Board Composition, Sustainability and Firm Performance

A Nordics-Oriented Quantitative Study on a Global Trend

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Abstract

The issues surrounding sustainability continues to be at the forefront of the human agenda and firms are increasingly being held accountable by their stakeholders to assist in bringing about sustainability. Despite this, there is a tension surrounding the role of firms and the benefits implementing sustainability practices and policies has for these actors. On the one hand, being sustainable underpinned by a strong CSR-oriented governance board with the right compositional factors results in superior firm performance. On the other hand, sustainability is suggested to increase costs and reduced competitiveness thereby reducing firm performance. These contrasting results supported by mixed scholarly findings concerning different mediating factors influencing the overarching relationship creates a confusion gap that warrants this current study. As such, the study’s purpose is to investigate the relationship between two distinct yet interrelated relationships, the impact of board of directors’ composition on CSR performance measured by ESG scores and the impact of CSR performance on firm performance so as to contribute to the debate on these notion that continues to plague academia and the pragmatic world.

This study is realized through a quantitative archival-longitudinal study design underpinned by metaphysical assumptions. Regression analyses using panel data on a sample of 123 listed companies headquartered in the Nordic Countries for the period 2010-2018 is undertaken to analyze the potential relation between CSR performance and five board composition factors, specially the gender diversity, independence, size, frequency of meetings and the presence of CSR committee. The association between CSR performance and firm performance is investigated in a similar way. Under rigorous statistical testing and analysis, the results indicate that there potentially is a relation between board composition and firms’ ESG performance. The results derived from the relationship between CSR and firm performance is inconsistent and cannot be fully accepted.

This study contributes theoretically to CSR, corporate governance and finance literature by expanding upon how these three notions are linked in light of the sustainability trend that is gripping modern society. Socially, this research is useful for providing empirical evidence on the value of strong governance structures so as to foster sustainability and encourage debate on its value. Pragmatically, our study suggests what board composition factors are most conducive for supporting CSR that may assist firms’ corporate governance structuring and focus.

Keywords: stakeholder theory, agency theory, CSR, ESG, firm performance, board composition
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1. Introduction

This introductory chapter consists of the problematization, guiding research question and purpose of the research in addition to the theoretical points of departure. The problematization attempts to shape and contextualize the issue that the research addresses. The guiding research question and purpose narrows down and consolidates the issue and creates the focus for the entire research in addition to justifying why the research is being conducted. The theoretical points of departure serve as an introduction to the study’s supporting theories and concepts.

1.1. Problematization

It is a fact that the global economy relies on the ecosystem to support itself. Raw resources are extracted for the purpose of societal consumption and modern businesses serve as mediators that bring products and services to the market to support society’s functioning. Increasingly, however, economic demands supported by businesses have put a strain on the ecosystem and the consequences are severe and far-reaching, manifesting itself in environmental and societal issues such as but are not limited to climate change and degradation, natural resource pollution, and human violation and exploitation (Yale School of Forestry & Environmental Studies, 2016). These ecological consequences have become more and more apparent and general social attitude has seen a shift in the collective becoming exceedingly aware of and concerned for the suffering of those that fall prey to economic demands and the ecosystem that houses the human population (Cramer, 2002, p. 99). The positive implication is that awareness of the aggregating ecological-societal issues has led to what Hans Rosling et al. (2018, p. 8) determined to be a “big public-awareness success story” that has made its way into the human agenda composed of conferences, forums, shareholder meetings, etc. (Jauernig & Valentinov, 2019, p. 3; Rosling et al., 2018, p. 77).

Because firms play such an integral role within the economy-ecology relationship, they are increasing being tasked to alleviate and resolve ecological-societal issues (Kolk & van Tulder, 2010, p. 2; Jauernig & Valentinov, 2019, p. 3). However, in this respect there are conflicts that exist centering around the role and responsibilities of firms. On the one hand, firms’ only responsibility is to generate profit underpinned by increasing competitiveness for owners and to focus on other undertakings only detracts firms’ attention from their core responsibility and increase expenditures (Friedman, 1988 cited in Ahlstrom, 2010, p. 11). On the other hand, there is the opinion that firms have a larger responsibility to others beside owners and shareholders consisting of stakeholders due to firms’ embeddedness in the society within which they operate and have a large-scale impact on (Tiba et al., 2018, p. 266).

Simply put, the debate of firms’ purpose boiled down to whether they should focus on shareholders or stakeholders’ interests. What is quite interesting to point out here is that these two opposing views can be reconciling as shareholders can be viewed as one of many stakeholders. This reconciliation in addition to shifting social attitudes towards sustainability has allowed for the stakeholders’ perspective to gain momentum and sway. Kolstad (2007, p. 137) asserts that modern managers, in contrast to previous times, would not be so forthcoming in voicing their support of the shareholders’ view of the firm. This
is suggested to be because of the sustainability trend and as a result, firms and their managers are more open to undertaking corporate social responsibility (CSR) initiatives.

Increasingly, like the topic of sustainability having integrated itself into public discussions, CSR has commonly woven itself into the fabric of organizational life and activities. Firms are making more concerted efforts to implement CSR initiatives and publicizing it. As a result, CSR initiatives have shifted to be viewed as a permanent concern, consideration and form of strategy that are wielded by firms to increase their economic standings (Lu et al., 2014, p. 196). In this respect, there are debates as well as complexities surrounding CSR performance and its benefits bestowed upon firms. Opponents of firms implementing CSR initiatives view CSR as a convenient means or strategy of overcoming political-legal-social hurdles in order to maximize profit and are thus not authentic in light of what implementing CSR initiatives would be trying to achieve (Jose et al., 2018, p. 614; Kolstad, 2007, p. 137).

Regardless of the motives, research has provided mixed and questionable evidence on the actual benefits of deploying CSR strategies and its performance measured by environmental, social and governance (ESG) information (hereafter CSR and ESG will be used interchangeably) disclosed by firms showcasing their CSR initiatives (Grewatsch & Kleindienst, 2017, p. 383; Nega, 2017, p. 39; Wagner, 2010, p. 1553; Xie et al., 2019, p. 286-287). Scholars have found an array of relationship between CSR performance and firm performance ranging from positive (e.g., Deng et al., 2013, p. 108) to negative (e.g., Margolis & Walsh, 2003, p. 274), and different u-shaped relationships (Grewatsch & Kleindienst, 2017, p. 383). Grewatsch and Kleindienst (2017, p. 283-284) determines no matter the type of relationship, a relationship exists and going further to state that the inconsistencies in findings stem from the usage of different measurements and variables in assessing the relationship between firm performance and CSR performance. Despite these points of contention, the large majority of research suggests that there is a positive relationship between CSR performance and firm performance (Margolis & Walsh, 2003, p. 274; Xie et al., 2019, p. 286).

The CSR-firm performances issue also highlights another issue. As Grewatsch and Kleindienst (2017) assert, the measurements and variables used to test the relationship gives inconsistent results that creates uncertainties about the value of CSR implementation. Ortas et al. (2017, p. 2) lends support to Grewatsch and Kleindienst by positing that the very fundamental issue that results in the possibility of numerous models and investigative techniques is that the conceptualization of CSR has not been cemented. Thus, researchers are increasingly expanding their investigative scope to examine mediators, the link that compels the direction of the CSR-firm performance relationship that would support or contradict a relationship (Grewatsch & Kleindienst, 2017, p. 384). One mediating or groups of mediating factors scholars have suggested to have a large impact on the CSR-firm performance is the composition of the board of directors. This is quite logical as responsibilities for the shaping of a firm’s strategic direction, governance structures and mechanisms and CSR initiatives rests on the decisions made by the board of directors (Birindelli et al., 2018, p. 1-2; Cucari et al., 2018, p. 250-251; Park et al., 2018, p. 2).

The problematization thus far attempts to structure the issue that warrants this current research: economic demands answered by firms have negatively impacted the eco-societal system which results in firms being increasingly called upon to remedy; firms’ purpose is debated upon but due to societal sustainability trends, firms embrace the
stakeholder perspective and implement CSR initiatives; despite CSR implementation, motives as well as benefits towards firms are being questioned; research has produced inconclusive results on the relationship CSR performance and firm economic performance which further undermines CSR initiatives’ value; the measurements and variables used as a mediating factor or set of factors can change the outcome of a study. Simply put, CSR performance represented by ESG scoring in relation to firm performance when considering different mediating factors such as the composition of the board of directors remains a grey zone that justifies further research.

1.1.2. Gaps in Extant Research and Contributions

The truth that there is inconclusiveness when it comes to discussing the relationship between CSR performance and firm performance and the inconsistencies in measurements and variables has creates an opportunity for this current research (Grewatsch & Kleindienst, 2017; Xie et al., 2019). Scholars have diverging perspectives of the value of CSR initiatives on firm performance and are calling upon further research to examine mediating effects that influences the relationship (Grewatsch & Kleindienst, 2017). Aligned with the issues of measurements and variables, it is suggested that there are numerous mediating variables that could be selected to be investigated that would impact the results of a study.

Gaps also exist in the research context. Alternatively, research on the CSR-firm performance relationship investigate the issue from different geographical regions or specific industries e.g., Birindelli et al. (2018) studying the relationship in Europe and the United States in the banking industry that may in turn influence the outcome. Moreover, there is an issue of heterogeneity (may be understood as diversity) in research contexts that influences a study such as that of Birindelli et al.’s (2018). Every country or region differs in their institutional progress and development, the formal and informal rules for how a society governs themselves (Doh et al., 2017, p. 295; Park et al., 2018, p. 20; Wright et al., 2005, p. 2). The implication of heterogeneity is that different geographical regions should be studied separately to minimize generalizability issues as CSR-related strategies and decision-making may manifest itself differently in different locations (Park et al., 2018, p. 4). Thus, the potential to contribute to knowledge within the area of CSR/ESG initiatives in relationship with firm performance underpinned by particular mediators is vast due to the lack of consensus that plagues researchers.

In light of the identified gaps in extant research on the CSR/ESG and firm performance relationship, this current research intends to fill in the gap by investigating the aforementioned relationship that is mediated by firms’ board of directors’ compositions. To clarify, this study will investigate the mediating factors of board of directors’ compositions on how it influences firms’ CSR performance measured by ESG scores that in turn impacts the respective firms’ performance. An underlying element of this research is that it takes on the perspective of one region considered to be heterogeneous, the Nordics countries that to the best of our knowledge has not be focused upon before.

The contribution for this research is multi-fold: it furthers the research agenda on sustainability in the midst of societal trends; the research contributes to the debate on the value of CSR by offering empirical evidence regardless of the type of relationship that is found after utilizing investigating methods; the use of the boards of directors’ composition as the mediating factors can offer suggestions for how to structure or
restructure the composition of boards to take advantage of CSR/ESG benefits if investigative results turn out to be positive.

1.2. Research Question

The problematization discourse has been structured in a manner that highlights an issue that is multi-layered. One layer pertains to the inconclusiveness of CSR/ESG impact on firm performance that establishes itself in many different relational forms - positive, negative, u-shaped, inverted u-shaped. The second layer involves the issue of different mediators being used in a given study that may lead to the different relationship outcomes (Grewatsch & Kleindienst, 2017). To effectively capture and investigate this issue in light of the problematization, our guiding research question is:

What impact does Nordic firms’ board of directors’ composition have on ESG score and the relationship the ESG score has with overall firm performance?

This research question allows us to investigate two distinct relationships: the relationship between a firm’s board of directors’ composition on CSR/ESG score and the relationship between the resulting ESG score and firm performance. Additionally, the research question is structured in this manner because it sequentially and logically calls attention to a set of factors that have some kind of impact on the ESG score and thus on firm performance. We choose to study the board-ESG relationship for two reasons. Firstly, we are answering a call to research by focusing upon contingency factors that influence the ESG-firm performance relationship. Secondly, extant literature (e.g., Birindelli et al., 2018; Ortiz de Mandojana & Aragon-Correa, 2015; Park et al., 2018; Shaukat et al., 2016) has identified the powerful impact of firms’ board of directors on the success of firms’ initiatives. Rather than focusing on an array of contingency variables, we considered it logical to examine the set of contingencies that plays an integral role in the operations of a firm and their decisions to undertake CSR initiatives. In terms of the ESG score’s impact on firm performance, we are addressing and contributing to the debate by offering empirical evidence on the type of relationship that exists underpinned by the board mediating impact.

The phrasing of the research question also defines the boundaries of the research in terms of limiting the research to the Nordic countries. We consider the Nordic region to be quite similar in their institutions and the systematic rules that govern businesses and people in that part of the world. Limiting the investigation to the Nordics also addresses the issues of heterogeneity that scholars such as Wright et al. (2005) and Park et al. (2018) indicates a concern for.

1.3. Purpose

The purpose of this current research is to investigate two relationships, the impact between board of directors’ composition and ESG score and the ESG score outcome derived from the board of directors’ composition on overall firm performance. Put in a different way, the purpose is to test how different variations of board members’ characteristics can detract or increase the strength of CSR initiatives and what kind of impact it has on firm performance from the perspective of the Nordic countries. On a more theoretical level, the purpose of this research is to test existing theories of CSR and its benefit with the inclusion of mediators to contribute to the debate on CSR impact on
firm performance relationship, which may be useful for reinforcing current theories or to create or modify theories in future research endeavors.

Other purposes derived from this research are: offer potential evidence on the proper structuring of boards of directors for firms to eventually realize higher performance; support sustainability initiatives - if outcomes are positive, the outcomes may serve to encourage more widespread adoption of CSR to the benefit of the ecosystem and society.

1.4. Theoretical Point of Departure

The stakeholder theory is one of the two theories to support this study’s theoretical framework. This is due to the fact that the theory takes into consideration stakeholders for which CSR initiatives are targeted towards and that in turn have a direct or indirect impact on a firm’s economic performance (Nega, 2017, p. 16; H. Wang et al., 2016, p. 3). The stakeholder theory became academically and pragmatically prominent in the 1970s and purports to explain a firm’s obligations, operations and structure in relation to stakeholders (Donaldson & Preston, 1995, p. 70; Nega, 2017, p. 15). According to Donaldson and Preston (1995, p. 66-67), the stakeholder theory is effective in explaining the organization-stakeholder relationship by offering descriptive, instrumental, normative and managerial insights.

Stakeholders are defined as “any group or individual who can affect or is affected by the achievement of an organization's purpose” (Freeman, 2010, p. 53). Stakeholder parties involve but are not limited to customers, communities, employees, the government, trade associations and so forth (Donaldson & Preston, 1995, p. 69). Because of the interconnectedness between stakeholders and firms, stakeholders are projecting their ethical and social expectations onto firms for which firms are obligated to respond to due to the notion and importance of legitimacy (Lu et al., 2014; Vollero et al., 2019, p. 141-142).

Corporate social responsibility or CSR is intrinsically linked to the stakeholder theory. Because stakeholder theory bestows the idea that there are obligations and expectations between firms and stakeholders underpinned by social and ethical expectations, CSR has become the notion that displays the addressing of firm obligations and meeting of stakeholder expectations (Francoeur et al., 2019, p. 345). Baric (2017, p. 136) suggests that CSR is a means to addressing global issues by connecting firms to the society. Porter and Kramer (2006, p. 78 cited in Lu et al., 2014, p. 196) described CSR as an “inescapable priority” given the large amounts of focused placed on CSR by regulative organizations (Lu et al., 2014, p. 196).

Despite the attention and consequential role that CSR embraces, in addition to the large insertions of investments into CSR initiatives, there lacks a consensus on a clear definition of CSR (Ortas et al., 2017, p. 2; Sheehy, 2015, p. 625). Lu et al. (2014, p. 195) defines CSR as an idea whereby firms behave in “socially responsible ways”. Other scholars conceptualize CSR as a voluntary behavior and that accounts for contexts or addresses different socially responsible aims (Francoeur et al., 2019, p. 344). Due to the lack of a widespread consistent definition for CSR, our research supports both Francoeur et al.’s (2019, p. 344) and Lu et al.’s (2014, p. 195) definitions of CSR and addresses CSR in terms of attributes: CSR consists of ideas and voluntary decisions that goes beyond the standards imposed by regulations; the decisions are context and stakeholder specific. The
latter means that CSR initiatives and performance manifests itself differently based upon where a firm operates and who their stakeholders are.

The impactful relationship between firms and stakeholders compelling firms to embrace CSR has supported firms’ increasingly widespread disclosure of environmental, social and governance (ESG) information (Arayssi et al., 2016, p. 376-377). Alternatively, firms’ CSR decisions and practices are translated and communicated in a non-financial manner via sustainability reports (Buallay, 2019, p. 98-99). Currently, unlike financial reporting, there is no standardized way of disclosing ESG information resulting in a variation of the disclosure across different firms and geographical regions (Buallay, 2019, p. 98-99; Landi & Sciarelli, 2019, p. 13). Despite the inconsistencies, scholars have suggested that ESG reporting benefits the firm economically by increasing transparency, awareness, and decision-making capabilities (Buallay, 2019, p. 99).

Agency theory is the second theory that supports this study that serves as a compliment to the stakeholder theory. Agency theory addresses issues pertaining to information asymmetry, opportunistic behavior and conflicts of interests that causes tensions to surface between shareholders and managers who are hired to serve in the best interest of shareholders (Jensen & Meckling, 1976; McNulty et al., 2013, p. 58). Because of the aforementioned issues and the resulting tension, agency theory emphasizes the importance of strong and working corporate governance structures in alleviating prevailing agency issues (Fama & Jensen, 1983, p. 304). Where stakeholder theory discusses the purpose and obligation of firms in responding to their stakeholder, agency theory supports stakeholder theory by providing explanations into the role of governance in supporting firms’ stakeholder obligations (Hussain et al., 2018, p. 413).

Extant literature on corporate governance indicates that firms’ board of directors play a central and critical role in the success of firms and with respect to CSR performance (Birindelli et al., 2018, p. 1; Cucari et al., 2018, p. 250; Francoeur et al., 2019, p. 344; Ortiz de Mandojana & Aragon-Correa, 2015, p. 501; Park et al., 2018, p. 2; Shaukat et al., 2016, p. 570). Birindelli et al. (2018, p. 1) even goes as far as to suggest that a firm’s success or failure ultimately stems from the decision and actions made by board of directors. The reason for success or failure is that boards are given the weighty tasks of monitoring and advising corporate executives, strategically shape the direction of a firm and fostering legitimacy and networking (Francoeur et al., 2019, p. 344; Hussain et al., 2018, p. 413; Lu & Boateng, 2018, p. 1109; Ortas et al., 2017, p. 3). Furthermore, board of directors’ competences and capabilities are considered to be a form of resource that determines how effectively they can carry out their corporate obligations (Ortiz de Mandojana & Aragon-Correa, 2015, p. 501). Board of directors’ composition refers to “an essential characteristic of the board’s capacity to perform its duties and influence corporate outcomes” (Francoeur et al., 2019, p. 344). Characteristics that have been considered in research for explaining boards’ influence on corporate outcomes and CSR performance are: board gender diversity, directors’ independence, size, annual meeting frequency, and the establishment of CSR committees (Birindelli et al., 2019, p. 3; Ortas et al., 2017, p. 4).

Van Knippenberg and Schippers (2007, p. 519) defines diversity as “a characteristic of a social group that reflects the degree to which there are objective or subjective differences between people within the group…”. Gender is one such example of an objective difference that is commonly found amongst board members. It is not a matter of biological qualities, though that is the obvious demarcation point, that leads to men and
women potentially having different impacts on CSR/ESG performance, it is the psychological and behavior qualities that are empirically unique to the genders that may influences the performance outcome of CSR and ultimately overall firm performance (Arayassi et al., 2016, p. 380; Francoeur et al., 2019, p. 344-345).

Independent directors or board independence is an important component to boards’ effectiveness in their monitoring obligations and with respect to meeting stakeholder expectations (Birindelli et al., 2018, p. 4; Hussain et al., 2018, p. 416; Ortas et al., 2017, p. 3). Board or director independence concerns relationship links - whether board members have familial, work or financial ties between one another or to executive management (Park et al., 2018, p. 5). Lack of connections between a firm board and top management is suggested to have a positive impact on CSR performance with the reason being that decisions made are more balanced and objective and considers all stakeholders rather than being one-sided (Ortas et al., 2017, p. 3; Park et al., 2018, p. 5; Shaukat et al., 2016, p. 574). Despite the logical argumentation, extant research offers inconclusive evidence on the effects of director/board independence on CSR performance (Birindelli et al., 2018, p. 4; Cucari et al., 2018, p. 256; Ortas et al., 2017, p. 4).

Similar to other variables’ influence of CSR performance, scholars are not in agreement about the effects of the size of the board on CSR performance whereby related studies favor either small or large board sizes (Hussain et al., 2018, p. 416). The debate surrounding board size centers on issues pertaining to effective monitoring, communicating, decision-making and controlling of managers and the firm by board members. Moreover, the consequence of size also is that it impacts managerial resources and capabilities e.g., expertise, workload allocation in bringing about a strong governance structure (Birindelli et al., 2018, p. 5; Hussain et al., 2018, p. 416).

There are pros and cons concerning frequency of board meetings that communicates whether boards are effectively doing their jobs. More frequent meetings may convey to stakeholders either that boards are not accomplishing objectives or that members are serious about proper governance. The latter allows for more and widespread transmitting of ideas and insights that facilitates better decision-making and meet stakeholder expectations. To date, there is a lack of consensus amongst scholars on the effect that meeting frequency has on CSR performance (Birindelli et al., 2018, p. 5).

The purpose for establishing CSR committees is for the committees to support board of directors’ duties with particular emphasis on CSR and sustainability by taking on monitoring and compliance assurance responsibilities (Birindelli et al., 2018, p. 6). CSR committees can be a powerful communication tool to stakeholders. The committee “symbolizes the board’s orientation and commitment towards sustainable development” (Hussain et al., 2018, p. 418). It also conveys a firm’s intention to “shape its mission and strategy towards social sustainability” (Cucari et al., 2018, p. 255). Similar to the preceding board composition factors, previous studies testing CSR committees’ influence of CSR performance remains inconclusive (Cucari et al., 2018, p. 255; Hussain et al., 2018 p. 418).

To date, there is still a lack of consensus of the impact of CSR performance on firm performance despite a large amount of attention being paid on the topic. The irony is that scholars (e.g., Lee et al., 2018, p. 3595; Lu et al., 2014, p. 204; Nega, 2017, p. 39; Wagner, 2010, p. 1553; Xie et al., 2019, p. 286-287) seem to share a consensus that the relationship
between CSR performance and firm performance remains undetermined and unresolved with different studies producing a wide-range of results.
2. Theoretical Frame of Reference

The theoretical frame of reference, underpinned by a review of literature, discusses in detail the theories, concepts and notions that together allows for empirical tests to be arranged, conducted and analyzed in the forthcoming chapters. The structure of this chapter is as follows: stakeholder and agency theories and their associating concepts serving to link this study’s variables are discoursed; board of directors’ compositions and their respective hypotheses are established; the relationships under investigation - that between board composition and CSR performance and between CSR performance and firm performance are discussed.

2.1. Towards an Understanding of Stakeholder Theory

The stakeholder theory’s role in the academic and pragmatic world is to generally explain how firms are to organize themselves and serve in an ethical manner the various parties that impact and are impacted by firms’ activities in order to increase performance (Donaldson & Preston, 1995, p. 70; Laplume et al., 2008, p. 1153; Nega, 2017, p. 15). In essence, the theory “is a theory of organizational management and ethics” (Phillips et al., 2003, p. 480). The stakeholder theory is a flexible theory whereby scholars have previously applied it in various manners in terms of descriptive or empirical, instrumental, normative, and managerial frameworks to meet the aims of their respective studies (Donaldson & Preston, 1995, p. 66-67, 70).

Descriptive stakeholder theory explains firm and associating stakeholders’ behavior and attributes such as what a firm is and its purpose, the managerial cognitive process within a firm and the realized management practices that accounts for stakeholders. Instrumental stakeholder theory is used to support the study of relationships - whether accounting for stakeholders and effective stakeholder management generates positive firm targets underpinned by quantitative statistical methodology. The overarching aim with abiding by instrumental stakeholder theory is to investigate the implications for embracing and incorporating the stakeholder perspective into firm operations and decision-making over other potentially viable approaches (Donaldson & Preston, 1995, p. 70-71). In essence, instrumental stakeholder theory is hypothetical because it suggests that in order for firms to meet a certain ambition, they should observe the principles of the stakeholder theory (Donaldson & Preston, 1995, p. 72). Normative stakeholder theory delves into the realm of morals and ethics and how these abstractions can determine and govern a firm’s purpose and decision-making respectively (Donaldson & Preston, 1995, p. 71-72). According to Donaldson and Preston (1995, p. 67), the normative principle demands the acceptance that: stakeholders are identified by their legitimate interests in firm operations; firms must singularly account for each stakeholder because they are stakeholders and not because it can elevate firms’ self-interests. Managerial stakeholder theory offers suggestions on ideal practices, organization and perspectives on how to effectively manage firm stakeholders (Donaldson & Preston, 1995, p. 67).

Edward Freeman, described to the founder of stakeholder theory (Laplume et al., 2008, p. 1152), defines stakeholders as “any group or individual who can affect or is affected by the achievement of an organization's purpose” (Freeman, 2010, p. 53). Freeman’s stakeholder definition is quite inclusive in identifying any party “who can affect or is affected by” firms’ operation or existence as stakeholders. Examples of these groups or
individuals are: political groups, suppliers, customers, communities, and the government (Donaldson & Preston, 1995, p. 69). The implications of the relationship between firms and stakeholders indicates that firms must consider all stakeholders’ interests and claims in their decision-making due to stakeholders’ capabilities in influencing firm outcome. Despite this fact, effective stakeholder management is complicated and there is a trade-off to be considered because each stakeholder have different interests and consequently can exert different degrees of influence on a firm (Francoeur et al., 2019, p. 345; Lu et al., 2014, p. 195; Vollero et al., 2019, p. 142).

Mitchell et al., (1997, cited in Francoeur et al., 2019, p. 345) sheds light on how firms respond to the trade-off that exists in stakeholder management due to diverging and potentially conflicting legitimate interests by introducing the notion of stakeholder saliency. Stakeholder saliency is defined as “the degree to which managers give priority to competing stakeholder claims” (Mitchell et al., 1997, p. 854, cited in Francoeur et al., 2019, p. 345). Priority is determined by the extent with which stakeholders exert their legitimacy, power and urgency in pushing for their interests to be met. Legitimacy is defined as “a generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs and definitions” (Suchman, 1995, p. 574). Power involves the amount of sway a stakeholder has on a firm that compels the latter to act in the interest of the former. Urgency addresses the seriousness or gravity of a stakeholder interest that demand firm prioritization. Though all three combined determines firms’ prioritization, the degree of power stakeholders exert is the most compelling and forceful abstraction in determining stakeholder priority (Francoeur et al., 2019, p. 325).

Whether prescribing descriptive-empirical, instrumental, normative or managerial perspectives, the stakeholder theory identifies and captures the close relationship firms have with stakeholders and the obligations that must be addressed if firms intend not to experience issues with stakeholders. What is more, according to Vollero et al. (2019, p. 142) is that stakeholders are expecting more from firms, ethically and socially which involves necessary disclosure and justification for their decision-making processes and actions. The pressure onto firms exerted by stakeholders have manifested itself in firm publicly integrating and weaving CSR into their operations and purpose. In light of this discussion, we consider stakeholder theory appropriate to be one of the two core theories underpinning our research for several reasons. Firstly, according to extant literature, while there has not been scholarly agreement as to the most appropriate theoretical framework, the stakeholder theory has been a widely used framework to discuss CSR and sustainability related topics (Hussain et al., 2018, p. 412-413; Manita et al., 2018, p. 208; Ortas et al., 2017, p. 2). Secondly, while we are not investigating the motives for why firms implement CSR initiatives, but rather the effects of CSR on firm performance, the stakeholder theory sufficiently explains the underpinnings for why CSR exists. Finally, to get more technical, the instrumental stakeholder theory framework lends its hypothetical prowess to this study by allowing us to investigate the relationship between CSR and firm performance and its viability.

2.1.1. Criticisms Toward Stakeholder Theory

As discussed above, the central role of stakeholder theory is to capture the importance for firms to account for stakeholders whose legitimate interest in a firm can facilitate or interfere with firm operations (Phillips et al., 2003, p. 481). However, due to the flexibility and explanatory prowess of the theory, scholars are utilizing and distorting the theory’s
scope to fit their respective research agendas, which Phillips et al. (2003, p. 482) assert leaves ample space for theoretical criticism. One criticism points out that adhering to stakeholder theory gives decision-makers a means to support their opportunistic behaviors which encourages agency problems (Phillips et al., 2003, p. 484). Marcoux (2000, p. 97 cited in Phillips et al., 2003, p. 484) justifies the criticism by arguing that some legitimate stakeholder claims may be disregarded for others that support managerial self-interests. There is value in Marcoux’s argument because as noted previously, a challenge for firm effective stakeholder management is to account for all stakeholder interests that may or may not align with each other but that impacts firm processes. In another criticism, Marcoux and Sternberg (2000; 2000, cited in Phillips et al., 2003, p. 485) argues against the practical value of the stakeholder theory. They determine that the theory is useless in providing actual best practices for the most effective decision-making. On the issue of stakeholder equality, there is a gap between the theoretical and realized understanding of notion. Firms should theoretically treat and account for all stakeholders regardless of their power and influence, but this does not translate to practice in reality (Phillips et al., 2003, p. 488) as Mitchell et al.’s (1997, cited in Francoeur et al., 2019, p. 345) stakeholder salience framework suggests.

2.2. Corporate Social Responsibility (CSR)

Corporate social responsibility (CSR) can be considered as the visual manifestation of adhering to the stakeholder theory which give explanations for why CSR is important and exists (Francoeur et al., 2019, p. 345). In other words, because stakeholder theory details the managerial and ethical roles and obligations of firms towards stakeholders, CSR has become the vehicle in which firms embrace and meet these expected roles and obligations. Over the years, CSR has gained momentum in being a core consideration for firms and heavy investments has been allotted to carrying out firms’ CSR initiatives (Deng et al., 2013, p. 87; Sheehy, 2015, p. 625). According to Porter and Kramer (2006, p. 78, cited in Lu et al., 2014, p. 196), CSR has become an integral and unavoidable component of firms’ realities and this can be spurred on by changing societal attitudes towards ethics and sustainability (Vollero et al., 2019, p. 142). The shift in societal attitudes has consequently shaped CSR out to be a strategy, regardless of being underpinned by altruistic or selfish motives, that firms use to navigate the economic world and to increase performance (Cramer, 2002, p. 99; Kolstad, 2007, p. 137; Vollero et al., 2018, p. 142). Thus, despite external drivers encouraging CSR implementation, the most fundamental reason and benefit for investing in CSR must be economically justifiable (Lu et al., 2014, p. 196; Nega, 2017, p. 19).

Despite the “inescapable priority” (Porter & Kramer, 2006, p. 78, cited in Lu et al., 2014, p. 196) that CSR has become, there is a lack of consensus surrounding the conceptualization of CSR (Lu et al., 2014, p. 196; Ortas et al., 2017, p. 2; Sheehy, 2015, p. 625). Clarkson (1995, p. 92) declares that the lack of consensus on CSR and synonymous terminology is a fundamental academic and social issue that hinders creating satisfactory models and frameworks to study a very important concept. CSR to date has been known by various terminology, namely but are not limited to, corporate social performance, corporate social responsibility, corporate social responsiveness, corporate citizenship, corporate community engagement (Nega, 2017, p. 20; Ortas et al., 2017, p. 2). Sheehy (2015, p. 625) suggests that the issues that exist in defining CSR stems from the concept addressing and being closely linked to three separate and complex systems: the ecology, society and economy. Moreover, Sheehy (2015, p. 626) asserts that other
factors such as institutions, context, the stakeholders involved and prioritized and the diverging agendas of those attempting to define CSR also lends itself to the difficulty in agreeing to a uniform definition. There are four diverging defining agendas, that of businesses, scholars, political actors and governments. Businesses contest and debate about whether their corporate existence, mission and decision-making can be identified as socially responsibility which is further complicated by the numerous business structures e.g., for-profit or non-profit structures. Scholars, in attempting to conceptualize CSR, imbue paradigms and perspectives stemming from their respective fields of discipline. Political actors attempt to define and use CSR as a means to further their respective stances in relation to the economic-business blueprints. Governments have an interest in defining and promoting CSR due to it being a potentially cost-efficient alternative to policies that can reduce ecological and societal issues that is in the realm of the government’s’ responsibilities (Sheehy, 2015, p. 626-627).

Irrespective of the different agendas, attempts are made at defining CSR. Lu et al. (2014, p. 195) describes CSR as an idea that motivates sustainability-related behaviors. Carroll (1991, p. 42) proposes a pyramid construct for CSR indicating four components of CSR that firms are responsible for: ethical, philanthropic, legal, and economic responsibilities. One of the first established definitions of CSR is “a business organization’s configuration of principles of social responsibilities, process of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm’s societal relationships” offered by Wood (1991, p. 693). CSR, as suggested by Aguinis (2011, p. 855, cited in Francoeur et al., 2019, p. 344) is the “context-specific organizational actions and policies that take into account stakeholders’ expectations and the triple bottom line of economic, social, and environmental performance”. These presented definitions all are structured differently but according to Francoeur et al. (2019, p. 344) there are several clear attributes: implementing CSR goes beyond regulatory requirements as it is voluntary in nature; stakeholders differ for each firm underpinned by context and their interests differ which requires different CSR responses. Because there is currently no consensus as to what CSR is, identifying and defining CSR by Francoeur et al.’s (2019, p. 344) attribute identification is suggested to be the most appropriate and logical. Thereby we align with Francoeur et al. (2019) and define CSR in terms of its attributes: voluntary, exceeds regulatory expectations, different stakeholders are prioritized differently with their own respective responses and context within which a firm is embedded needs to be considered. Furthermore, as CSR addresses environmental, economic and societal points, we consider it to be fitting and should be included within this CSR attributes definition.

2.2.1. Measuring CSR via ESG Scores

CSR and sustainability trends have swept through society and thereby heightened firms’ commitment to implement CSR initiatives into their organizational processes (Arayssi et al., 2016, p. 376; Deng et al., 2013, p. 88; Manita et al., 2018, p. 209; Ortas et al., 2017, p. 1). The economic justification that CSR is a vehicle for which stakeholders’ respective legitimate interests are satisfied could lead to superior performance and the heightened social and ethical expectations by stakeholders have resulted in the need for a measurement to be established that translates and communicates CSR initiatives to stakeholders (Laplume et al., 2008, p. 1153; Lu et al., 2014, p. 2; Manita et al., 2018, p. 209; Vollero et al., 2019, p. 142). This is rather logical in that firms incorporating CSR and meeting stakeholder expectations are considered to be legitimate (Vollero et al., 2019, p. 142) which is “not a commodity to be possessed or exchanged but a condition reflecting
perceived consonance” (Scott, 2014, p. 74). However, the condition of legitimacy conferred onto firms by stakeholders do not occur by itself. Stakeholder-derived legitimacy needs to be induced by fostering awareness via an efficient means of communication (Vollero et al., 2019, p. 142). In this respect, CSR-communication is derived from voluntary sustainability reporting via ESG disclosure in the form of scores (Arayssi et al., 2016, p. 376-377; Buallay, 2019, p. 98-99; Manita et al., 2018, p. 209; Refinitiv, 2019, p. 6).

ESG information and associating scores are comprised of environmental, social and governance information that are non-financial in nature (Buallay, 2019, p. 98). Environmental information concerns firms’ ecological footprint and damaging impact on the environment from firm-related activities. Disclosure of environmental information conveys to stakeholders the extent of firms’ respect and awareness of their roles in contributing to ecological degradation (Manita et al., 2018, p. 209). Refinitiv (2019, p. 6) proposes that environmental disclosure is to be determined on the basis of the extent of firms’ resource usage, emissions, and how innovative their products are in contributing to ecological sustainability.

Social information addresses the degree of attention and care firms put towards both minimizing negative and encourage positive impact that the society experiences from firm activities (UN, n.d.). Social disclosure and associating scores stems from assessing firms’ commitment towards factors such as contributing to workforce and community well-being suggested to be underpinned by factors such as inclusion, diversity, fairness, and safety, respecting human rights and the impact firms’ products or services have on the society (Refinitiv, 2019, p. 6).

Governance information concerns and assesses firms’ corporate governance structures and its effectiveness and competences in carrying out its role and responsibilities. Corporate governance is defined as consisting of “a set of relationships between a company’s management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the meaning of attaining those objectives and monitoring performance are determined” (OECD, 2004, cited in Muller, 2014, p. 3). Refinitiv (2019, p. 6) pinpoints factors determining firms’ governance score within the ESG rating system to be: management which is suggested to involve how well boards lead and manage the firm in the most ethical and transparent way; proper shareholder treatment; CSR strategy is suggested to address how well board of directors focus on and integrate CSR within their strategic agenda.

Measuring CSR via ESG scoring and disclosing scores are currently voluntary. Firms do so because as extant literature indicates, disclosure benefits firms by legitimizing them in the eyes of stakeholders, increase decision-making capabilities and transparency and secure financial well-being and performance (Buallay, 2019, p. 99; Vollero et al., 2019, p. 142). However, there are issues concerning ESG measurement and disclosure. There is currently no established framework for ESG disclosure. The implications are that ESG measures and disclosure may be inconsistent due to contextual variations amongst countries (Buallay, 2019, p. 98-99; Landi & Sciarelli, 2019, p. 13) which necessitates focusing on countries or regions that are considered to be homogenous.
2.3. Towards an Understanding of Agency Theory

While stakeholder theory is flexibility and has explanatory prowess in shedding light on the importance of stakeholders, stakeholder management and why CSR is a vehicle for firms to respond to stakeholder expectations, it is insufficient for linking the internal firm processes and decision-making that contributes to CSR initiatives and effective stakeholder management. Agency theory is a prevailing and dominant theory in extant literature that scholars use to compliment stakeholder theory. The theory introduces and discusses the relationship between internal corporate governance and stakeholders (Hussain et al., 2018, p. 412-413; Lynall et al., 2003, p. 417).

Michael Jensen and William Meckling (1976, p. 306-307) contends that prior to the establishment and development of agency theory which is considered to be a firm-based theory, there existed no appropriate theory that explained how firms’ diverging stakeholder interests are to be balanced so firms can perform and produce value. However, the lack of an established theory fostered by firm issues drove scholars to focus upon and develop a theory that explains not only agency costs but offer a means of alleviating the agency costs stemming from ownership structure and control (Fama & Jensen, 1983, p. 304; Jensen & Meckling, 1976, p. 308; Lynall et al., 2003, p. 417; McNulty et al., 2013, p. 60; Panda & Leepsa, 2017, p. 74).

Agency costs are derived from the perspective that firms are in nature contracts, composed of formally written and informal rules that dictates agents’ rights, performance measures and payoffs (Fama & Jensen, 1983, p. 302). These contracts have costs associated with writing, monitoring and structuring and that which are made more costly due to a misalignment of interests amongst firm agents (Fama & Jensen, 1983, p. 304). Organizing and structuring firms via contract structuring creates a situation where control and ownership of a firm are not complementary but two very distinct notions and that forms a contractual agency relationship (Fama & Jensen 1983, p. 304; Jensen & Meckling, 1976, p. 308, 309; Safieddine, 2009, p. 143). An agency relationship is “a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent” (Jensen & Meckling, 1976, p. 308). This type of arrangement results in agents becoming self-serving, causing them to make decisions that are not always in the best interests of the principle(s) that hired and delegated trust and power to them (Jensen & Meckling, 1976, p. 308; Lynall et al., 2003, p. 417). Fama and Jensen (1983, p. 304) maintains that because of the separation between ownership and control bound by the contractual agreement between principals and agents, the latter is able to make decisions without experiencing financial risks that the former would have to be confronted with. This tension between agents and principals is recognized as agency cost (Lynall et al., 2003, p. 417). Besides the conflicting interests between agents and principals, information asymmetry and opportunistic behavior on the parts of agents also serve to create and escalate agency-principal issues (Hussain et al., 2018, p. 413; Moscariello et al., 2019, p. 168).

The agency relationships and the resulting agency costs warrant theoretical development on agency theory (Safieddine, 2009, p. 143). Fama and Jensen (1983, p. 302, 304) assert that firms, to minimize agency problems, need to implement a control structure that separates management from decision-roles which justifies the creation and purposes of firms’ board of directors (Lu & Boateng, 2017, p. 1109-1110; Lynall et al., 2003, p. 417;
Agency theory thus became a solid theory to explain the role of governance and more specifically effective governance in fostering firm performance. Hussain et al. (2018, p. 413) building upon previous research, asserts that the tensions between managers and principals and the associating information asymmetry, opportunism demands strict monitoring to promote accountability and legitimacy.

Based upon the above discussion, we consider agency theory an important theory because it effectively explains and connects the role of firms' boards of directors to the broader performance discussion. More specifically, agency theory creates a foundation for introducing the role and composition of board of directors as mediating factors for influencing CSR/ESG performance that in itself is underpinned by stakeholder theory. To support this, Gul and Leung (2004, cited in Hussain et al., 2018, p. 413) suggests that agency theory is ideal for accounting for how stakeholders are to be governed.

2.3.1. Criticisms Toward Agency Theory

Despite being one of the earliest known and developed theories (Panda & Leepsa, 2017, p. 76), agency theory is not without criticisms. The first criticism centers on the agency-principal relationship and more specifically that agents are the source for agency problems existing. According to agency theory, due to issues such as information asymmetry and opportunism, agents are prone to be self-serving and may not act and make decisions in the best interest of principals for whom they are in a contract relationship with. Perrow (1986, cited in Panda & Leepsa, 2017, p. 78) maintains that standard agency theory is very much one-sided, and places blame on agents when the agency-principal problem can also stem from principals who may take advantage of and mislead the agents that serve them. In essence, it is unfair and erroneous for proponents of agency theory to assert that agents are the sole issue for agency-principal problems.

Another criticism attacks agency theory’s argument that the separation between ownership and control gives rise to agency problems. However, scholars such as Roe and Van Essen (1991; 2011, cited in Yusof, 2016, p. 156) reason that the argument is insufficient because it does not take into consider the roles external factors such as legal and political and ownership identity plays in forcing the separation between ownership and control. Similar to the criticism that stakeholder theory does not offer actual suggests and solutions, agency theory also does not provide recommendations on how to structure and maintain corporate boards and regulate behavior to be most optimal for alleviating agency issues. Furthermore, it has been argued that it is not the components of boards that determine effectiveness but board members’ actually competences (Yusof, 2016, p. 156). Panda and Leepsa (2017, p. 79) asserts that a shortcoming for agency theory involves the lack of considering competences on agents’ parts in carrying out their tasks which suggests that agency theory prematurely concludes that agents will be self-serving without respecting that there could be other issues that hinders their abilities to act in the best interest of principals. When it comes to this particular research, a core criticism for singularly using agency theory is that by itself, it is insufficient for linking CSR-related issues to corporate governance. In support of this, as stated by Walls et al. (2012, p. 886), “agency theory falls short of explaining why and/or how social targets should be included in corporate strategic goals” which warrants integrating a complimentary theory to add further support (Hussain et al., 2018, p. 413).
2.4. The Role of the Board of Directors & Board Composition in Determining CSR Performance

Agency theory highlights the contractual tension between agents and principals underpinned by the separation between ownership and control that necessitates the installation of a board of directors as a solution to mitigating agency costs and associating issues (Fama & Jensen, 1983, p. 302, 304). Scholars thus have concentrated on boards’ various roles and responsibilities in driving CSR initiatives and overall firm success via acting as a corporate governance mechanism (Birindelli et al., 2018, p. 1; Cucari et al., 2018, p. 250; Francoeur et al., 2019, p. 344; Lu & Boateng, 2017, p. 1109; Ortiz de Mandojana & Aragon-Correa, 2015, p. 501; Park et al., 2018, p. 2; Shaukat et al., 2016, p. 570). To iterate, corporate governance is “a set of relationships between a company’s management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the meaning of attaining those objectives and monitoring performance are determined” (OECD, 2004, cited in Muller, 2014, p. 3). OECD’s definition calls attention to the board of directors’ critical role in bridging firm management to firm stakeholders and the steering and monitoring responsibilities that have been placed upon them (Francoeur et al., 2019, p. 344; Ortiz de Mandojana & Aragon-Correa, 2015, p. 501).

To break it down, boards exist to alleviate the issues stemming from separation of ownership and control (Lu & Boateng, 2017, p. 1109-1110; Lynall et al., 2003, p. 417; McNulty et al., 2013, p. 59; Safieddine, 2009, p. 143). Their core responsibilities involve monitoring, facilitating legitimacy and networking, advising and strategic decision-making (Francoeur et al., 2019, p. 344; Hussain et al., 2018, p. 413; Manita et al., 2018, p. 210; Ortas et al., 2017, p. 3). Monitoring involves boards’ proactively and carefully supervising managerial undertakings to ensure and safeguard that managers do not act in their self-interest as opposed to stakeholders’ interests (Francoeur et al., 2019, p. 344; Lu & Boateng, 2017, p. 1109-1110; Manita et al., 2018, p. 210). Legitimacy is a condition conferred onto firms because they have abided by what is institutionally acceptable and appropriate (Suchman, 1995). Boards have the authority to push firms to disclose and communicate firm and CSR activities which meets stakeholders’ growing ethical and social interests (Hussain et al., 2018, p. 413; Vollero et al., 2019, p. 142). Disclosure and communication are considered to be “a dialogue between a company and its stakeholders and provides information on a company’s activities that legitimizes its behavior” (Michelon & Parbonetti, 2012, p. 478). Firm legitimacy is very important for firm survival because not only does it allow for firms to obtain critical resources, but it also allows firms to avoid unnecessary legal and social issues that could prove detrimental (Meyer & Rowan, 1977, p. 352; Michelon & Parbonetti, 2012, p. 477-478). Furthermore, it is suggested that to foster legitimacy, boards must establish and maintain relationships between firms and stakeholders which indicates boards’ responsibility of networking (Francoeur et al., 2019, p. 344; Michelon & Parbonetti, 2012, p. 484; Ortiz de Mandojana & Aragon-Correa, 2015, p. 501). Boards’ advisory role involves embracing a support role for management and assisting and mentoring them to make appropriate decisions and actions (Lu & Boateng, 2017, p. 1110). In this respect, board members’ skills and expertise are considered a resource and is very important for determining the effectiveness for carrying out their responsibilities and overall corporate governance (Francoeur et al., 2019, p. 344; Ortiz de Mandojana & Aragon-Correa, 2015, p. 501). Boards’ strategic decision-making role involves them deciding upon and governing over
firms’ mission and vision and strategies for achieving them. Therefore, it is the board's’ role in addressing strategic decisions and dictating firms’ mission and vision that determines firms’ CSR performance (Ortas et al., 2017, p. 3).

Board of directors are strategically “responsible for designing, implementing and improving the companies’ contributions to sustainable development and human-wellbeing” (Ortas et al., 2017, p. 3). This responsibility contributes to aligning corporate governance with legitimate stakeholder interests that in turn helps to foster CSR performance and thus may influence overall firm performance (Ortas et al., 2017, p. 3). However, despite this heavy responsibility, it is not always certain that boards will design and make strategic decisions to align with CSR-related mission and vision. The tendency to do so is suggested to be based upon firms’ board composition, which “reflects the characteristics of the environment” (Michelon & Parbonetti, 2010, p. 484) that firms have embedded themselves into. Board composition can be defined as “an essential characteristic of the board’s capacity to perform its duties and influence corporate outcomes” (Francoeur et al., 2019, p. 344). In essence, if the composition of a board is more prone and supportive of CSR initiatives, they have the power and authority to push for actions and strategies that reflects being CSR oriented. In support of this, Cucari et al. (2018, p. 252) suggests that CSR performance may be decided more so by board activities than by the executives who are contracted to serve the interests of stakeholders. Board composition characteristics that have been investigated in literature are gender diversity of members within a board, independence of directors, board size, frequency of board meetings, and whether there exists a CSR committee (Birindelli et al., 2019, p. 3; Ortas et al., 2017, p. 4).

2.4.1. Board Gender Diversity

Firms are facing growing societal and regulatory pressure to gain social legitimacy (Shaukat et al., 2016, p. 574), that can be obtained by having more inclusive and diverse boards that represent better the populations that the companies serve (Hillman et al., 2002, p. 748). Above increasing social legitimacy, more diverse boards are found to have increase board effectiveness and performance (Ntim, 2015, p. 188; Rao & Tilt, 2016, p. 183). Diversity is defined as “a characteristic of a social group that reflects the degree to which there are objective or subjective differences between people within the group...” (Van Knippenberg & Schippers, 2007, p. 519). From the various board diversity characters that are commonly studied, gender diversity if one of the most significant features to examine (Rao & Tilt, 2016, p. 186). Both empirical evidence and theory suggest that women may bring several proficiencies and CSR related values to the board of a company (Haque, 2017, p. 352; Shaukat et al., 2016, p. 574).

The presence of women in boards has been found to bring new ideas and perspectives to a board (Hillman et al., 2002, p. 759; Konrad et al., 2008, p. 156) through their expert backgrounds outside of business (Harrigan, 1981, p. 620; Hillman et al., 2002, p. 754; Singh et al., 2008, p. 55). This in turn can enhance boardroom discussions that can lead to better decision-making within a board as matters are discussed from different views and more possible outcomes are considered (Konrad et al., 2008, p. 156-157). Boardroom discussions and decision-making have also been found to be influenced by the interpersonal skills of female board members (Konrad et al., 2008, p. 158-159; Nielsen & Huse, 2010, p.143). Women are determined to have a more collaborative leadership style where other speakers are heard and their needs are taken into consideration (Konrad et al., 2008, p. 159). Due to these attributes, women are better at resolving interpersonal
conflicts by finding mutually satisfying compromises (Konrad et al., 2008, p. 159; Nielsen & Huse, 2010, p. 146). Women are also more inclined to raise questions about issues that may affect the community and reputation of the firm (Konrad et al., 2008, p. 159). This could be explained by women being identified to have communal characteristics (Eagly et al., 2003, p. 572) which means that women are primarily concerned with the welfare of others (Mallin & Michelon, 2011, p. 124). Women have been found to focus more broadly on a wide range of stakeholders with a long term outlook as the CSR issues have been seen as business matters that are crucial in sustaining high long-term firm performance by the women directors and CEOs (Glass et al., 2015, p. 498; Konrad et al., 2008, p. 157). Therefore, it is not surprising that prior literature on board diversity and its influence on CSR activities have found that boards with a higher proportion of women tend to engage more in CSR activities (Bolouta, 2013, p. 191; Harjoto et al., 2015, p. 257; Williams, 2003, p. 8).

Empirical studies exploring the relation between board gender diversity and the firms ESG performance have found mixed results. Birindelli et al. (2018, p. 15) found that gender diversity has a positive impact on bank’s ESG scores in North America and Europe. Manita et al. (2018, p. 219) studied the S&P 500 companies and found significant and positive correlation between women on the board and ESG disclosure, however, when statistically testing their hypotheses on whether the gender diversity of the board affected the ESG score, they did not find the relation to be significant. Husted & de Sousa-Filho (2018, p. 6) found the presence of women in boards to have a negative effect on the firms ESG score in Latin America. When looking into this unexpected negative relation, Husted and de Sousa-Filho (2018) noticed that in their sample of Latin American companies, 53 out of 176 companies had at least one woman on the board, out of which 13 had two women on the board and only two firms with three women on the board. From this, they concluded that a possible explanation for the negative relation could be the lack of critical mass for women on boards (Husted & de Sousa-Filho, 2018, p. 6). Without a critical mass, women may be considered as “tokens” meaning that they are a significant minority in a male-preponderance group. The implication of being tokens is that women are unable to present their perspectives in board discussions because they are not considered as individuals but as representatives of the whole demographic (Torchia et al., 2011, p. 308-310).

The foundations for this critical mass theory (sometimes referred as Kanter’s theory) lie on the studies by Kanter (1977) where women were studied in a male-dominated firm. She found out that when there were two members of a minority in a same group, they could reduce the stress encountered by a one minority member in a group. It was also found that two is not a large enough number to form a critical mass as a group of two is easy to divide and keep apart. Therefore, a larger group of minority members are needed to support alliances in this context (Kanter, 1977, p. 238). Literature on critical mass for women in boards have determined that women reach a critical mass when there are three or more women present and included in boards (Konrad et al., 2008, p. 160; Torchia et al., 2011, p. 311). When there are three or more women on boards, women are no longer considered to be “tokens” that represent the entire demographic group but as a majority group. Moreover, in this case, they succeed in forming a critical mass that may be influential in a group setting. The benefit of reaching a critical mass allows for women to be a consistent minority which results in boards becoming more heterogeneous and allowing for majority-minority interactions and processes that can enhance the quality of decision making of boards (Torchia et al., 2011, p. 311). In other words, it is assumed that boards will start to enjoy benefits by including women in such positions once there
are at least three women occupying board roles. Prior to this number, women are considered to not be influential enough to affect the decision-making within boards.

Based on the literature on gender diversity and its effects on firms’ CSR activities, we test that:

- **H1a**: Women on a firm’s board has an effect on ESG score.
- **H1b**: A critical mass of women on a firm’s board has an effect on ESG score.

### 2.4.2. Independent Directors/ Board Independence

Board or director independence is a variable that commonly investigated by scholars and that has thus far produced inconclusive results with respect to its effects on CSR performance (Birindelli et al., 2018, p. 4; Cucari et al., 2018, p. 255, 256; Hussain et al., 2018, p. 416; Lu & Boateng, 2017, p. 1112). The independence characteristic describes the extent or existence of board members’ social or work-related ties and relationship - the connections board members have with internal managers or the firm (Park et al., 2018, p. 5). Board/director independence can be determined by the “number of outside directors over total directors” (Walls et al., 2012, p. 893) that do not have any form of relational ties with the company or to one another. De Andres et al. (2005, p. 199) suggests that directors’ behaviors and incentives for taking action and making decisions differ depending on whether they are dependent or independent.

Literature investigating the independent characteristic often supports the view that board/director independence should be fostered and achieved as much as possible in order for corporate governance mechanisms to be effective. In other words, according to agency and stakeholder theories, boards are installed in order to mitigate the separation of ownership and control and serve to safeguard the legitimate interests of firm stakeholders from contracting managers’ opportunistic and self-serving behaviors (Donaldson & Preston, 1995; Fama & Jensen, 1983; Hussain et al., 2018, p. 413). Linking these ideas to board/director independence, the greater the degree of independence found amongst board, the more boards can contribute to performing their responsibilities to the benefit of stakeholders (Birindelli et al., 2018, p. 4; Hussain et al., 2018, p. 416; Shaukat et al., 2016, p. 574).

As previously discussed, boards’ role encompasses monitoring, facilitating legitimacy and networking, advising and strategic decision-making (Francoeur et al., 2019, p. 344; Hussain et al., 2018, p. 413; Manita et al., 2018, p. 210; Ortas et al., 2017, p. 3). Where boards are composed of more independent members, members can better scrutinize and offer more objective assessments of managerial activities as well as make impartial and conducive decisions (Birindelli et al., 2018, p. 4; Shaukat et al., 2016, p. 574). Independent board/members are not easily influenced by managers which allows them to be mindful to long-term aims and contributes to them being more predisposed to CSR initiatives and cultivates CSR performance (Birindelli et al., 2018, p. 4; Shaukat et al., 2016, p. 574; Walls et al., 2012, p. 893) According to Shaukat et al. (2016, p. 574), “the selection of a greater number of independent directors signals a firm’s intent to pay greater attention to its external environment and legitimacy”. Additionally, Birindelli et al. (2018, p. 4) asserts that the extent of board independence compared to other board composition factors is the greatest contributor for safeguarding stakeholders’ claims. Conversely, in the event that boards are less independent, monitoring effectiveness
decreases and opportunism increases, which is suggested to not only be of consequence to CSR performance but to overall firm performance as well (Park et al., 2018, p. 5).

With respect to current research on board independence’s influence on CSR performance, as noted, the relationship is inconclusive and mixed. A large portion of scholars are more inclined to defend the positive impact of independent board/directors on CSR performance (Birindelli et al., 2018, p. 4; Ntim & Soobaroyen, 2013, p. 473). Ntim and Soobaroyen’s (2013) study determined there to be a positive relationship between the independence factor and CSR performance. More specifically, they found that board independence facilitates legitimacy, efficiency and increase CSR practices by exerting their influence on managers to manage stakeholders’ claims (Ntim & Soobaroyen, 2013, p. 483). Dunn and Sainty (2009, p. 417) also found a similar positive relationship between board independence and CSR performance that reflects Ntim and Soobaroyen’s finding. Other scholars such as Jo and Harjoto, Sahin et al., Mallin et al., Choi et al. and Barako and Brown (2012; 2011; 2013; 2013; 2008 cited in Ortas et al., 2017, p. 4, 9) all arrived at an identical conclusion - board independence is conducive and important for fostering CSR performance. Conversely, there are some scholars that reject the notion that board independence facilitates increased CSR performance. Birindelli et al.’s (2018) investigation found a negative relationship between board/director independence and CSR performance. The authors justify this discovery by suggesting that the more independent boards are, the more the independence effect will adversely affect the positive contributions namely reputation, experience and expertise that only more dependent agents can provide (Birindelli et al., 2018, p. 13). Other scholars such as Hannifia and Cook and Ortiz de Mandojana et al. (2005; 2016, cited in Ortas et al., 2017, p. 9) discovered negative relationships between board independence and CSR performance supporting Birindelli et al.’s (2018) finding. Besides positive and negative relationships, scholars in their studies also stumbled on insignificant relationships between independence and CSR performance (Birindelli et al., 2018, p. 5; Hussain et al., 2018, p. 416; Ortas et al., 2017, p. 9).

Based on the discourse on board/director independence and the associating effects on CSR performance, we hypothesize that:

**H2: Board/director independence has an effect on ESG score.**

### 2.4.3. Size of the Board

The size of a board i.e. the number of members sitting in a board, and the compositional benefits it brings to corporate governance is frequently investigated in studies involving governance and some form of performance (Lu & Boateng, 2017, p. 1111). However, similar to the previous composition factors discussed, board of directors’ size and its respective influence on CSR performance remains a point of contention amongst scholars with some favoring small board sizes and others supporting large board sizes (Birindelli et al., 2018, p. 5; Hussain et al., 2018, p. 416; Lu & Boateng, 2017, p. 1111). De Andres et al. (2005, p. 199) states that the debate surrounding the optimality of board size stems from issues regarding monitoring and control. Based upon extant literature, arguments for or against small or large board sizes tend to argue in a manner where the pros and cons for one size are the pros and cons for the other.

Proponents of small board size have several arguments to support the value of small size boards. Firstly, though monitoring competences could increase with the addition of more
board members, the drawback is that the increase would negatively impact dialogue and decision-making (De Andres et al., 2005, p. 199) which indicates increased bureaucracy. This argumentation is self-defeating in essence because as noted above, despite the increase of monitoring that could occur, the consequences of lagging dialogue and decision-making is suggested to reduce monitoring competences (Hussain et al., 2018, p. 416). Thus, small board size facilitates better monitoring by making dialogue and decision-making more efficient and quicker which also contributes to reducing agency problems (Ahmed et al., 2006, p. 421; Birindelli et al., 2018, p. 5; De Andres et al., 2005, p. 199; Vafeas, 1999, p. 116). Secondly, small board size is determined to allow independent board members to better carry out their obligations in supporting stakeholder claims because they have stronger voices and more influence in pushing for decisions that benefits stakeholders (Ahmed et al., 2006, p. 421). Lastly, small board size fosters better group synergies allowing members to more effectively coordinate, produce higher quality decisions and ensure goal commitment and accountability (Birindelli et al., 2018, p. 5; Hussain et al., 2018, p. 416).

Advocates of larger board size also have several arguments to support their stance. To begin with, it is argued that large boards can contribute to effective monitoring despite what their opponents contend (Lu & Boateng, 2017, p. 1111). The justification for this argumentation is that an increase in the number of board members can facilitate the divvying up of workload so that a large amount of responsibilities does not burden members that may in turn reduce their abilities to carry out monitoring and controlling obligations. Alternatively, small boards may encounter situations where their responsibilities become too much which puts pressure on them to get their work done thereby detracting their attention from performing monitoring and controlling activities more effectively (Birindelli et al., 2018, p. 5; Hussain et al., 2018, p. 416). Another argument revolves around the amount of expertise and experience stemming from diversification that large boards can offer over small boards. More specifically, large boards can offer a wider range of experiences and expertise that can support better decision-making and makes directors better advisors (Hussain et al., 2018, p. 416; Lu & Boateng, 2017, p. 1111). The last argument contends that large boards can better leverage their connections to link the firm to stakeholders and the surrounding environment (Birindelli et al., 2018, p. 5; Lu & Boateng, 2017, p. 1111) which suggests that large boards can pressure better CSR performance.

Following the discussion on the pros and cons of small and large board of director size, we test that:

**H3: Board size has an effect on ESG score.**

### 2.4.4. Frequency of Board Meetings

Despite the implications board meeting frequency has in determining whether boards’ governance activities are effective or not, this compositional factor has not been given adequate attention (Dienes & Velte, 2016, p. 6) and its effects on CSR performance remains debatable (Birindelli et al., 2018, p. 5). The frequency of board meetings conveys to stakeholders how active they are in carrying out their responsibilities and how well this is being done (Birindelli et al., 2018, p. 5; Vafeas, 1999, p. 114). According to Lipton and Lorsch (1992, cited in Vafeas, 1999, p. 114), inefficient and ineffective corporate governance is a consequence of inadequate time that boards have to carry out their responsibilities which indicates the need for more frequent meetings. The consequence
of inadequate time is also augmented by board members potentially finding themselves in situations where they cannot fully allocate their time to their directorship obligations because they are in multiple directorship positions that disperses their attention (Vafeas, 1999, p. 114).

More frequent board meetings can communicate and be beneficial for a number of reasons. Firstly, Dienes and Velte (2016, p. 6) suggests that having more meetings results in stakeholders’ claims being more focused upon. The increased amount of time allocated to meetings can be conducive for directors to more thoroughly establish strategies that meets stakeholders’ expectations (Vafeas, 1999, p. 118). In connection to this idea, Birindelli et al. (2018, p. 5) maintains that in situations where directors gather more often, ideas and information flow more freely and rapidly that contributes and strengthen the decision-making process. Secondly, more frequent meetings allow for board members to carry out their monitoring and controlling obligations more effectively thereby decreasing agency issues (Dienes & Velte, 2016, p. 6; Vafeas, 1999, p. 118). Finally, as the business environment is in a constant state of flux, more frequent meetings may be needed to effectively respond to shocks that in turn conveys and fosters legitimacy (Birindelli et al., 2018, p. 5; Dienes & Velte, 2016, p. 6).

Increased frequency in board meetings may have adverse effects for corporate governance. Dienes and Velte (2016, p. 6) assert that more board meetings do not necessarily correspond to better governance. For one, more meetings raise financial and resource coordination costs as managers must take time away from their core responsibilities to sit in on meetings, travel costs must be accounted for and directors require compensation for their time (Dienes & Velte, 2016, p. 6; Vafeas, 1999, p. 118). Moreover, one meeting does not guarantee that what is on the agenda would be taken care of or be developed upon, potentially consisting of redundant tasks and thereby resulting in increased meetings and related costs (Birindelli et al., 2018, p. 5; Dienes & Velte, 2016, p. 6; Vafeas, 1999, p. 114). In support, Vafeas (1999, p. 114) determine that in organized meetings, boards may not always partake in value-creating dialogue and decision-making, which is due in large part because CEOs are the individuals responsible for what is to be discussed. However, it is worth noting that the fact that CEOs take charge and set the program for meetings may be spawning agency problems rather than alleviating it as board meetings should be doing. Another argument revolves around what frequent meetings convey to stakeholders. As noted above, frequent meetings may be needed because of the changing business environment or to combat shocks. Birindelli et al. (2018, p. 5) suggests that more frequent meetings communicate to stakeholders that boards are not efficiently and poorly executing their tasks. Substantiating Birindelli et al.’s (2018) claim, Jensen (1993, cited in Vafeas, 1999, p. 118) contends that successful and strong boards should be idle, converging to carry out procedural tasks and increasing their activities in situations to resolve some large issue.

In light of this discussion on the importance or lack thereof of board meeting frequency, we hypothesize that:

**H4: The number of board meetings has an effect on ESG score.**

### 2.4.5. Presence of CSR Committees

The existence of firms’ CSR committees are strong indicators for firms’ intention to be more socially responsible (Birindelli et al., 2018, p. 6) which Cucari et al. (2018, p. 255)
maintain “demonstrates the intention of the company to shape its mission and strategy toward” those goals. This is validated by Hussain et al. (2018, p. 418) who contends that CSR committees are symbolic in nature, going beyond the committees’ practical responsibilities and conveying to the external environment that boards and thus firms are serious and committed to be socially responsible. Generally composed of top-ranking and lower level managers, CSR committees’ role encompasses monitoring, advisory and compliance-related tasks with a core focus on CSR related practices, policies and strategies (Birindelli et al., 2018, p. 6; Ricart et al., 2005, p. 29). CSR committees are linked to the boards of directors’ structure (Cucari et al., 2018, p. 255) and serves as a mechanism for which boards can more effectively manage stakeholders and foster legitimacy (Michelon & Parbonetti, 2010, p. 486).

Logically it makes sense that CSR committees would be conducive for CSR performance and overall firm performance as its main purpose is to consider stakeholders’ interests and encourage and implement CSR initiatives. However, previous research studying this particular relationship provides mixes and inconclusive results (Cucari et al., 2018, p. 255; Hussain et al., 2018, p. 418). Birindelli et al. (2018, p. 13) found that CSR committees may marginally lead to better CSR performance. The authors justify this finding by suggesting that CSR committee members have valuable CSR-related competences that allows them to target and respond to stakeholder needs and implement the most viable CSR activities (Birindelli et al., 2018, p. 13). Cucari et al. (2018, p. 259, 260) found a stronger positive relationship between CSR committee and performance than Birindelli et al. (2018) established, maintaining that the installment of a committee not only fosters credibility and legitimacy, it also increases CSR performance which Hussain et al. (2018, p. 426, 429) echoes. Michelon and Parbonetti (2012, p. 503) determined the relationship to be inconclusive due to factors that may influence committee performance such as committees’ age or whether committees superficially exist to obtain legitimacy, which suggests that in this situation, they do not perform the work that they should.

Based upon the discussion on the influence of CSR committees on CSR performance, we test that:

**H5: The presence of a CSR committee has an effect on ESG score.**

### 2.5. The Relationship Between CSR Performance and Firm Performance

Thus far, the discussion on various board composition factors has been to highlight the potential effects or lack thereof of the factors on CSR performance. Underpinned by stakeholder and agency theories respectively offering explanations on the importance of focusing on stakeholders and how to manage stakeholders effectively via corporate governance mechanisms thereby contributing to CSR performance, the fundamental outcome for all of these activities and processes is for firms to obtain legitimacy. As noted, legitimacy is a conditioned bequeathed to firms for abiding by what is institutionally accepted or appropriate and that allows firms to survive and obtain resources (Meyer & Rowan, 1977; Suchman, 1995).

However, despite a large amount of attention being placed on CSR and firm performance and the various explanations proposed by extant literature on how strong CSR
performance can lead to better firm performance, this particular relationship is still heavily debated and remains inconclusive (Grewatsch & Kleindienst, 2017, p. 383; Lee et al., 2018, p. 3595; Lu et al., 2014, p. 204; Q. Wang et al., 2016, p. 1084; Wagner, 2010, p. 1553; Xie et al., 2019, p. 286-287). Some scholars have offered explanations for such inconclusiveness that produces a wide-range of relationships (Grewatsch & Kleindienst, 2017, p. 383). Grewatsch and Kleindienst (2017, p. 383) contends that investigating this relationship is irrelevant because the inconclusiveness stems from firm performance being influenced by internal and external factors that are unaccounted for. Clarkson (1995, p. 92) argues that lack of a solid and widely accepted definition of CSR-related concepts hinders investigation and influences findings. Q. Wang et al. (2016, p. 1084-1085) supports Grewatsch and Kleindienst’s (2017) and Clarkson’s (1995) arguments by suggesting that theories and concepts attempting to explain this relationship are undeveloped, and that investigative methodologies are flawed by not controlling appropriate variables that may impact firm performance.

Regardless of the explanations for why the relationship between CSR performance and firm performance is mixed, the reality is that existing studies have found a broad range of relationships. According to stakeholder theory, CSR should enhance firm performance for several reasons (Q. Wang et al., 2016, p. 1087). As stakeholders are “any group or individual who can affect or is affected by the achievement of an organization's purpose” (Freeman, 2010, p. 53), the implications is that CSR is a means to respond to or appease stakeholder needs and preferences so that in turn, these stakeholders can positively and beneficially affect firm operations. Alternatively, accounting for stakeholders reduces the risk that unsatisfied stakeholders will sabotage firms’ mission and activities. Stakeholders have in their grasp the power to extend to firms’ valuable resources and contribute to increased revenue. Employees may be more motivated to seek and labor for a firm who is more socially sustainable whereas customers may be more willing to support firms that shows a concerted effort to go beyond what is regulatorily expected of them. Firms may also acquire more financial resources by being more CSR-oriented (Q. Wang et al., 2016, p. 1087).

In line with stakeholder theory and the expected positive association between CSR and firm performance, a large amount of scholars have found similar associations and supports CSR implementation to increase form performance (Margolis & Walsh, 2003, p. 274; Q. Wang et al., 2016, p. 1088; Xie et al., 2019, p. 286). In Xie et al.’s (2019) study, the authors generally found that CSR is conducive for higher performance. More specifically, they contend that, despite finding variations within their particular investigative model, being more CSR-oriented contributes to firms being more competitive, cost-cutting, efficient, and allows for the opportunity to attract and retain more resources that allows these firms to eclipse their competitors (Xie et al., 2019, p. 297-298). Q. Wang et al.’s (2016, p. 1087, 1095, 1097) investigation also found that CSR performance is positively associated with firm performance by asserting that effective stakeholder management is strategically important for firms to acquire support and resource in accordance to what stakeholder theory prescribes. Deng et al. (2013) studying the stakeholder-oriented and shareholder-oriented tension in relation to merger performance found evidence in support of the stakeholder-oriented governance that in turn fosters performance. More specifically, they determined that firms inclined to be CSR-oriented have investment behaviors that accounts for stakeholders which in turn leads to superior investment and overall performance outcomes (Deng et al., 2013, p. 108). These studies discussed found common grounds by suggesting that CSR performance leads to increased firm performance which is suggested by many other

There is the opinion that CSR may be detrimental to firm performance. Contrastive to Xie et al.’s (2019, p. 294) assertion that CSR initiatives amplify competitiveness, there is the view that CSR reduces competitiveness in firms if compared to their competitors (Q. Wang et al., 2016, p. 1086). The result of competitive disadvantage is argued to be due to cost burdens being placed on firms stemming from implementing CSR activities that is suggested could be beneficially allocated elsewhere (Q. Wang et al., 2016, p. 1086; Xie et al., 2019, p. 286-287). Furthermore, agency theory proposes that a means for reducing agency issues is to implement a strong corporate governance board and stakeholder theory stipulates that to survive, gain resources and legitimacy, firms should focus on stakeholder claims. Combining the theories’ recommendations, this is suggested to mean that firms should have a strong corporate governance board that focuses on stakeholders’ rather than stockholders’ needs by using CSR as a vehicle for achieving those needs. The benefits are indicated to be the reduction of agency costs and the obtainment of resources and survival. Despite the logic behind these theoretical arguments, opponents of such views contend that implementing CSR intensify agency costs (Q. Wang et al., 2016, p. 1086; Xie et al., 2019, p. 286-287). This again boils down to the long-standing debate between being stakeholder or stockholder orientation. Friedman (1970, cited in Q. Wang et al., 2016, p. 1086) supports the idea that firms are only responsible to their owners and to focus decisions on maximizing owners’ financial standing. To focus on CSR performance is suggested to detract attention away from maximizing stockholder wealth. Moreover, as noted previously, CEOs are generally responsible for organizing and determining the topic of board meetings in addition to being a member of a CSR committees if these committees exist. This create opportunities for increasing agency costs because CEOs may propose and make decisions that despite appearing benevolent and well, are opportunistic and costly in nature (Q. Wang et al., 2016, p. 1086) without the guarantee that CSR would facilitate performance increase.

Aupperle et al. (1985) surprisingly found a negative association between CSR and firm performance. Specifically, the authors argue that there seems to be no balance between economic performance and CSR performance. Firms more focused on increasing economic performance places less attention to CSR-related matters (Aupperle et al., 1985, p. 461-462). Aupperle et al.’s (1985) finding essentially illustrates and reinforces the stakeholder versus stockholder tension and that for firms to increase their performance, they need to focus solely on wealth maximization rather than stakeholder claims. Aside from Aupperle et al.’s (1985) study, other scholars have found similar negative correlations between the variables under discussion with Margolis and Walsh (2003, p. 274) identifying seven studies arguing against CSR role in fostering firm performance. Besides the negative relationship, scholars have also found this relationship to be insignificant. Studying the CSR-firm performance relationship from the perspective of the airline industry, Lee et al. (2018) found that CSR has an insignificant relationship with firm performance that conflicted with their original assumption. Rather, they found that performance is more impacted by external factors such as the states of the economy and airline than by firms’ benevolent acts. The theoretical underpinning for this finding is that implementing CSR is aligned with what society expects of a firm and allows for them to survive rather than offer any incremental financial improvement (Lee et al., 2018, p. 3603). In line with Lee et al.’s study, Margolis and Walsh (2003, p. 274) found 28 studies to have similar results. It is also found Grewatsch and Kleindienst (2017, p. 383)
and Margolis and Walsh (2003, 274) that other correlations besides positive, negative and insignificant correlations exist such as nonlinear and asymmetric correlations.

Wrapping up the discussion on the impact of CSR performance on firm performance, we determine that:

\textit{H6: CSR performance has effect on firm performance.}
3. Methodology

The methodology chapter discusses and justifies our theoretical and pragmatic decisions that shapes and guides our research as well as allow us to answer our research question. We begin this chapter by laying the foundations for our quantitative study design by establishing our theoretical perspectives - the metaphysical paradigm underpinning this research and the research approach and associating processes. The pragmatic decisions consist of us pinning down our data collection and analysis process that enables us to test the hypotheses established in the theoretical frame of reference. The detailing and justification for our perspective and processes facilitates recreation or enables conducting of a critical evaluation.

3.1. Research Philosophy

Steven K. Mittwede (2012, p. 23) identifies that it is issues pertaining to comprehending what reality and knowledge is and that which serves as justification for conducting research that necessitates establishing a research paradigm. Paradigms can be defined as “systems of beliefs and practices that influence how researchers select both the questions they study and methods they use to study it” (Morgan, 2007, p. 49). Simply put, research paradigms are “matrices of deeply held assumptions” (Mittwede, 2012, p. 23) of society and science (Holden & Lynch, 2004, p. 3) that in turn facilitates the shaping of research and its design (Balarabe Kura, 2012, p. 3). According to Holden and Lynch (2004, p. 15-16), research paradigms must be established to avoid the research being undermined. Commonly found in literature and argued for by scholars, the metaphysical paradigm is a top-down dominant paradigm that not only connects together reality and knowledge-based assumptions but also creates boundaries and justifications for deciding upon appropriate research methods that are based upon these set assumptions. More specifically, the structure of the metaphysical paradigm is composed of establishing the ontological assumptions that serves to constrain the proceeding elements of the paradigm, followed by the epistemological assumptions and concluding with methodologies for collecting epistemology that aligns with the preceding assumptions (Morgan, 2007, p. 57-58).

3.1.1. Ontological Assumptions

Ontology concerns itself with the nature and essence of reality and of being (Balarabe Kura, 2012, p. 3; Long et al., 2000, p. 190; Morgan, 2007, p. 57) and whether an examined phenomenon resides internally or externally of human-related interpretation and interactions (Burell & Morgan, 1979, p. 1). Alternatively, the polarities for ontology consists of whether reality is objective or subjective (Long et al., 2000, p. 190) and a set and established fact or a creation of human cognition (Burell & Morgan, 1979, p. 1). Based upon the metaphysical paradigm, these two polarities, objectivism and subjectivism are the two stances that researchers have a tendency to support when providing their most fundamental of assumptions for guiding their research (Morgan, 2007, p. 57). Objectivists perceive that reality is fixed and concrete (Burell & Morgan, 1979, p. 4; Holden & Lynch, 2004, p. 6), are based upon natural laws (Balarabe Kura, 2012, p. 2), and are free of human experiences (Jonassen, 1991, p. 8). Moreover, objectivists argue that since concrete reality existed prior to human presence within the reality, it is impossible for humans to shape and construct reality (Burell & Morgan, 1979,
p. 4). Conversely, subjectivists (or constructionists) contend that there exists multiple realities stemming from social interactions (Long et al., 2000, p. 191) that are impacted by human experiences and actions (Mittwede, 2012, p. 27; Balarabe Kura, 2012, p. 6) and that are interpreted differently (Balarabe Kura, 2012, p. 6; Jonassen, 1991, p. 10). The point of demarcation between objectivism and subjectivism is that “objectivism is on the object of our knowing, whereas constructionism is how we construct knowledge” (Jonassen, 1991, p. 10) that is dependent upon the perception of an external or cognitively-constructed reality.

In conducting this research, our purpose is to examine two distinct yet causal relationships, that being whether firms’ board of directors’ compositions influence CSR/ESG performance and whether the CSR/ESG performance is conducive for improving firm performance. As of that, we adhere to the objectivist ontological philosophy that the reality in which this study’s phenomena is embedded is concrete, fixed and based upon natural laws. We reason that despite understanding that CSR and board of directors’ compositions are humanly-devised constructs that are subjected to interpretation, the outcome of these constructs disclosed in sustainability reports are fixed, governed by a mathematical algorithm and that cannot be influenced by human interpretation. The numerical results indicate the reality of a firms’ situation that no matter how much people try to interpret differently, has an established meaning that is concretely understood.

3.1.2. Epistemological Assumptions

Epistemological assumptions address assumptions concerning the legitimacy of knowledge and ideas about the world and how it is acquired, known to be true, and conveyed to others (Balarabe Kura, 2012, p. 4; Burell & Morgan, 1979, p. 1; Jonassen, 1991, p. 8; Long et al., 2000, p. 190, 191). According to Morgan (2007, p. 57), the metaphysical paradigm links ontological and epistemological assumptions together by posing questions about reality and what is determined to be knowledgeable truth. In this quest to unravel the obscurities of world, two stances have distinguished themselves, positivism and interpretivism.

Ontologically, positivists view reality as being concrete and are not subjected to human influences or experiences (Balarabe Kura, 2012, p. 4). Consequently, positivists support the pro-natural science approach to obtaining and validating knowledge (Balarabe Kura, 2012, p. 4; Long et al., 2000, p. 191, 192). Acquisition of objective knowledge is produced by means of using and controlling variables to theory test underpinned by established relationships that allows for knowledge to be refuted or accepted (Balarabe Kura, 2012, p. 4; Chen & Hirschheim, 2004, p. 201; Long et al., 2000, p. 191; Orlikowski & Baroudi, 1991, p. 5). The aim is to better predict and explain phenomenon that reoccurs and that can be generalized (Burell & Morgan, 1979, p. 3; Chen & Hirschheim, 2004, p. 201; Orlikowski & Baroudi, 1991, p. 5). Conversely, interpretivists ontologically hold that there are numerous realities that are socially and cognitively constructed and that are subjected to different interpretations through social interactions (Long et al., 2000, p. 191; Orlikowski & Baroudi, 1991, p. 5). Furthermore, rather than establish knowledge through theory testing, interpretivists seek to obtain knowledge by means of understanding how reality and more specifically “the way in which the individual creates, modifies and interprets the world in which he or she finds herself in” (Burell & Morgan, 1979, p. 3) comes about through immersion into a phenomenon (Chen & Hirschheim, 2004, p. 201; Long et al., 2000, p. 191). Orlikowski and Baroudi (1991, p. 5) identifies that the
fundamental difference between positivists and interpretivists is that one seeks to explain phenomenon whereas the other aims to develop an understanding.

Our study most appropriately aligns with positivism for two main reasons. Firstly, we are investigating two relationships that is supported by one of two theories, that being stakeholder theory and, more specifically, instrumental stakeholder theory. Instrumental stakeholder theory is hypothetical and offers a means of investigating relationships that may explain why board composition and thus CSR may produce positive firm results (Donaldson & Preston, 1995, p. 70-71, 72). Implicitly and according to our positivist approach, this means that valid knowledge comes from using and controlling variables to test whether the prescriptions of instrumental stakeholder theory can be accepted or refuted which is impossible to do when aligning with interpretivism. This leads us to our second reason which is that the outcomes of the constructs that is used for testing has been disclosed prior to conducting this study and are not or will not be influenced by any human action. In another sense, we cannot have a dialogue with or be immersed in the objective phenomenon that has no thought or interpretive abilities of its own to communicate back as to why these variables present themselves as such.

3.2. Research Logic

A study’s research approach revolves around how logically, correctly and soundly the study reasons so as to contribute to epistemology (Minnameier, 2010, p. 239; Hyde, 2000, p. 83). Morgan (2007, p. 70) describes a chosen research approach as a vehicle for connecting theory and data manifesting itself into two widely discussed notions, deduction and induction (Hyde, 2000, p. 83). Deduction is mainly supported by the establishment of theory (Morgan, 2007, p. 71) that in turn facilitates the opportunity for researchers to test the established theory by making one or several hypothetical assertions about a theory or set of theories (Balarabe Kura, 2012, p. 12; Chen & Hirschheim, 2004, p. 201). Alternatively, the deductive approach allows for making generalizations about a population from broader theory that have been previously established and apply it to a specific phenomenon (Hyde, 2000, p. 83; Orlikowski & Baroudi, 1991, p. 5) for the purpose of refuting or accepting test outcomes (Chen & Hirschheim, 2004, p. 201), which illustrates a data following theory process (Morgan, 2007, p. 71). Conversely, induction consists of a reverse process for linking theory and data to produce knowledge. The induction process involves researchers observing a particular phenomenon, analyzing the observations based on immersion into the phenomenon in order to make non-context specific assertions (Hyde, 2000, p. 83; Orlikowski & Baroudi, 1991, p. 5). The main difference between the deductive and inductive approach is that the former test hypotheses to defend or refute theories and the latter develops and builds theories based upon empirical data (Hyde, 2000, p. 83). Despite these demarcating factors, it is important to note that both are important for epistemology with the reason being that the deductive approach allows for testing hypotheses for validating or refuting theories that are built by the inductive approach. The results from the deductive approach allows for the reinforcing or revising of theories underpinned by the inductive approach, thereby contributing a cyclical process of testing, building, and revising that contributes to stronger epistemological outputs.

We determine that the most appropriate research approach for our study is that of the deductive approach to linking theory and data. Our purpose is to investigate two distinct yet interconnected relationships, that of the relationships between board composition and
CSR performance and firm performance that have been commonly studied and developed in prior research but that as of yet has not produced conclusive and solid results for the relationships (Birindelli et al., 2018; Grewatsch & Kleindienst, 2017; Xie et al., 2019). Thus, this warrants the study to tackle and attempt to resolve the debates on the aforementioned relationships by implementing hypothetical testing. The theories and compositional factors have already been extensively researched, understood and developed upon, thereby undermining the need to develop insights and deeper understanding on the phenomenon (Orlikowski & Baroudi, 1991, p. 5). All that remains is to refute or validate our hypotheses based upon the data collected that stems from our theoretical framework supported by a synthesis and analysis of previous research on the topic. Furthermore, the instrumental stakeholder theory in conjunction with our investigative topic lends support for the need to embrace the deductive approach because of its hypothetical nature.

3.3. Research Purpose & Process

Aside from contributing to knowledge, research should have a motive or purpose for being conducted that is communicated by a well-developed research question. The four general classifications for research are exploratory, descriptive, analytical and predictive research (Collis & Hussey, 2014, p. 3-5). Exploratory research is commonly conducted and appropriate where research on a phenomenon is nascent and where theoretical constructs are not well-developed which hinders hypotheses testing. In such studies, researchers’ generated insights, patterns and ideas are shaped and guided by the data they collect which may undergo more rigorous testing in future studies (Collis & Hussey, 2014, p. 4; Edmondson & McManus, 2007, p. 1161-1163). Descriptive research holds true to its namesake and describes the characteristic of a research circumstance whereby data must first be gathered in order for analysis and description to take place. Analytical or explanatory research ventures a step above descriptive research by including elements of describing a phenomenon in addition to elevating the research by scrutinizing causal relationships with the motive to offer explanations for why a phenomenon manifests itself. Predictive research not only involves establishing causal explanations but also chance guesses of phenomenon occurrences in other contexts to enhance applicability (Collis & Hussey, 2014, p. 4-5).

Assessing the prescriptions of these research purposes, we determine that our study aligns bests with the analytical-explanatory research purpose. In our theoretical framework, we provide opposing explanations for each variable that we, supported by past scholarly works, consider important for investigating the two overarching relationships: how board composition may affect CSR performance and how CSR performance may affect firm performance. Take for instance, the variable existence of CSR committees. We have described how CSR committees’ presence should or should not influence CSR performance but as it stands, this variable in extant literature provides inconclusive results (Cucari et al., 2018, p. 255; Hussain et al., 2018, p. 418). Therefore, we control and test this specific variable to determine the variable’s effect on CSR performance using statistical analysis tools and the outcome, either a positive or negative effect, is conducive for explaining the causal relationship - why the establishment or existence of CSR committees may or may not influence CSR performance. The same argument is considered to be applicable for all variables that are identified and discussed in the theoretical framework which lends support to the analytical-explanatory research purpose. In line with this discussion, it is worth noting that we do not establish directional
hypotheses because of the existence of inconclusive variable results that permeates literature and that which supports the filling in of the conclusion gap that our study seeks to fulfill.

The research process frames and details the methodology for collecting and evaluating data that consists of two dominant techniques, namely qualitative and quantitative research (Collis & Hussey, 2014, p. 3). The qualitative methodology supports the usage of a wide range of interpretive data collecting techniques that focuses on amassing nominal data rather than numerical data for processing. The associating data collection techniques include but are not limited to observations, interviews and action research (Balarabe Kura, 2012, p. 9). Qualitative research’s central aim is to develop and generate more insights and understanding for a phenomenon under study which stems from participating in the phenomenon or discoursing with research participants about their realities (Balarabe Kura, 2012, p. 9; Chen & Hirschheim, 2004, p. 205). Conversely, “quantitative research employs the language of numbers, the syntax of mathematical operations and represents data in numerical values” (Balarabe Kura, 2012, p. 11). Data is collected and analyzed by statistical means for the purpose of investigating and identify causal relationships (Balarabe Kura, 2012, p. 11; Chen & Hirschheim, 2004, p. 205). The objective means of data process and analysis is considered to produce robust, trustworthy and reflective outcomes (Balarabe Kura, 2012, p. 11-12).

We determine that the quantitative research process is befitting for our study for two distinct reasons. Firstly, and according to the most philosophical reason, the metaphysical paradigm and the associating ontological and epistemological assumptions we have argued for supports the quantitative methodology. As noted, we believe that reality is concrete, objective and is not influenced by human interaction or interpretation. Moreover, we assert that epistemology stems from controlling variables and establishing hypotheses to test and refute or validate theories so to strengthen and increase its predictive prowess. Thus, to support our assumptions, we maintain that the quantitative methodology allows us to study our topic in an objective manner that will contribute to epistemology. Secondly, Edmondson and McManus (2007, p. 1158) determine that the state of theory should encourage a certain methodology, with qualitative methodology being most appropriate for nascent theories and phenomenon and quantitative methodology aligning best with mature theories and phenomenon. In this consideration, the state of theoretical development cannot be influenced by researchers to fit their agendas because the state is influenced by individual scholars collectively contributing incremental knowledge that shifts theories through different stages i.e. nascent, intermediate and mature (Edmondson & McManus, 2007, p. 1158). Reflecting on our study, we consider that the stakeholder and agency theories underpinning our research to be mature theories, particularly with respects to stakeholder theory (Crane et al., 2016, p. 787). The implication is that the relevant constructs within these theories are clearly defined and considered precise, which is an outcome of extensive scholarly focus and attention (Edmondson & McManus, 2007, p. 1158-1159). In addition, the variables we are investigating, and controlling are indicated to be extensively studied as well evidenced by the polarized stances that presents itself for each variable. These polarizations warrant the need for a study to clarify the issues surrounding the inconclusiveness of the board composition-CSR performance and CSR performance-firm performance that in turn justifies a quantitative study (Edmondson & McManus, 2007, p. 1159-1160).
3.4. Research Design

Research design is defined as “a framework for the collection and analysis of data” (Bryman & Bell, 2015, p. 49) and embodies different types which includes but are not limited to: experimental, surveys, cross-sectional, archival and case studies, hermeneutics, longitudinal, comparative, and action research designs (Bryman & Bell, 2015, p. 53; Collis & Hussey, 2014, p. 60). In line with our metaphysical paradigm associated assumptions and decisions, we argue that our data collection and analysis framework would best be realized by implementing an archival-longitudinal study design. An archival study “is an empirical study using publicly available data” (Collis & Hussey, 2014, p. 62). In this respect, it is important to understand that archival studies are still able to contribute new findings because the analysis conducted on the data is still original despite relying on secondary data for the analysis (Collis & Hussey, 2014, p. 62). Longitudinal studies are studies that allows for variables to be studied long-term in order to understand the trends that occurs when studying the same set of variables over the set time (Collis & Hussey, 2014, p. 64).

We see that the archival-longitudinal study design to be appropriate for several reasons outside of the constraints imposed upon us by the metaphysical paradigm. First and foremost, using an archive, namely the Thomson Reuters Eikon database, to obtain data reduces the time and costs associated with data collecting (Bryman & Bell, 2015, p. 322). We have roughly ten weeks to complete this study. This insufficient time period is not feasible for us to collect the large amount of primary data needed for such a study and obtain enough samples to allow for us to make generalizations about the population. Moreover, we are dealing with large firms, and in the hypothetical situation that we were to attempt to data collect ourselves, we may not even be able to gain access to acquire our needed samples. Second, using archival data produces high quality data from reputable sources that can stand stringent statistical testing and be representative of our population (Bryman & Bell, 2015, p. 322). Third, archival data collection allows for the longitudinal data design that is uncommonly undertaking in Business Administration research but that can facilitate our detecting of trends from examining the same variables year after year for our given research period (Bryman & Bell, 2015, p. 325). Lastly, given that we are not spending a considerable amount of time on actual data collection, we are able to allot more time and cognitive resources to the data analysis stage, which may provide more fruitful outcomes (Bryman & Bell, 2015, p. 327). Conversely, despite the several advantages for our archival-longitudinal study design, there are some disadvantages that we must account for such as: data can be foreign and complex with the implications being that we do not have the cognitive competences to properly analyze them; we cannot influence the quality of the data (Bryman & Bell, 2015, p. 328-329) or the process established for obtaining them which may interfere with statistical outcomes.

3.5. Literature Review

A literature review is a “critical evaluation of the existing body of knowledge on a topic, which guides the research and demonstrates that relevant literature has been located and analyzed” (Collis & Hussey, 2014, p. 306). In evaluating extant literature, we are able to understand and gather knowledge on the issues and debates surrounding our research topic, identify and argue for our research gaps and develop our theoretical frame of reference and hypotheses for later testing (Bryman & Bell, 2015, p. 100; Collis & Hussey, 2014, p. 206; Sandberg & Alvesson, 2011, p. 26). Bryman and Bell (2015, p. 100) asserts
that literature reviews also foster credibility in showing that we are familiar with the discussions surrounding our topic and as a preventative measure for replication and plagiarism of theories and ideas.

In conducting our literature review, we are able to first and foremost identify and shape our problematization: economic demands on the eco-societal system has caused a shift in society to be more socially responsible, which leads to firms being more CSR inclined but the actual results of CSR implementation remains inconclusive due to a host of mediating factors that can impact results. From the problematization, we found the gap that our research can fill, which is that our chosen relationships that we are investigating currently produces mixed and varied results thereby causing much confusion (Sandberg & Alvesson, 2011, p. 29). Moreover, reviewing literature has allowed us to form our theoretical frame of reference, identify variables that have been investigated but whose effects on the overarching relationships remain uncertain and to craft appropriate hypotheses from the confusing but present ideas found in literature.

Countless articles and several books were examined in our literature review. We begin by generally looking through articles that discusses our topic of interest, CSR-firm performance and that after gave us ideas for how to narrow down our topic. Upon narrowing down, we paid closer attention to the concepts and notions and articles that commonly surfaced within the articles we examined that we considered should be examined thereafter. We experienced a snowball effect with our literature review process because one source most often leads to other sources that we found helpful for our arguments. The most basic level of article search was conducted through Google Scholar and the Umea Library Database. From there, we shifted to EBSCO Business Source Premier and Web of Science Database to find more specific articles.

Keywords that we largely used are stakeholder theory, agency theory, CSR, sustainability, ESG, firm performance, board composition, gender diversity, board of directors, board independence, board size, board meeting frequency, CSR committee.

3.6. Quantitative Data Collection

3.6.1. Data Gathering and Sample

A region or country’s institutions, formal or informal rules that given societies abide by, differ amongst each other by their rate of development or prescriptions (Doh et al., 2017, p. 295; Wright et al., 2005, p. 2). To illustrate, emerging economies and developed economies demarcate from one another by their political, legal, social and economic rules with the former being less developed than the latter. As a result, players within emerging economies are compelled to behave isomorphically (similarly) amongst each other (DiMaggio & Powell, 1983) yet to behave differently than players in developed economies to legitimize and survive (Meyer & Rowan, 1977). Even amongst emerging and developed economies, country-prescribed behaviors differ, and thus contextual research must consider institutional dictates in order to minimize issues of applicability (Bindler & Kao, 2018; Park et al., 2018, p. 4). The implication of differing institutions with regards to this particular study is that institutions can influence how CSR-related strategies and decision-making manifests itself in countries and regions which affects the generalizability of results if homogeneity (may be understood as sameness) is not
accounted for and sought after (Park et al., 2018, p. 4). The notion of institutions warrants focusing on a region that is considered to be homogenous.

Following this, we have determined the population of this study to be on the listed non-financial firms headquartered in any one of the Nordic countries (Sweden, Norway, Denmark, Finland or Iceland) covering the periods between 2010-2018. The Nordic region is chosen because its countries are considered to be relatively homogeneous by their population, culture and institutions (Zoëga et al., 2011, p. 364). The time period is based mainly on data availability. The year 2018 is the most recent year that data is available and older data is more susceptible to missing database information critical for analysis. With regards to collecting firm data on ESG performance, corporate governance and firm-specific financial information, the Thomson Reuters Eikon database is utilized. When retrieving data, inactive firms were included in the list of companies to be studied in order to omit survivorship bias in our study. Survivorship bias occurs when observations that are part of the sample are excluded (Gropp & Heider, 2010, p. 592). If, for example, a company had ended its operations in year 2013, it would still be part of the sample for the years 2010-2013 given that there is still available sufficient data.

The total number of listed active and inactive firms in the Nordic Countries between 2010 to 2018 is 1286, which is our initial sample. From these 1286 firms, 75 firms are financial institutions and following previous studies, they are excluded from the sample as their disclosure requirements and accounting regulations differ from non-financial institutions (Manita et al., 2018, p. 212). Of the remaining 1211 firms, only 135 firms have disclosed ESG information for at least one year. There are several reasons for the large amount of missing data. First, there is the presence of inactive firms in our data. There is the possibility that these inactive firms may have been delisted due to a merger and acquisition or bankruptcy before the year 2010 which may cause their data to be missing or incomplete. Second, disclosing ESG information is voluntary (Arayssi et al., 2016, p. 376-377), which implicitly suggests that there are no established standards for disclosure (Buallay, 2019, p. 98-99; Landi & Sciarelli, 2019, p. 13) thereby impacting the data that is disclosed. Our sample decreases further due to variables being lagged underpinned by the assumption that events of the previous year affect the ESG score of the following year. Therefore, firms that have disclosed ESG information only for one year are dropped from the sample as they are considered to be missing data. The final sample covers 61 firms from Sweden, 14 firms from Norway, 23 firms from Denmark, 25 firms from Finland and zero firms from Iceland as none of the listed companies from Iceland had any ESG information on Eikon. Our final sample consists in total of 123 firm observations and 816 firm-year observations.

3.6.2. Data Analysis Process

As the sample of the study consists of annual data from Nordic listed non-financial firms between the periods from 2010-2018, our data is panel data. Panel data is data that contains repeated observations of the same units that are collected over a number of periods (Verbeek, 2012, p. 372). Compared to cross-sectional (different variables at one and the same point of time) and time series data (one variable during different occasions), there are several advantages to using panel data (Baltagi, 2005, p. 4-7; Gujarati & Porter, 2009, p. 592; Verbeek, 2012, p. 372). For one, less restrictive assumptions are needed for identifying certain parameters or questions when using panel data (Verbeek, 2012, p. 372). Above this, using panel data allows us to control for individual heterogeneity because the data relates to individuals, firms, states or countries over time (Baltagi, 2009,
In situations where individual heterogeneity is not controlled, the results of the analysis may lead to biased results as firm or country characteristics have the potential to affect the phenomena under study. Panel data also produces more informative data, more variability, less collinearity among the variables, more efficiency and more degrees of freedom compared to time-series or cross-sectional data (Baltagi, 2005, p. 5). Additionally, panel data enables the use of more complex behavioral models, allows for the dynamics of adjustments to be studied, reduces or eliminates biases from aggregation over firms or individuals by making data available for a large number of units, and facilitates the identifying and measuring of effects that are not detectable with pure cross-sectional or time-series data (Baltagi, 2005, p. 5-6; Gujarati & Porter, 2009, p. 593).

According to Verbeek (2012, p. 372), the disadvantage of using panel data is more practical in nature: panel data sets often suffer from missing observations, a disadvantage that we encounter. The two methods for addressing these missing observations are alternatively to discard any individuals from the panel that has incomplete information and use only the balanced subpanel or include all observations by using an unbalanced panel. Despite the fact that the first approach is computationally attractive, it is potentially highly inefficient as a substantial amount of data may be discarded (Verbeek, 2012, p. 425). This loss in efficiency can be prevented by using the whole data set including the individuals with incomplete observations for the total sample period. Using unbalanced panel requires some computational adjustments in the data analyzing process, which is unproblematic as modern statistical software resolve unbalanced panel data set issues once it is made aware that such data is being processed (Verbeek, 2012, p. 425).

Our study is based on unbalanced panel data as some firms lack ESG information for the whole sample period. The reason behind these missing observations could be attributable to firms having decided to start disclosing ESG information after the year 2010 but before year 2018 resulting in information for the whole sample period not being appropriately or consistently disclosed. The application of unbalanced data may lead to selection bias if the individuals that are incompletely observed are not missing at random (Verbeek, 2012, p. 425). In our study sample, several ESG score observations are not missing at random due to the assumption that firms are selecting not to disclose sustainability information. In this particular matter, we determine that our study’s results do not suffer from selection bias because the observations in question should realistically be missing as they did not originally exist. Concerning other missing observations, i.e. firms’ financial data, there is a chance that the data is not randomly missing, consequently manifesting results bias.

Common techniques for estimating panel data are the pooled ordinary least squares (OLS), fixed effects model, and random effects model (Gujarati & Porter, 2009, p. 593-593; Verbeek, 2012, p. 373-374). These techniques are essentially standard linear regression models that are generally used to analyze quantitative data (Greene, 2012, p. 52; Stock & Watson, 2015, p. 51; Saunders et al., 2012, p. 523). In linear regression models, one or more independent variables are used to predict a dependent variable’s outcome (Collis & Hussey, 2014, p. 282).

The pooled OLS is the simplest method to analyze panel data (Gujarati & Porter, 2009, p. 593; Verbeek, 2012, p. 373) and a model can be written as:

\[ y_{it} = \beta_0 + x'_{it} \beta + \epsilon_t \]
where $x_i$ is a $K$-dimensional vector of the independent variables of the regression model (Verbeek, 2012, p. 373). Implicit to the model is the assumption that the intercept $\beta_0$ and the slope of coefficients in $\beta$ are identical for every individuals’ $i$ and time periods $t$. The error term $\varepsilon$ varies over individuals and time capturing all unobservable factors that have an effect on the dependent variable $y$ (Verbeek, 2012, p. 373). When using the pooled OLS model, it is assumed that the independent variables are nonstochastic, indicating that they are uncorrelated with the error term (Gujarati & Porter, 2009, p. 594). It is also assumed that the error term $\varepsilon$ is independently and identically distributed with zero mean and constant variance (Gujarati & Porter, 2009, p. 594; Verbeek, 2012, p. 373). Considering that the same individuals are observed repeatedly, it is unrealistic to assume that the error terms from different time periods $t$ are uncorrelated (Verbeek, 2012, p. 373). This conveys that the standard errors for OLS based on the assumptions of error terms have a tendency to be misleading in panel data applications. Another disadvantage with this model is that it does not distinguish between the various individuals nor time periods (Gujarati & Porter, 2009, p. 594). As the individuals are lumped together at different times, the heterogeneity that may exist among the individuals may be camouflaged. This can lead to the error term being correlated with some of the regressors included in the analysis leading to estimated coefficients producing biased or inconsistent results.

One way to address the problem of unobserved heterogeneity being correlated with the independent variables is to include individual-specific intercept terms in a model (Verbeek, 2012, p. 374). Models with this individual-specific intercept terms are known as fixed effects models, and a model can be written as:

$$y_{it} = \alpha_i + x_{it}' \beta + u_{it}$$

Equation 2.

where $y_i$ is the dependent variable, $\alpha_i$ ($i = 1, \ldots, N$) are fixed unknown constants that are estimated along the slope of coefficient $\beta$, $x_i$ is again the $K$-dimensional vector of independent variables and the error term $u_i$ is assumed to be independent and identically distributed over individuals and time (Verbeek, 2012, p. 374). The fixed effects $\alpha_i$ captures all observable and unobservable time-invariant differences across individuals. This attribute may reduce the effects of omitted variable bias that arises when a variable that correlates with the dependent variable is omitted from the regression model (Verbeek, 2012, p. 375-376). The fixed effect model’s assumption, that $\alpha_i$ is eliminated from the error term, which consequently eliminates all endogeneity problems relating to the error term is a core benefit for using this type of model. Endogeneity refers to independent variables $x$ that are correlated with the regression model’s error term (Verbeek, 2012, p. 146). One drawback to using the fixed effects model is that if the independent variables $x_i$ are time-invariant, meaning that the variables do not change much over time, they will mimic the individual specific constant term (Greene, 2012, p. 400). Consequently, the independent variables that are constant over time cannot be estimated and therefore omitted from the fixed effects model despite potentially having an effect on the dependent variable.
Previous studies examining firm’s board composition and its impact on firms’ ESG scores have been utilizing the fixed effects model to a large extent (see: Birindelli et al., 2018; Manita et al., 2018). One reason for the model’s usage could be that the fixed effects model overcomes several of the issues related to the use of pooled OLS. The fixed effects model may also be more suitable for studies focusing on a specific set of firms (Baltagi, 2005, p. 12). In a fixed effects model, the predictions are made for a particular set of individuals and inferences are made with respect to the effects that are in the sample (Verbeek, 2012, p. 384-385). In this study, the data is analyzed using both the pooled OLS and fixed effects model in order to determine whether the results of the regression models are robust. The third commonly used method to analyze panel data, the random effects model, is considered to be an inappropriate method to analyze data in this study. This is due to the random effects model being more suitable a choice for data analysis when individuals are randomly selected from a large population (Baltagi, 2005, p. 14) which is not the case in our study.

3.6.3. Regression Models

As stated earlier, the pooled OLS and fixed effects model are linear regression models where the relations between different variables are tested. In this study, two regression models are constructed to answer the research question. The first model investigates the relationship between board composition and ESG performance by testing hypotheses 1-5. The second regression model focuses on the connection between firm’s profitability and ESG score and tests for hypothesis 6.

The dependent variable in the first regression model examining the relation between board composition and ESG performance is the ESG scores of the respective firms. The ESG scores obtained from the Thomson Reuters Eikon database captures and calculates over 400 company-level ESG measures (Refinitiv, 2019, p. 6). Out of these 400 measures, a subset of 178 measures that are considered to be the most comparable and relevant for the overall company assessment and scoring process is selected. These measures are further divided into 10 categories: resource use, emissions, innovation, management, shareholders, CSR strategy, workforce, human rights, community, and product responsibility (Refinitiv, 2019, p. 6). The categories are then weighted proportionately to the number of measures within each category and these weighted measures are then used to formulate the three pillar scores for environmental, social and corporate governance. When these scores are computed together, the final ESG score that reflects a firm’s ESG performance, commitment and effectiveness based on public information is determined (Refinitiv, 2019, p. 6). While ESG scores are presented in the form of percentage scores, an associating letter grade is also attached which is conducive for quick interpretations on how firms are performing if compared to other firms (Refinitiv, 2019, p. 7). The 12 letter grades range from D - to A +. The logic behind the conversion is that ESG scores ranging between 0.0 and 0.083333 are graded as D -, and the scores ranging between 0.083333 and 0.166666 are graded as D. For every 0.083333 increase in an ESG score, the letter grade increases until it reaches A + for an ESG score ranging between 0.916666 and 1.

Previous studies have commonly used the Thomson Reuters Asset 4 Equal Weighted Ratings when ESG score has been included in their regression model (e.g., Aouadi & Marsat, 2018; Birindelli et al., 2018). These scores have then been later enhanced and replaced by the Thomson Reuters ESG scores (Refinitiv, 2019, p. 3). The primary advantage in using Thomson Reuters ESG scores is bypassing the problems encountered
in firms’ personal responsibility of sustainability disclosure. The ESG scores located in the Eikon database account for voluntary disclosure flaws and are thus determined to be robust with company size and transparency biases being minimized. Due to this rationalization and because of the wide use of Thomson Reuters in academic research, the scores provided by Refinitiv are considered to be accurate and reliable.

The independent variables regressed against the ESG score are board gender diversity, board independence, board size, frequency of board meetings, and the presence of CSR committee. Board gender diversity is measured in two different ways. When testing for hypotheses 1a, the variable for board gender diversity is the ratio of the number of women in the company board over the total number of all board members. For hypotheses 1b, the measure for board gender diversity is a binomial variable that takes the value of 1 if there are at least 3 women in the company board and the value of zero when there are less women on the board. The variable “board independence” is denoted by the percentage of independent board members divided by the total number of board members, and “board size” is determined by how many board members there are in a firm’s board. Frequency of board meetings is measured by how many board meetings there are per year while the presence of CSR committee is another binomial variable that takes the value of 1 if the firm has a CSR committee and 0 if a firm does not have a CSR committee. Previous research has utilized similar variables in studies investigating the relationship between board composition and ESG scores (Arayssi et al., 2016; Birindelli et al., 2018; Husted & de Sousa-Filho, 2018; Manita et al., 2018).

In order to avoid model misspecification, several control variables are added to the regression model as these variables may potentially influence the firm’s ESG score (Birindelli et al., 2018, p. 7). These variables are firms’ performance expressed by Tobin’s Q, leverage and size. Due to the high variation of board size within our sample, a natural logarithm of firm size is used in order to make the data more symmetric which facilitates the easier detection of relationships between different variables (Moore et al., 2011, p. 86). Year-dummy and industry-dummy variables are also added to the model to control for time- and industry-specific fixed effects. As our sample firms operate in different countries within our Nordic-region scope, the country-specific conditions are taken into consideration by including a variable measuring the level of development of the economy denoted by the gross domestic product (GDP) per capita based on the purchasing power parity (PPP). Due to encountering currency conversion issues, (monetary data for the specified variables are retrieved in euros but the data for GDP per capita was given in US dollars), the variables are converted from US dollars into euros by using the exchange rates provided by the European Central Bank.

In creating a model to study the relationship between ESG and board composition, the assumption of the time needed for the independent and control variables to affect the ESG score is attached to the model by adding lag to the variables. Possible issues with the standard error suffering from autocorrelation and heteroscedasticity are addressed by using robust standard errors. The standard error of an estimate measures the accuracy of a model (Greene, 2012, p. 1095) and if error terms do not meet the assumptions of being independently and identically distributed, the estimator may suffer from the above-mentioned heteroscedasticity and autocorrelation (Verbeek, 2012, p. 94). Heteroscedasticity refers to the variance of a regression error term not being constant (Stock & Watson, 2015, p. 820) which indicates that the variance of error terms differs even though they are assumed to be identical (Verbeek, 2012, p. 15). Autocorrelation occurs when the covariance between different error terms are not equal to zero (Verbeek,
After lagged variables and robust standard error terms has been taken into consideration, the regression model testing hypotheses 1-5 may be written as:

$$ESG\ score_{i,t} = \beta_0/\alpha_i + \beta_1 \cdot Board\ Gender\ Diversity_{i,t-1} + \beta_2 \cdot Board\ Independence_{i,t-1} + \beta_3 \cdot Board\ Size_{i,t-1} + \beta_4 \cdot Frequency\ of\ Board\ Meetings_{i,t-1} + \beta_5 \cdot Presence\ of\ CSR\ Committee_{i,t-1} + \beta_6 \cdot Firm\ Performance_{i,t-1} + \beta_7 \cdot Leveraging_{i,t-1} + \beta_8 \cdot Firm\ Size_{i,t-1} + \beta_9 \cdot GDP_{i,t-1} + c_n \cdot Industry_n + d_t \cdot Year + \varepsilon$$

**Model 1.**

**ESG score** = The ESG score of a firm
\(\beta_0\) = is the constant when the regression is estimated with pooled OLS
\(\alpha_i\) = is the constant when the regression is estimated with the fixed effects model
\(\beta, c, d\) = Coefficients

**Board Gender Diversity** = The ratio of the number of women on a board over the total number of board members when testing for hypothesis 1a, and a binomial variable denoting whether women have a critical mass in a firm’s board when testing for hypothesis 1b

**Board Independence** = The number of independent board members over the total number of board members

**Board Size** = The total number of board members

**Frequency of Board Meetings** = The number of board meetings per year

** Presence of CSR Committee** = A binomial variable that denotes whether a firm has a CSR committee or not

**Firm Performance** = Tobin’s Q, calculated as market capitalization over total assets

**Leverage** = The financial leverage of a firm calculated as total debt over total assets

**Firm Size** = The natural logarithm of the total assets of a firm

**GDP** = A country’s GDP per capita based on the PPP of that particular country

**Industry** = A dummy variable identifying which industry a firm belongs to

**Year** = A dummy variable denoting a particular year

\(\varepsilon\) = Robust error term

In the second regression model investigating the relation between ESG performance and firm performance, the dependent variable is firm performance. There are various methods that are appropriate for measuring firm performance such as return on equity (ROE), return on assets (ROA), return on sales (ROS), and Tobin’s Q (Bolouta, 2013, p. 190). In this study, Tobin’s Q, which is quite a popular assessment measure, is determined to be the most appropriate measure of performance because the measure is a market-based metric, which is commonly used for determining firm performance (Peloza, 2009, p. 1522). Our study follows the definition of Kaplan and Zingales (1997, p.177) for Tobin’s Q, whereby Tobin’s Q is the market value of assets over the book value of assets, calculated as the market capitalization over the total assets. With this definition, Tobin’s Q assesses investors’ perception of how well firms are using their assets (Haslam et al., 2010, p. 489). The benefit of using a market-based metric is that it overcomes the problem of accounting metrics. Accounting metrics, demonstrating how efficiently firms are using their assets to generate value, has a tendency to misrepresent data because they are considered to be activities that suggests generating of value in the short-term (Peloza,
Therefore, short-term accounting measures are only essentially able to capture the benefits of CSR activities that are designed to reduce the operating costs immediately (e.g., reducing waste). What short-term accounting measures are unable to show are that value-creating investments, for example, charities are inefficient use of assets. This is due to the fact that the benefits of investing in a community requires time to shape and obtain a return (Peloza, 2009, p. 1524). Market-based measures take into account both short-term and long-term benefits as investors often regard a firm’s ability to generate value in the future. Improved relations with stakeholders through implementation of CSR initiatives may improve the operating environment of a firm (Peloza, 2009, p. 1524) and potentially increase a firm’s appeal over their competitors. A core concern with market-based approaches is that these approaches are based on stock market information, and if the equity markets are not perfect, the estimates for performance measures may be biased (Low et al., 2015, p. 388). However, in this study, the Nordic stock markets are assumed to be efficient enough for Tobin’s Q to be a reliable measure.

The independent variable for the second regression model is the ESG score when conducting hypothesis testing for 6. The control variables are essentially the same in the second regression model as in the first regression model: leverage, firm size, GDP per capita based on the PPP, and industry- and time-fixed effects. The model also assumes that ESG performance of a current year affects the firm performance of the following year, hence the independent and control variables are lagged in the second regression as well. Again, robust standard errors are utilized to control for autocorrelation and heteroscedasticity. The second regression model may be written as:

$$\text{Firm Performance}_{i,t} = \beta_0 + \beta_1 \text{ESG score}_{i,t-1} + \beta_2 \text{Leverage}_{i,t-1} + \beta_3 \text{Firm Size}_{i,t-1} + \beta_4 \text{GDP}_{i,t-1} + c \text{ Industry}_n + d \text{ Year}_t + \varepsilon_{it}$$

Model 2.

There are two commonly used methods for managing the extreme values that variables can take: either dropping out those observations or winsorizing them (Verbeek, 2012, p. 50). In practice, winsorizing indicates that all observations that exceed the 0.01th percentile are set equal to it, and similar actions are undertaken for observations exceeding the 0.99th percentile. Extreme values, also known as outliers, are observations that lay far away from the regression and can appear due to measurement errors in the data or by chance, especially if a distribution has fat tails (Verbeek, 2012, p. 47).
According to Verbeek (2012, p. 47), outliers can be discarded if they are caused by measurement errors. However, omitting observations with large residuals is a dubious exercise and may not be recommended because the act of omitting may have an effect on data and consequently the results (Greene, 2012, p. 141). In this study, our data is handled carefully in order to mitigate the measurement error that occurs when the measured quantity differs from the actual value of the observation. In cases where extreme values are detected from the data set, the extreme values are either compared to the values in the Thomson Reuters Eikon database to double check that the values are correct or recalculated to ensure that the extreme observations did not arise from mishandling the data. Once it has been determined that the outliers were true observations of the value, we decided that winsorizing would be the more appropriate method to handle extreme observations as singling them out is not advisable. The data is winsorized at 1 percent level for both tails of a distribution.

3.7. Ethical & Social Considerations

Ethical and social considerations are an integral component of conducting research (Bell & Bryman, 2007, p. 64). Despite this, Bell and Bryman (2007, p. 63) asserts that these considerations are not emphasized as much as they should be with respects to business schools. This is attributed to shortcomings in an established code of conducts in the academic arena and faculties are not impressing upon their students the skills and importance of ethics, which is underpinned by the fact that faculties themselves loosely govern their own ethical practices (Bell & Bryman, 2007, p. 63). Ethics address the “moral values or principles that form the basis of a code of conduct” (Collis & Hussey, 2014, p. 30). The importance of ethics in research has pressured organizations and academia to form a code of conduct that is universally accepted, however such an endeavor remains elusive due to the dynamism involved in these actors constantly adding or subtracting regulations for a focused upon code of conduct (Bell & Bryman, 2007, p. 64). Due to little consensus amongst scholars on the most appropriate code of conduct for business research and in response to Umea University’s requirements for research to consider ethics as well as our own internal moral guidelines, we align with and assess our research based upon Bell and Bryman’s (2007) suggestions for ethical considerations. The authors’ suggestions for consideration comprises of: harm to participants; dignity; informed consent; privacy; confidentiality; anonymity; deception; affiliation; honesty and transparency; reciprocity; misrepresentation (Bell & Bryman, 2007, p. 71).

Harm to participants and respecting of dignity of participants concerns itself with how we treat those involved with the research and the risks associated with inflicting psychological or physical harm onto them (Bell & Bryman, 2007, p. 71). We consider harm to and risk of reducing dignity to participants to be nonexistent because we are not interacting with people but with data. Moreover, we the authors are the only actual individuals within this research and in assessing harm and dignity threat levels onto ourselves, we can determine that there is none since this is an objective study that is outside the realm of our influence or that can impact us. Informed consent, privacy, confidentiality and anonymity addresses the process whereby we draw research participants into our study and how we treat them and the information that they provide (Bell & Bryman, 2007, p. 71). We consider these ethical considerations to be inconsequential because we are conducting an objective study underpinned by publicized archival data. Publicized archival data carries with it suggested evidence that firms’
public disclosure of ESG data is of their own volition that undermines their need for privacy, confidentiality or anonymity.

Deception, honesty and transparency and misrepresentation concerns themselves with how we go about conducting the research in terms of what we disclose or do not, our behaviors or negatively whether we are dishonest and falsify anything within the research process for our own benefit (Bell & Bryman, 2007, p. 71). Our assessment of the risks of deception, lack of honesty and transparency and misrepresentation is considered to be minimal. Our methodology and analysis chapters facilitate the opportunity for critical assessment and recreation. We disclose our entire research process and philosophical underpinnings in a thorough and transparent manner so as to avoid any negative backlash or accusations of dishonesty, deception and misrepresentation. Moreover, the data we use for analysis is publicized which indicates that individuals can personally acquire the data to check for correctness or any deceptive, dishonest, or misrepresentative behavior within the research process.

Affiliation refers to whether we have any close links, financial or otherwise that can influence the outcome or process of the research (Bell & Bryman, 2007, p. 71) and that is suggested to potentially lead to dishonesty, deception and misrepresentation. We assert that we are students of Umeå University in Sweden who has assigned us this thesis, but this affiliation is assessed to not have any influence on our research outcome. Reciprocity involves whether the research is advantageous for both authors and research participants (Bell & Bryman, 2007, p. 71). This research is advantageous for us because not only can this research facilitate our graduation, but we acquire important knowledge that can assist us in future career endeavors. For our research participants, again we must stress that we do not have an actual participant, but this research and its outcome can be generally beneficial for firms whose data we are using to support our analysis. More specifically, the outcome can explain why or why not firms should consider or make changes to board composition and focus on or detract attention away from CSR performance in relation to firm performance.

3.8. Truth Criteria

It is important that research undergo an assessment for truth and trustworthiness in order to generate epistemology. Three criteria are common for assessing the quality of quantitative research: reliability, validity and replication which is underpinned by subcomponents of the aforementioned criteria (Bryman & Bell, 2015, p. 48-49). Reliability addresses the consistency and replication of a study in terms of whether measurements tools produce stable, unvarying results application after application (Bryman & Bell, 2015, p. 49; Heale & Twycross, 2015, p. 66). Heale & Twycross (2015, p. 66-67) contends that accurate assessment of reliability cannot truly be obtained, and that research should be satisfied with estimations of reliability derived from tests of internal consistency (Cronbach’s Alpha), stability (alternate-form reliability test) and equivalence (qualitative assessment). Tests for internal consistency, stability and equivalence is more befitting for studies that are underpinned by surveys or qualitative data collection. As the data of this study is numerical and collected from a database, the measures applied in this study is considered to be consistent as they do not change over time, i.e. the total assets for Company X for fiscal year t are going to be the same no matter when the measure is retrieved. These measures are also perceived to be replicable as it has been explained what was done for the measures if they were processed in anyway.
before the data analysis. We ascertain that the measurement tools applied in this study are consistent and replicable and therefore, our study is reliable.

Bryman and Bell (2015, p. 50) posits that validity is the most weighty and decisive criterion for determining the trustworthiness of quantitative research. Validity addresses whether the measurement tools as well as the research output reflects and measures what it is supposed to (Bryman & Bell, 2015, p. 50; Heale & Twycross, 2015, p. 66). Validity’s subcomponents consist of measurement or construct validity, and internal and external validity. Measurement or construct validity strives to assess whether what is being investigated or measured is an accurate representation of the concept under study (Bryman & Bell, 2015, p. 50). In this study, the variables chosen to measure the phenomena in question are found from peer-reviewed scientific articles and their conceptualization of the variables are followed as strictly as possible. As the same variables with similar definitions have been widely used in prior literature, our study’s variables are considered to be representing what they should be representing. The aim of this study is to investigate the relation between board composition and ESG score as well as the connection between ESG score and firm performance and the multiple linear regression analyses are performed in order to analyze these relations. The results from these tests can be used to answer the research question and therefore, it is determined that this particular study has construct validity.

Internal validity concerns itself with causal relationships and to what extent the dependent variables influence the independent variables without the plausibility of external factors being influencers (Bryman & Bell, 2015, p. 50). Studies based on regression analyses are internally valid in cases where the regression coefficients that are estimated are consistent and unbiased, and if the standard errors of these coefficients yield confidence intervals with the desired confidence level (Stock & Watson, 2011, p. 316). There are several threats to internal validity when multiple regression analyses are applied. One of these threats is omitted variable bias as it could potentially cause the estimator of a regression analysis to be inconsistent (Stock & Watson, 2011, p. 316). The threat related to omitted variable bias can be solved with the use of panel data as it facilitates the controlling of unobserved omitted variables (Stock & Watson, 2011, p. 318). As this study is based on panel data, omitted variable bias is not considered to be problematic. Another threat to internal validity is errors-in-variables bias that arises when the independent variables are not measured precisely (Stock & Watson, 2011 p. 321). Our study is considered to have measurement validity, and therefore it is free from errors-in-variables bias. Additionally, sample selection bias and simultaneous causality bias are threats to internal validity as well (Stock & Watson, 2011, p. 323-324). Sampling selection bias occurs when the data selection process influences the availability of data, for example in the case of survivorship bias. As survivorship bias has been regarded in the process of retrieving data, sampling selection bias should not be an issue for this study. Simultaneous causality bias arises when there is a causal link from the dependent variable to the independent variable. According to previous studies, there might be reverse causality bias when studying board composition and its link to ESG scores. For example, while more socially responsible firms may be more inclined to increase the number of female board members, it is possible that female board members significantly influence a firm’s ESG score (Manita et al., 2018, p. 213). Therefore, internal validity may be marginally lacking due to the potential presence of simultaneous causality bias.

External validity is linked to generalizability and to what extent conclusions about a phenomenon are generally applicable to more than one setting (Bryman & Bell, 2015, p.
The external validity assessment for this study refers to whether the results obtained from our tests are applicable to other listed firms outside the Nordics. Despite the fact that the results are generalizable within the Nordics due to the little chance for errors in generalizing the population from our larger sample size (Saunders et al., 2012, p. 265), and that the study’s sample is as large as possible, external validity is quite problematic to obtain. This problem is justified by the notion that institutions differ outside the Nordics, and CSR-orientation and pro-disclosure that is commonplace in this particular region may not be so in other regions or countries. The more an institution in question differs from our established context, the more likely it is that the results of this particular study are not applicable for those institutions. Therefore, generalizations undertaken outside the population of our study should be approached with caution and we determine that our study lacks external validity.

Replication may often be confused or used interchangeably with reliability because both concerns itself with the notion of reproducing a study. Thus, in essence, replication asks the question whether a study can be copied which necessitates the methodology chapter. Based upon the evaluation of research validity and reliability, a duplicated study should produce the same results as the original study (Bryman & Bell, 2015, p. 50). The data used in this study is public and obtained from a database that is considered to be a reliable source of data extraction as it has been utilized in other peer-reviewed studies as well. As the data is public, this study has the potential to be replicated without access to the Eikon database. Furthermore, the data is analyzed with programs such as Microsoft Excel and Stata 15. These programs are deemed to be credible because we are able to obtain correct results for our needed calculations and statistical analyses. A replication of our study is feasible because the data is available and our assumptions and methodology of how the data is analyzed is determined to be thoroughly and sufficiently explained. Consequently, our study is considered to meet the criteria for replicability evidenced by the contents of our methodology chapter.
4. Empirical Results

The presentation of our empirical results derived from stringent statistical tests is the main focus for this chapter. The aim is to showcase our findings underpinned by our established methodological decisions so as to facilitate our analysis and discussion in the forthcoming chapter. This chapter’s contents include discourses on: descriptive statistics, multicollinearity results, board composition and ESG performance model results which involves highlighting the pooled OLS and fixed effects models results and the findings stemming from the ESG score and firm performance model.

4.1. Descriptive Statistics

Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD.</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESG Score</td>
<td>60.23999</td>
<td>13.8589</td>
<td>18.63158</td>
<td>86.8697</td>
</tr>
<tr>
<td>Board Gender Diversity</td>
<td>28.98488</td>
<td>12.43853</td>
<td>0</td>
<td>66.6666</td>
</tr>
<tr>
<td>Critical Mass of Women</td>
<td>0.4534586</td>
<td>0.4980419</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Board Independence</td>
<td>62.31064</td>
<td>22.76052</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Board Size</td>
<td>9.223364</td>
<td>2.338457</td>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td>Frequency of Board Meetings</td>
<td>11.20658</td>
<td>4.272321</td>
<td>3</td>
<td>34</td>
</tr>
<tr>
<td>Presence of CSR Committee</td>
<td>0.7596656</td>
<td>0.4275099</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Firm Performance, Tobin’s Q</td>
<td>1.448228</td>
<td>1.717116</td>
<td>0</td>
<td>14.43707</td>
</tr>
<tr>
<td>Leverage</td>
<td>0.2305678</td>
<td>0.1558763</td>
<td>0</td>
<td>0.9681848</td>
</tr>
<tr>
<td>GDP</td>
<td>39985.77</td>
<td>8445.653</td>
<td>28987.07</td>
<td>66363.41</td>
</tr>
</tbody>
</table>

The descriptive statistics of the data are presented above in Table 1. Based upon the table’s information, we see that the mean value for the ESG score for our sample’s Nordic firms is 60.24 and that the ESG scores vary between 18.63 and 86.87 within our sample. We can conclude based upon Arayssi et al.’s (2016, p. 383) logic underpinned by the mean of 60.24, which converts into a letter grade B, that the 123 firms are allocating their social spending somewhat efficiently to effective social activities as the ESG score is a weighted average score ranging from 0 to 100. The percentage of women board members in a board position ranges between 0 and 66.67 percent, with a mean of 28.98 percent. In our sample, 45 percent of firms have at least three or more women directors on a board. Board independence varies between 0 and 100 percent with a mean of 62.31 percent and board sizes ranges between 4 and 18 members with a mean of 9.22 persons on a company board. The average number of board meetings per year is 11.21, and 76 percent of boards have a CSR sustainability committee. Firm performance, measured by Tobin’s Q, varies between 0 and 14.44 with a mean of 1.448228. In comparing our study’s descriptive statistic to previous studies, it is noted that the mean of our ESG score is notably higher compared to the studies conducted by Arayssi et al. (2016) and Manita et al. (2018) respectively, but on similar level with Birindelli et al. (2018). Similarities and differences can be found for the other variables as well when comparisons are made to other studies. The differences in the descriptive statistics may be explained by the different samples being studied. Some of the studies have focused on larger companies (e.g., Rao & Tilt,
or other geographical regions (e.g., Husted & de Sousa-Filho, 2018). The differences in sample sizes may also help to explain some of the variations between the data used in this study and other studies.

4.2. Multicollinearity

In order for us to analyze our data with our established regression models, we need to assess and observe whether our independent variables correlate with one another. The issue with correlation is that if such associations exist, other variable do not contribute much to our models as it explains the same cause and should therefore be omitted from a given model (Verbeek, 2012, p. 46). A situation whereby two independent variables correlate with each other is known as multicollinearity and multicollinearity can be detected by setting up a correlation matrix (Greene, 2012, p. 1079) or examining the variance inflation factor (VIF) that is produced by a statistical program (Verbeek, 2012, p. 44). Table 2 below displays our correlation matrix. The numbers in the matrix refers to the correlation coefficient and below the number are asterisks that denote the strength of statistical significance of the relationship between the different variables. In a correlation matrix, a coefficient below $0.1$ implies that there exists no correlation between the variables (Cohen, 1988, p. 77-81). Correlation between variables is considered to be small when the correlation coefficient is between $0.1$ and $0.3$ and moderate when the coefficients is between $0.3$ and $0.5$. A correlation is considered to be strong when the correlation coefficient takes a value above $0.5$.

The table illustrates that the highest coefficient is 0.72 and this links the variables measuring the ratio of women on boards and if there are more than three women on a board. As these two measures are used to explain the phenomenon, that of the gender diversity of a board, these two variables being correlated is expected. Moreover, because Model 1 is run twice, once with the ratio of women on boards and another so that this ratio is replaced by a dummy variable denoting whether women have a critical mass on the board, the correlation between these two variables is not an issue as they are not studied in the same regression. Generally, there are no serious multicollinearity issues between our independent and control variables as the highest correlation coefficient is 0.4796, which is between board size and firm size. A possible reason behind this higher coefficient could be attributable to that larger firms potentially having larger boards. The correlation matrix suggests that the ratio of women on boards, critical mass of women on boards, board independence, board size, the presence of CSR committee, and firm size may have a significant effect on a firm’s ESG score in the regression models as they do not have a significant p-value in the correlation matrix.

Multicollinearity is also tested by examining the VIF-values of the variables. Based upon Table 3 below, we determine that the VIF-values of the variables lie between 1.45 and 4.01. A VIF-value that is above 10 is usually considered to be an indicator of severe multicollinearity (Verbeek, 2012, p. 45). As the VIF-values of our study are below 10, this test, similar to the correlation’s matrix, also suggest that no high correlation exists between the variables. A correlation matrix and VIF-values for the variables in model 2 can be found in the appendix. These tests for multicollinearity also found no correlation between any variables in model 2.
Table 2: Correlation Matrix of Variables for Model 1

<table>
<thead>
<tr>
<th></th>
<th>ESG</th>
<th>Board Gen. Diversity</th>
<th>Criti. Mass of Women</th>
<th>Board Independence</th>
<th>Board Size</th>
<th>Freq. of Board Meet.</th>
<th>CSR Committee</th>
<th>Tobin’s Q</th>
<th>Leverage</th>
<th>Firm Size</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESG</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Board Gen. Div.</td>
<td>0.0911</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criti. Mass of Women</td>
<td>0.2418</td>
<td>***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Board Independence</td>
<td>0.0721</td>
<td>**</td>
<td>-0.0109</td>
<td>-0.1251</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Board Size</td>
<td>0.3238</td>
<td>***</td>
<td>-0.0851</td>
<td>0.3257</td>
<td>-0.3885</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freq. of Board Meet.</td>
<td>0.0050</td>
<td>*</td>
<td>0.0006</td>
<td>0.1885</td>
<td>0.01267</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSR Committee</td>
<td>0.3141</td>
<td>***</td>
<td>-0.0532</td>
<td>0.0280</td>
<td>-0.1385</td>
<td>0.2548</td>
<td>-0.0710</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tobin’s Q</td>
<td>-0.0169</td>
<td>***</td>
<td>-0.1010</td>
<td>-0.0770</td>
<td>-0.0993</td>
<td>-0.0370</td>
<td>-0.2000</td>
<td>0.0052</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leverage</td>
<td>0.0094</td>
<td>***</td>
<td>-0.0110</td>
<td>0.1055</td>
<td>-0.0951</td>
<td>0.1105</td>
<td>0.0169</td>
<td>-0.2910</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm Size</td>
<td>0.4312</td>
<td>***</td>
<td>0.0709</td>
<td>0.3437</td>
<td>-0.0212</td>
<td>0.4796</td>
<td>0.0030</td>
<td>0.2545</td>
<td>-0.3178</td>
<td>0.1368</td>
<td>1</td>
</tr>
<tr>
<td>GDP</td>
<td>0.0353</td>
<td>***</td>
<td>0.4217</td>
<td>0.3685</td>
<td>-0.2979</td>
<td>-0.0337</td>
<td>0.0464</td>
<td>-0.0773</td>
<td>0.0186</td>
<td>-0.0448</td>
<td>0.0848</td>
</tr>
</tbody>
</table>

***, ** and * denote the statistical significance at the 1%, 5% and 10% significance level respectively.
4.3. Board Composition and ESG Performance

4.3.1. Pooled OLS

The relationship between ESG performance and different board composition factors is presented below in Table 4. The relationship is estimated by applying the pooled OLS for model 1. The table illustrates the estimated coefficients for the variables as well as whether the variables are found to be statistically significant by adding asterisk(s) next to the coefficient when the variable is significant. One asterisk next to a coefficient demonstrates statistical significance at 10 percent level, two at five percent level and three at one percent level.

The independent variables that are found to be statistically significant at one percent significance level are board independence and board size. The sign of the coefficients for these variables are positive. Therefore, it can be expected that if the ESG score of a firm increases by one percent, board independence increases by 0.13 percent and board size increases by roughly one percent. The presence of a CSR committee and the critical mass among women on a board are significant at a five percent significance level with positive coefficients. The percentage of board gender diversity and the frequency of board meetings are found to not be related to a firm’s ESG score. Other coefficients that are found to be significant are a firm’s size and firm performance for both regressions. GDP and the constant of the model are found to be significant when the ratio of board gender diversity is used to measure board gender diversity. The sign of the coefficient for leverage is negative, implying that there is a negative relation between ESG score and leverage that is statistically insignificant.

The R-squared measure for the regressions is 0.5940 when the ratio of gender diversity is used, and 0.5965 when the critical mass for women on a board is used. The R-squared measure is a fraction of the sample variance of the dependent variable explained by the regressors (Stock & Watson, 2015, p. 242) and it measures how well the regression model fits (Gujarati & Porter, 2009, p. 493). For regression model 1, approximately 59 percent of the variation of the ESG score can be explained by the independent and control variables.

In analyzing our data with pooled OLS, the following hypotheses are supported: H1b: “a critical mass of women on a firm’s board has an effect on ESG score”; H2:
“board/director independence has an effect on ESG score”; H3: “board size has an effect on ESG score”; and H5: “the presence of a CSR committee has an effect on ESG score”, as these variables are found to be statistically significant. The hypotheses H1a: “women on a firm’s board has an effect on ESG score” and H4: “the number of board meetings has an effect on ESG score” are rejected as these two variables are not found to be statistically significant.

**Table 4: Board Composition and ESG score – pooled OLS**

<table>
<thead>
<tr>
<th>Dependent variable: ESG Score</th>
<th>(H1a) Coeff. Est</th>
<th>(H1b) Coeff. Est</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board Gender Diversity</td>
<td>0.0668152</td>
<td></td>
</tr>
<tr>
<td>Critical Mass of Women</td>
<td></td>
<td>2.417515 **</td>
</tr>
<tr>
<td>Board Independence</td>
<td>0.1289621****</td>
<td>0.1270677****</td>
</tr>
<tr>
<td>Board Size</td>
<td>1.1822***</td>
<td>1.003735***</td>
</tr>
<tr>
<td>Frequency of Board Meetings</td>
<td>0.0027086</td>
<td>0.0025214</td>
</tr>
<tr>
<td>Presence of CSR Committee</td>
<td>3.227593**</td>
<td>3.228764**</td>
</tr>
<tr>
<td>Firm Performance, Tobin’s Q</td>
<td>1.263844****</td>
<td>1.26104***</td>
</tr>
<tr>
<td>Leverage</td>
<td>-0.8968587</td>
<td>-0.541174</td>
</tr>
<tr>
<td>Firm Size</td>
<td>2.230391***</td>
<td>2.181699***</td>
</tr>
<tr>
<td>GDP</td>
<td>0.0001782*</td>
<td>0.0001642</td>
</tr>
<tr>
<td>Industry</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Year</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Constant</td>
<td>-25.96567*</td>
<td>-22.6344</td>
</tr>
<tr>
<td>R²</td>
<td>0.5940</td>
<td>0.5965</td>
</tr>
</tbody>
</table>

This table reports the results of the pooled OLS regression examining the relation between board composition and ESG score. The robust standard errors are clustered on firm level. The significance levels for the tests of the reported coefficients different from zero are: *** for 1%; ** for 5%; and * for 10%.

### 4.3.2. Fixed Effects Model

When model 1 is estimated by using the fixed effects model, the industry dummy is omitted from the model because it is a time-invariant variable that cannot be estimated with the fixed effects model. The results of the regression for model 1 estimated with the fixed effects model are displayed in Table 5 below. From this table, it is noted that only one independent variable is statistically significant: the critical mass of women on boards with a 10 percent significance level and a positive coefficient. The other independent variables are insignificant. Interestingly, the sign of the coefficient for the variable denoting the frequency of board meetings presents itself as negative under the fixed effects model. This indicates that there is a negative statistically insignificant relation between ESG score and frequency of board meetings. Of the control variables, firm performance is found to have a positive significant relation with ESG score. The constant term is also significant.

Under the fixed effects model, the R-squared measure decreases to 21 percent, which conveys that the independent variables explain less of the variance of the ESG score under the fixed effects model compared to the pooled OLS. As the critical mass for women is the only board composition variable found to be significant, hypotheses H1b: “a critical mass of women on a firm’s board has an effect on ESG score” is the only hypotheses that can be accepted under the fixed effects model.
Table 5: Board Composition and ESG score – Fixed Effects

<table>
<thead>
<tr>
<th>Dependent variable:</th>
<th>(H1a) Coeff. Est</th>
<th>(H1b) Coeff. Est</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESG Score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Board Gender Diversity</td>
<td>0.0536182</td>
<td></td>
</tr>
<tr>
<td>Critical Mass of Women</td>
<td>1.313759*</td>
<td></td>
</tr>
<tr>
<td>Board Independence</td>
<td>0.0272282</td>
<td>0.0277395</td>
</tr>
<tr>
<td>Board Size</td>
<td>0.2806345</td>
<td>0.1741753</td>
</tr>
<tr>
<td>Frequency of Board Meetings</td>
<td>-0.0183859</td>
<td>-0.0187311</td>
</tr>
<tr>
<td>Presence of CSR Committee</td>
<td>1.050123</td>
<td>1.076167</td>
</tr>
<tr>
<td>Firm Performance, Tobin’s Q</td>
<td>0.6680252*</td>
<td>0.6631196*</td>
</tr>
<tr>
<td>Leverage</td>
<td>3.498244</td>
<td>3.777901</td>
</tr>
<tr>
<td>Firm Size</td>
<td>-0.6205544</td>
<td>-0.6589871</td>
</tr>
<tr>
<td>GDP</td>
<td>0.0000886</td>
<td>0.000093</td>
</tr>
<tr>
<td>Industry</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Year</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Constant</td>
<td>59.09879 ***</td>
<td>61.52274***</td>
</tr>
<tr>
<td>R²</td>
<td>0.2133</td>
<td>0.2129</td>
</tr>
</tbody>
</table>

This table reports the results of the fixed effects regression examining the relation between board composition and ESG score. The robust standard errors are clustered on firm level. The significance levels for the tests of the reported coefficients different from zero are: *** for 1%; ** for 5%; and * for 10%.

4.4. ESG Score and Firm Performance

4.4.1. Pooled OLS

The explanatory prowess of ESG scores on firm performance is studied with model 2, and the results of regressing this model with pooled OLS is presented below in Table 6. The ESG score is found to be statistically significant on a five percent significance level, indicating that with a positive coefficient, the relation between ESG score and firm performance has a positive statistically significant relationship. The control variables leverage and firm size are found to have a significant but negative correlation with firm performance. The constant is also found to be significant. The R-squared for model 2 regressed with pooled OLS is 0.56, illustrating that the independent and control variables of the model are able to explain 56 percent of the variance in firm performance. Because the ESG score is found to be significant, the hypothesis H6: “CSR performance has an effect on firm performance” can be accepted.
Table 6: ESG Score and Firm Performance – pooled OLS

<table>
<thead>
<tr>
<th>Dependent variable:</th>
<th>Coeff. Est</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobin’s Q</td>
<td></td>
</tr>
<tr>
<td>ESG Score</td>
<td>0.0133009**</td>
</tr>
<tr>
<td>Leverage</td>
<td>-1.868748**</td>
</tr>
<tr>
<td>Firm Size</td>
<td>-0.1980248*</td>
</tr>
<tr>
<td>GDP</td>
<td>-1.02e-06</td>
</tr>
<tr>
<td>Industry</td>
<td>YES</td>
</tr>
<tr>
<td>Year</td>
<td>YES</td>
</tr>
<tr>
<td>Constant</td>
<td>6.513733***</td>
</tr>
<tr>
<td>( R^2 )</td>
<td>0.5590</td>
</tr>
</tbody>
</table>

This table reports the results of the pooled OLS regression examining the relation between the firm performance and ESG score. The robust standard errors are clustered on firm level. The significance levels for the tests of the reported coefficients different from zero are: *** for 1%; ** for 5%; and * for 10%.

4.4.2. Fixed Effects Model

Table 7: ESG Score and Firm Performance – Fixed Effects

<table>
<thead>
<tr>
<th>Dependent variable:</th>
<th>Coeff. Est</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobin’s Q</td>
<td></td>
</tr>
<tr>
<td>ESG Score</td>
<td>0.0022404</td>
</tr>
<tr>
<td>Leverage</td>
<td>-0.9944867***</td>
</tr>
<tr>
<td>Firm Size</td>
<td>-0.0694765</td>
</tr>
<tr>
<td>GDP</td>
<td>-0.0000101*</td>
</tr>
<tr>
<td>Industry</td>
<td>NO</td>
</tr>
<tr>
<td>Year</td>
<td>YES</td>
</tr>
<tr>
<td>Constant</td>
<td>3.3415</td>
</tr>
<tr>
<td>( R^2 )</td>
<td>0.0907</td>
</tr>
</tbody>
</table>

This table reports the results of the fixed effects regression examining the relation between the firm performance and ESG score. The robust standard errors are clustered on firm level. The significance levels for the tests of the reported coefficients different from zero are: *** for 1%; ** for 5%; and * for 10%.

Table 7 above displays the results of the regressing of model 2 estimated with the fixed effects model. The relation between ESG score and firm performance is not significant, communicating that hypotheses H6 concerning CSR performance having an effect on firm performance needs to be rejected. The signs of the coefficients for the control variables are negative and leverage and GDP are statistically significant. The R-squared is 0.0907, indicating that other variables exist that could better explain the variance of firm performance than our chosen ones under the fixed effects model.

4.5. Reasons for the Differences in Results

The results derived from the models estimated with the pooled OLS and fixed effects models differs by quite a large margin in regard to which variables are found to be significant and which are not. One reason to explain why the variables under the fixed effects model are found to be insignificant could be that several of the board composition variables are close to being time-invariant. For example, the number of board members within a board is unlikely to encounter much fluctuation between different years. Another
reason for the varying results between the two models may arise due to the sample size (Birindelli et al., 2018, p. 14). As the sample of this study is relatively small, some of the possible relationships that should be significant may otherwise have gone undetected by the fixed effects model, which is a more advanced method to analyze panel data. Therefore, there is a possibility that if more Nordic firms would disclose ESG information, making it possible to study a larger sample, more board composition variables could potentially be found to be significant when using the fixed effects model.

Analyzing our two models using pooled OLS and fixed effects model can be regarded as a robustness check. A robustness check tests whether the results of the core regression analysis are similar with a modified regression analysis. Such testing for robustness is a common procedure when conducting an empirical study (Lu & White, 2014, p. 194). As mentioned above, the results obtained from using these two methods differed by quite a large margin. Therefore, the results cannot be determined to be totally robust. The only findings that were found to be robust are that the critical mass of women on the board is influential for the CSR performance of a firm and that the frequency of board meetings has no relation to the ESG score of a firm as these results are the same under both the pooled OLS and the fixed effects models.
5. Analysis & Discussion

This chapter facilitates the linking of our theoretical frame of reference underpinned by a literature review to our statistical findings supported by secondary data obtained from the Thomson Reuters Eikon Database. This linkage enables us to refute or validate our established hypotheses and that in turn answers our guiding research question investigating the relationships between board composition and ESG score and ESG score on firm performance. Structurally, this chapter is reflective of the structure found in the theoretical frame of reference whereby each variable and associating hypothesis are evaluated by the overarching respective relationships, only demarcating by distinguishing the findings derived from either pooled OLS or fixed effects models.

5.1. Linking the Purpose, Theoretical Framework and Data Analysis

In the preceding chapters, we established our purpose, theoretical frame of reference and data analysis procedures in order to facilitate our analysis and contribute to epistemology concerning the role of sustainability in enhancing or diminishing firm performance underpinned by firms’ board compositions’ influential effects. Our theoretical frame of reference underpinned by stakeholder and agency theory supports the identification of core variables and the crafting of seven appropriate hypotheses that is necessary for us to answer our research question. Our established data analysis procedure discussing our decisions involving how we intend to refute or validate our hypotheses via shaping and using pooled OLS and fixed effects models to facilitate a robustness check. The empirical results stemming from statistical testing indicates whether our seven hypotheses are refuted or validated and the role of theoretical frame of reference becomes essential in offering insights for the refuting or validating of these hypotheses.

5.2. Board Composition Factors & ESG Score

Agency theory contributes to explaining the role of firms’ board of directors in alleviating the issues stemming from the separation between ownership and control (Fama & Jensen, 1983, p. 302, 304). To that end, board members are tasked with monitoring, facilitating legitimacy and networking, advising and strategic decision-making (Francoeur et al., 2019, p. 344; Hussain et al., 2018, p. 413; Mana et al., 2018, p. 210; Ortas et al., 2017, p. 3). Though each task is important for the realization of the other tasks, boards’ strategic decision-making responsibilities are considered to be the most cogent task in contributing to CSR-orientation and firms’ ESG scores (Ortas et al., 2017, p. 3). The strategic decision-making tasks involve boards presiding over firms’ mission, vision and their strategies for navigating towards an established mission and vision. However, it is not guaranteed that boards will implement strategic decisions that is conducive for encouraging CSR. Such inclinations may be most attributable to a board’s composition which is “an essential characteristic of the board’s capacity to perform its duties and influence corporate outcomes” (Francoeur et al., 2019, p. 344). Boards underpinned by compositions that are more inclined to be CSR receptive will use their authority to increase CSR performance, which is suggested to be most determined by board activities than by any other firm activities (Cucari et al., 2018, p. 252).
5.2.1. The Relationship between Board Gender Diversity & ESG Score

Extant literature studying gender diversity indicates that women and men differ in terms of their cognitive mental process, insights, inclinations and decision-making (Arayassi et al., 2016, p. 380; Francoeur et al., 2019, p. 344-345) that determines CSR-related values and outcome (Haque, 2017, p. 352; Shaukat et al., 2016, p. 574). Women offer different perspectives and ideas (Hillman et al., 2002, p. 759; Konrad et al., 2008, p. 156), are more collaborative and receptive to others’ inputs (Konrad et al., 2008, p. 159) and are generally more caring about the welfare of others in nature (Konrad et al., 2008 p. 159; Mallin & Michelon, 2011, p. 124) which pressures more CSR engagement (Bolouta, 2013, p. 191; Harjoto et al., 2015, p. 257; Williams, 2003, p. 8). In testing for the effects of board gender diversity on ESG score, we hypothesize that (H1a) women on a firm’s board has an effect on ESG score and (H1b) a critical mass of women on a firm’s board has an effect on ESG score. Based upon our results from the pooled OLS model and fixed effects model, we reject H1a but accept H1b. Our empirical findings suggest that women on a firm’s board does not have an effect on ESG score until they have reached critical mass of three or more women transferring their status from tokens to a majority group (Konrad et al., 2008, p. 160; Torchia et al., 2011, p. 311). This is in line with Torchia et al.’s (2011) and Kanter’s (1977) insights on the effects of gender diversity and critical mass theory. Thus, it may be acceptable to suggest that the presence of a woman on a board does little for a firm’s ESG score into she has three or more members of the same gender supporting her views and calls for action which by then is conducive for fostering CSR performance.

5.2.2. The Relationship between Independent Directors/Board Independence and ESG Score

Board of directors’ independence refers to the extent that board member has social or work-related ties and relationship to internal agents or to the firm (Park et al., 2018, p. 5) that may influence or interfere with their tasks (De Andres et al., 2005, p. 199). Extant literature is generally of the opinion that increased board member independence facilitates more effective corporate governance (Birindelli et al., 2018, p. 4; Hussain et al., 2018, p. 416; Shaukat et al., 2016, p. 574). In investigating this particular relationship, we assume that (H2) board/director independence has an effect on ESG score and the findings from the pooled OLS model enables us to accept H2. Conversely, we must reject H2 under the fixed effects model. There are potentially several explanations for this acceptance of H2 derived from pooled OLS results with various scholars offering their opinions. Birindelli et al. (2018, p. 4) and Shaukat et al. (2016, p. 574) asserts that internal managers are less likely able to influence independent board members which allows these independent board members to make more conducive CSR-oriented decisions. Ntim and Soobaroyen (2013) maintains that independent directors are more forceful in exerting their CSR perspectives, facilitating legitimacy and compelling their wills to be carried out by internal managers. Under the fixed effects model results, independent directors have no effect on ESG score potentially due to them having little input on ESG disclosure (Benomran et al., 2015, p. 61) which is suggested to influence the quality and consistency of ESG information on the Thomson Reuters Eikon Database.
5.2.3. The Relationship between Board Size and ESG Score

Board size concerns itself with the number of members sitting on a board (Lu & Boateng, 2017, p. 1111). Proponents of small board size argue that less individuals allows for more effective monitoring by increasing dialogue, decision-making competencies and reducing bureaucracy (Ahmed et al., 2006, p. 421; Birindelli et al., 2018, p. 5; De Andres et al., 2005, p. 199; Vafeas, 1999, p. 116). Advocates of large board size similar maintain that increased members enable more effective monitoring by appropriately allocating tasks and responsibilities, allows for a greater pool of expertise and competences and foster stakeholder networking (Birindelli et al., 2018, p. 5; Hussain et al., 2018, p. 416; Lu & Boateng, 2017, p. 1111). We hypothesize that (H3) board size has an effect on ESG score and results from the pooled OLS model enables us to accept this hypothesis though we refute H3 under the fixed effects model. Under the pooled OLS model, while we are not clear whether small boards or large boards are more beneficial for increased CSR performance, we are more inclined to suggest that large board sizes contrastive to small board sizes may better facilitate CSR performance. This is due to the fact that our data sample consists of publicly listed Nordics located firms which conveys in itself the size of these firms.

5.2.4. The Relationship between Frequency of Board Meetings and ESG Score

Frequency of board meetings carries with it both a practical and communicative function. Practically, frequent board meetings allow for the free-flow of information and ideas that facilitate more effective decision making, enables better monitoring and control and shields firms from the potential consequences of shock (Birindelli et al., 2018, p. 5; Dienes & Velte, 2016, p. 6; Vafeas, 1999, p. 118). The practical drawback of frequent meetings is that it does not guarantee that firms’ agenda is to be realized, with meetings only racking up coordination expenditures (Dienes & Velte, 2016, p. 6; Vafeas, 1999, p. 118). Communication-wise, frequent board meetings can either convey to stakeholders that board members are handling their responsibilities effectively and efficiently or not since more frequent meetings may indicate that they are incompetent at fulfilling objectives in an appropriate number of meetings (Birindelli et al., 2018, p. 5; Vafeas, 1999, p. 114). With this discussion, we assume that (H4) the number of board meetings has an effect on ESG score. However, based upon the pooled OLS model and the fixed effects model, we must refute this particular hypothesis which is in line with Birindelli et al.’s (2018, p. 13) finding. According to Dienes and Velte (2016, p. 6), this compositional factor has not been sufficiently focused upon which suggests that more exploratory research needs to be conducted on what actually occurs within board meetings in order to determine its effect in a precision-oriented quantitative study.

5.2.5. The Relationship between the Presence of Firms’ CSR committee and ESG Score

The presence of CSR committees embraces a symbolic role by conveying to stakeholders firms’ inclinations and aims to be sustainable underpinned by strategy development to reach their sustainability objective (Birindelli et al., 2018, p. 6; Cucari et al., 2018, p. 255; Hussain et al., 2018, p. 418). CSR committees purpose involves monitoring, advisory and compliance-related tasks with a central focus on encouraging CSR-related practices (Birindelli et al., 2018, p. 6; Ricart et al., 2005, p. 29). Theoretically, CSR committees
should assist in strengthening CSR performance through its focus on responding to stakeholder claims which enhances credibility and legitimacy and supported by the competences that committees hold and provide to board members (Birindelli et al., 2018, p. 13; Cucari et al., 2018, p. 259, 260). We hypothesize that (H5) the presence of a CSR committee has an effect on ESG score for which we accept under the pooled OLS model but reject under the fixed effects model. The pooled OLS model’s result is in line with Cucari et al.’s (2018) and Hussain et al.’s (2018) respective studies. A possible explanation for the positive result is that CSR committees do indeed strengthen CSR performance through its sustainability-oriented policies and strategies. Conversely, Michelon and Parbonetti (2012, p. 503) maintains that an insignificant result such as that derived from our fixed effects model may be explained by the committees age or a decoupling (Meyer & Rowan, 1977) whereby the committee superficially publicizes their mission to be sustainable but in reality does nothing to realize that mission.

5.3. ESG Score and Firm Performance

Central to stakeholder theory is the need for firms to account for and respond to stakeholders’ legitimate claims to minimize or prevent stakeholders from negatively impacting or sabotaging firm operations and ambitions (Freeman, 2010, p. 53; Q. Wang et al., 2016, p. 1087). CSR has become central in today’s society and is increasingly become a vehicle for which firms carry out their duties and responsibilities to their stakeholders (Deng et al., 2013, p. 87; Francoeur et al., 2019, p. 345; Sheehy, 2015, p. 625). Additionally, firms implementing CSR seeks economic justification and gains for carrying out sustainability related activities. Proponents of CSR maintain that its associating activities benefits firms by increasing firms’ competitiveness and efficiencies, cut expenditures, and increase resource gains (Q. Wang et al. 2016, p. 1087, 1095, 1097; Xie et al., 2019, p. 297-298). Deng et al. (2013, p. 108) maintains that CSR inclinations produces investment best practices and increases firm performance outcomes. Conversely, CSR may be detrimental to firm performance by decreasing competitiveness, increasing cost burdens and agency costs, and cause inefficient scarce resource allocation (Q. Wang et al., 2016, p. 1086; Xie et al., 2019, p. 286-287).

Following these opinions, we test that (H6) CSR performance has an effect on firm performance. Under the pooled OLS model, we accept H6 whereas under the fixed effects model, we reject H6. Assessing our results based upon the pooled OLS model, we propose that CSR has a positive effect on firm performance which shares consensus with many previous studies conducted investigating this particular relationship (Margolis & Walsh, 2003, p. 274; Q. Wang et al., 2016, p. 1088; Xie et al., 2019, p. 286). There are many explanations for why CSR increases performance with several having been aforementioned: increases competitiveness, efficiencies and resource gains, and reduces expenditures. As we rejected H6 under the fixed effects model, 28 scholars have similarly rejected our hypothesis (Margolis and Walsh, 2003, p. 274). Lee et al. (2018) asserts that CSR is necessary to meet societal expectations and merely survive underpinned by the notion of legitimacy rather than offer any economic benefits. Such benefits are more so influenced by external factors such as the state of an economy or actual business procedures and resources rather than CSR activities.
5.4. Discussion

In conducting a literature search prior to initiating this study, we frequently encounter discussions surrounding the inconclusiveness of results from investigations into the respective relationships between board composition and CSR performance and CSR performance and firm performance (e.g., Birindelli et al., 2018; Hussain et al., 2018). Seeking to start our own investigation by combining these two relationships and fill in the confusion gap that plagues scholars, our guiding research question manifested itself as:

*What impact does Nordic firms’ board of directors’ composition have on ESG score and the relationship the ESG score has with overall firm performance?*

Based upon our constructed seven hypotheses underpinned by precise variables, we assumed that board compositions’ factors largely have an effect ESG score and that in turn would have an effect on overall firm performance. After conducted statistical testing and analysis using two different regressions model, that of pooled OLS and fixed effects models, we found that our hypotheses differed from our initial assumptions of the existence of correlations. Reflecting upon our respective analyses of in the preceding sections, we are able to accept five of the seven proposed hypotheses under the pooled OLS model - that the board composition factors of critical mass of women on the board, the extent of board/director independence, board size, existence of CSR committees all have an effect on ESG score and that ESG score has an effect on firm performance. Only the presence of women on the board and frequency of board meetings has no effect on ESG score under the pooled OLS model. What needs to be noted here is that our formed hypotheses were intentionally established without a direction only proposing that the investigated variables have a relationship. However, from the pooled OLS model and its coefficients, we are able to put forward that the acceptance of the five hypotheses implicitly suggests that the variables have a positive relationship with ESG score and firm performance respectively. Therefore, under the pooled OLS model underpinned by the fact that four out of our six board composition variables have a positive relationship with ESG score, we may be able to suggest that board composition generally have a positive impact on ESG score. Moreover, we can also suggest that ESG score has a positive influence on overall firm performance.

Shifting our focus onto the results from the fixed effects model, only one of our six board composition hypotheses can be accepted which is that the critical mass of women on a board has an effect and more specifically a positive effect, on ESG score which it shares with the pooled OLS model. Contrastive to the majority of the positive relationships suggested by pooled OLS model, the fixed effects model indicates to us that our selected variables do not significantly impact ESG score and firm performance respectively. However, we can marginally offer that board composition may have a positive effect on ESG score due to the fact that the critical mass of women on a board hypothesis was able to be accepted. In other words, the aforementioned variable is still a board composition variable that is able to be accepted and therefore, despite little support for the other board composition variables, it is logical to assume that board composition has an effect on ESG score, albeit a very weak effect. Under the fixed effects model, ESG score has no effect on firm performance and no logical reaching conclusions similar to the board composition-ESG score can be proposed.
A noteworthy point to discuss here is that the there are two variable results that are commonly shared between the pooled OLS and fixed effects model. The critical mass of women hypotheses in women can be accepted by both models, which indicates that this factor positively influences ESG score and potentially that this variable is the most stable variable for strengthening ESG score. Contrastively, the frequency of board meetings is refuted in both models, conveying that either this variable needs to be more studied by future scholars to increase precision, or that in reality, board meeting frequency truly does not matter in a firm’s attempt to increase their ESG score.

All in all, we answer our guiding research question by suggesting that under the pooled OLS model, Nordic firms’ board of directors’ composition may have a generally positive impact on firms’ ESG scores and their respective ESG scores in turn has a potentially positive impact on their firm’s performance. Under the fixed effects model, we can tenuous suggest that Nordic firms’ board of directors’ composition may have an impact on firms’ ESG scores, however their respective ESG scores have no impact on firm performance.
6. Conclusion

This chapter concludes our study by assessing the extent to which our research question is answered, and purpose accomplished. We iterate and summarize several of the important components previously established in the preceding chapters and well as highlight our findings based upon our data gathering and analysis process. Furthermore, we address our study’s limitations as well as the contributions our study offers theoretically, socially and practically. We complete this study by offering suggestions for future research that our study, has in the process of its conduction, facilitates.

6.1. General Conclusions

In the midst of ecological and societal degradation, pro-sustainability attitudes are increasingly gripping society, and penetrating global meetings, social media and classroom discussions. Calls are being made to increase sustainability focus and firms are obligated to respond due to their large presence and activities that impacts society more than any one given individual. The recurring issue of whether a firm should focus solely on profit maximization or effective stakeholder management becomes increasingly prominent. However, due to the dissemination of the institutionalization of sustainability in modern society, firms generally must project themselves as being sustainability-oriented in order to avoid legitimacy loss or encounter obstacles from their stakeholders, despite what they view on firms’ sole purpose may be. As a result, CSR has become pervasive and a permanent fixture in organizational decision-making and activities and expectedly, debates surrounding CSR’s usefulness continues to plague social actors and firms. The implication of CSR’s prominence underpinned by the debate surrounding firm’s profit maximization or stakeholder-centric purpose is that it has caused scholars to carry out research on this phenomenon and strive for definitive answers. Definitive answers however remain out of reach due to the complexities involving firms’ purpose, CSR and its benefits and countless mediating factors that can influence any of the aforementioned notions.

Supported by a literature review where we consistently encountered study results highlighting the inconclusiveness of relationships surrounding the topics of mediating effects, CSR, and impact on firm performance, we aimed to fill the large confusion gap by merging together these concepts using board of directors’ composition as our focal mediating group of factors into one guiding research question. The decision to study board of directors’ composition as the mediating factor is due to the logic that these individuals have the responsibilities and authority to elevate, shape and increase the quality and pervasiveness of their CSR activities that in turn may or may not influence their respective firms’ performance. In conducting this study, we are guided by the question:

What impact does Nordic firms’ board of directors’ composition have on ESG score and the relationship the ESG score has with overall firm performance?

Supported by previous studies on the same or connected topic, we assume that board of directors’ composition namely, gender diversity, size, frequency of meetings, independence, and presence of CSR committees have an effect on ESG score which measures CSR, and that in turn ESG score would have an impact on overall firm performance.
performance. These assumptions are evidenced by seven formulated hypotheses that are in turn validated or rejected based on a quantitative data collection and analysis process. Our data is panel data that stems from the Thomson Reuters Eikon database, our study embrace the archival-longitudinal design and we derived our analysis from two models, that of pooled OLS and fixed effects models. These models offered different results. Based upon these processes, we conclude that under pooled OLS and fixed effects models, Nordic firms’ board of directors’ composition may have on ESG scores though the pooled OLS model contrastive to the fixed effects model offers stronger indication for this conclusion. Furthermore, under the pooled OLS model, we conclude that ESG score may have an effect on firm performance, but we cannot suggest such conclusions under the fixed effects model.

6.2. Limitations

There limitations of this study are mostly related to data. Due to many firms opting not to disclose their ESG information, the sample of this study is relatively small, which could partially explain why some of the board characteristics are found to be insignificant. Another limitation of this study is that the results obtained for the listed companies in the Nordic countries may not be generalizable to listed companies and their CSR performance in other geographical regions due to the forceful effects of institutions.

6.3. Contributions, Implications and Recommendations

6.3.1. Theoretical Contributions

Theoretically, we contribute to the large body of existing literature surrounding CSR linked from a dual financial-managerial perspective supported by the stakeholder and agency theories. Despite our varying results stemming from the pooled OLS and fixed effects models, we found support, albeit quite weak support explaining the value of CSR-oriented board of directors for increasing CSR performance or firm performance respectively. Our results offer marginal support for the prescriptions of stakeholder and agency theory but despite this marginal support, we cannot discount that adhering to stakeholder and agency theories does not have its merits. Additionally, we have showcased the value of the instrumental stakeholder theory by using the sub-theory’s prescription to investigate whether being more CSR-oriented underpinned by a strong governing body can be economically justifiable which firms crave. On a more general point, we offer our results to the existing debate on the value of CSR on firm performance as well as the board of directors’ composition factors that consistently are argued to produce mixed and varying results. From our findings, future studies can through create more precise models and variables that can establish more definitive answers to the central debate on the value of being sustainable.

6.3.2. Societal Implications

The societal implications of this study are that it provides suggestions on what board characteristics promote sustainability and hints at the relation between ESG score and firm performance to be positive. This in turn, could facilitate firms’ aims to be more sustainable which would have positive consequences on our society and the environment as a whole. More sustainable actions undertaken by firms are assumed to enhance the generally working environment of the employees, decrease the environmental burden
affected by a firm’s operations (e.g., pollution and waste), and increase the transparency of a firm’s activities. Moreover, the results of this study encourage the different stakeholders to participate in the debate of the value of encouraging sustainability in firms. On a more generally level, indications from our findings can indirectly support the UN’s endeavors to bring about a more sustainable and healthier world.

6.3.3. Practical Implications and Recommendations

The findings of this study suggest which board composition factors should be considered if the listed Nordic firms wish to improve their CSR performance. One of these factors is including three or more women in the board so that women have critical mass. Once the critical mass is exceeded, women can better influence a board’s decisions and bring CSR related forward. Another factor that should possibly be considered are board size, the independence of board of directors and having a CSR committee. Assessing these factors may assist firms to strengthen their CSR strategy. As the results for the relation between CSR performance and firm performance under the pooled OLS indicates there to be a positive relation, it is suggested that board of directors should pressure managers and associating firms to participate actively on CSR ventures as activities are advantageous for increasing performance. Even if the relation between the two performance measures could not be robustly proven, it is recommended that firms continue conducting their operations in a sustainable manner as it may not benefit only the firms that sustainable, but also the greater external environment and society.

6.4. Suggestions for Future Research

This study investigates the relation between board characteristics and ESG score as well as the relation between CSR performance and firm performance. We measure CSR performance using firms’ ESG score provided by the Thomson Reuters database and firm performance with the Tobin’s Q. As there are several other measures that could be used to define these two variables, it could be interesting to analyze these same relationships by using different measures, e.g., CSR performance could be measured with the Bloomberg ESG score and firm performance could be measured with ROA, ROE or some other firm performance variable. Under this suggestion, we are not implying that the measures used in our tests are not measuring CSR performance and firm performance adequately, but if the results with different definitions for measures are able to produce similar results, the relations derived from our tests could be considered more robust.

In addition to future studies replicating our study using different definitions for variables, the relation between board composition and ESG score could be studied further by adding more board composition related variables to the model. Such variables could be CEO duality, that has been studied in some articles, or other concepts that has not yet have been identified by corporate governance-CSR-firm performance literature. Therefore, conducting a quantitative study of board composition factors with more factors affecting firms’ sustainability could provide more knowledge on the subject. Alternatively, future studies can also conduct and explore, underpinned by a qualitative study, board composition factors that are not generally linked to sustainability and firm performance such as board reputation’s effect on ESG performance and thus firm performance. Moreover, as mentioned in the analysis part of this thesis, matters related to frequency of board meetings should also be qualitatively explored further as suggested by Dienes and
Velte (2016, p. 6) in order to increase variable precision and draw better conclusions for the regression models where board meetings are part of the model.

As the sample of this study is relatively small because the number of firms disclosing ESG related information is small, it could be interesting to replicate the study several years ahead of 2019 and see if a bigger sample size would produce different results compared to this study. Potentially with a larger sample, more of the board composition variables could be found to have a relation when using the fixed effects model to analyze the data. There is also the expectation that there exists more ESG related data in the future as there will be more historical data of the firms already publishing the data. In addition to this, there seems to be an increasing trend among firms to start publishing ESG data. For example, in the dataset of this study, there are a large portion of firms that have just recently started to disclose ESG information during the year 2018, which indicates that information for these firms are only available for that particular year. Because the data is lagged, these firms are excluded from the sample. It is likely that in several years, these firms are going continue disclosing their ESG information and that other firms are going to join the trend. This in turn would lead to more observations that may produce more reliable results in future data analysis processes.

Considering that the results of this study might not be generalizable outside the context of the studied sample, we also suggested that the study is replicated in another setting as the institutional conditions differ between different regions. It could also be of interest to make comparisons between different regions based upon their contextual characteristics. For example, as shareholders are prioritized over stakeholder in the U.S. and UK, and shareholders prioritized e.g., in France, Germany and Japan (Yoshimori, 1995, p. 34), there could potentially be differences in the activities considered more important by firms’ top management. On this suggestion however, institutions must be accounted for.
7. Reference


Appendix

Appendix 1: Table 1 - Correlation matrix of model 2

<table>
<thead>
<tr>
<th></th>
<th>Tobin’s Q</th>
<th>ESG Score</th>
<th>Leverage</th>
<th>Firm Size</th>
<th>GDP</th>
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<td>Tobin’s Q</td>
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<td></td>
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<tr>
<td>ESG Score</td>
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<td>1</td>
<td></td>
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<td></td>
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<tr>
<td>Leverage</td>
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<td>-0.0123</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm Size</td>
<td>-0.3078</td>
<td>-0.0124</td>
<td>0.1368</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>***</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP</td>
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<td>-0.0448</td>
<td>0.0848</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td>***</td>
</tr>
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</table>

***, ** and * denote the statistical significance at the 1%, 5% and 10% significance level respectively

Appendix 2: Table 2 - VIF-values for variables of Model 2

<table>
<thead>
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<th>Variable</th>
<th>VIF-value</th>
</tr>
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<td>Leverage</td>
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<tr>
<td>Firm Size</td>
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<tr>
<td>GDP</td>
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