Panel A | | | | Panel B | | | | Panel C | | Panel D | |
|---|-------------|------------|-------------|------------|----------------|----------------|----------------|--------------|---------------|-------------|--------------|---------------|
| | (1) CSR | (2) ENV | (3) SOC | (4) GOV | (5) ROA | (6) TQ | (7) CR | (8) LEV | (9) GOVEFF | (10) VOI | (11) lnTA | (12) lnGDP |
| Mean | 49,02 | 46,92 | 51,67 | 49,59 | 6,14 | 1,26 | 1,63 | 81,72 | 64,15 | 51,73 | 8,82 | 9,09 |
| Median | 54,15 | 54,15 | 62,50 | 54,15 | 5,36 | 0,99 | 1,23 | 64,05 | 65,38 | 51,72 | 9,02 | 9,09 |
| Maximum | 87,50 | 95,37 | 99,41 | 99,23 | 72,50 | 12,76 | 11,87 | 599,37 | 100,00 | 81,64 | 12,47 | 12,03 |
| Minimum | 4,17 | 1,00 | 3,81 | 0,08 | - 81,51 | 0,15 | 0,15 | 0 | 27,88 | 4,83 | 1,00 | 6,74 |
| Std. Dev. | 18,74 | 25,03 | 23,83 | 20,87 | 8,63 | 1,32 | 1,47 | 92,48 | 15,75 | 22,13 | 1,61 | 9,80 |
| Skewness | - 0,48 | - 0,12 | - 0,37 | - 0,10 | - 1,12 | 3,96 | 4,07 | 2,10 | 0,21 | -0,41 | -1,01 | 0,99 |
| Kurtosis | 2,71 | 2,04 | 2,33 | 2,44 | 33,32 | 24,59 | 23,92 | 8,66 | 2,83 | 2,01 | 5,68 | 2,65 |
| Jarque-Bera | 21,81* * | 21,38** | 21,47* * | 7,66** | 19 991,69** | 11 440,53** | 10 893,38** | 1 073,7** | 4,51 | 35,67 ** | 243,32 ** | 3,90 |
| Numb. of observations | 519 | 519 | 519 | 519 | 519 | 519 | 519 | 519 | 519 | 519 | 519 | 519 |
| <p>Notes -</p> <p>1. The following abbreviations are used: CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI –public voice, lnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita.</p> <p>2. Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively.</p> <p>3. Compiled by the author</p> | | | | | | | | | | | | |

4.1.2 Statistics by region

As this study is based on a multi-country setting, average values of variables under examination are also presented by region in Table 9. Panel A demonstrates mean CSR and CSR pillars' scores. Average values for CSR fall in the range from the lowest score of 41,43% for the Middle East and 52,98% for Eastern Europe. Average CSR score for Middle East region observed in this study is comparable with the one found in the study by Ghardallou and Alessa [269] (45,33%) for 70 firms from the countries from Gulf Cooperation Council (GCC) based on the Bloomberg ESG database, also indicating a relatively low level of social responsibility disclosure. Relatively high CSR score for Eastern Europe, is in line with intensive development of CSR over the last 20-year period, combined with improved institutional context supporting CSR [270].

For individual CSR pillars, the lowest values are also observed for the Middle East. The highest average environmental (ENV) score is found for Eastern Europe (57,96%), while for other pillars, namely social (SOC) and governance (GOV), a small deviation between regions is demonstrated. Overall, no significant divergence is observed between average scores for CSR and its pillars across regions.

Panel B presents average financial indicators by region for the sample under examination. The highest ROA of 8,2% is observed for Africa, while the lowest of 3,14% is found for Eastern Europe. CR for all regions is above 1, with the highest value of 2,62 observed for the Middle East. With regards to leverage, LEV, Latin America and the Middle East present relatively highly leveraged regions on average, with values of debt exceeding total assets.

Panel C demonstrates the mean values of macro variables by region. The highest average level of government effectiveness (GOVEFF) and public voice (VOI) indicators are observed for Eastern Europe, indicating better government effectiveness and voice and accountability compared to other regions in the sample. The least effective governance indicator in terms of GOVEFF is observed for Africa, while the weakest public power in terms of VOI is attributed to Asia.

Finally, *Panel D* presents a breakdown of control variables by region, with no significant deviation between average values observed on a regional level.

Table 9 - Statistics by region

| Region | Panel A | | | | Panel B | | | | Panel C | | Panel D | |
|--|------------|------------|------------|------------|------------|-----------|-----------|------------|---------------|-------------|--------------|---------------|
| | (1) CSR | (2) ENV | (3) SOC | (4) GOV | (5) ROA | (6) TQ | (7) CR | (8) LEV | (9) GOVEFF | (10) VOI | (11) lnTA | (12) lnGDP |
| Average | | | | | | | | | | | | |
| Africa | 49,72 | 44,68 | 54,14 | 53,17 | 8,20 | 1,48 | 1,34 | 63,56 | 55,90 | 51,81 | 8,48 | 8,52 |
| Asia | 51,79 | 46,73 | 57,21 | 49,67 | 6,93 | 1,72 | 1,48 | 87,23 | 69,77 | 38,38 | 9,35 | 8,70 |
| East Europe | 52,98 | 57,96 | 51,72 | 49,62 | 3,14 | 0,66 | 1,18 | 40,83 | 71,54 | 70,62 | 9,40 | 9,14 |
| Latin America | 49,19 | 47,68 | 53,25 | 51,97 | 5,08 | 1,06 | 1,54 | 106,25 | 56,12 | 65,92 | 8,24 | 9,17 |
| Middle East | 41,43 | 37,53 | 42,02 | 43,50 | 7,33 | 1,40 | 2,62 | 110,74 | 67,45 | 31,93 | 8,60 | 9,92 |
| Maximum | | | | | | | | | | | | |
| Africa | 79,00 | 87,50 | 87,50 | 87,50 | 33,17 | 7,24 | 6,67 | 464,28 | 66,83 | 70,05 | 10,27 | 12,03 |
| Asia | 87,50 | 98,17 | 99,41 | 99,23 | 31,70 | 12,76 | 7,35 | 317,27 | 100,00 | 61,58 | 12,47 | 11,11 |
| Eastern Europe | 81,66 | 82,53 | 90,46 | 90,00 | 12,34 | 5,38 | 2,74 | 131,21 | 73,56 | 74,38 | 10,29 | 9,66 |
| Latin America | 87,50 | 87,50 | 89,73 | 92,42 | 72,50 | 5,00 | 7,58 | 599,37 | 81,73 | 81,64 | 12,16 | 9,76 |
| Middle East | 79,00 | 95,37 | 87,50 | 87,50 | 33,08 | 4,84 | 11,87 | 497,75 | 89,42 | 71,92 | 11,77 | 11,10 |
| Minimum | | | | | | | | | | | | |
| Africa | 4,17 | 4,17 | 4,17 | 12,50 | -19,46 | 0,42 | 0,30 | 0 | 27,88 | 7,73 | 6,30 | 7,34 |
| Asia | 4,17 | 1,00 | 3,81 | 7,91 | -7,44 | 0,44 | 0,15 | 0 | 51,44 | 4,83 | 6,83 | 6,74 |
| Eastern Europe | 12,50 | 4,32 | 12,50 | 12,50 | - 12,67 | 0,29 | 0,44 | 3,46 | 66,35 | 66,67 | 8,51 | 7,28 |
| Latin America | 4,17 | 1,00 | 4,17 | 0,08 | -81,51 | 0,15 | 0,59 | 0 | 36,54 | 49,26 | 1,00 | 7,19 |
| Middle East | 3,83 | 1,00 | 0,26 | 0,63 | -8,14 | 0,08 | 0,25 | 0 | 45,67 | 4,93 | 4,99 | 8,06 |
| Notes - | | | | | | | | | | | | |
| 1. The following abbreviations are used: CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, lnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita. | | | | | | | | | | | | |
| 2. Compiled by the author | | | | | | | | | | | | |

4.1.3 Visual representation of variables

Utilizing data from different industries calls for additional analysis in terms of the variation of variables based on industry type. Figure 6 demonstrates a small variation of mean CSR scores across industries, ranging from the lowest score (41,8%) for the Information technology sector to the highest (60,8%) for the Healthcare sector.

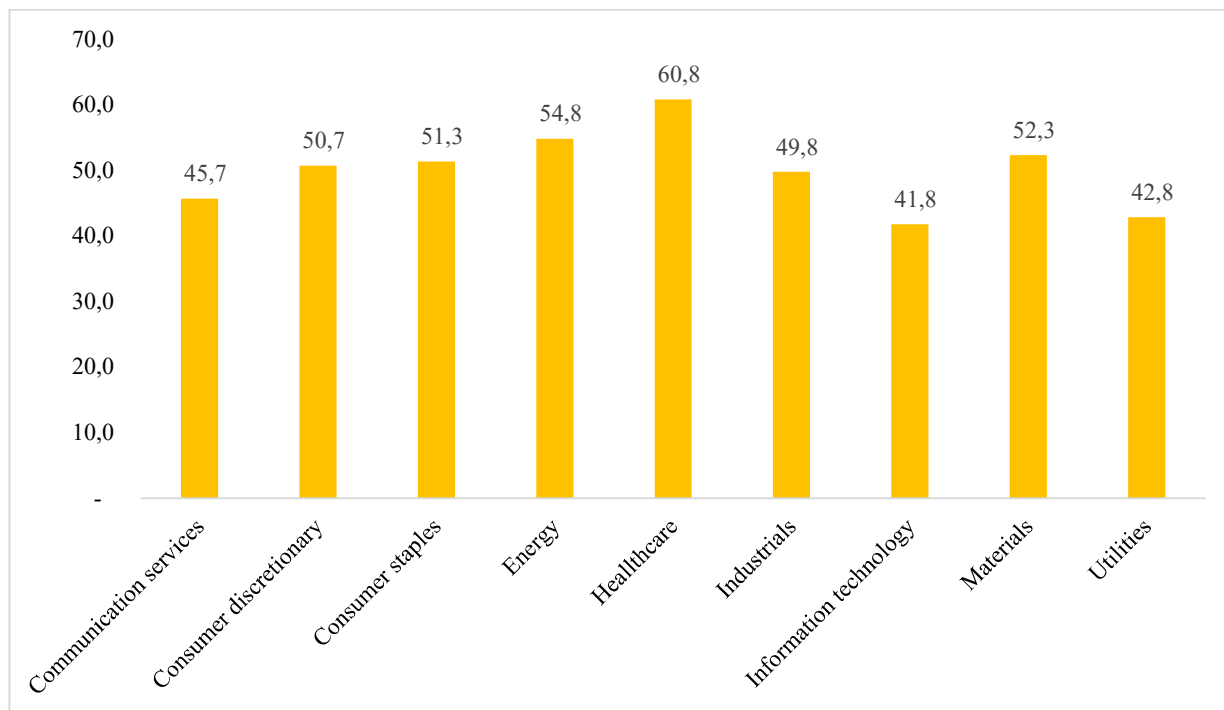


Figure 6 - Mean CSR scores by the industry type for the years 2016-2020

Note - Compiled by the author

Though mean CSR scores demonstrate low variability between industries, looking at the individual responsibility pillars presents a slightly different picture. In particular, for the environmental (ENV) pillar, the Informational technology sector shows the least environmental responsibility as indicated by the lowest average ENV score (13,8%), while the highest mean ENV score is found for the Materials industry (57,8%) as depicted in figure 7. In comparison, average social (SOC) scores across industries present less variability as illustrated in figure 8, falling in the range from 45,6% (utilities) to 62,4% (energy). For the Governance (GOV) pillar, industries under study demonstrate performance somewhere at and below 50%, as depicted in figure 9.

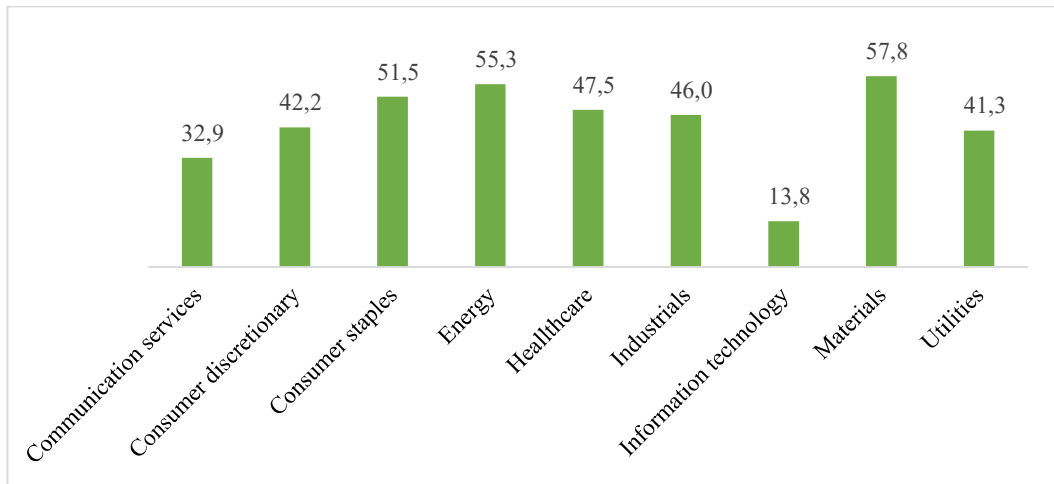


Figure 7 - Mean Environmental responsibility scores by the industry type

Note - Complied by the author

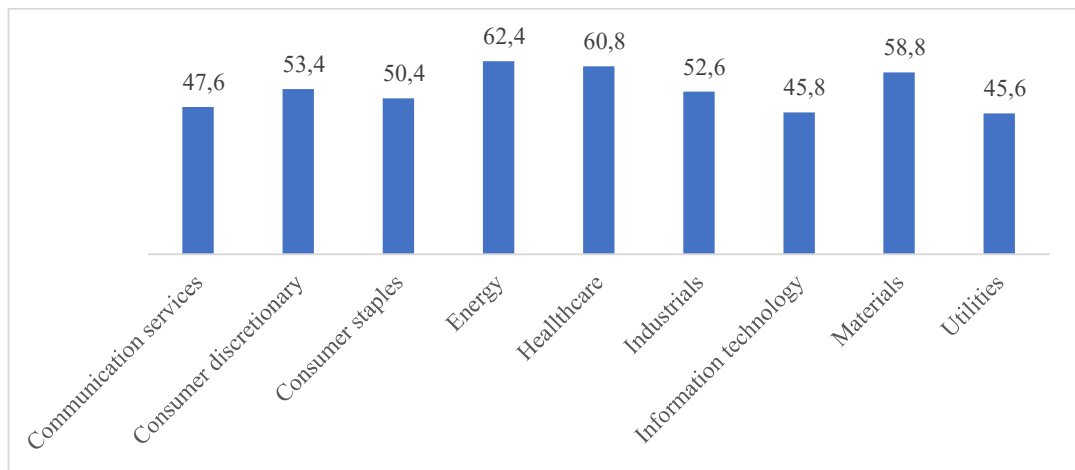


Figure 8 - Mean Social responsibility scores by the industry type

Note - Complied by the author

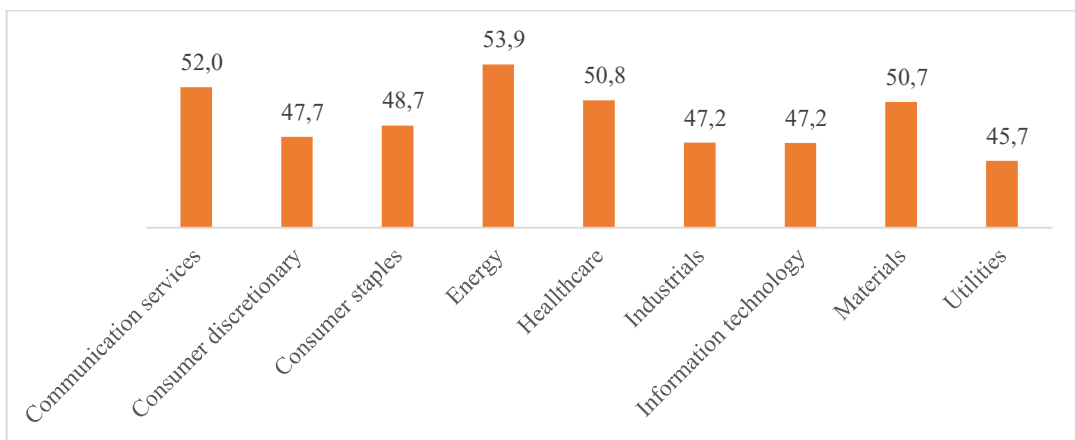


Figure 9 - Mean Governance scores by the industry type

Note - Complied by the author

Finally, a summary of CSR performance by industry type is presented in Figure 10. It is observed that different industries vary in terms of the attention paid to three CSR pillars as seen from variation in average scores. For example, consumer discretionary, energy, and industrials exhibit a higher commitment to social issues as seen from their higher mean social (SOC) scores in comparison to governance (GOV) and environment (ENV). Six out of nine industries under examination show less commitment to environmental issues, as seen from lower average ENV scores compared to the ones for SOC and GOV pillars.

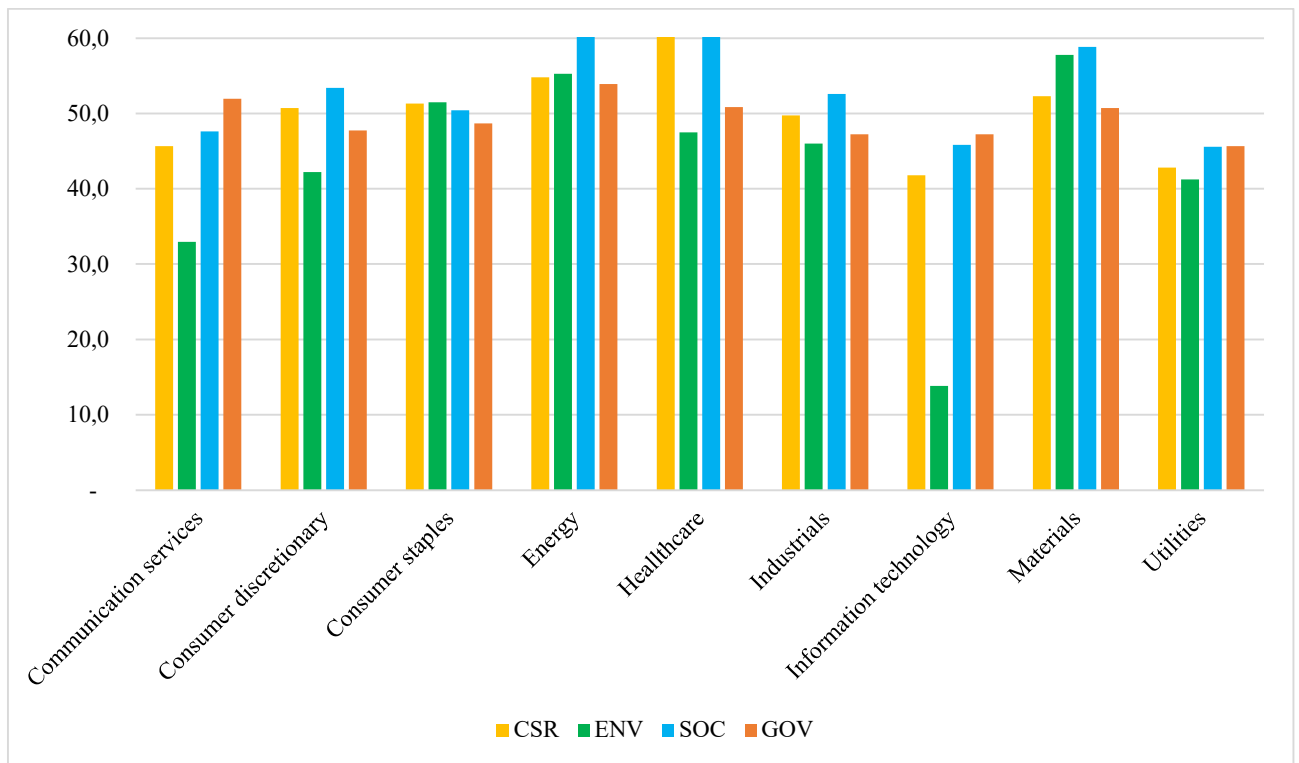


Figure 10 - CSR by industry comparison, 2016-2020

Note - Compiled by the author

The evolution of CSR and its pillars by year is demonstrated in Figure 11 and Figure 12. In particular, average overall CSR score increased from 45,19% in 2016 to 50,52% in 2020. Each pillar also experienced growth over the five years under examination, thereby indicating growing attention to social responsibility themes in developing economies. Among CSR pillars, the highest jump from 40,98% to 48,41% is seen for the environmental (ENV) pillar, showing the increasing importance of environmental issues in developing countries over time.

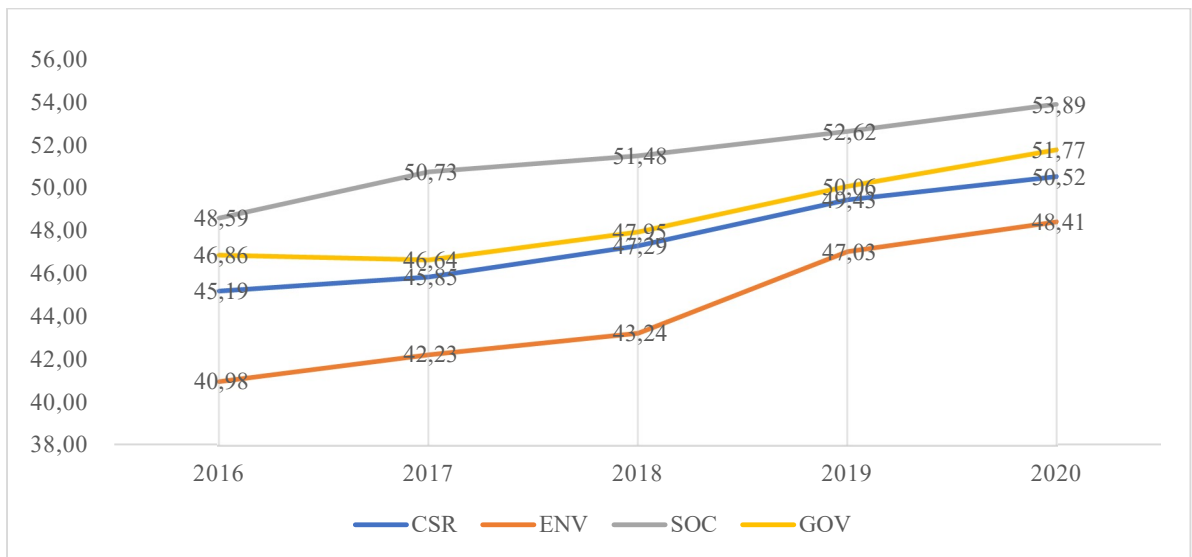


Figure 11 - CSR progression over the period 2016-2020

Note - Complied by the author

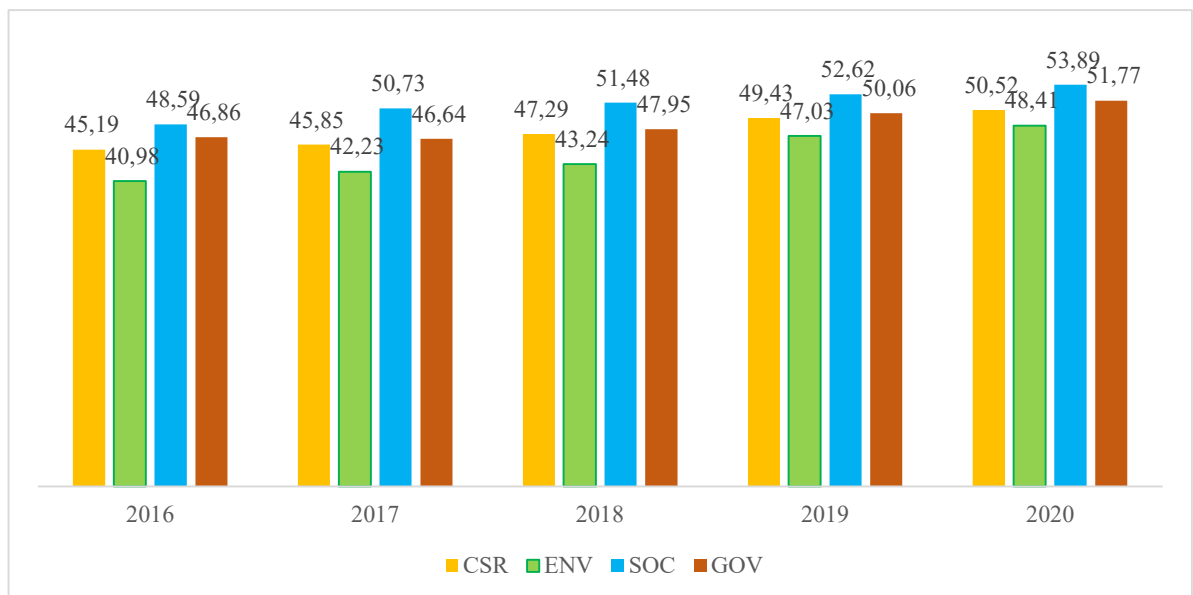


Figure 12 - CSR breakdown by year

Note - Complied by the author

4.2 Results of preliminary tests

Several preliminary tests were performed before running regression models. In particular, variables were examined on the presence of heteroskedasticity as shown in Table 10. Utilizing the Likelihood ratio analysis, it was observed that heteroskedasticity is present as the null hypothesis of homoscedastic residuals was rejected for all three main hypotheses regarding profitability, slack resources, and leverage. Thus, the initial prediction regarding the better suit of the dynamic linear model versus the static one discussed in Chapter 3 of this study was supported.

Table 10 - Heteroskedasticity test

| Hypothesis | Value |
|---|-----------|
| CSR and accounting-based profitability | 306,89*** |
| CSR and market-based profitability | 292,41*** |
| CSR and organizational slack | 335,60*** |
| CSR and leverage | 328,32*** |
| Note - *** indicates significance at a 1% level | |

Secondly, the presence of multicollinearity or the existence of a high correlation between independent variables was checked by using the Variance Inflation Factor (VIF), which presents a measure of the amount of multicollinearity in the regression. The results of the VIF analysis are presented in Table 11 in three Panels (a,b,c) for the hypotheses on profitability, slack resources, and leverage. A VIF value of 10 is commonly considered an acceptable threshold for multicollinearity. In this study VIFs for the variables of all the hypotheses are around 1, thus it can be concluded that only a small portion of correlation among predictor variables exists and multicollinearity is not present.

Finally, the Hausman test was utilized to examine the presence of random effects for the hypotheses under study. The results of the Hausman test are depicted in Table 12. Panel A which refers to profitability indicators of CSR and its pillars demonstrates random effects in all the hypotheses except H1a2, H1b1, and H1b2. Panel B shows the presence of random effects in H2 and H2a. In Panel C random effects were observed in all four hypotheses except for H3a.

Table 11 - Variance Inflation Factor for profitability hypotheses

| CSR and accounting-based profitability | | CSR and market-based profitability | | ENV and accounting-based profitability | | ENV and market-based profitability | | SOC and accounting-based profitability | | SOC and market-based profitability | | GOV and accounting-based profitability | | GOV and market-based profitability | |
|--|-------|------------------------------------|-------|--|-------|------------------------------------|-------|--|-------|------------------------------------|-------|--|-------|------------------------------------|-------|
| H1a1 | | H1a2 | | H1b1 | | H1b2 | | H1c1 | | H1c2 | | H1d1 | | H1d2 | |
| Variable | VIF | Variable | VIF | Variable | VIF | Variable | VIF | Variable | VIF | Variable | VIF | Variable | VIF | Variable | VIF |
| C | NA | C | NA | C | NA | C | NA | C | NA | C | NA | C | NA | C | NA |
| ROA | 1,063 | TQ | 1,110 | ROA | 1,063 | TQ | 1,110 | ROA | 1,063 | TQ | 1,110 | ROA | 1,063 | ROA | 1,063 |
| GOVEFF | 1,264 | GOVEFF | 1,275 | GOVEFF | 1,264 | GOVEFF | 1,275 | GOVEFF | 1,264 | GOVEFF | 1,275 | GOVEFF | 1,264 | GOVEFF | 1,264 |
| VOI | 1,077 | VOI | 1,065 | VOI | 1,077 | VOI | 1,065 | VOI | 1,077 | VOI | 1,065 | VOI | 1,077 | VOI | 1,077 |
| LNTA | 1,120 | LNTA | 1,153 | LNTA | 1,120 | LNTA | 1,153 | LNTA | 1,120 | LNTA | 1,153 | LNTA | 1,120 | LNTA | 1,120 |
| GDPLN | 1,247 | GDPLN | 1,289 | GDPLN | 1,247 | GDPLN | 1,289 | GDPLN | 1,247 | GDPLN | 1,289 | GDPLN | 1,247 | GDPLN | 1,247 |

Notes -

1. Abbreviations indicate the following: VIF – Variance Inflation Factor, Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita.

2. Compiled by the author

Table 12 - Variance Inflation Factor for slack resources hypotheses

| CSR and slack resources | | ENV and slack resources | | SOC and slack resources | | GOV and slack resources | |
|-------------------------|-------|-------------------------|-------|-------------------------|-------|-------------------------|-------|
| H2 | H2 | H2a | H2a | H2b | H2b | H2c | H2c |
| Variable | VIF | Variable | VIF | Variable | VIF | Variable | VIF |
| C | NA | C | NA | C | NA | C | NA |
| CR | 1,071 | CR | 1,071 | CR | 1,071 | CR | 1,071 |
| GOVEFF | 1,264 | GOVEFF | 1,264 | GOVEFF | 1,264 | GOVEFF | 1,264 |
| VOI | 1,080 | VOI | 1,080 | VOI | 1,080 | VOI | 1,080 |
| LNTA | 1,128 | LNTA | 1,128 | LNTA | 1,128 | LNTA | 1,128 |
| GDPLN | 1,236 | GDPLN | 1,236 | GDPLN | 1,236 | GDPLN | 1,236 |

Notes -
 1. Abbreviations indicate the following: VIF – Variance Inflation Factor, Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, CR – current ratio, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita.
 2. Compiled by the author

Table 13 - Variance Inflation Factor for leverage hypotheses

| CSR and leverage | | ENV and leverage | | SOC and leverage | | GOV and leverage | |
|------------------|-------|------------------|-------|------------------|-------|------------------|-------|
| H3 | H3 | H3a | H3a | H3b | H3b | H3c | H3c |
| Variable | VIF | Variable | VIF | Variable | VIF | Variable | VIF |
| C | NA | C | NA | C | NA | C | NA |
| LEV | 1,032 | LEV | 1,032 | LEV | 1,032 | LEV | 1,032 |
| GOVEFF | 1,294 | GOVEFF | 1,294 | GOVEFF | 1,294 | GOVEFF | 1,294 |
| VOI | 1,053 | VOI | 1,053 | VOI | 1,053 | VOI | 1,053 |
| LNTA | 1,082 | LNTA | 1,082 | LNTA | 1,082 | LNTA | 1,082 |
| GDPLN | 1,239 | GDPLN | 1,239 | GDPLN | 1,239 | GDPLN | 1,239 |

Notes -
 1. VIF – Variance Inflation Factor, Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita.
 2. Compiled by the author

Table 14 - Correlated random effects (Hausman Test)

| PANEL A: CSR (CSR pillars) and profitability | | | |
|--|--------------|-------------------|-------|
| 1 | 2 | 3 | 4 |
| Hypothesis description | Hypothesis # | Chi-Sq. Statistic | Prob. |
| CSR and accounting-based profitability | H1a1 | 3,522 | 0,620 |
| CSR and market-based profitability | H1a2 | 15,905*** | 0,007 |
| ENV and accounting-based profitability | H1b1 | 18,725*** | 0,002 |
| ENV and market-based profitability | H1b2 | 20,244*** | 0,001 |

Continuation of table 14

| 1 | 2 | 3 | 4 |
|--|------|-----------|-------|
| SOC and accounting-based profitability | H1c1 | 3,502 | 0,623 |
| SOC and market-based profitability | H1c2 | 5,083 | 0,406 |
| GOV and accounting-based profitability | H1d1 | 6,874 | 0,230 |
| GOV and market-based profitability | H1d2 | 8,305 | 0,140 |
| PANEL B: CSR (CSR pillars) and organizational slack | | | |
| CSR and slack resources | H2 | 17,550*** | 0,004 |
| ENV and slack resources | H2a | 18,180*** | 0,003 |
| SOC and slack resources | H2b | 5,694 | 0,337 |
| GOV and slack resources | H2c | 9,195 | 0,102 |
| PANEL C: CSR (CSR pillars) and leverage | | | |
| CSR and leverage | H3 | 5,003 | 0,416 |
| ENV and leverage | H3a | 16,232*** | 0,003 |
| SOC and leverage | H3b | 3,198 | 0,670 |
| GOV and leverage | H3c | 6,385 | 0,271 |
| Notes - | | | |
| 1. Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively. | | | |
| 2. Abbreviations indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita. | | | |
| 3. Compiled by the author. | | | |

4.3 Regression results

The following section presents the results of regression analysis for all the hypotheses examined in this study. The results for each individual hypothesis are demonstrated in table with three panels depending on the utilized regression method. Panel A of the table refers to the results generated by GMM, which presents the main model of this study. Panel B refers to SLS and Panel C refers to standard OLS regressions’ results. Panel B and Panel C are shown for comparative purposes. Fixed period effects are controlled.

4.3.1 Profitability as a motivator of CSR and its pillars

H1a1: Accounting-based profitability and CSR

Table 13 presents the results of hypothesis H1a1, which examines the explanatory power of accounting-based measure of profitability, return on assets (ROA) in the context of CSR. The results of the GMM model presented in Panel A demonstrate a positive link between ROA and CSR, though the result lacks statistical significance ($\beta = 0,232$, $p\text{-value} = 0,230$). Thus, *H1a1 is not supported, exhibiting positive but insignificant coefficient*. The relation between CSR and macro-variables, namely public voice (VOI) and government effectiveness (GOVEFF) is also found to be positive and insignificant ($\beta = 0,014$, $p\text{-value} = 0,248$ for VOI and $\beta = 0,004$, $p\text{-value}$

= 0,634). With regards to the control variables, CSR demonstrates a positive significant relationship at a 10% level with the firm's size measured by total assets ($\beta = 0,330$, $p\text{-value} = 0,057$), and a positive insignificant relationship with GDP ($\beta = 0,003$, $p\text{-value} = 0,651$). *J-test* for overidentifying restrictions indicate that $p\text{-value}$ of *J-statistics* is larger than 10%, suggesting that the instruments are exogenous.

The results of the 2SLS regression shown in Panel B also demonstrate a positive insignificant coefficient between ROA and CSR ($\beta = 0,099$, $p\text{-value} = 0,192$). In line with the GMM estimator, coefficients of ROA with macro and control variables are positive. Though, for the size variable, in contrast to GMM results, a coefficient presented in Panel B lacks statistical significance ($\beta = 0,019$, $p\text{-value} = 0,484$).

In Panel C, results of OLS regression are shown, confirming an insignificant relationship between CSR and ROA ($\beta = 0,049$, $p\text{-value} = 0,656$). According to OLS, independent variables have a positive influence on ROA. Particularly, in line with GMM results, OLS presents a significant impact of the size variable, though the statistical level of significance is at a lower level of 1% ($\beta = 0,041$, $p\text{-value} < 0,01$). Additionally, according to OLS public voice (VOI) and the country's GDP ($\ln\text{GDP}$) have a significant impact on CSR, with 5% and 10% levels of significance, respectively.

Among the three models, the highest sum of squares of residuals which indicates a discrepancy between the data and estimation model is observed for OLS (sum of sq. resid. = 15,653). The latter also has the highest size of the equation errors (S.E. regression = 0,173), low Durbin-Watson statistic (DW = 0,386), and a small R-squared ($R^2 = 0,183$), supporting the argument that OLS presents a relatively weak estimation method to examine the CSR-financial performance link. The *F-statistics* for both models indicate that the variables are jointly significant.

By observing an insignificant relationship between ROA and CSR, this study follows a strand of literature arguing that financial performance is a weak determinant of socially responsible behavior. For example, Dyduch and Krasodomska [271] based on a sample of Polish firms observed no association between CSR information and financial measures. Based on a sample listed Turkish firms, Aras [272] found no significant relationship between CSR and financial performance. Similarly, other prior authors [273-275] did not find any relationship between CSR and financial performance. This finding indicates poor incorporation of CSR agenda in strategic decisions of firms in developing countries. Additionally, more profitable firms are not necessarily the ones which invest more in CSR initiatives.

A positive significant relationship between CSR and firms' size is in line with most of the prior studies covering developing countries, which found a positive relationship between CSR and firms' size [276, 277]. Regarding macro-level variables, no significant effect of the voice of stakeholders and government effectiveness is observed, indicating low pressure of the public and weak enforcement mechanisms stimulating socially responsible behavior by firms in developing countries.

Table 15 – Regression results for impact of ROA on CSR (H1a1)

| PANEL A | | | | | PANEL B | | | | | PANEL C | | | | |
|--|---------|------------|---------|-------|-----------------------|--------|------------|-----------|-------|-----------------------|----------|------------|-----------|-------|
| GMM | | | | | 2SLS | | | | | OLS | | | | |
| Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. |
| CSR(-1) | 0,426** | 0,204 | 2,085 | 0,040 | C | 0,292 | 0,354 | 0,826 | 0,411 | C | 0,066 | 0,119 | 0,556 | 0,579 |
| ROA | 0,232 | 0,192 | 1,208 | 0,230 | ROA | 0,099 | 0,075 | 1,314 | 0,192 | ROA | 0,049 | 0,110 | 0,447 | 0,656 |
| GOVEFF | 0,004 | 0,009 | 0,477 | 0,634 | GOVEFF | 0,003 | 0,003 | 1,136 | 0,259 | GOVEFF | 0,000 | 0,001 | 0,140 | 0,889 |
| VOI | 0,014 | 0,012 | 1,162 | 0,248 | VOI | 0,005 | 0,004 | 1,188 | 0,238 | VOI | 0,002** | 0,001 | 2,504 | 0,014 |
| LnTA | 0,330* | 0,172 | 1,921 | 0,057 | LnTA | 0,019 | 0,027 | 0,703 | 0,484 | LnTA | 0,041*** | 0,010 | 3,960 | 0,000 |
| LnGDP | 0,003 | 0,007 | 0,454 | 0,651 | LnGDP | 0,004 | 0,004 | 0,964 | 0,337 | LnGDP | 0,015* | 0,009 | 1,685 | 0,095 |
| Effects Specification | | | | | Effects Specification | | | | | Effects Specification | | | | |
| S.E. of regression | | | 0,138 | | S.E. of regression | | | 0,083 | | S.E. of regression | | | 0,173 | |
| Sum squared resid. | | | 5,750 | | Sum squared resid. | | | 2,099 | | Sum squared resid. | | | 15,653 | |
| J-statistic | | | 4,672 | | Durbin-Watson stat. | | | 1,859 | | Durbin-Watson stat. | | | 0,386 | |
| Prob(J-statistic) | | | 0,457 | | F-statistic | | | 14,847*** | | F-statistic | | | 23,432*** | |
| | | | | | R-squared | | | 0,851 | | R-squared | | | 0,183 | |
| <p>Notes -</p> <p>1. Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively.</p> <p>Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita.</p> <p>2. Compiled by the author.</p> | | | | | | | | | | | | | | |

H1a2: Market-based performance and CSR

The results of the regression analysis examining market-based indicator, Tobin's Q (TQ) as a predictor of CSR are presented in Table 14. In contrast to the accounting-based measure, the coefficient between CSR and TQ is found to be negative, though insignificant as shown in Panel A ($\beta = -0,022$, $p\text{-value} = 0,831$). Thus, *H1a2 is not supported*. The relationship of CSR with other predictors in the model is found to be positive according to the GMM estimator, but also insignificant. *J-test* for overidentifying restrictions indicate that $p\text{-value}$ of *J-statistics* is larger than 10%, suggesting that the instruments are exogenous.

A similar conclusion on the relationship between CSR and TQ is reached from the 2SLS regression presented in Panel B ($\beta = -0,001$, $p\text{-value} = 0,881$). In line with the results of GMM, the influence of independent variables is positive but statistically insignificant except for public voice (VOI) variable, where significance at a 10% level is observed ($\beta = 0,004$, $p\text{-value} = 0,092$).

OLS regression results shown in Panel C also demonstrate an inverse insignificant relationship between Tobin's Q and CSR ($\beta = -0,002$, $p\text{-value} = 0,854$). According to OLS, the statistical significance of the voice of stakeholders and the firm's size are observed at 5% and 1% levels, respectively ($\beta = 0,002$, $p\text{-value} = 0,013$ for public voice (VOI) and $\beta = 0,042$, $p\text{-value} < 0,01$ for size). The inferiority of the OLS estimator compared to other methods is demonstrated by its small R-squared ($R^2 = 0,182$), Durbin-Watson statistic below 2 ($DW = 0,378$), and the highest sum of squares of residuals (sum of sq. resid. = 15,664). The *F-statistics* for both models indicate that the variables are jointly significant.

The inverse insignificant link between market-based ratio and CSR is in line with Chih et al. [278], who documented less level of CSR in countries characterized by stronger shareholder rights. Such a relationship could be explained by prioritizing shareholders' welfare at the expense of other stakeholders. It can also indicate that CSR initiatives in developing countries are perceived more as a divergence from market expectations, rather than value-creating activities. Though it should be noted, that the effect of Tobin's Q on socially responsible behavior is weak. In addition, the positive insignificant effect of government and stakeholders indicates that enforcement mechanisms and regulations stimulating the adoption of CSR initiatives in developing countries are in their infancy.

Table 16 - Regression results for the impact of Tobin's Q on CSR (H1a2)

| PANEL A | | | | | PANEL B | | | | | PANEL C | | | | |
|--|--------|------------|---------|-------|-----------------------|--------|------------|-----------|-------|-----------------------|----------|------------|-----------|-------|
| GMM | | | | | 2SLS | | | | | OLS | | | | |
| Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. |
| CSR(-1) | 0,395* | 0,201 | 1,963 | 0,052 | C | 0,257 | 0,284 | 0,905 | 0,366 | C | 0,051 | 0,121 | 0,424 | 0,673 |
| <i>TQ</i> | -0,022 | 0,103 | -0,213 | 0,831 | <i>TQ</i> | -0,001 | 0,008 | -0,150 | 0,881 | <i>TQ</i> | -0,002 | 0,008 | -0,185 | 0,854 |
| GOVEFF | 0,011 | 0,009 | 1,326 | 0,188 | GOVEFF | 0,002 | 0,002 | 1,533 | 0,126 | GOVEFF | 0,000 | 0,001 | 0,154 | 0,878 |
| VOI | 0,018 | 0,012 | 1,528 | 0,130 | VOI | 0,004* | 0,003 | 1,690 | 0,092 | VOI | 0,002** | 0,001 | 2,536 | 0,013 |
| LnTA | 0,280 | 0,174 | 1,610 | 0,111 | LnTA | 0,023 | 0,022 | 1,039 | 0,300 | LnTA | 0,042*** | 0,010 | 4,038 | 0,000 |
| LnGDP | 0,049 | 0,070 | 0,709 | 0,480 | LnGDP | 0,041 | 0,035 | 1,148 | 0,252 | LnGDP | 0,145 | 0,088 | 1,644 | 0,103 |
| Effects Specification | | | | | Effects Specification | | | | | Effects Specification | | | | |
| S.E. of regression | | | 0,138 | | S.E. of regression | | | 0,084 | | S.E. of regression | | | 0,173 | |
| Sum squared resid. | | | 5,692 | | Sum squared resid. | | | 2,118 | | Sum squared resid. | | | 15,664 | |
| J-statistic | | | 5,806 | | Durbin-Watson stat. | | | 1,848 | | Durbin-Watson stat. | | | 0,378 | |
| Prob(J-statistic) | | | 0,326 | | F-statistic | | | 14,689*** | | F-statistic | | | 23,341*** | |
| | | | | | R-squared | | | 0,849 | | R-squared | | | 0,182 | |
| <p>Notes -</p> <p>1. Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively.</p> <p>Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin's Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, LnGDP – natural logarithm of GDP per capita.</p> <p>2. Compiled by the author.</p> | | | | | | | | | | | | | | |

H1b1: Accounting-based profitability and environmental responsibility

Panel A in Table 15 presents a positive insignificant relationship between return on assets (ROA) and environmental responsibility ($\beta = 0,248$, $p\text{-value} = 0,331$). Therefore, *H1b1 is not supported, exhibiting positive but insignificant coefficient*. The link between environmental pillar (ENV) and other independent variables according to the GMM model is also found to be positive, though statistical significance at a 10% level is observed only for the public voice (VOI) variable ($\beta = 0,027$, $p\text{-value} = 0,060$). *J-test* for overidentifying restrictions indicate that *p-value of J-statistics* is larger than 10%, suggesting that the instruments are exogenous.

Similarly, according to the 2SLS model presented in Panel B, ROA has a positive insignificant effect on the firm's environmental performance ($\beta = 0,023$, $p\text{-value} = 0,890$). Regarding other independent variables, in addition to the significance of VOI ($\beta = 0,002$, $p\text{-value} = 0,031$), as observed from the results of GMM estimator the size of the firm is found to be significant in shaping environmental responsibility at a 1% level ($\beta = 0,061$, $p\text{-value} < 0,01$) and the country's GDP at a 10% level ($\beta = 0,179$, $p\text{-value} = 0,069$).

Panel C presents the results of OLS regression, with a positive insignificant effect of ROA in determining the environmental responsibility of the firm as in the previous two models ($\beta = 0,055$, $p\text{-value} = 0,679$). OLS regression results also demonstrate a statistically significant relationship between environmental pillar and public voice at a 5% level ($\beta = 0,002$, $p\text{-value} = 0,017$) and the country's GDP at a 10% level ($\beta = 0,187$, $p\text{-value} = 0,059$). Though, in terms of effects specifications, the latter models exhibit a higher sum of squared residuals and standard error of regression in comparison to the GMM estimator. The *F-statistics* for OLS and 2SLS indicate that the variables are jointly significant.

These findings suggest that accounting-based profitability is a weak determinant of environmental responsibility, as the effect is insignificant. Prior studies mainly focused on the causality in opposite direction, examining the effect of responsibility towards the environment on corporate financial performance, with some evidence of a statistically significant positive relationship [279] as well as negative effects [280]. In this study, specifying environmental responsibility level as a dependent variable indicates that higher profitability is not necessarily an indicator of more investment in environmental projects and environmentally-friendly behavior.

Results also demonstrate that in terms of the environmental pillar, the voice of stakeholders is an important determinant in encouraging firms to undertake socially responsible initiatives. This indicates that in developing countries where environmental issues are standing particularly acute, society puts some pressure on firms to be more environmentally responsible. No significant pressure is observed from the government side, implying that regulatory and control mechanisms for environmental issues are lacking.

Table 17 - Regression results for the impact of ROA on the environmental pillar (H1b1)

| PANEL A | | | | | PANEL B | | | | | PANEL C | | | | |
|--|-------------|------------|---------|-------|-----------------------|----------|------------|----------|-------|-----------------------|----------|------------|---------|-------|
| GMM | | | | | 2SLS | | | | | OLS | | | | |
| Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. |
| ENV(-1) | 0,581* * | 0,260 | 2,233 | 0,028 | C | -0,086 | 0,164 | -0,524 | 0,601 | C | -0,107 | 0,147 | -0,728 | 0,468 |
| ROA | 0,248 | 0,255 | 0,976 | 0,331 | ROA | 0,023 | 0,166 | 0,139 | 0,890 | ROA | 0,055 | 0,132 | 0,415 | 0,679 |
| GOVEFF | 0,012 | 0,008 | 1,510 | 0,134 | GOVEFF | 0,001 | 0,001 | 0,882 | 0,380 | GOVEFF | 0,002 | 0,001 | 1,247 | 0,215 |
| VOI | 0,027* | 0,014 | 1,901 | 0,060 | VOI | 0,002** | 0,001 | 2,193 | 0,031 | VOI | 0,002** | 0,001 | 2,426 | 0,017 |
| LNTA | 0,324 | 0,204 | 1,590 | 0,115 | LNTA | 0,061*** | 0,013 | 4,738 | 0,000 | LNTA | 0,066*** | 0,011 | 5,920 | 0,000 |
| LNGDP | 0,058 | 0,106 | 0,545 | 0,587 | LNGDP | 0,179* | 0,098 | 1,838 | 0,069 | LNGDP | 0,187* | 0,098 | 1,911 | 0,059 |
| Effects Specification | | | | | Effects Specification | | | | | Effects Specification | | | | |
| S.E. of regression | | 0,173 | | | S.E. of regression | | | 0,222 | | S.E. of regression | | | 0,222 | |
| Sum squared resid. | | 9,047 | | | Sum squared resid. | | | 20,267 | | Sum squared resid. | | | 25,715 | |
| J-statistic | | 3,760 | | | F-statistic | | | 13,214 * | | F-statistic | | | 31,565* | |
| Prob(J-statistic) | | 0,584 | | | Durbin-Watson stat. | | | 0,326 | | Durbin-Watson stat. | | | 0,348 | |
| | | | | | R-squared | | | 0,205 | | R-squared | | | 0,232 | |
| <p>Notes:</p> <p>1. Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively.</p> <p>2. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita.</p> <p>Compiled by the author</p> | | | | | | | | | | | | | | |

H1b2: Market-based indicator and environmental responsibility

The relationship between market-based performance indicator, Tobin's Q (TQ) and environmental responsibility is presented in Table 16. Based on the results of GMM regression shown in Panel A, it can be concluded that TQ has a positive but insignificant impact on ENV ($\beta = 0,064$, $p\text{-value} = 0,505$). Thus, *H1b2 is supported in terms of sign, but not in terms of magnitude of the relationship*. Other predictor variables utilized in the model also exhibit a positive effect, though statistical significance at the 10% level is observed only for public voice, VOI ($\beta = 0,022$, $p\text{-value} = 0,086$). *J-test* for overidentifying restrictions indicate that $p\text{-value}$ of *J-statistics* is larger than 10%, suggesting that the instruments are exogenous.

A similar conclusion regarding the relationship between TQ and environmental responsibility is reached from the 2SLS regression shown in Panel B ($\beta = 0,012$, $p\text{-value} = 0,164$). No other independent variables exhibit significant relationship.

With regards to Panel C, in addition to public voice, VOI ($\beta = 0,002$, $p\text{-value} = 0,019$) which is also observed from the results of GMM model, total assets are found to be significant in determining the firm's level of environmental responsibility at a 1% level ($\beta = 0,064$, $p\text{-value} < 0,01$). and GDP at a 10% level ($\beta = 0,193$, $p\text{-value} = 0,051$). Considering effects specification, it is observed that OLS presents a poor model in the context of this study, given its small R-squared ($R^2 = 0,228$), Durbin-Watson below 2 (DW = 0,353), and the highest standard error of the regression (S.E. of regression = 0,221). The *F-statistics* for OLS and 2SLS indicate that the variables are jointly significant.

Observing an insignificant effect of TQ on environmental responsibility indicates that higher market-based profitability does not necessarily imply more involvement in environmental projects and higher commitment to environmental matters. As the direction of the relationship between TQ and ENV is positive, it can be inferred that profitable firms demonstrate symbolic environmentally-friendly behavior to satisfy a basic level of social commitment. It can also be inferred that firms from developing countries are focused on meeting the interests of their shareholders, and limit investments of additional resources on extra activities beyond firms' immediate operations. Previous works examining the TQ-ENV link mainly concentrated on the effect of environmental responsibility on market-based performance. For example, Cho et al. [281] also observed that a link between environmental performance and TQ is positive and insignificant based on a sample of Korean firms.

Similar to hypothesis H1b1, results demonstrate a positive significant influence of public voice on firm's level of environmental responsibility. This indicates that in developing countries society can exercise some pressure on firms to undertake environmentally responsible initiatives. This finding is in line with Wang et al. [282] who found a positive association between public attention and innovation performance based on a sample of Chinese firms. With regards to the second macro variable, namely government effectiveness, the relationship is found to be positive but statistically insignificant, indicating governments in developing countries play a negligible role in enmeshing environmentally responsible behavior and lack enforcement mechanisms and regulations.

Table 18 – Regression results for the impact of Tobin’s Q on the environmental pillar (H1b2)

| PANEL A | | | | | PANEL B | | | | | PANEL C | | | | |
|---|--------------|------------|---------|-------|-----------------------|--------|------------|------------|-------|-----------------------|--------------|------------|-----------|-------|
| GMM | | | | | 2SLS | | | | | OLS | | | | |
| Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. |
| ENV(-1) | 0,672* ** | 0,230 | 2,925 | 0,004 | C | -0,097 | 0,555 | - 0,175 | 0,862 | C | -0,078 | 0,151 | -0,517 | 0,606 |
| TQ | 0,064 | 0,096 | 0,669 | 0,505 | TQ | 0,012 | 0,009 | 1,401 | 0,164 | TQ | 0,012 | 0,012 | 1,003 | 0,318 |
| GOVEFF | 0,011 | 0,009 | 1,285 | 0,202 | GOVEF F | 0,003 | 0,003 | 1,047 | 0,298 | GOVEF F | 0,001 | 0,001 | 1,211 | 0,228 |
| VOI | 0,022* | 0,013 | 1,734 | 0,086 | VOI | 0,003 | 0,005 | 0,578 | 0,565 | VOI | 0,002** | 0,001 | 2,389 | 0,019 |
| LnTA | 0,223 | 0,180 | 1,235 | 0,219 | LnTA | 0,071 | 0,045 | 1,596 | 0,114 | LnTA | 0,064** * | 0,011 | 5,722 | 0,000 |
| LnGDP | 0,070 | 0,109 | 0,639 | 0,524 | LnGDP | 0,053 | 0,059 | 0,907 | 0,367 | LnGDP | 0,193* | 0,098 | 1,974 | 0,051 |
| Effects Specification | | | | | Effects Specification | | | | | Effects Specification | | | | |
| S.E. of regression | | | 0,169 | | S.E. of regression | | | 0,107 | | S.E. of regression | | | 0,221 | |
| Sum squared resid. | | | 8,600 | | Sum squared resid. | | | 3,490 | | Sum squared resid | | | 25,598 | |
| J-statistic | | | 3,118 | | F-statistic | | | 16,415*** | | F-statistic | | | 32,187*** | |
| Prob(J-statistic) | | | 0,682 | | Durbin-Watson stat. | | | 1,783 | | Durbin-Watson stat | | | 0,353 | |
| | | | | | R-squared | | | 0,863 | | R-squared | | | 0,235 | |
| <p>Notes -</p> <p>1. Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively.</p> <p>2. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita.</p> <p>3. Compiled by the author.</p> | | | | | | | | | | | | | | |

H1c1: Accounting-based profitability and Social responsibility

With regards to the role of accounting-based profitability indicator and social responsibility, results of GMM regression in Panel A demonstrate a positive relationship, though the result is statistically insignificant ($\beta = 0,092$, $p\text{-value} = 0,430$). As shown in Table 17. Thus, *H1c1 is not supported, observing the hypothesized direction, but not magnitude of the relationship.* Among other independent variables in the model, statistical significance according to the GMM model is found only for the effect of government effectiveness (GOVEFF) on firm's social responsibility pillar (SOC). Particularly, the relationship is found to be negative and statistically significant at a 1% level ($\beta = -0,015$, $p\text{-value} = 0,01$). The impact of other variables on social responsibility utilized in the model is positive but insignificant. *J-test* for overidentifying restrictions indicate that $p\text{-value}$ of *J-statistics* is larger than 10%, suggesting that the instruments are exogenous.

Panel B which shows the results of 2SLS regression also demonstrates a positive insignificant influence of ROA on social performance ($\beta = 0,008$, $p\text{-value} = 0,881$). The impact of macro-variable presented by government effectiveness (GOVEFF) on firm's social responsibility pillar (SOC) is also negative but statistically insignificant ($\beta = -0,001$, $p\text{-value} = 0,311$). With regards to other independent variables, public voice (VOI) and firm's size (lnTA) were found to have significant effect on firm's social responsibility at 1% level of significance ($\beta = 0,003$, $p\text{-value} = 0,002$ for VOI and $\beta = 0,056$, $p\text{-value} < 0,001$ for lnTA). The effect of country's GDP was found to be insignificant in shaping firm's social responsibility level.

Results of OLS regression shown in Panel C also demonstrate an inverse relationship between social responsibility and ROA ($\beta = 0,048$, $p\text{-value} = 0,677$). Similarly to 2SLS, the effects of public voice (VOI) and firm's size on social responsibility pillar are found positive and significant at 1 % level ($\beta = 0,003$, $p\text{-value} = 0,006$ for VOI and $\beta = 0,054$, $p\text{-value} < 0,001$ for lnTA). Additionally, results of OLS regression show a positive significant effect of GDP on firms' level of social responsibility at 5% level ($\beta = 0,217$, $p\text{-value} = 0,034$). The *F-statistics* for OLS and 2SLS indicate that the variables are jointly significant.

An insignificant relationship between social responsibility pillar and accounting-based measure of profitability indicates that higher profitability is a weak determinant of firms' level of responsibility to society. Profitable firms may engage in the minimum level of social initiatives. In addition, it is observed that government effectiveness is a poor determinant of firm's social responsibility. This result is similar to the ones by Darus et al. [283] who observed that government has low influence in terms of higher CSR disclosure. In this study, government effectiveness variable reflects opinions on the quality of public and civil services, as well as a degree of independence from political pressures, quality, and credibility of government's policies in terms of formulation and implementation. Based on this finding, it can be concluded that in developing countries social issues are perceived as governments' burden, with higher government development associated with less involvement of firms in social matters.

Table 19 – Regression results for the impact of ROA on social pillar (H1c1)

| PANEL A | | | | | PANEL B | | | | | PANEL C | | | | | |
|--|--------|------------|---------|-------|-----------------------|----------|------------|----------|--------|-----------------------|----------|------------|-----------|-------|-------|
| GMM | | | | | 2SLS | | | | | OLS | | | | | |
| Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. | |
| SOC(-1) | 0,219 | 0,206 | 1,065 | 0,289 | C | -0,044 | 0,137 | -0,324 | 0,747 | C | -0,043 | 0,139 | - | 0,756 | |
| ROA | 0,092 | 0,116 | 0,792 | 0,430 | ROA | 0,008 | 0,055 | 0,150 | 0,881 | ROA | 0,048 | 0,116 | 0,418 | 0,677 | |
| GOVEFF | - | 0,015*** | 0,006 | 2,638 | 0,010 | GOVEFF | -0,001 | 0,001 | -1,018 | 0,311 | GOVEFF | -0,000 | 0,001 | - | 0,945 |
| VOI | 0,008 | 0,014 | 0,540 | 0,590 | VOI | 0,003*** | 0,001 | 3,144 | 0,002 | VOI | 0,003*** | 0,001 | 2,813 | 0,006 | |
| LNTA | 0,056 | 0,086 | 0,654 | 0,515 | LNTA | 0,056*** | 0,013 | 4,343 | 0,000 | LNTA | 0,054*** | 0,012 | 4,571 | 0,000 | |
| LNGDP | 0,047 | 0,066 | 0,711 | 0,479 | LNGDP | 0,036 | 0,043 | 0,838 | 0,404 | LNGDP | 0,217** | 0,101 | 2,154 | 0,034 | |
| Effects Specification | | | | | Effects Specification | | | | | Effects Specification | | | | | |
| S.E. of regression | | | 0,135 | | S.E. of regression | | | 0,099 | | S.E. of regression | | | 0,216 | | |
| Sum squared resid | | | 5,467 | | Sum squared resid. | | | 4,082 | | Sum squared resid. | | | 24,329 | | |
| J-statistic | | | 4,710 | | Durbin-Watson stat. | | | 1,451 | | Durbin-Watson stat. | | | 0,360 | | |
| Prob(J-statistic) | | | 0,452 | | F-statistic | | | 7,707*** | | F-statistic | | | 27,528*** | | |
| | | | | | R-squared | | | 0,085 | | R-squared | | | 0,208 | | |
| <p>Notes –</p> <p>1. Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively.</p> <p>2. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita.</p> <p>3. Compiled by the author</p> | | | | | | | | | | | | | | | |

H1c2: Market-based indicator and social responsibility

In contrast to the accounting-based measure of profitability, the results of the GMM model presented in Panel A of Table 18 demonstrate that the effect of market-based indicator, Tobin's Q, on social responsibility pillar is negative and statistically insignificant ($\beta = -0,079$, $p\text{-value} = 0,601$). Thus, *H1c2 is not supported*. The relationship of social pillar with other variables in the model exhibits signs of different directions. In particular, according to Panel A, the impact of public voice (VOI), total assets, and GDP on social responsibility pillar is found to be positive, while the relationship between social pillar and government effectiveness (GOVEFF) is observed to be negative. No statistical significance is observed. *J-test* for overidentifying restrictions indicate that p-value of *J-statistics* is larger than 10%, suggesting that the instruments are exogenous.

Results of 2SLS and OLS regressions shown in Panel B and Panel C, respectively, also support a negative insignificant influence of Tobin's Q on social pillar ($\beta = -0,014$, $p\text{-value} = 0,246$ for 2SLS and $\beta = -0,009$, $p\text{-value} = 0,448$ for OLS). In case of the other independent variables, 2SLS demonstrates a positive impact of the voice of stakeholders (VOI) and firms' size (LnTA) significant at 1% level, and GDP significant at 10% level. Similar results are observed from OLS regression, though in case of the effects of country's GDP significance level is lower ($\beta = 0,209$, $p\text{-value} = 0,041$). Among the three models utilized for hypothesis examination, the GMM estimator has the lowest standard error of regression (S.E. of regression = 0,159) and sum of squared residuals (sum of sq. resid. = 7,637). *The F-statistics* for OLS and 2SLS indicate that the variables are jointly significant.

Observing an insignificant impact of a market-based measure of profitability on social pillar is a sign that higher firm value does not necessarily entail more involvement in socially responsible initiatives. Furthermore, finding the relationship of a negative sign indicates that investment in social responsibility is considered as value decreasing activity, bearing extra costs to firms' primary stakeholders. Previous studies mainly considered the relationship between overall CSR score and Tobin's Q, with the latter utilized as a dependent variable. For example, Masdupi and Yulius [284] based on a sample of Indonesian firms observed an insignificant relationship between CSR and Tobin's Q. Considering the individual CSR pillars, this study presents additional evidence of no significant link between Tobin's Q and social responsibility pillar. The role of government and the power of stakeholders is also weak in promoting socially responsible behavior as indicated by insignificant coefficients.

Table 20 - Regression results for the impact of Tobin's Q on social pillar (H1c2)

| PANEL A | | | | | PANEL B | | | | | PANEL C | | | | |
|--|----------|------------|---------|-----------------------|---------------------|----------|------------|-----------|-----------------------|---------------------|----------|------------|-----------|-------|
| GMM | | | | | 2SLS | | | | | OLS | | | | |
| Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. |
| SOC(-1) | 0,564*** | 0,216 | 2,608 | 0,010 | C | -0,066 | 0,163 | -0,404 | 0,687 | C | -0,083 | 0,146 | -0,567 | 0,572 |
| TQ | -0,079 | 0,150 | -0,524 | 0,601 | TQ | -0,014 | 0,012 | -1,167 | 0,246 | TQ | -0,009 | 0,012 | -0,761 | 0,448 |
| GOVEFF | -0,008 | 0,008 | -1,125 | 0,263 | GOVEFF | -0,000 | 0,001 | -0,129 | 0,898 | GOVEFF | -0,000 | 0,001 | -0,113 | 0,911 |
| VOI | 0,004 | 0,013 | 0,295 | 0,768 | VOI | 0,003*** | 0,001 | 2,930 | 0,004 | VOI | 0,003*** | 0,001 | 2,902 | 0,005 |
| LNTA | 0,202 | 0,203 | 0,995 | 0,322 | LNTA | 0,051*** | 0,014 | 3,683 | 0,000 | LNTA | 0,056*** | 0,012 | 4,704 | 0,000 |
| LNGDP | 0,057 | 0,086 | 0,667 | 0,506 | LNGDP | 0,164* | 0,097 | 1,702 | 0,092 | LNGDP | 0,209** | 0,101 | 2,068 | 0,041 |
| Effects Specification | | | | Effects Specification | | | | | Effects Specification | | | | | |
| S.E. of regression | | | 0,159 | | S.E. of regression | | | 0,211 | | S.E. of regression | | | 0,215 | |
| Sum squared resid. | | | 7,637 | | Sum squared resid. | | | 18,268 | | Sum squared resid. | | | 24,270 | |
| J-statistic | | | 2,648 | | Durbin-Watson stat. | | | 0,357 | | Durbin-Watson stat. | | | 0,355 | |
| Prob(J-statistic) | | | 0,754 | | F-statistic | | | 12,457*** | | F-statistic | | | 27,849*** | |
| | | | | | R-squared | | | 0,196 | | R-squared | | | 0,210 | |
| <p>Notes:</p> <ol style="list-style-type: none"> Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin's Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita. Compiled by the author. | | | | | | | | | | | | | | |

H1d1: Accounting-based profitability and Governance

Results of the relationship between ROA and firms' level of governance (GOV) are presented in Table 19. According to the GMM estimator presented in Panel A, there is a positive but statistically insignificant impact of the accounting-based indicator of profitability on governance level ($\beta = 0,068$, $p\text{-value} = 0,772$). Thus, *H1d1 is not supported, observing hypothesized direction, but not magnitude of the effect*. The influence of independent variables utilized in the model is positive but also statistically insignificant according to Panel A. *J-test* for overidentifying restrictions indicate that *p-value of J-statistics* is larger than 10%, suggesting that the instruments are exogenous.

Similar results are observed from running 2SLS regression. With regards to OLS regression shown in Panel C, the effect of firms' size on governance level is found to be significant at a 5% level ($\beta = 0,023$, $p\text{-value} = 0,035$). Panel C also confirms the insignificant impact of accounting-based profitability on the level of governance ($\beta = 0,154$, $p\text{-value} = 0,389$). The *F-statistics* for OLS and 2SLS indicate that the variables are jointly significant.

Observing a statistically insignificant relationship between accounting-based measure of performance (ROA) and governance pillar implies that higher accounting-based profitability is not associated with higher CSR reporting and transparency or better corporate governance principles. Prior literature mainly considered the relationship of opposite direction compared to this study, namely the effects of better corporate governance on firm performance, and provided inconsistent results [285]. This could be attributed to the variety of aspects falling under the umbrella of corporate governance. For example, Orazayeva and Arslan [286] observed a positive but statistically insignificant relationship between management compensation and accounting-based measures of performance. However, when considering management structure, these authors found that management composition has a significant impact on firms' performance. With regards to macro variables, government and stakeholders' voice exhibit weak pressure in promoting better governance mechanisms.

Table 21 - Regression results for the impact of ROA on the governance pillar (H1d1)

| PANEL A | | | | | PANEL B | | | | | PANEL C | | | | |
|---|--------|------------|---------|-------|-----------------------|---------|------------|----------|-------|-----------------------|---------|------------|----------|-------|
| GMM | | | | | 2SLS | | | | | OLS | | | | |
| Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. |
| GOV(-1) | 0,038 | 0,119 | 0,321 | 0,749 | C | 0,321** | 0,145 | 2,211 | 0,029 | C | 0,290** | 0,130 | 2,237 | 0,027 |
| ROA | 0,068 | 0,236 | 0,290 | 0,772 | ROA | 0,086 | 0,147 | 0,583 | 0,561 | ROA | 0,154 | 0,178 | 0,865 | 0,389 |
| GOVEFF | 0,003 | 0,008 | 0,343 | 0,732 | GOVEFF | 0,001 | 0,001 | 0,673 | 0,502 | GOVEFF | 0,001 | 0,001 | 0,747 | 0,456 |
| VOI | 0,014 | 0,013 | 1,079 | 0,283 | VOI | 0,001 | 0,001 | 0,804 | 0,423 | VOI | 0,001 | 0,001 | 1,316 | 0,191 |
| LNTA | 0,268 | 0,189 | 1,419 | 0,159 | LNTA | 0,020 | 0,013 | 1,525 | 0,130 | LNTA | 0,023** | 0,011 | 2,132 | 0,035 |
| LnGDP | 0,002 | 0,017 | 0,092 | 0,927 | LNGDP | 0,045 | 0,043 | 1,051 | 0,296 | LNGDP | 0,060 | 0,091 | 0,661 | 0,510 |
| Effects Specification | | | | | Effects Specification | | | | | Effects Specification | | | | |
| S.E. of regression | | | 0,150 | | S.E. of regression | | | 0,103 | | S.E. of regression | | | 0,205 | |
| Sum squared resid. | | | 6,802 | | Sum squared resid. | | | 4,413 | | Sum squared resid. | | | 21,987 | |
| J-statistic | | | 7,478 | | Durbin-Watson stat. | | | 1,683 | | Durbin-Watson stat. | | | 0,486 | |
| Prob(J-statistic) | | | 0,187 | | F-statistic | | | 1,365*** | | F-statistic | | | 6,069*** | |
| | | | | | R-squared | | | 0,016 | | R-squared | | | 0,055 | |
| <p>Notes -</p> <p>1. Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively.</p> <p>2. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita.</p> <p>3. Compiled by the author.</p> | | | | | | | | | | | | | | |

H1d2: Market-based profitability and Governance

Regression results examining the relationship between the level of governance and market-based measure of performance (Tobin's Q) are shown in Table 20. Interestingly, in contrast to accounting-based profitability, the impact of Tobin's Q on governance pillar is negative and insignificant ($\beta = -0,029$, $p\text{-value} = 0,740$) according to GMM results shown in Panel A. Thus, *H1d2 is not supported*. The relationship of governance pillar with other variables is found to be positive, but statistically insignificant. *J-test* for overidentifying restrictions indicate that $p\text{-value}$ of *J-statistics* is larger than 10%, suggesting that the instruments are exogenous.

Results of 2SLS presented in Panel B also demonstrate a negative insignificant link between governance pillar and Tobin's Q ($\beta = -0,007$, $p\text{-value} = 0,369$). However, in contrast to GMM model, 2SLS demonstrates positive and significant impact of firms' size (LnTA) and public voice (VOI) at 1% level ($\beta = 0,022$, $p\text{-value} = 0,001$ for LnTA and $\beta = 0,001$, $p\text{-value} = 0,010$ for VOI). Similar results are observed from running OLS regression. It should be noted that, 2SLS and OLS regressions exhibit higher standard error or regression and the sum of squared residuals compared to the GMM estimator. The *F-statistics* for OLS and 2SLS indicate that the variables are jointly significant.

Finding an insignificant effect of market-based indicator of firms' performance on corporate governance indicates that the former has a weak power to enhance improvement of corporate governance mechanisms. Previous works presented mixed findings regarding the magnitude and direction of the relationship between corporate governance and firm value. For example, Wahyudin and Solikhah [287] observed an insignificant link between the corporate governance ratings of Indonesian firms and their market values. Bai et al. [288] investigated the relationship between the level of corporate governance and market valuations of Chinese firms and found that different constituents of corporate governance have varying effects on firm value. For example, these authors concluded that high ownership concentration of non-controlling shareholders has a positive effect on market value, while a dual role of CEO and government ownership has a negative effect. Additionally, findings imply that government and stakeholders play little role in improving governance levels.

Table 22 - Regression results for the impact of Tobin's Q on Governance pillar (H1d2)

| PANEL A | | | | | PANEL B | | | | | PANEL C | | | | |
|--|--------|------------|---------|-------|-----------------------|----------|------------|----------|-------|-----------------------|----------|------------|----------|-------|
| GMM | | | | | 2SLS | | | | | OLS | | | | |
| Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. |
| GOV(-1) | 0,057 | 0,120 | 0,471 | 0,639 | C | 0,251** | 0,118 | 2,131 | 0,034 | C | 0,241** | 0,106 | 2,273 | 0,023 |
| TQ | -0,029 | 0,087 | -0,333 | 0,740 | TQ | -0,007 | 0,008 | -0,900 | 0,369 | TQ | -0,009 | 0,007 | -1,320 | 0,187 |
| GOVEFF | 0,008 | 0,008 | 0,914 | 0,363 | GOVEFF | -0,001 | 0,001 | -1,147 | 0,252 | GOVEFF | -0,001 | 0,001 | -1,219 | 0,223 |
| VOI | 0,014 | 0,011 | 1,306 | 0,195 | VOI | 0,001*** | 0,000 | 2,581 | 0,010 | VOI | 0,001*** | 0,000 | 3,189 | 0,002 |
| LNTA | 0,175 | 0,186 | 0,940 | 0,350 | LNTA | 0,022*** | 0,007 | 3,207 | 0,001 | LNTA | 0,023*** | 0,006 | 3,996 | 0,000 |
| GDPLN | 0,002 | 0,017 | 0,092 | 0,927 | GDPLN | 0,007 | 0,010 | 0,671 | 0,502 | GDPLN | 0,005 | 0,010 | 0,549 | 0,584 |
| Effects Specification | | | | | Effects Specification | | | | | Effects Specification | | | | |
| S.E. of regression | | | 0,146 | | S.E. of regression | | | 0,206 | | S.E. of regression | | | 0,205 | |
| Sum squared resid. | | | 6,442 | | Sum squared resid. | | | 17,490 | | Sum squared resid. | | | 22,068 | |
| J-statistic | | | 5,300 | | F-statistic | | | 3,554*** | | F-statistic | | | 5,661*** | |
| Prob(J-statistic) | | | 0,380 | | Durbin-Watson stat. | | | 0,426 | | Durbin-Watson stat. | | | 0,458 | |
| | | | | | R-squared | | | 0,041 | | R-squared | | | 0,051 | |
| <p>Notes –</p> <p>1. Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively.</p> <p>2. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin's Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita.</p> <p>Compiled by the author.</p> | | | | | | | | | | | | | | |

4.3.2 Slack resources as a motivator of CSR and its pillars

H2: Organizational slack and CSR

Panel A of Table 21 shows the results of GMM regression with a current ratio (CR) utilized as a predictor variable of CSR. Interestingly, the relationship between the two variables is found to be negative, though statistically insignificant ($\beta = -0,043$, $p\text{-value} = 0,214$). Thus, *H2 is not supported*. A positive insignificant impact of other independent variables is observed, except for the effects of firm's size, where statistical significance at a 10% level is observed ($\beta = 0,303$, $p\text{-value} = 0,078$). A similar conclusion regarding the inverse link between CR and CSR is made from Panel B and Panel C, which represent the results of running 2SLS and OLS regressions respectively. Moreover, in the latter case, a coefficient is also statistically significant at the 1% level ($\beta = -0,012$, $p\text{-value} = 0,010$). Based on the results of 2SLS, a statistical significance of the public voice (VOI) is observed at the 10% level ($\beta = 0,004$, $p\text{-value} = 0,090$), while based on OLS regression, this variable is significant at the 1% level ($\beta = 0,002$, $p\text{-value} < 0,01$). Among the three panels, Panel C presents the highest sum of squared residuals (sum of sq. resid. = 15,466) and standard error of the regression (S.E. of regression = 0,172). *J-test* for overidentifying restrictions indicate that p-value of J-statistics is larger than 10%, suggesting that the instruments are exogenous.

In contrast to the initial prediction of this study, no support for resource theory is observed. Moreover, an inverse relationship between slack resources and CSR is documented. This finding indicates that firms with higher organizational slack are not necessarily willing to devote resources to extra activities such as CSR. It can be inferred that the prioritization of CSR initiatives in corporate business decisions of firms from developing countries is low. The parallel of this finding could be drawn with the results by Sayekti [289], who reported no significant impact of absorbed slack on strategic and non-strategic CSR. In line with the findings of this study, Julian and Ofori-Dankwa [290] observed that higher available financial resources lead to lower CSR based on a sample of African firms. Darus et al. [283,p. 175] also observed that organizational slack is not a powerful predictor of higher CSR disclosure. Weds et al. [283,p. 9] observed an inverse relationship between organizational slack and CSR expenditures. A negative impact of organizational slack on CSR can be explained from the perspective that higher excess resources lead to decreased corporate motivation and innovative decisions, managerial overconfidence, and idleness [291,292]. Moreover, extra resources can be utilized by managers for achieving their personal goals, creating an agency problem.

Observing a positive significant relationship between CSR and size variable indicates robustness to previously presented results from examining profitability hypotheses. This finding is consistent with most of the previous literature covering developing countries, which observed a positive relationship between CSR and firms' size. This could be attributed to higher public scrutiny as a result of more visibility of larger firms. Additionally, larger firms have to meet stricter legitimacy requirements, including higher disclosure of their social activities.

Table 23 - Regression results for the impact of organizational slack on CSR (H2)

| PANEL A | | | | | PANEL B | | | | | PANEL C | | | | |
|---|--------|------------|---------|-------|-----------------------|--------|------------|-----------|-------|-----------------------|-----------|------------|-----------|-------|
| GMM | | | | | 2SLS | | | | | OLS | | | | |
| Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. |
| CSR(-1) | 0,414 | 0,228 | 1,817 | 0,072 | C | 0,247 | 0,279 | 0,885 | 0,377 | C | 0,104 | 0,056 | 1,867 | 0,063 |
| CR | -0,043 | 0,034 | -1,251 | 0,214 | CR | -0,000 | 0,009 | -0,000 | 1,000 | CR | -0,012*** | 0,005 | -2,601 | 0,010 |
| GOVEFF | 0,009 | 0,009 | 1,077 | 0,284 | GOVEFF | -0,002 | 0,002 | -1,523 | 0,129 | GOVEFF | -0,000 | 0,001 | -0,217 | 0,828 |
| VOI | 0,016 | 0,012 | 1,341 | 0,183 | VOI | 0,004* | 0,003 | 1,699 | 0,090 | VOI | 0,002*** | 0,000 | 5,496 | 0,000 |
| LNTA | 0,303* | 0,170 | 1,781 | 0,078 | LNTA | 0,023 | 0,022 | 1,079 | 0,282 | LNTA | 0,039*** | 0,005 | 8,082 | 0,000 |
| LNGDP | 0,005 | 0,007 | 0,770 | 0,443 | LNGDP | 0,004 | 0,004 | 1,156 | 0,249 | LNGDP | 0,014*** | 0,005 | 2,861 | 0,004 |
| Effects Specification | | | | | Effects Specification | | | | | Effects Specification | | | | |
| S.E. of regression | | | 0,139 | | S.E. of regression | | | 0,084 | | S.E. of regression | | | 0,172 | |
| Sum squared resid. | | | 5,815 | | Sum squared resid | | | 2,118 | | Sum squared resid. | | | 15,466 | |
| J-statistic | | | 6,300 | | Durbin-Watson stat. | | | 1,847 | | Durbin-Watson stat. | | | 0,380 | |
| Prob(J-statistic) | | | 0,278 | | F-statistic | | | 14,687*** | | F-statistic | | | 24,979*** | |
| | | | | | R-squared | | | 0,849 | | R-squared | | | 0,193 | |
| <p>Notes -</p> <ol style="list-style-type: none"> Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita. Compiled by the author. | | | | | | | | | | | | | | |

H2a: Organizational slack and environmental responsibility

A negative impact of organizational slack (CR) on the environmental pillar (ENV) is observed as shown in Panel A of Table 22. This effect is not statistically significant ($\beta = -0,031$, $p\text{-value} = 0,332$). Thus, *H2a is not supported*. For other variables in the model, positive coefficients are demonstrated, with statistical significance at a 10% level observed for VOI ($\beta = 0,024$, $p\text{-value} = 0,097$). J-test for overidentifying restrictions indicate that p-value of J-statistics is larger than 10%, suggesting that the instruments are exogenous.

In Panel B and Panel C, which present the results of 2SLS and OLS models, respectively, the link between organizational slack (CR) and environmental pillar (ENV) is also inverse and insignificant. Panel B demonstrates statistical significance of government effectiveness (GOVEFF) at the 10% level and total assets at the 5% level in impacting firm's level of environmental responsibility. Panel C in addition to statistical significance of the latter variables also demonstrates positive significant impact of public voice (VOI) and GDP at the 1% level. Among the three models utilized, OLS regression presents poor model in terms of specifications, as indicated by the highest sum of squared errors (sum of sq.resid. =25,731), standard error of the regression (S.E. of regression = 0,222), and D-W below 2 (DW = 0,334). The F-statistics for OLS and 2SLS indicate that the variables are jointly significant.

Observing an inverse insignificant impact of organizational slack on the level of firms' environmental responsibility indicates that in the agenda of business from developing countries, environmental issues are not standing in the priority and higher resource availability does not guarantee higher involvement in environmental issues. Higher organizational slack can also be an indicator of inefficiency and an agency problem whereby managers are becoming overconfident and overly optimistic and less strategically oriented [293]. A parallel of this finding could be drawn with the study by Dang et al. [294] who investigated the relationship between corporate environmental responsibility and the financial performance of the firm, utilizing organizational slack as moderating variable. Based on the Chinese energy sector, these authors concluded that organizational slack has a negative moderating effect, suggesting less likelihood of improved financial performance through environmental responsibility for firms with more abundant resources.

Though, the voice of stakeholders is found to contribute to the environmental responsibility of the firm. This indicates that environmental initiatives in developing countries are dependent more on external factors. In line with this finding are the results by D'Souza et al. [295] who explored the complexity of the relationship between different societal pressures and the social and environmental responsibilities of firms from Bangladesh, observing the significant impact of secondary stakeholders on environmental responsibility. Kassinis and Vafeas [296] also found positive relationship between stakeholder pressure and environmental performance. Similarly, Rui and Lu [297] observed that stakeholders tend to motivate environmental ethics and innovation. Positive stakeholder influence on firms' adoption of environmental initiatives reflects the trend toward greener products [298] and environmental protection being an indicator of firms' reputation and legitimacy [299].

Table 24 - Regression results for the impact of organizational slack on the environmental pillar (H2a)

| PANEL A | | | | | PANEL B | | | | | PANEL C | | | | |
|--|--------|------------|---------|-------|-----------------------|---------|------------|-----------|-------|-----------------------|----------|------------|-----------|-------|
| GMM | | | | | 2SLS | | | | | OLS | | | | |
| Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. |
| ENV(-1) | 0,661* | 0,240 | 2,757 | 0,007 | C | 0,012 | 0,359 | 0,035 | 0,973 | C | -0,118 | 0,072 | -1,634 | 0,103 |
| CR | -0,031 | 0,032 | -0,975 | 0,332 | CR | -0,003 | 0,012 | -0,235 | 0,815 | CR | -0,000 | 0,006 | -0,013 | 0,989 |
| GOVEFF | 0,012 | 0,009 | 1,385 | 0,169 | GOVEFF | 0,004* | 0,002 | 1,798 | 0,073 | GOVEFF | 0,002** | 0,001 | 2,164 | 0,031 |
| VOI | 0,024* | 0,015 | 1,677 | 0,097 | VOI | 0,003 | 0,003 | 0,773 | 0,440 | VOI | 0,002*** | 0,000 | 5,437 | 0,000 |
| LNTA | 0,134 | 0,189 | 0,706 | 0,482 | LNTA | 0,065** | 0,028 | 2,356 | 0,019 | LNTA | 0,066*** | 0,006 | 10,698 | 0,000 |
| LNGDP | 0,007 | 0,011 | 0,627 | 0,532 | LNGDP | 0,005 | 0,005 | 1,117 | 0,265 | LNGDP | 0,019*** | 0,006 | 2,969 | 0,003 |
| Effects Specification | | | | | Effects Specification | | | | | Effects Specification | | | | |
| S.E. of regression | | | 0,169 | | S.E. of regression | | | 0,108 | | S.E. of regression | | | 0,222 | |
| Sum squared resid. | | | 8,591 | | Sum squared resid. | | | 3,504 | | Sum squared resid. | | | 25,731 | |
| J-statistic | | | 3,254 | | F-statistic | | | 16,339*** | | F-statistic | | | 31,479*** | |
| Prob(J-statistic) | | | 0,661 | | Durbin-Watson stat. | | | 1,785 | | Durbin-Watson stat. | | | 0,344 | |
| | | | | | R-squared | | | 0,863 | | R-squared | | | 0,231 | |
| <p>Notes -</p> <p>1. Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively.</p> <p>2. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita.</p> <p>Compiled by the author.</p> | | | | | | | | | | | | | | |

H2b: Organizational slack and Social responsibility

As depicted in Table 23, the relationship between organizational slack and the social responsibility of the firm is found to be positive, but not statistically significant ($\beta = 0,039$, $p\text{-value} = 0,295$). Thus, *H2b is not supported*. The link between other variables in the model presented in Panel A is also positive, with exception of the impact of government effectiveness (GOVEFF), which demonstrates an inverse relationship. *J-test* for overidentifying restrictions indicate that $p\text{-value of } J\text{-statistics}$ is larger than 10%, suggesting that the instruments are exogenous.

According to the results of 2SLS and OLS regressions presented in Panel B and Panel C, respectively, social responsibility pillar and organizational slack (CR) are also insignificantly positively related. In the case of the other variables utilized in the model, 2SLS regression shown in Panel B demonstrates a positive effect of public voice (VOI) and GDP at a 5% level of significance. Firms' size according to Panel B is significant at the 1% level ($\beta = 0,046$, $p\text{-value} = 0,002$). OLS regression results presented in Panel C indicate a positive influence of public voice (VOI) and firms' size at 1% level and countries' GDP at 5% level. In terms of the effects specifications, Panel B and Panel C present low R-squared, high standard error of the regression, and Durbin-Watson statistic away from 2, questioning the reliability of the findings of the latter models. The *F-statistics* for OLS and 2SLS indicate that the variables are jointly significant.

A positive insignificant effect of organizational slack on the social responsibility of the firm indicates that higher available resources are not a predictor of firms' greater community involvement. Though extra resources can encourage firms to undertake some social initiatives, the effect is negligible. An example of a positive influence of organizational slack on society is higher community contribution by firms with more slack resources during the COVID-19 pandemic, evidenced by relocating idle human resources and redistribution of inventories [300].

Table 25 - Regression results for the impact of the organizational slack on social pillar (H2b)

| PANEL A | | | | | PANEL B | | | | | PANEL C | | | | |
|--|--------|------------|---------|-------|-----------------------|---------|------------|-----------|-------|-----------------------|----------|------------|-----------|-------|
| GMM | | | | | 2SLS | | | | | OLS | | | | |
| Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. |
| SOC(-1) | 0,299 | 0,225 | 1,325 | 0,188 | C | 0,263 | 0,199 | 1,326 | 0,188 | C | -0,013 | 0,147 | -0,091 | 0,927 |
| CR | 0,039 | 0,037 | 1,053 | 0,295 | CR | 0,009 | 0,013 | 0,717 | 0,475 | CR | 0,009 | 0,011 | 0,838 | 0,404 |
| GOVEFF | -0,008 | 0,007 | -1,260 | 0,210 | GOVEFF | 0,000 | 0,001 | 0,076 | 0,939 | GOVEFF | 0,000 | 0,001 | 0,005 | 0,996 |
| VOI | 0,010 | 0,014 | 0,693 | 0,490 | VOI | 0,003** | 0,001 | 2,890 | 0,005 | VOI | 0,003*** | 0,001 | 2,706 | 0,008 |
| LNTA | 0,049 | 0,100 | 0,490 | 0,625 | LNTA | 0,046** | 0,014 | 3,228 | 0,002 | LNTA | 0,051*** | 0,012 | 4,218 | 0,000 |
| LNGDP | 0,006 | 0,007 | 0,841 | 0,403 | GDPLN | 0,029** | 0,014 | 2,021 | 0,046 | LNGDP | 0,022** | 0,010 | 2,174 | 0,032 |
| Effects Specification | | | | | Effects Specification | | | | | Effects Specification | | | | |
| S.E. of regression | | | 0,135 | | S.E. of regression | | | 0,211 | | S.E. of regression | | | 0,215 | |
| Sum squared resid | | | 5,471 | | Sum squared resid | | | 18,333 | | Sum squared resid. | | | 23,940 | |
| J-statistic | | | 3,296 | | Durbin-Watson stat | | | 0,364 | | Durbin-Watson stat | | | 0,354 | |
| Prob(J-statistic) | | | 0,654 | | F-statistic | | | 19,713*** | | F-statistic | | | 16,360*** | |
| | | | | | R-squared | | | 0,193 | | R-squared | | | 0,221 | |
| Notes - | | | | | | | | | | | | | | |
| 1. Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively. | | | | | | | | | | | | | | |
| 2. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita. | | | | | | | | | | | | | | |
| 3. Compiled by the author | | | | | | | | | | | | | | |

H2c: Organizational slack and Governance

Table 24 presents regression results with governance level (GOV) utilized as a dependent variable. All three panels demonstrate a negative relationship between governance level (GOV) and organizational slack (CR), with no statistical significance found. Thus, *H2c is not supported*. The impact of other independent variables examined is positive but also statistically insignificant according to the GMM estimator presented in Panel A. *J-test* for overidentifying restrictions indicate that p-value of *J-statistics* is larger than 10%, suggesting that the instruments are exogenous.

In the case of 2SLS and OLS regressions, the effect of firms' size on governance level is observed to be significant at 10% and 5% levels, respectively ($\beta = 0,019$, *p-value* = 0,091 for 2SLS and $\beta = 0,022$, *p-value* = 0,025). The latter models are also characterized by weak effect specification as indicated by a high sum of squared residuals, standard regression error, and low R-squared. The *F-statistics* for OLS and 2SLS indicate that the variables are jointly significant.

Observing a statistically insignificant relationship between CR and GOV indicates that higher organizational slack is not associated with higher CSR reporting and transparency or better corporate governance principles. Furthermore, the relationship is found to be inverse, suggesting that extra resources are associated with less governance level. Weaker corporate governance with higher organizational slack supports agency theory whereby managers become overconfident, overly optimistic, and lose strategic focus when extra resources are available [293,p. 1310]. Resource slack can also lead to overinvestment in unrelated projects due to managerial self-interest [301].

Table 26 - Regression results for the impact of organizational slack on governance pillar (H2c)

| PANEL A | | | | | PANEL B | | | | | PANEL C | | | | |
|---|--------|------------|---------|-------|-----------------------|---------|------------|----------|-------|-----------------------|-------------|------------|----------|-------|
| GMM | | | | | 2SLS | | | | | OLS | | | | |
| Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coefficient | Std. Error | t-stat. | Prob. |
| GOV(-1) | 0,074 | 0,122 | 0,606 | 0,546 | C | 0,350** | 0,135 | 2,600 | 0,011 | C | 0,310** | 0,123 | 2,526 | 0,013 |
| CR | -0,041 | 0,040 | -1,025 | 0,308 | CR | - 0,015 | 0,010 | - 1,449 | 0,150 | CR | -0,013 | 0,009 | -1,466 | 0,146 |
| GOVEFF | 0,007 | 0,008 | 0,897 | 0,372 | GOVEFF | - 0,001 | 0,001 | - 0,702 | 0,484 | GOVEFF | - 0,001 | 0,001 | -0,740 | 0,461 |
| VOI | 0,011 | 0,013 | 0,879 | 0,382 | VOI | 0,001 | 0,001 | 1,015 | 0,312 | VOI | 0,001 | 0,001 | 1,240 | 0,218 |
| LNTA | 0,133 | 0,184 | 0,725 | 0,470 | LNTA | 0,019* | 0,011 | 1,708 | 0,091 | LNTA | 0,022** | 0,010 | 2,267 | 0,025 |
| LNGDP | 0,001 | 0,006 | 0,166 | 0,868 | LNGDP | 0,008 | 0,009 | 0,934 | 0,352 | LNGDP | 0,008 | 0,009 | 0,834 | 0,406 |
| Effects Specification | | | | | Effects Specification | | | | | Effects Specification | | | | |
| S.E. of regression | | | 0,146 | | S.E. of regression | | | 0,205 | | S.E. of regression | | | 0,205 | |
| Sum squared resid | | | 6,401 | | Sum squared resid | | | 17,192 | | Sum squared resid | | | 21,886 | |
| J-statistic | | | 5,989 | | Durbin-Watson stat | | | 0,433 | | Durbin-Watson stat | | | 0,468 | |
| Prob(J-statistic) | | | 0,307 | | F-statistic | | | 3,134*** | | F-statistic | | | 6,577*** | |
| | | | | | R-squared | | | 0,058 | | R-squared | | | 0,059 | |
| <p>Notes -</p> <p>1. Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively.</p> <p>2. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita.</p> <p>3. Compiled by the author.</p> | | | | | | | | | | | | | | |

4.3.3 The effect of Leverage on CSR and its pillars

H3: Leverage and CSR

The relationship between leverage and CSR is found to be negative as demonstrated in all panels of Table 25, though a statistical significance is lacking ($\beta = -0,001$, $p\text{-value} = 0,244$). Thus, *H3 is not supported*. Panel A also demonstrates a positive statistically significant relationship of CSR with total assets at a 5% level of significance ($\beta = 0,243$, $p\text{-value} = 0,049$). The link with other variables utilized in the model is also positive, but insignificant according to the GMM estimator. *J-test* for overidentifying restrictions indicate that $p\text{-value}$ of *J-statistics* is larger than 10%, suggesting that the instruments are exogenous.

Panel B and Panel C demonstrate a positive statistically significant impact of total assets on CSR at a 1% level. Additionally, regression results based on the latter models show a positive statistically significant effect of public voice (VOI) on CSR at a 1% level. The F-statistics for OLS and 2SLS indicate that the variables are jointly significant.

A negative relationship between firms' level of leverage and CSR commitment implies that more leveraged firms have higher solvency risk and thereby, are less willing to incur extra costs on social initiatives. Though, the power of leverage to discourage CSR initiatives is small, as the statistical significance of the results is lacking. An inverse relationship between CSR and leverage is also well-presented in prior literature [302-305]. Though, prior literature also provided evidence of the positive effects of leverage on CSR [306, 307], arguing that higher-leveraged firms are more subject to public attention.

Disregarding the financial indicator utilized in this study (profitability, organizational slack, leverage), the firms' size remains robust in playing a significant role in explaining the level of CSR in developing countries. This finding is consistent with most of the previous literature covering a developing region, which observed a positive relationship between CSR and firms' size. This could be attributed to higher public scrutiny as a result of more visibility of larger firms. Additionally, larger firms have to meet stricter legitimacy requirements, including higher disclosure of their social activities. They are also subject to higher political sensitivity, forcing them to communicate more CSR-related information to legitimize their presence. Thus, size is an important determinant of CSR.

Table 27 - Regression results for the impact of leverage on CSR (H3)

| PANEL A | | | | | PANEL B | | | | | PANEL C | | | | |
|--|---------|------------|---------|-------|-----------------------|----------|------------|----------|-------|-----------------------|----------|------------|-----------|-------|
| GMM | | | | | 2SLS | | | | | OLS | | | | |
| Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. |
| CSR(-1) | 0,468 | 0,255 | 1,834 | 0,070 | C | 0,060 | 0,118 | 0,506 | 0,614 | C | 0,077 | 0,118 | 0,652 | 0,516 |
| LEV | -0,001 | 0,001 | - | 0,244 | LEV | -0,000 | 0,000 | - | 0,215 | LEV | -0,000 | 0,000 | -1,121 | 0,265 |
| GOVEFF | 0,001 | 0,009 | 0,076 | 0,940 | GOVEFF | -0,001 | 0,001 | 1,075 | 0,285 | GOVEFF | -0,000 | 0,001 | -0,240 | 0,811 |
| VOI | 0,012 | 0,011 | 1,093 | 0,277 | VOI | 0,002*** | 0,001 | 2,611 | 0,010 | VOI | 0,002** | 0,001 | 2,340 | 0,021 |
| LNTA | 0,243** | 0,122 | 1,997 | 0,049 | LNTA | 0,047*** | 0,012 | 4,057 | 0,000 | LNTA | 0,042*** | 0,010 | 4,161 | 0,000 |
| LNGDP | 0,004 | 0,006 | 0,682 | 0,497 | LNGDP | 0,003 | 0,004 | 0,674 | 0,502 | LNGDP | -0,013 | 0,009 | -1,517 | 0,132 |
| Effects Specification | | | | | Effects Specification | | | | | Effects Specification | | | | |
| S.E. of regression | | | 0,133 | | S.E. of regression | | | 0,086 | | S.E. of regression | | | 0,171 | |
| Sum squared resid | | | 5,096 | | Sum squared resid | | | 3,005 | | Sum squared resid | | | 14,914 | |
| J-statistic | | | 5,173 | | Durbin-Watson stat | | | 1,300 | | Durbin-Watson stat | | | 0,372 | |
| Prob(J-statistic) | | | 0,395 | | F-statistic | | | 7,489*** | | F-statistic | | | 22,494*** | |
| | | | | | R-squared | | | 0,084 | | R-squared | | | 0,180 | |
| Notes - | | | | | | | | | | | | | | |
| 1. Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively. | | | | | | | | | | | | | | |
| 2. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita. | | | | | | | | | | | | | | |
| Compiled by the author. | | | | | | | | | | | | | | |

H3a: Leverage and Environmental Responsibility

With regards to separate CSR pillars, a negative relationship between the environmental pillar and leverage is observed which is also significant at a 10% level as presented in Panel A of Table 26 ($\beta = -0,003$, $p\text{-value} = 0,073$). Thus, *H3a is supported*. GMM results also demonstrate a statistical significance of the relationship between CSR and public voice (VOI) as well as firm's size (LnTA) at a 10% level ($\beta = 0,030$, $p\text{-value} = 0,058$ for VOI and $\beta = 0,252$, $p\text{-value} = 0,093$ for size). *J-test* for overidentifying restrictions indicate that *p-value of J-statistics* is larger than 10%, suggesting that the instruments are exogenous.

A similar conclusion of the inverse link between ENV and leverage is made from Panel B and Panel C but the result lacks statistical significance. The latter panels demonstrate a positive effect of public voice (VOI) and firms' size though at lower significance levels compared to the GMM estimator. In addition, according to 2SLS and OLS results, countries' GDP has a significant impact on firms' environmental responsibility. The *F-statistics* for OLS and 2SLS indicate that the variables are jointly significant.

A negative impact of firms' leverage on the level of environmental responsibility implies that higher debt discourages firms to undertake environmental initiatives. This could be a result of additional costs entailed and higher solvency risk. Higher leverage can also push managers to suspend discretionary environmental reporting and concentrate on increasing firms' value through adjusting accounting policies [308]. In line with this finding, Kipngetich et al. [309] on a sample of firms from Kenya observed a negative and significant impact of leverage on environmental disclosure.

Among other variables utilized in the model, the voice of stakeholders and firms' size were found to play a significant role in the environmental responsibility of the firm. This finding indicates growing consciousness regarding environmental issues in developing countries.

Table 28 - Regression results for the impact of leverage on the environmental pillar (H3a)

| PANEL A | | | | | PANEL B | | | | | PANEL C | | | | |
|--|---------|------------|---------|-------|-----------------------|---------|------------|-----------|-------|-----------------------|----------|------------|-----------|-------|
| GMM | | | | | 2SLS | | | | | OLS | | | | |
| Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. |
| ENV(-1) | 0,503 | 0,286 | 1,760 | 0,081 | C | -0,098 | 0,161 | - 0,605 | 0,546 | C | -0,120 | 0,145 | -0,826 | 0,411 |
| LEV | -0,003* | 0,002 | -1,814 | 0,073 | LEV | -0,000 | 0,000 | - 0,765 | 0,446 | LEV | -0,000 | 0,000 | -0,839 | 0,403 |
| GOVEFF | 0,004 | 0,008 | 0,426 | 0,671 | GOVEFF | -0,001 | 0,001 | - 0,937 | 0,351 | GOVEFF | -0,002 | 0,001 | -1,274 | 0,206 |
| VOI | 0,030* | 0,016 | 1,918 | 0,058 | VOI | 0,002** | 0,001 | 2,104 | 0,038 | VOI | 0,002** | 0,001 | 2,374 | 0,019 |
| LNTA | 0,252* | 0,148 | 1,698 | 0,093 | LNTA | 0,065** | 0,013 | 5,113 | 0,000 | LNTA | 0,069*** | 0,011 | 6,258 | 0,000 |
| LNGDP | 0,004 | 0,013 | 0,291 | 0,772 | LNGDP | 0,016** | 0,009 | 1,722 | 0,088 | LNGDP | 0,017** | 0,010 | 1,731 | 0,086 |
| Effects Specification | | | | | Effects Specification | | | | | Effects Specification | | | | |
| S.E. of regression | | | 0,185 | | S.E. of regression | | | 0,221 | | S.E. of regression | | | 0,221 | |
| Sum squared resid | | | 9,914 | | Sum squared resid | | | 19,835 | | Sum squared resid | | | 24,950 | |
| J-statistic | | | 2,071 | | F-statistic | | | 20,758*** | | F-statistic | | | 30,886*** | |
| Prob(J-statistic) | | | 0,839 | | Durbin-Watson stat | | | 0,339 | | Durbin-Watson stat | | | 0,348 | |
| | | | | | R-squared | | | 0,204 | | R-squared | | | 0,231 | |
| Notes - | | | | | | | | | | | | | | |
| 1. Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively. | | | | | | | | | | | | | | |
| 2. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita. | | | | | | | | | | | | | | |
| Compiled by the author. | | | | | | | | | | | | | | |

H3b: Leverage and Social responsibility

Table 27 presents the effects of leverage on a social pillar. A negative relationship is observed disregarding the regression method utilized, but the effect is not statistically significant. Thus, *H3b is not supported*. The impact of other variables in the model presented in Panel A is positive, with exception of the government effectiveness (GOVEFF), where an inverse relationship is documented ($\beta = -0,011$, $p\text{-value} = 0,110$). J-test for overidentifying restrictions indicate that p-value of J-statistics is larger than 10%, suggesting that the instruments are exogenous.

In Panel B, 2SLS regression shows a positive impact of public voice (VOI) and size at a 1% level of significance ($\beta = 0,003$, $p\text{-value} = 0,002$ for VOI and $\beta = 0,061$, $p\text{-value} < 0,01$). OLS regression results presented in Panel C demonstrate a positive influence of public voice (VOI) and size at a 1% level and countries' GDP at a 5% level. In terms of effects specifications, Panel B and Panel C present low R-squared, high standard error of the regression, and Durbin-Watson statistic away from 2, questioning the reliability of the findings of the latter models. The F-statistics for OLS and 2SLS indicate that the variables are jointly significant.

A negative insignificant effect of leverage on the social responsibility of the firm indicates that a higher amount of debt discourages firms to make a social contribution. Though, the magnitude of a negative contribution of debt on the level of firms' social responsiveness is rather small.

Table 29 - Regression results for the impact of leverage on social pillar (H3b)

| PANEL A | | | | | PANEL B | | | | | PANEL C | | | | |
|---|--------|------------|---------|-------|-----------------------|----------|------------|----------|-------|-----------------------|----------|------------|-----------|-------|
| GMM | | | | | 2SLS | | | | | OLS | | | | |
| Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. |
| SOC(-1) | 0,239 | 0,243 | 0,984 | 0,327 | C | -0,045 | 0,140 | -0,322 | 0,748 | C | -0,023 | 0,145 | -0,157 | 0,876 |
| LEV | -0,003 | 0,002 | -1,328 | 0,187 | LEV | -0,000 | 0,000 | -1,528 | 0,130 | LEV | -0,000 | 0,000 | -1,230 | 0,221 |
| GOVEFF | -0,011 | 0,007 | -1,612 | 0,110 | GOVEFF | -0,001 | 0,001 | -1,224 | 0,224 | GOVEFF | -0,000 | 0,001 | -0,313 | 0,755 |
| VOI | 0,020 | 0,020 | 1,031 | 0,305 | VOI | 0,003*** | 0,001 | 3,172 | 0,002 | VOI | 0,003*** | 0,001 | 2,675 | 0,009 |
| LNTA | 0,064 | 0,118 | 0,547 | 0,585 | LNTA | 0,061*** | 0,013 | 4,628 | 0,000 | LNTA | 0,056*** | 0,012 | 4,547 | 0,000 |
| LNGDP | 0,007 | 0,007 | 0,935 | 0,352 | LNGDP | 0,003 | 0,005 | 0,692 | 0,490 | LNGDP | 0,019** | 0,010 | 1,982 | 0,050 |
| Effects Specification | | | | | Effects Specification | | | | | Effects Specification | | | | |
| S.E. of regression | | | 0,150 | | S.E. of regression | | | 0,100 | | S.E. of regression | | | 0,213 | |
| Sum squared resid | | | 6,497 | | Sum squared resid | | | 4,023 | | Sum squared resid | | | 23,338 | |
| J-statistic | | | 4,162 | | F-statistic | | | 8,687*** | | F-statistic | | | 26,678*** | |
| Prob(J-statistic) | | | 0,526 | | Durbin-Watson stat | | | 1,466 | | Durbin-Watson stat | | | 0,350 | |
| | | | | | R-squared | | | 0,097 | | R-squared | | | 0,206 | |
| <p>Notes -</p> <p>1. Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively.</p> <p>2. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita.</p> <p>3. Compiled by the author.</p> | | | | | | | | | | | | | | |

H3c: Leverage and Governance

Table 28 demonstrates the relationship between the level of governance (GOV) and leverage. According to the results of the GMM estimator, there is a negative insignificant effect of leverage on firms' level of governance ($\beta = -0,003$, $p\text{-value} = 0,191$). Thus, *H3c is not supported*. The relationship of the level of governance (GOV) with other variables is found to be positive, but statistically insignificant, except for total assets, where significance at a 1% level is observed. J-test for overidentifying restrictions indicate that p-value of J-statistics is larger than 10%, suggesting that the instruments are exogenous.

Results of SLS and OLS also demonstrate a negative insignificant link between governance pillar (GOV) and firm's level of leverage (LEV). Similarly to GMM, Panel B and Panel C demonstrate a statistical significance of firms' size in shaping firm's governance pillar of CSR ($\beta = 0,022$, $p\text{-value} = 0,098$ for 2SLS and $\beta = 0,025$, $p\text{-value} = 0,021$ for OLS). The F-statistics for OLS and 2SLS indicate that the variables are jointly significant.

Finding a negative insignificant effect of leverage on corporate governance mechanisms indicates that a higher level of debt discourages corporate governance mechanisms, though the effect is quite small. In addition, it should be noted that corporate governance has a range of different components, calling for separate consideration of the effects of its different constituents. An inverse relationship between the quality of corporate governance and debt can be explained by agency theory whereby debt plays the role of a monitoring instrument, thereby substituting poor corporate governance. Thus, firms with low governance quality are expected to have higher leverage [310]. Evidence of a negative relationship between two variables can also be found in previous literature [311].

Table 30 - Regression results for the impact of leverage on governance pillar (H3c)

| PANEL A | | | | | PANEL B | | | | | PANEL C | | | | |
|--|----------|------------|---------|-------|-----------------------|---------|------------|----------|-------|-----------------------|---------|------------|----------|-------|
| GMM | | | | | 2SLS | | | | | OLS | | | | |
| Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. | Variable | Coeff. | Std. Error | t-stat. | Prob. |
| GOV(-1) | 0,027 | 0,151 | 0,181 | 0,857 | C | 0,306** | 0,139 | 2,207 | 0,030 | C | 0,257 | 0,121 | 2,122 | 0,036 |
| LEV | -0,003 | 0,002 | -1,316 | 0,191 | LEV | -0,000 | 0,000 | -0,402 | 0,689 | LEV | -0,000 | 0,000 | -0,141 | 0,888 |
| GOVEFF | 0,008 | 0,010 | 0,860 | 0,392 | GOVEFF | 0,001 | 0,001 | 0,593 | 0,555 | GOVEFF | 0,001 | 0,001 | 0,630 | 0,530 |
| VOI | 0,001 | 0,019 | 0,072 | 0,943 | VOI | 0,001 | 0,001 | 0,642 | 0,522 | VOI | 0,001 | 0,001 | 1,253 | 0,213 |
| LNTA | 0,308*** | 0,114 | 2,710 | 0,008 | LNTA | 0,022* | 0,013 | 1,668 | 0,098 | LNTA | 0,025** | 0,011 | 2,351 | 0,021 |
| LNGDP | 0,001 | 0,006 | 0,105 | 0,917 | LNGDP | 0,004 | 0,004 | 0,946 | 0,346 | LNGDP | 0,006 | 0,009 | 0,679 | 0,499 |
| Effects Specification | | | | | Effects Specification | | | | | Effects Specification | | | | |
| S.E. of regression | | | 0,167 | | S.E. of regression | | | 0,102 | | S.E. of regression | | | 0,205 | |
| Sum squared resid | | | 8,090 | | Sum squared resid | | | 4,219 | | Sum squared resid | | | 21,550 | |
| J-statistic | | | 2,567 | | Durbin-Watson stat | | | 1,703 | | Durbin-Watson stat | | | 0,439 | |
| Prob(J-statistic) | | | 0,766 | | F-statistic | | | 1,248*** | | F-statistic | | | 4,803*** | |
| | | | | | R-squared | | | 0,015 | | R-squared | | | 0,045 | |
| <p>Notes -</p> <ol style="list-style-type: none"> 1. Signs *, **, *** indicate significance at 1%, 5% and 10% levels, respectively. 2. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita. 3. Compiled by the author. | | | | | | | | | | | | | | |

The results of the GMM test of serial correlation are presented in Table 29-31. For all the hypotheses under examination, first-order correlation (AR1) is significant, while second-order correlation (AR2) is not statistically significant, indicating a robust estimator.

Table 31 – Arellano-Bond Serial Correlation Test for profitability hypotheses

| Description | Hypothesis | AR | m-Statistic | rho | SE(rho) | Prob. |
|--|------------|-------|-------------|--------|---------|-------|
| Impact of ROA on CSR | H1a1 | AR(1) | -1,653* | -0,759 | 0,459 | 0,098 |
| | | AR(2) | -0,062 | -0,008 | 0,126 | 0,950 |
| Impact of Tobin's Q on CSR | H1a2 | AR(1) | -1,773* | -0,805 | 0,454 | 0,076 |
| | | AR(2) | 0,051 | 0,008 | 0,161 | 0,960 |
| Impact of ROA on ENV | H1b1 | AR(1) | -2,274*** | -1,791 | 0,788 | 0,023 |
| | | AR(2) | 1,094 | 0,330 | 0,301 | 0,274 |
| Impact of Tobin's Q on ENV | H1b2 | AR(1) | -2,733* | -2,293 | 0,839 | 0,006 |
| | | AR(2) | 0,866 | 0,302 | 0,349 | 0,387 |
| Impact of ROA on SOC | H1c1 | AR(1) | -3,002*** | -1,307 | 0,435 | 0,003 |
| | | AR(2) | 1,103 | 0,252 | 0,229 | 0,270 |
| Impact of Tobin's Q on SOC | H1c2 | AR(1) | -3,028*** | -1,848 | 0,610 | 0,003 |
| | | AR(2) | 0,348 | 0,147 | 0,422 | 0,728 |
| Impact of ROA on GOV | H1d1 | AR(1) | -1,437* | -0,704 | 0,490 | 0,098 |
| | | AR(2) | 0,048 | 0,007 | 0,154 | 0,962 |
| Impact of Tobin's Q on GOV | H1d2 | AR(1) | -2,985*** | -1,135 | 0,380 | 0,003 |
| | | AR(2) | 0,823 | 0,152 | 0,184 | 0,410 |
| Notes - | | | | | | |
| 1. Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively. | | | | | | |
| 2. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin's Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita. | | | | | | |
| 3. Compiled by the author. | | | | | | |

Table 32 - Arellano-Bond Serial Correlation Test for slack resources hypotheses

| Description | Hypothesis | AR | m-Statistic | rho | SE(rho) | Prob. |
|---|------------|-------|-------------|--------|---------|-------|
| Impact of organizational slack on CSR | H2 | AR(1) | -1,719* | -0,741 | 0,431 | 0,086 |
| | | AR(2) | -0,028 | -0,003 | 0,106 | 0,978 |
| Impact of organizational slack on ENV | H2a | AR(1) | -2,668*** | -2,239 | 0,839 | 0,008 |
| | | AR(2) | 1,395 | 0,458 | 0,328 | 0,163 |
| Impact of organizational slack on SOC | H2b | AR(1) | -2,636*** | -1,344 | 0,510 | 0,008 |
| | | AR(2) | 0,301 | 0,081 | 0,269 | 0,763 |
| Impact of organizational slack on GOV | H2c | AR(1) | -3,235*** | -1,337 | 0,413 | 0,001 |
| | | AR(2) | 0,544 | 0,076 | 0,140 | 0,587 |
| <p>Notes -</p> <ol style="list-style-type: none"> Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita. Compiled by the author. | | | | | | |

Table 33 -Arellano-Bond Serial Correlation Test for leverage hypotheses

| Description | Hypothesis | AR | m-Statistic | rho | SE(rho) | Prob. |
|--|------------|-------|-------------|--------|---------|-------|
| | | | | | | |
| Impact of leverage on CSR | H3 | AR(1) | -2,023** | -0,959 | 0,474 | 0,043 |
| | | AR(2) | -0,860 | -0,134 | 0,156 | 0,390 |
| Impact of leverage on ENV | H3a | AR(1) | -2,155** | -1,886 | 0,875 | 0,031 |
| | | AR(2) | 0,840 | 0,260 | 0,309 | 0,401 |
| Impact of leverage on SOC | H3b | AR(1) | -2,733*** | -1,362 | 0,498 | 0,006 |
| | | AR(2) | 0,473 | 0,121 | 0,255 | 0,636 |
| Impact of leverage on GOV | H3c | AR(1) | -2,705*** | -1,253 | 0,463 | 0,007 |
| | | AR(2) | 0,568 | 0,107 | 0,187 | 0,570 |
| <p>Notes:</p> <ol style="list-style-type: none"> Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita. Compiled by the author. | | | | | | |

4.4 Chapter summary

This chapter presents the results of this study, including general data analysis as well as an empirical examination of stated hypotheses. Several conclusions can be derived from the chapter. Firstly, with regards to statistical analysis of sample data, the following observations were made. Most utilized variables in this study divert from the properties of normal distribution. Average CSR scores demonstrate low variability between industries, though in the case of individual pillars some variation is present. CSR and its pillars score have an upward trend over the five years, with the highest growth evidenced for the environment responsibility (ENV) pillar. Results of

preliminary tests indicate that utilized data is subject to heteroskedasticity and the presence of fixed/random effects, while multicollinearity is not a serious problem.

Secondly, from running the regression models it was concluded that the effect of financial indicators, disregarding their type, have insignificant effect on the level of CSR in the context of developing countries. The exception the effect of leverage on the environmental (ENV) pillar, where statistical significance at 10% level was observed. It was also observed that in comparison to GMM and 2SLS, the OLS model presents a weak model as seen from poor reported effects specification, such as low R-squared, the high sum of squares residuals, and D-W statistic far from a common threshold. Furthermore, 2SLS and OLS models provide results that demonstrate a higher level of statistical significance, indicating the potential bias of results overinterpretation when relying on the latter models.

Thirdly, with regards to other independent variables utilized in the model it was observed that firms' size and public voice have a positive effect on CSR and its pillars, with reported instances of statistical significance. The effect of the government effectiveness (GOVEFF) variable has an insignificant effect on CSR and its pillars.

Table 32 summarizes the results on the determinants of CSR and its pillars obtained from the GMM estimator, which presents the main model of this study. It can be concluded that financial indicators disregarding their type (profitability, slack resources, leverage) have an insignificant impact on stimulating the social behavior of firms from developing countries. The exception presents the relationship between the degree of firms' leverage and environmental responsibility, which demonstrates statistical significance. Moreover, the direction of the impact differs depending on the type of financial indicator examined.

The effect of macro-variables on CSR and its pillars also differs. Government effectiveness exhibits no significant influence on social behavior. Though, in terms of the direction of the relationship, variation is found, with a negative impact on the level of responsibility to the community (SOC), while for other pillars positive association is observed. The second macro variable presented by public voice has a positive impact on CSR and its pillars, with a significant influence exercised on the environmental pillar. Regarding the control variables, a positive impact on the CSR of firms' size is observed. The impact of size on CSR pillars is found to be positive but lacks statistical significance. Countries' GDP is found to play an insignificant positive role in shaping firms' social behavior.

Table 34 - Determinants of CSR and its pillars

| Determinant | CSR | ENV | SOC | GOV |
|-------------|-----|-----|------|-----|
| 1 | 2 | 3 | 4 | 5 |
| ROA | + | + | + | + |
| TQ | - | + | - | - |
| CR | - | - | + | - |
| LEV | - | -* | - | - |
| GOVEFF | + | + | -*** | + |
| VOI | + | +# | + | + |

Continuation of table 34

| 1 | 2 | 3 | 4 | 5 |
|--|----|----|---|------|
| LnTA | +* | +* | + | +*** |
| GDPln | + | + | + | + |
| <p>Notes -</p> <ol style="list-style-type: none"> Signs *, **, *** indicate significance at 10%, 5% and 1% levels, respectively. Abbreviations used in the table indicate the following: Hij – hypothesis number i type j, CSR - Corporate Social Responsibility, ENV – environmental responsibility, SOC – social responsibility, GOV – corporate governance, ROA – return on assets, TQ – Tobin’s Q, CR – current ratio, LEV – leverage, GOVEFF – government effectiveness, VOI – public voice, LnTA – natural logarithm of total assets, lnGDP – natural logarithm of GDP per capita. Compiled by the author | | | | |

The results of this study follow a strand of literature arguing that financial performance is a weak determinant of socially responsible behavior. This conclusion has several implications. Firstly, the findings of this study suggest inadequate incorporation of CSR agenda in strategic decisions of firms in developing countries. Secondly, higher profitability is not necessarily a motivator for more investment in social initiatives and commitment to social matters. Observing a positive insignificant relationship with accounting-based profitability indicators suggests symbolic CSR, which satisfies a basic level of social commitment. A negative link between a market-based indicator and CSR and its pillars implies that investment in social responsibility in developing countries’ context is considered as value decreasing activity, bearing extra costs to firms’ primary stakeholders, though this effect is small.

The findings of this study also demonstrate that extra resources of firms from developing countries are not immediately directed to social initiatives, thereby indicating that the prioritization of CSR initiatives in corporate business decisions is quite low.

Finally, higher leverage of firms from developing countries discourages CSR activities, though this negative effect is small. The findings of this study also highlight that the role of government in promoting CSR by firms in developing countries is insignificant. Public voice is found to have a positive influence, especially evident in environmental matters, supporting the growing trend in environmental pillar evidenced during the sample period of this study.

CONCLUSION

This study examines the influence of financial indicators on the level of social responsibility of firms from developing countries. Due to the peculiarities of developing countries, the author of this thesis argues that forces shaping CSR in such context are not well understood and thereby, should be given separate consideration. As the direction and magnitude of CSR-financial performance link is a topic of continuous academic discussion, this thesis focuses on the role of financial indicators in particular in shaping the face of CSR. Though, the author recognizes the complexity of the CSR concept and includes variables at the macro-level. This study suggests a research framework that takes into consideration forces deemed relevant to developing countries in particular, and suggesting GMM estimation technique due to endogeneity and heterogeneity issues. The following chapter concludes the thesis by addressing research objectives, hypotheses of this study, reviewing conceptual model, presenting recommendations, study limitations and opportunities for further research.

Addressing research objectives and hypotheses

At the start of this thesis, three research objectives were set which were addressed as follows:

Research objective (RO₁): *Determine the direction and significance of the impact of profitability on CSR of firms from developing countries.*

The direction and significance of the impact of profitability of firms from developing countries on CSR and CSR pillars were determined. In particular, it was observed that the effect of accounting-based measure of profitability on CSR and its pillars is positive but insignificant. In the case of market-based indicator, a negative insignificant impact on CSR and two of its pillars, namely environmental (ENV) and governance (GOV) was observed. For the social (SOC) pillar, the impact of the market-based indicator was found to be positive, but insignificant.

Based on the above findings, the hypotheses stated in Chapter 2 of this study were reviewed as follows. The hypotheses of a positive effect of accounting-based indicator on CSR and its pillars (**H_{1a1}**, **H_{1b1}**, **H_{1c1}**, and **H_{1d1}**) are not supported, as the results lack statistical significance. The hypothesis of a positive effect of market-based profitability on CSR (**H_{1a2}**) is not supported. For individual pillars, the hypotheses of a positive effect of market-based indicator on CSR and environmental (**H_{1b2}**), governance (**H_{1d2}**) and social (**H_{1c2}**) pillars are not supported.

Research objective (RO₂): *Determine the direction and significance of the impact of slack resources on the CSR of firms from developing countries.*

The direction and significance of the impact of slack resources of firms from developing countries on CSR and CSR pillars were presented. The impact of the organizational slack and CSR and its pillars was observed to be negative and insignificant, with the exception of the social pillar which demonstrates a positive insignificant relationship with organizational slack.

The hypotheses with regard to the effect of organizational slack on CSR and its pillars stated in Chapter 2 of this study were addressed as follows. The hypotheses of

a positive effect of slack resources on CSR (H_2), environmental (H_{2a}), social (H_{2b}) and governance (H_{2c}) pillars are not supported.

Research objective (RO₃): *Determine the direction and significance of the impact of the level of leverage on CSR of firms from developing countries.*

The direction and significance of the impact of leverage of firms from developing countries on CSR and its pillars were determined. A negative insignificant effect of leverage was observed on CSR and social (SOC) and governance (GOV) pillars. For the environmental (ENV) pillar, a negative impact is also statistically significant.

The hypotheses on the impact of leverage of firm's level of social responsibility were addressed as follows. The hypotheses of an inverse significant relationship between leverage and CSR (H_3) and social (H_{3b}) and governance (H_{3c}) pillars are not supported as the results lack statistical significance. Regarding environmental (H_{3a}) pillar, the result is supported, with statistical significance at 10% level.

Reviewing the conceptual model

Chapter 2 justified the application of an integrated perspective to determine factors that can impact socially responsible behavior in developing countries. Both internal motives, as well as external factors beyond the firm's control, were considered in the study. Internal motives presented the main focus of this study, with particular focus on the effects of different financial indicators on CSR and its pillars. Namely, profitability, availability of slack resources and the level of debt were utilized as financial variables. For the external factors, government effectiveness and public voice were employed. The conceptual model presented in Chapter 2 of this study is revisited as follows after producing empirical results.

Firstly, contrary to the initial predictions of this study, it was observed that profitability of the firm is a poor predictor of the level of CSR of firms from developing countries. Moreover, it was observed that accounting-based and market-based indicators impose effect of different direction. Particularly, by observing an insignificant positive relationship between accounting-based profitability (ROA) and CSR, this study follows a strand of literature arguing that there is a poor tie between financial performance and socially responsible behavior. This finding indicates weak incorporation of CSR agenda in strategic decisions of firms in developing countries. Additionally, more profitable firms are not necessarily willing to invest more in CSR initiatives. The inverse insignificant link between market-based ratio and CSR observed in this study could be an indicator of prioritizing shareholders' welfare at the expense of other stakeholders [302,p. 360] and perception of socially responsible activities as value-destroying ones, though the magnitude of this effect is small.

Secondly, with regard to organizational slack, this study initially suggested a resource-based perspective arguing that a firm's CSR depends on the availability of internal resources, with a higher resource base increasing the probability of CSR engagement. However, the findings of this study indicate that higher slack resources do not necessarily motivate more socially responsible behavior. The relationship between slack resources and CSR was observed to be negative and insignificant. This is in line with some other studies investigating the relationship between socially responsible behavior and a firm's internal resources. For example, Julian and Ofori-

Dankwa [290,p. 1314] observed a negative relationship between CSR expenses and financial resource availability on the sample of African firms, arguing that institutional differences between developing and developed economies lead to different CSR implications. An inverse relationship between organizational slack and CSR can be explained from the view that higher excess resources can discourage corporate motivation and innovative decisions, and entail managerial overconfidence, and idleness [294,p. 1250]. Moreover, extra resources can be utilized by managers for achieving their personal goals, creating an agency problem. Thus, while studies on developed economies presented evidence in support of slack resource theory, the findings of this research suggest that in the context of developing world, finance resource availability is not a predictor of more socially responsible behavior.

Thirdly, with regard to the level of leverage, findings are in line with initial prediction based on stakeholder theory whereby more socially responsible firms tend to employ less debt in their capital structure, to build higher protection from bankruptcy risk [211,p. 140]. Though, the power of leverage to discourage CSR initiatives is small, as the statistical significance of the results is lacking. An inverse relationship between CSR and leverage is also presented in prior literature. Interestingly, with regard to the Environmental pillar, negative relationship is significant at 10% level. This could be a sign of managerial discretion with regard to environmental reporting [308,p. 10]. These results are also consistent with Ali et al. [312] who observed that high leverage discourages disclosure of CSR-related information by firms in developing countries.

Recognizes the complexity of the CSR concept, its multidimensional nature and its dependence on a wide variety of factors that extend well beyond firm-level ones, the study also examined the effects of government effectiveness and public voice on firm's level of social responsibility. With regard to government effectiveness, findings of this study were not in favor of institutional theory whereby institutional ecosystems contribute to organizational commitment to social matters. In particular, results of this study found that effect of government on the level of firm's social responsibility is negligible.

In contrast, in line with stakeholder theory, it was observed that public voice is an important motivator of CSR in the context of developing part of the world. These findings support prior research claiming that CSR concept is dynamic and socially constructed and influenced by contextual factors [211,p. 10]. This finding is also consistent with Visser [23,p. 480], who stated that in the context of limited government control mechanisms over the social, ethical, and environmental attitudes of firms in developing countries, the role of stakeholders becomes critical for development and adoption of CSR. Among the most powerful activists of CSR in developing countries, five main stakeholder groups can be identified: development agencies [313], international NGOs [314], business associations, trade unions and media. Stakeholder activism in developing countries can also take different forms, including civil regulation, international legal instruments, and litigation against firms.

RECOMMENDATIONS

Research recommendations

A weak relationship between financial indicators and CSR and its pillars observed in this study implies that in the agenda of firms from developing countries, CSR is hardly considered a part of strategic action and its interactions with corporate finances, bearing a chaotic nature. Additionally, the results of this study imply that in developing countries CSR is more driven by the power of public voice, thereby supporting stakeholder theory. Observing a weak relationship between CSR and government effectiveness imply that CSR initiatives receive low stimulus from the government side and the significance attributed to CSR by countries' government is in its infancy. Thus, the following recommendations are suggested by the author of this thesis to motivate CSR on the levels of government and firm as presented in Figure 13 with further discussion.

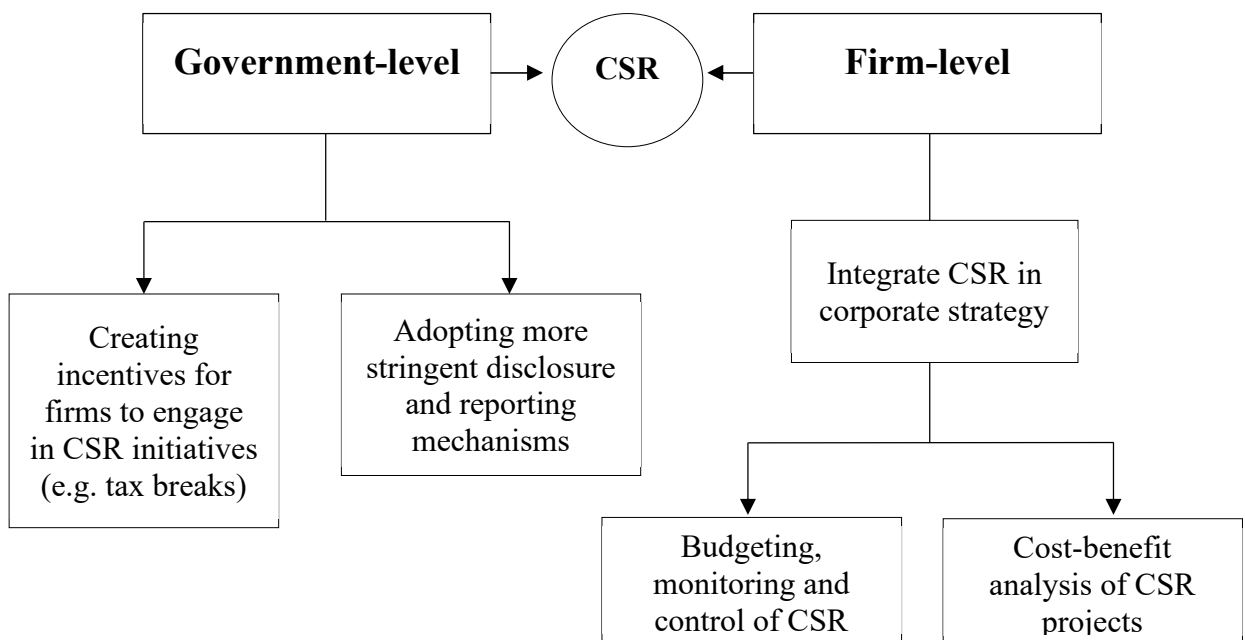


Figure 13 – Recommendations

Note – compiled by author

From the government side, it is suggested to create incentives for firms to engage in CSR initiatives. To motivate firms to undertake socially responsible behavior, such incentives as tax breaks can be introduced. In addition, creating more stringent disclosure and reporting mechanisms can help to promote understanding and implementation of CSR activities on the firm level. Positive effect of government subsidies on CSR is evidenced in prior literature. For example, Wenqi et al. [315] showed positive significant effect of government subsidies on promotion of social responsibility on a sample of Pakistani firms. Tang and Wang [316] observed that tax incentives have positive impact of corporate social performance of Chinese firms. In

addition, requirements for CSR reporting and disclosure on a legislative level can increase the adoption and awareness with regard to CSR. Examples of government initiatives that foster CSR reporting include the 2010 Grenelle II Act in France [317], which requires reporting on a firm's social, environmental, and governance performance. The Law 2/2011 on Sustainable Economy [318] adopted in Spain requires annual CSR reporting from firms with above 1000 employees. Danish Financial Statements Act from 2009 [319] requires CSR reporting from public firms.

From the corporate side, it is suggested to consider CSR expenses as part of the corporate strategy. Integration of CSR as part of the operational activity can help to build better ties with firms' finances and make informed decisions in terms of CSR initiatives. Furthermore, when CSR is part of corporate strategy, competitive advantage can be created [88,p. 80]. Such tasks as budgeting for CSR and monitoring and controlling CSR implementation are suggested. Based on observing the inverse relationship between CSR and firms' leverage, it is advised to consider an optimal capital structure with consideration of investment in socially responsible initiatives. Cost-benefit analysis can be applied to assess the impacts of investment projects [320] and identify weak points of environmental and social responsibility. Together with CSR budgeting, cost-benefit analysis of investment projects can discipline decisions with regard to CSR and avoid wishful thinking. Strategic planning of CSR presents a complex task to combine social, environmental and financial matters in the design of CSR strategies as discussed further.

CSR can become an essential part of the business by building a business strategy that aligns economic, social, and environmental performance to long-term business values, contributing to the firm's long-term value and to the benefit of society [321]. Social behavior should shift from being merely a response to arisen problems and penetrate operational processes at all business stages. CSR as a concept can be integrated into daily decision-making only under the condition that it is included in business strategy since the firm's foundation [319,p. 6]. Aligning CSR with corporate objectives and core competencies can lead to the best possible outcome. Crucial stages of integration of CSR into corporate strategy include identifying critical stakeholders, defining objectives, and creating reporting and controlling mechanisms. In the case of developing countries, where CSR has an ad hoc nature and lacks strategic orientation, standing on the sideline, there is a high possibility that opportunities to satisfy fundamental social and environmental needs are overlooked, which in turn can have an adverse effect on firm's own value chains. By integrating CSR into corporate strategy, the perspective that CSR expenses are a trade-off and unnecessary burden can be gradually changed to the view that CSR is a driver of economic value.

But the question raises, how to view CSR strategically? Based on the results of this study, which confirms that CSR in developing countries has a low strategic orientation, the following framework is proposed which is designed to facilitate the inclusion of CSR in corporate strategies and create better ties with its financial condition. In particular, in this work, four steps are proposed, which are designed to align business models with CSR opportunities.

1. Step 1: Aligning CSR with core business purpose.

The core business purpose of the organization creates a context for the rest of the strategic choices. When defining business purpose, ignoring the larger role which a firm plays in society is unsustainable [321,p. 1]. Connecting business purpose and CSR will facilitate the adoption of subsequent socially responsible behavior at all business stages. A commitment of the firm to society and the environment should be clearly reflected as part of the firm's business purpose.

2. Step 2: Defining the scope of CSR.

Recognizing that social and environmental issues are extensive, it is crucial to narrow the scope of CSR for a particular firm and define its field of impact. This includes recognizing industry differences, which determine the relevancy of particular social and environmental concerns.

3. Step 3: Integration and execution.

This step includes the procedures through which CSR will be introduced into day-to-day operations. The support of executives and senior management is crucial for the successful implementation of CSR at all firm levels. Designing CSR policies and communicating them to firm employees, defining tasks and responsible bodies can contribute to more effective CSR strategies. When choosing a CSR strategy, a firm's core capabilities and resources should be also considered. Importantly, key firm executives and management staff should be trained and educated with regard to CSR concept and its implications.

4. Step 4: Monitoring, reporting, and control.

Establishing of specific CSR unit / department or specific position responsible for CSR within the organizational structure is suggested by the author of this work in order to increase the efficiency of CSR implementation, monitoring, and control mechanisms. Disclosure of CSR-related information and preparation of sustainability reports should be implemented. Financial indicators which are suitable for capturing quantifiable CSR causes and outcomes should be considered. Though, it should be also noted that measuring CSR-related impacts presents a challenging task due to the difficulty of quantification of environmental, social, and governance information.

Thus, aligning CSR with corporate strategy can facilitate strategic CSR, which presents a coherent component integrated into a firm's strategy, rather than being a conglomerate of various initiatives. Strategic CSR in turn can create a context for developing CSR-related investment projects. The latter should be evaluated from the perspective of the triple bottom line, which considers environmental, social, and financial outcomes. Particularly, the projects should be analyzed from the perspective of capital budgeting, which includes understanding the project's effects of the firm's value. However, taking the prism of strategic CSR, the project should also be evaluated with regard to its social and environmental effects. Both positive and negative externalities should be considered, leading to the cost-benefit analysis of CSR project. In addition, the project's technical and economic feasibility should be assessed.

Limitations

The study is not free from the following limitations. Firstly, due to limited information on CSR, the sample period and number of firms are limited. Secondly, using readily available rankings on CSR despite its advantages, have the drawback of

omitting firms without CSR ranking and private firms. Thirdly, a multi-level study that is based on multi-country and multi-industry settings can produce generalized conclusions. It should be also noted that CSR is a very comprehensive concept, which can be influenced by various socio-economic factors, including the ones that are difficult to quantify, such as religion, historical background, firm age and others. Moreover, the relationship can be altered through the effect on CSR coming from interaction of factors.

Opportunities for further research

Future research can take the following directions. First of all, a comparison study between developing and developed countries is suggested. Secondly, further research can examine other potential factors which can impact CSR, such as informal institutions (e.g. culture, and religiosity). Introducing the interaction term is also suggested, which involves examining the combined effect of multiple variables on the dependent one. Finally, a study based on small and medium-sized entities can be performed and compared with existing findings.

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APPENDIX A

List of sample countries

| Region | Country |
|---------------|----------------|
| Africa | Egypt |
| Africa | Morocco |
| Africa | South Africa |
| Asia | China |
| Asia | India |
| Asia | Indonesia |
| Asia | Malaysia |
| Asia | Philippines |
| Asia | Singapore |
| Asia | Thailand |
| East Europe | Poland |
| Latin America | Argentina |
| Latin America | Brazil |
| Latin America | Chile |
| Latin America | Colombia |
| Middle East | Israel |
| Middle East | Kuwait |
| Middle East | Qatar |
| Middle East | Saudi Arabia |
| Middle East | Turkey |

APPENDIX B

Industry breakdown

| Industry | Components |
|------------------------|------------------------------------|
| communication services | Telecommunication services |
| consumer discretionary | Apparel and accessories |
| consumer discretionary | Auto manufacturers |
| consumer discretionary | Consumer Goods Conglomerate |
| consumer discretionary | Department stores |
| consumer discretionary | Footwear |
| consumer discretionary | Manufacturers |
| consumer discretionary | specialty retail |
| consumer staples | Beverages |
| consumer staples | Brewers |
| consumer staples | Fishing and Farming |
| consumer staples | Food processing |
| consumer staples | Food, retail, and distribution |
| consumer staples | Tobacco |
| energy | Coal |
| energy | Oil and Gas |
| energy | Oil-related services and equipment |
| energy | Petrochemical |
| energy | Renewable energy generation |
| energy | Uranium |
| healthcare | Healthcare |
| healthcare | Medical equipment |
| Industrials | Aerospace and defense |
| Industrials | Airlines |
| Industrials | Airport operator |
| Industrials | Airports |
| Industrials | Construction |
| Industrials | Construction and engineering |
| Industrials | Electrical components |
| Industrials | Freight |
| Industrials | Heavy machinery and vehicles |
| Industrials | Logistics |
| Industrials | Machinery |
| Industrials | Passenger transportation |
| Industrials | rail tracks |
| Industrials | Shipping |
| Industrials | Transportation services |
| Information technology | Electronic equipment and parts |
| Information technology | Online Services |
| Information technology | Semiconductors |
| Information technology | Software |
| materials | Agricultural Chemicals |
| materials | Aluminum |
| materials | Chemicals |

materials
materials
materials
materials
materials
materials
materials
utilities
utilities
utilities
utilities
utilities
utilities

Commodity Chemicals
Construction Materials
Diversified chemicals
Gold
Iron and steel
Metals and Minerals
mining
Electric utilities
Natural gas utilities
Paper products
Power producers
Water Utilities