Master's Thesis

The influence of firm- and country-level social factors on the Corporate Sustainability Performance (CSP):

A multilevel approach

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A B S T R A C T

Companies are constantly urged by various stakeholders to enhance their sustainability performance with the aim to minimize the negative footprint on the environment and the society created by business activities. However, improved insight into factors that affect the sustainability performance may help companies to adopt the most optimal practices. Whereas previous research has focused on "hard determinants" to examine the level of CSP in the firms, this study focuses on the social side of the issue by investigating how the board characteristics and the national culture influence the Corporate Sustainability Performance (CSP), but also how they interact with one another. The hypotheses were tested using a dataset of 3,633 firms from 47 countries for the period 2008-2016, which reaches 12,023 observations. The results of the analysis suggest that the more independent directors and the more diversity there is on the board of directors, the superior the firm's sustainability performance is. In addition, the Hofstede's cultural dimension masculinity influences negatively the CSP, whereas the long-term orientation has a positive effect. The analysis also showed that the negative effect of the country-level factor masculinity can be offset by employing more strictly independent directors on the board. Overall, the results show that not only financial performance is imperative for the level of CSP, but also "soft factors" are of equal importance and should not be overlooked by researchers and businesses.

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1. Introduction

There is a shared view among the societies that business leaders and decision makers should take responsibility regarding ecological issues, from which the central one is the global environmental pollution. Just to name a few consequences, pollution can lead to contamination of water, which also affects the flora and fauna, while air pollution leads to changes in the Earth's climate system. A great number of governments strive for transforming their societies into more ecologically sustainable, however, this can only be possible if collaboration with businesses is established. Since corporations are one of the main contributors to environmental problems like resource depletion, energy use and extremely high levels of human emissions of greenhouse gasses (GHG), the stakeholders' pressure towards companies to take the lead in promoting sustainable development is at its peak.

Previous research has focused mostly on using hard data and observable factors such as financial capacity, leverage, company size, profitability of the firm, pollution emission and institutional ownership to analyze the differences between firms' corporate sustainability performance (Artiach Tracy, Lee Darren, Nelson David, & Walker Julie, 2010; Graves & Waddock, 1994; Margolis & Walsh, 2003; Orlitzky, Schmidt, & Rynes, 2003; Stanwick & Stanwick, 1998). Although social factors embedded in each company's corporate governance corporations, such as board members' nationality, gender, and board independence, produce differences between the sustainability performance in companies, they were overlooked until recently. Likewise, the country level factor national culture shape the local business system were corporations operate. Given that national cultures are heterogeneous across the world, the variation in corporate sustainability performance (CSP) is not only between firms but also between countries (Ioannou & Serafeim, 2012). Accordingly, this thesis argues that corporate decision making in relation to corporate sustainability is not only value-creation driven but also socially driven. Therefore, the aim of this research is to assess the *influence of social factors on corporate sustainability performance (CSP)* in the firm and the national context by investigating the influence of board characteristics and national culture on CSP.

It is thought that certain board characteristics such as board independence and diversity (nationality and gender diversity) can foster the development of environmental, social and governance (ESG) practices (Bear, Rahman, & Post, 2010; Haniffa & Cooke, 2005; Post, Rahman, & Rubow, 2011; Wang & Coffey, 1992). Linking them back to the national culture, certain country differences might be visible within the board characteristics, such as female having more rights and being highly regarded as professionals. Furthermore, higher gender and nationality diversity on the board can bring about different perspectives to the decision-making process in relation to ESG practices. However, the personal values and beliefs of the

board members can be better manifested if the board consists of higher proportion independent directors as they are more concerned about creating long-run shareholders' value, as opposed to short-term economic gains.

By addressing social and environmental problems which intersect with their economic operations, companies create more stable and reliable relationships with their stakeholders. This might lead to firms being better informed about upcoming changes in their social, environmental, economic and regulatory environment (Whelan & Fink, 2016). Even though there are undeniable long-term benefits to sustainable practices, some companies are still lacking behind in their sustainability performance. A likely explanation is that the decision on whether a company will dedicate itself to promote and engage in sustainability practices is influenced by the country's differences in stakeholders' identities and interests. Furthermore, national culture is one of the main determinants of the overall values and beliefs in a nation and shapes the triangular relationship business - government – society (Hofstede, 2011; Matten & Moon, 2008; Williamson, 2000). Notably, in European countries, the government acts as a collector and redistributor of the welfare, while in the U.S. the society holds the cultural idea of affluent businessmen and corporations to give back directly to the society, which gives companies more discretion in the welfare redistribution process. Moreover, not all cultures put an emphasis on the environmental and societal problems. In countries where hierarchies are the norm, managers care more about their own needs and often undermine the broader social welfare and the relationships with their shareholders (Ioannou & Serafeim, 2012). All in all, if the society and the government do not identify sustainability issues as a focal point, companies operating in that national business system will have fewer incentives to engage in sustainability reforms.

This study makes contributes to the existing theoretical and empirical literature in two ways. The first contribution is to explain how the social factors board composition and national culture affect the between the firm and national-level variation. To the best of my knowledge, so far research has been focused mainly on the impact of firm-level social factors such as ethnic and gender board diversity (Aguilera, Rupp, Williams, & Ganapathi, 2007; Bear, Rahman, & Post, 2010; Haniffa & Cooke, 2005; Hemingway & Maclagan, 2004; Miller & Del Carmen Triana, 2009; Waldman, Luque, Washburn, & House, 2006), while only a few empirical papers have tried to explain the between-country variation in CSP (Adnan, van Staden, & Hay, n.d.; Ioannou & Serafeim, 2012; Ringov & Zollo, 2007; Waldman et al., 2006). Consequently, more studies call for multilevel analysis, since sustainability practices are not only determined by firm factors (Aguilera et al., 2007; Hahn & Kühnen, 2013; Ioannou & Serafeim, 2012).

Secondly, this is the first paper to my knowledge, which examines the interaction effects between the country's culture and the corporate board characteristics. Thirdly, this research is the only paper up to date

that incorporates the Hofstede's cultural dimension long-term orientation in the analysis. In relation to long-term orientation, firms that realize that long-term sustainable development is more important than short-term gains will be more likely to be concerned with their sustainability performance (Eccles, Ioannou, & Serafeim, 2012). Hence, by exploring the relationship between long-term cultural orientation and CSP the paper adds new insight to the previous research of Ioannou and Serafeim (2012), Ringov and Zollo (2007) and Waldman et al. (2006). Lastly, the analysis expands the countries included to 47 and the companies to 3,633. Thus, the sample in his thesis is larger than the one used in the most extensive study on the national culture impact on CSP from Ioannou and Serafeim (2012), which is composed by 42 countries and 2,000 companies.

The paper provides significant practical implications to the readers but also gives different theoretical explanations. The analysis will be helpful for governments and businesses which would like to improve the sustainability performance within the country or within the organization but cannot comprehend what they lack to achieve better results. On the other hand, organizations and institutions, which already possess advanced environmental and social practices might be interested in knowing what makes them unique and can strive to preserve it.

The rest of the master thesis is organized as follow. Chapter 2 gives theoretical background and constructs the hypotheses. While in Chapter 3 the research method is explained. Moreover, Chapter 4 represents the results of the paper and it is followed by Chapter 5 which consists of the conclusion and discussion of the findings.

2. Literature overview

CSP and board characteristics

Turning now to the theoretical evidence, agency theory suggests that the more independent managers on the board there are the better the sufficiency of monitoring and controlling the opportunistic behavior of the incumbent management. In other words, the agency problem is minimized resulting in maximization of the shareholder's wealth (Erhardt et al., 2003; Rao & Tilt, 2015; Wang & Coffey, 1992). The agency problems arise when the management and the ownership are separated in a given organization. Consequently, conflicts of interests between the executive management and the owners often arise. According to agency theory, the agents (top management) have divergent self-interest from the principal (the shareholders), leading to each of them maximizing their own profit function and having different perceptions of risk and goals for the company. Therefore, monitoring the actions of the directors has become a central agency problem to shareholders. This problem can be minimized by incorporating independent internal control achieved by a higher proportion of independent directors (Webb, 2004). Independent directors act as "referees" or gatekeepers on the board by increasing the awareness of higher competition among top management and to detect whether they are acting in an opportunistic way towards the residual claimants (Wang & Coffey, 1992). For example, acknowledging the decisions of the top management and agreeing to their compensation are some of the most common agency issues with which independent directors have to deal on a day to day basis. Independent directors are thought to be disciplined by the efficient managerial labor market since their market evaluation is based on their performance as referees, which boosts their incentives to act in a way that reveals their expertise in the decision-making process.

The Board of Directors (BOD) are responsible for some of the most essential operation in the company such as monitoring, supervising, managing, counseling and providing the necessary information for the top management. Their responsibilities, however, are not limited to only monitoring the firm's management, but they are also liable for setting the strategical objectives of the company such as vision, mission, and goals to be achieved. This includes identifying key risks which might be associated with social and environmental liabilities. Furthermore, the existing management system concerning sustainability practices should be constantly reevaluated by the board in order to match the company's values and strategic priorities. Consequently, the BOD is the key firm determinant factor of the corporate sustainability performance since they are the one setting the agenda of the company and questioning whether the goals are reached. Some authors have discovered a connection between firm factors, such as the firm's leverage,

the return on assets (ROA) and the firm size with the CSP, however, they are a byproduct of the decisions of the BOD. As a matter of fact, whenever the ROA is increasing the firm is more capable of spending additional resources for sustainability practices, which are not directly connected to the firm's main operations. However, it is up to the BOD to decide whether the retained earnings will be invested in such practices. In this regard, the board consists of individuals holding their own beliefs and attitudes towards environmental issues which also plays a critical role in the decision-making process (Aguilera et al., 2007). The beliefs and attitudes between the board members might differ systematically due to the variation in their experience, knowledge, and information acquired, or background in general. Heterogeneity in their demographic origin, gender and whether the directors are independent, or insiders may impact significantly the decision making, the firm performance and even the sustainability practices.

Some of the most frequently broken laws in corporations are related to environmental regulations. In order to abide by environmental regulations, firms have to invest significant resources in equipment, convert to environmentally friendly materials, or invest time in the implementation of new procedures. Instead of investing in the environmental processes, inside directors might decide to redirect resources towards new projects, new technology development or restructuring the debt, since they are more likely to generate short-term gains for the company (McKendall, Sánchez, & Sicilian, 1999). While inside directors identify higher economic returns as sufficient economic performance, independent directors can broaden this view by incorporating long-term objectives, such as sustainability performance (Coffey & Wang, 1998). Independent directors are thought to be more independent of the current company management and since their job position is independent of the top management they can critically estimating the executive management decisions when it comes to not complying with environmental laws and investing in green initiatives. Moreover, CSR is one of the means by which information asymmetry between the top management and the owners can be reduced and higher CSP shows that the board members are oriented towards creating long-term value for the shareholders. This is done by increasing the standards for the quality and the creation of products and services, which might not be beneficial in the short-term, but enhances the credibility of the corporation and establishes and maintains its legitimacy (Johnson & Greening, 1999). Furthermore, a byproduct of the higher standards is the increase in the efficient use of resources and a more ecologically sound manufacturing, consequently minimizing the negative environmental impact. Another reason for them to be more socially and environmentally oriented is that they are hired to manage and represent external constituents, making them more knowledgeable about the consequences of not complying to environmental laws for the sake of increasing the earnings in the short-term, such as damaging loss of face in the media or receiving a penalty.

The empirical findings of the benefits of independent directors on BOD suggest that indeed they play a crucial role in the corporate sustainability. Agency theory explains the profit motives of independent directors, which drive CSP such as increased standards, but they also hold non-profit motives, which makes them more strongly oriented towards stakeholders. This idea is supported by the empirical research of Johnson and Greening (1999), who find that independent directors are associated with people dimensions such as community, women, and minorities, and employee relations. However, independent members do impact significantly also the product quality dimensions – natural environment and product and service quality. Independent directors have been found to be more considerate towards social demands (Ibrahim & Angelidis, 1995; O'Neill, Saunders, & McCarthy, 1989), support long-term gains as opposed to short-term (Fama & Jensen, 1983; McKendall et al., 1999), can better monitor the agents decisions and set more adequate compensation for the top management (Core, Holthausen, & Larcker, 1999; Fama & Jensen, 1983), are environmentally more responsible (Post, Rahman, & Rubow, 2011). These findings suggest that independents are more socially and environmentally responsible and this proposition is not so surprising. Since independent directors are not pressured by the market expectations, they can express their personal views in connection to the society through the decision-making process (McKendall et al., 1999). While inside directors, who typically are in the top management positions, are involved in corporate decisions daily and might regard their short-term profit-maximizing decisions to the competitive pressure. Therefore, this thesis argues that inside directors can clearly see the positive effect of investing in socially and environmentally oriented programs, which pay off economically in the long-term, and this lead to higher sustainability performance in firms. Consequently, the following hypothesis is formulated:

H1: Companies with higher levels of independent directors in the BOD exhibit higher CSP than companies with lower levels of independent directors.

Another aspect of the board characteristics is the board diversity, which is composed of gender and nationality diversity. Furthermore, the theoretical literature often links the overall board diversity to the diversity of expertise. According to the resource dependence theory, women on board can give new insights into the decision-making process by representing the other half of the society. While nationality diversity can implement new ways of thinking and reshape practices in the strategic decision making, women are more likely to initiate sustainability discussions on the BOD because of their caring nature (Miller & Del Carmen Triana, 2009).

Stewardship theory supports the idea that moral motives, personal values and cognitive biases among different economic actors in a company make up the organizational values and business ethics (Aguilera et al., 2007). Directors on the board with notably pronounced moral motives may push the organizations to

undertake social changes through their sustainability practices. Director's cognitive biases and individual's values diffuse to the overall business ethics and organizational values from the decision-making process. Members of BOD of transnational firms might feel the duty and obligation to give back at the society or to implement strategies which will bring about greater equality of wealth, gender, and race in order to make the world fairer. Furthermore, national culture and gender can play a significant role in shaping personal values and moral motives when it comes to corporate sustainability. While moral ideals might differ between female and male in the sense that women are more concerned for caring about others, even though fairness and equality are perceived by both in the same way (Post et al., 2011). In addition, women can recognize better the situations in which ethical judgment is needed and hence more often respond in an ethical way. On the other hand, women and minorities on board are more likely to have diverse backgrounds such as in law, education or to be a part of a nonprofit organization. This makes them more responding to sustainability initiatives and less profit maximizing (Wang & Coffey, 1992; Williams, 2003). What is more, women's urge to maintain close relationships translates into supporting environmental and social programs which are community oriented, such as encouraging medical researches, helping homeless and disabled people or have the aim to improve the education system through scholarships and funding (Williams, 2003).

The inclusion of members of different cultural groups on the BOD is especially important in highly diversified countries, but also to firms which have a culturally diverse customer base, so that the needs of the different groups of constituents are understood and represented. One example of a failure to comprehend the values, beliefs, and practices of a nationality is Campbell's decision to introduce soup in a can on the Russian market. What Campbell's management missed out in their strategic decision making in this emerging market is that soup is one of the most important traditional dishes and making it from scratch is long rooted in their cultural preferences. Thus, a soup can was not meant to be in this market.

Compliant with resource dependency theory, women and culturally diverse directors can expand the knowledge and the broader the company's network relationships (Zhang, 2012). Since demographically diverse board members and women typically hold advanced degrees and come from non-business backgrounds, they can be a good source of creative thinking and understanding of heterogeneous customers. Research shows that women and minorities maintain more social ties, even weaker once, which leads to obtaining more information. More information is needed in order to find innovative solutions to problems and engage in creative thinking. Having a wider social network can contribute to better relations with stakeholders and hence improve the social performance.

Alternative understandings of the rationality behind the reason why something is done in a particular way and what are the values and beliefs behind these practices is an important trait for transnational firms.

Innovation in emerging markets is primarily focused on managing the scarce resources and finding solutions for day-to-day inconveniences with which locals are facing. Hence, the concept of innovation in emerging markets is primarily environmentally and socially focused and need not involve the up-to-date technologies. For instance, some of the households in rural areas in developing countries are isolated from the electrical network and providing solar solutions is even more practical and environmentally advantageous, rather than the cable electrification. Consequently, a good sustainability initiative of firms which provide solar solutions is to refurbish and resale the out of use solar panels to rural households for a low cost, which will increase the sustainability performance of the firm and will not disturb the economic goals. However, to think of a solution to a problem, one should well understand the problems which people in a particular society are facing and then also provide the best solution to the problem. Furthermore, in order for the solution to reach its goal, it should be compatible with the customs, traditions, and beliefs of the people. Therefore, more culturally diverse BOD can have a superior comprehension of the problems faced by different cultural groups and what solutions are the most appropriate and executable, while adhering to the business goals of the firm.

Previous research shows that more women on board can bring about different perspective to the board by representing the other half of the society (Carter, D'Souza, Simkins, & Simpson, 2010). Furthermore, it is thought that both genders have the same reasoning when it comes fairness and equality, however female are more responsive to the needs of other and concentrate more on the close relationship maintenance (Post et al., 2011). In the organizational context when rules are not specifically defined, women act more ethically than men and show greater support for enforcement of environmental accountability standards. Previous research has shown that gender diversity influences the financial performance of firms through the mediating relationship of innovation and reputation (Miller & Del Carmen Triana, 2009) and that it also has an impact on the sustainability performance (Bear et al., 2010; Boulouta, 2013; Post et al., 2011). However other authors did not find the same pattern when it comes to CSP (Rao & Tilt, 2015). Furthermore, the impact of the cultural diversity of the board of directors is quite an understudied topic (Haniffa & Cooke, 2005). Even though there are differences between individuals, there are also certain values and beliefs which are carried out by people of a certain culture. For example, there are substantial managerial differences between Eastern and Western managers, so as while American managers valued highly individuality, Japanese managers put more emphasis on socially-oriented activities (Hemingway & Maclagan, 2004). Since values of the board members are particularly important when it comes to the decisions making, similarly to gender diversity, demographical diversity on the board can introduce different points of view in that process (Waldman et al., 2006). Based on the evidence presented so far in

connection to the positive relationship between the CSP and the gender and nationality diversity of the BOD the following hypothesis are derived:

Hypothesis 2: Companies with higher levels of diversity in the BOD exhibit higher CSP than firms with a low level of diversity in the BOD.

CSP and the national culture

Corporate sustainability is not only about achieving business results, but it is also about aligning the company's and the society's values and drivers, as the society coexists both inside and independent of the organization (Hemingway & Maclagan, 2004). There are systematic differences between countries' formal and informal institutional systems, which leads to companies situated in some countries having superior CSP compared to companies of the same size and in the same industry in other countries. Institutional theory gives a good insight into how cultural values and beliefs, which constitute for the informal institutions, can affect the differences in corporate governance between countries, by shaping the formal institutions including the corporations (Aguilera, 2003). While stakeholder theory gives an overview of the difference between constituents' expectations towards company's involvement in inducing environmental reforms and helping with societal issues.

Culture is thought as an informal institutional structure consisting of values and strongly held beliefs, customs, traditions, norms, ongoing practices and behavior, religion (Hofstede, Hofstede, & Minkov, 2010; House, Hanges, Javidan, Dorfman, & Gupta, 2004; Williamson, 2000). Institutional theory positions national culture at the top of the analysis as an exogenous factor, which influences the design of the national institutions and the perceptions of economic actors (Jong, 2011; Williamson, 2000). Since culture shapes the nation's institutions, which in return construct the relationships between economic actors, it can be argued that it has both direct and indirect impact on the economic behavior and outcomes. National institutions are the once who enable and constrain the behavior of corporations, however, institutions across countries can differ significantly from each other as a result of heterogeneity of cultural beliefs and values.

An empirical research by Li and Harrison (2007) which examines the influence of national culture on the size and the leadership structure of the BOD show that indeed the governance structure is different due to the cultural heterogeneity. It turns out that culture does not only shape the interaction between people, but the societal values and beliefs are reflected in the functioning of the organizations, too (Li & Harrison, 2008). Even though there are personality differences, some specific cultural values and beliefs are installed in the mindset of people through their upbringing. Each culture has conceptualized the norms institutions should follow and belief about the form of their structure, for example, hierarchical versus flat organizational structure.

National culture does not only form the link between institutions and organizations, but it is also embodied in the role and identity of stakeholders. Expectations will be formed about the role of organizations in initiating sustainability depends on how the stakeholders' needs, expectations and interests are conceptualized (Campbell et al., 2007; Matten & Moon, 2008). Since firms are not isolated from the society independent of the organization they should fit the prevailing norms and shared beliefs which are a part of the national culture. Additionally, board members can posit and augment their cultural values and beliefs, which they have learned through the early socialization, about the organization and the structure of corporations through their voting power. Moreover, directors would like to achieve legitimacy which is necessary for the survival of the company in a specific environment and hence will be more eager to adopt the societal values.

In order to explain the cross-country cultural differences, this thesis makes use of the Hofstede's cultural framework. The construct is based on a database from IBM questionnaires from more than 50 countries worldwide. The questionnaires containing information about the IBM employees' values and sentiments are transformed into six cultural dimensions. However, the nation's expectations about the organizational involvement in the social and environmental contribution depend on four cultural dimensions, namely masculinity versus femininity, long-term versus short-term orientation, high versus low power distance and individualism versus collectivism (Hofstede et al., 2010).

For sustainability performance to be improved, the organization and the country should value long-term goals more compared to short-term rewards (Hofstede et al., 2010). Long-term oriented societies are more aware of the manner in which scarce resources are spent, which might make them more sparing. What is more, people might sustain greater effort towards a goal, which will be achieved at a slower pace and needs greater commitment and perseverance. In long-term oriented countries, the social and economic differences between people should be minimized, as everyone should be equal to the other. Unfortunately, so far, no research paper has included long-term versus short-term orientation in their analysis. However, the need for decreasing the inequality within a society together with sacrificing short-term goals for reaching sustainable economic growth is an important trait for the corporate sustainability performance. Therefore, in this research paper, it is hypothesized that long-term orientation will positively influence the CSP at the country level.

H3: Corporations located in countries with higher levels of long-term orientation exhibit higher CSP than corporations located in countries with low levels of long-term orientation.

By using Hofstede's dimensions of national cultural differences, Adnan(n.d.), and Ringov and Zollo (2007) discover that high power distance has a significant negative impact on the CSP. Another finding is that high power distance countries generate a less standalone report in connection to CSP (Fernandez-Feijoo, Romero, & Ruiz, 2012) Also, Waldman et al (2006) observes negative impact of power distance on the top management values related to CSP by using data from the GLOBE dataset. High power distance countries are associated with low employee involvement in the company's tasks and a more bottom-down approach, ignoring the needs of stakeholders (Ringov & Zollo, 2007). In those countries, power is centralized in the hands of few, who collect and redistribute the scarce resources in the society. Furthermore, the more unfortunate are aware that the power is divided unequally and are accepting of it as long as they feel fairly treated by the "top" of the hierarchy (Jong, 2011).

High power distance countries are characterized by higher inequality of women and minorities, stagnated professional development unless connections are not the present and manipulative use of power (Hofstede et al., 2010; House et al., 2004; Waldman et al., 2006). Board members in high power distance countries are expected to be more concerned with their own needs and less with those of their stakeholders. Furthermore, they are less likely to be engaged in building a long-lasting relationship with the stakeholders, such as employees, customers, suppliers, and will not exhibit concerns with supporting the broader shareholder group. On top of that, managers in high power distance countries might perceive controversial business practices as ethical more often than their counterparts in low power distance countries (Ioannou & Serafeim, 2012).

However, the findings of Ioannou and Serafeim (2012) contradict the generally accepted view that directors and managers in high power distance countries do not attach importance to the needs of employees, environment, and customers. As opposed, their findings suggest that people at the top of the hierarchy feel greater noble obligation and responsibility towards the stakeholders. However, one major drawback of the dataset is that it consists of firms situated mainly in countries, which score around the average or below on the power distance dimension (USA, UK, Continental Europe, Australia, Canada just to name a few). Thereafter, the effect of high and low power distance might not be well captured by the dataset, which might have led to the unanticipated results. Since previous findings and the literature review suggests that indeed power distance has a detrimental impact on the CSP, the following hypothesis is constructed:

H4: Corporations located in countries with higher levels of power distance exhibit lower CSP than corporations located in countries with low levels of power distance.

Masculine societies regard highly material achievements and under-value the inclusion of minorities, solidarity, which can hamper helping behavior (Hofstede et al., 2010; van der Laan Smith, Adhikari, & Tondkar, 2005). On the other hand, feminine societies are more nurturing, they put an emphasis on maintaining social relationships and on protecting the physical environment. These traits relate to their feeling of perseverance. While masculine societies appraise values, which are not in line with the CSP, for example, material and career achievements, and possession of power, feminine societies are concerned with the quality of life and the costs for achieving greater material success should not be at the expense of the environment and the community. Furthermore, the masculine nationalities expect less support from the businesses in social and environmental issues, leading to less demand for information and therefore less CSR disclosure from the business part(Adnan et al., n.d.; Fernandez-Feijoo et al., 2012). Empirical research backs up the idea that masculine ideals in a society can reduce the CSP of the firms (Adnan et al., n.d.; Fernandez-Feijoo et al., 2012; Ringov & Zollo, 2007). In line with the theoretical and empirical motives, this thesis hypothesis the following:

H5: Corporations located in countries with higher levels of masculinity exhibit lower CSP than corporations located in countries with low levels of masculinity.

There is some evidence that indicates that individualism might affect positively the sustainability performance as well (Ioannou & Serafeim, 2012). Individualistic countries are more tolerable against differences in opinion and individual initiatives, even if they are not broadly accepted by all board members. Stakeholders and different economic actors in the firm have more freedom to decide what is the best strategic decision, thereafter CSR takes the forms of the explicit and proactive tool in the strategic decision making. Certain values of individualistic countries such as harmony, solidarity, and tolerance towards others and they believe that women and minorities have equal rights might be the stepping stones to better CSP.

H6: Corporations located in countries with higher levels of individualism exhibit higher CSP than corporations located in countries with low levels of individualism.

Interactions between board diversity and national culture

Altogether, since the scholars only recently have started exploring the relationship between national formal and informal institutions the evidence is not sufficient to conclude how the different dimensions of the national culture influence the sustainability performance and more thorough research is needed in this direction. For example, previous research has examined only the direct effect of the national culture dimensions, while not considering that there might be moderating effects with the board diversity indicators.

As previously noted, it is assumed that independent directors will also share a longer-term motive for the company growth, putting more emphasis on the sustainable redistribution of resources, investing in the project for R&D and caring more for the stakeholder's needs. Another link to the independent directors and the feminine countries is that more importance is given to learning and innovation and building a broader lifelong network. These similarities suggest that the positive effect of the independent directors on the CSP might be enhanced in countries characterized by high levels of masculinity because they can counteract the negative effects of the masculine traits on the businesses. The following hypothesis is suggested for the moderating effect of long-term orientation:

H7: The effect of the independent directors on the CSP is higher in countries with high levels of masculinity than in countries with low levels of masculinity.

Similarly, the negative impact of masculine countries might be moderated

by inclusion at least 3 women on the BOD, because then board might adopt more "feminine" values of caring and sustainable development, which will not come at the expense of the future generations (Fernandez-Feijoo et al., 2012). However, in order to reap the benefits of women on the board, at least three women should be present, otherwise, they might be treated as tokens (Torchia, Calabrò, & Huse, 2011). Especially in a country where men's word weights heavier, women might feel uncomfortable to express their ideas for social and environmental changes if there is no alike support in the boardroom. The more culturally diverse board might play the same role as more women on board by bringing values and beliefs from more feminine societies, more equality and by caring for the minorities as being representative of another cultural group. Furthermore, the more culturally diverse board are likely to support. Thereafter, I expect that having the critical mass of 3 women directors on the board and more nationally diversified boards will moderate the hypothesized negative relationship between CSP and high masculinity levels.

H8: The effect of the BOD diversity on CSP in countries with high levels of masculinity is higher than in countries with low levels of masculinity.

3. Research method

3.1. Sample

The initial data sample consisted of 6,039 companies for which data for the CSP score was available for the years 2008-2016. The database used was Thomson One's ASSET4, where environmental, social and governance (ESG) indicators can be found. The second largest list of firms called ASSET 4 Active Universe List (only active firms) was preferred because there is more comprehensive information available for the board structure of existing companies. After selecting firms for which CSP score is available, information also on the independent directors and the BOD diversity (gender and nationality) was extracted. Due to data limitations on the BOD diversity proxies in BoardEx and on the independent directors in Thomson One, the firms in the sample was reduced to 3,663. The next step was to gather data for the Hofstede's cultural dimensions for 47 countries in which the firms' headquarters are located. For the countries which do not have estimated dimensions (Bahrain, Nigeria, Israel, Jordan), the dimensions for the region is used (Africa west and Arab countries). This thesis is aiming at expanding the researched countries and for example, while Ioannou and Serafeim (2011) include 42 countries in their sample, in this paper, the countries add up to 47. The countries new to the analysis of CSP are United Arab Emirates, Australia, Bahrain, Colombia, Marocco, Nigeria, and Peru. All in all, the final unbalanced panel dataset contains 3,663 firms which are located in 47 countries, comprising 12,023 firm-year observations.

The firm information on the CSP was retrieved from Thomson One (www.thomsonone.com) where all active firms, for which data for the ESG indicators is available were included in the sample. This thesis makes use of two of the ESG scores, namely ESG score and ESG combined score. In addition, from the same dataset information about the independent directors on the board is collected. For the number of females on the board and the nationality of the board members, the BoardEx database is used (www.corp.boardex.com). The BoardEx database contains elaborate biographical information about the board members and senior executives globally. Furthermore, since this paper also examines the effect of national culture on the CSP, four of the renowned Hofstede's cultural dimensions, namely Long-term orientation, Power Distance, Masculinity, and Individualism have been taken from the researcher's own website (www.geerthofstede.com). The Kaufmann's index of "rule of law" was found in the dataset called Worldwide Governance Indicators, which are available at the World Bank's Databank (www.data.worldbank.org). Moreover, the firm-level data for the variables industry, firm size, leverage and ROA is also retrieved from Thomson One (www.thomsonone.com) from the dataset Datastream which deals with financial information. The descriptive statistics by country and year (Table 1), and by industry

and year (Table 2) offer a comprehensive review of the dataset. At the bottom of both of the tables, the observations per year are summed up.

Table 1 Descriptive statistics by regional groups and year

Groups	2009	2010	2011	2012	2013	2014	2015	2016	Total
Europe	263	292	364	378	426	448	476	468	3,115
Asia	46	59	136	150	217	225	243	226	1,302
South America	0	2	1	3	6	2	4	4	22
Norh America	371	447	563	601	670	722	1,188	1,813	6,375
Oceania	32	71	116	132	178	188	222	242	1,181
Africa & Middle East	1	1	2	2	3	5	7	7	28
Total	713	872	1,182	1,266	1,500	1,590	2,140	2,760	12,023

*The countries are grouped as follow: **Europe** – Austria, Belgium, Czech Republic, Denmark, Germany, Spain, Finland, France, UK, Hungary, Ireland, Italy, Netherlands, Norway, Poland, Russia, Sweden; **Asia** – China, Hong Kong, India, Indonesia, Japan, South Korea, Malaysia, Philippines, Singapore; **Africa and Middle East** – Morocco, Nigeria, South Africa, United Arab Emirates, Bahrain, Israel, Jordan, Turkey; **South America** – Brazil, Chile, Colombia, Mexico, Peru; **North America** – Canada, US; **Oceania** – Australia, New Zealand.

Table 2 Observation's descriptive statistics per industry per year[1]

Fama-French industry code (12 industries)	2009	2010	2011	2012	2013	2014	2015	2016	Total
Consumer Non Durables	36	47	63	61	78	90	97	124	596
Consumer Durables	14	19	27	27	33	37	51	68	276
Manufacturing	71	86	125	129	140	154	195	247	1147
Energy	58	66	82	94	123	138	135	149	845
Chemicals	24	33	43	42	52	52	69	79	394
Business Equipment	55	83	108	111	137	143	237	318	1192
Telecommunication	28	29	44	46	57	49	64	69	386
Utilities	26	36	50	51	68	68	80	97	476
Shops (Retail, Wholesale)	73	79	101	118	129	135	187	250	1072
Healthcare	34	43	54	62	72	77	132	216	690
Finance	141	164	234	250	291	317	497	631	2525
Other	153	187	251	275	320	330	396	512	2424
Total	713	872	1182	1266	1500	1590	2140	2760	12023

3.2. Variables

Dependent variables

The main dependent variable in the sample is the Thomson Reuter's Environmental, Social and Governance (ESG) score which is constructed based on three main pillars, namely environmental social and governmental, which later are transformed into a single unit ("ESG Research Data," n.d.). The three pillars include altogether 10 categories: (a) the environmental pillar consists of information about the effective resource use, CO2 emissions and product innovation which improves the environmental footprint of the

[1] The firms are divided into 48 industries according to French-Fama Industry classification based on the firm's four digit sic code in the regressions, however in this table they are divided into 12 industry groups as defined by French-Fama Industry classification.

companies; (b) the governance pillar includes scores connected to the firm's management commitment to following best practices, shareholders' equal treatment and CSR strategy implementation; (c) while the social pillar is compounded of information about the workforce policies and opportunities, human rights support, product responsibility and relationship with the community. The social and the environmental pillars are comprising the largest part of the CSP score (34% and 35.5 % respectively). The ESG score is called CSP score in this dataset and ranges from 0 to 100. The higher the score is the better the company is performing. Moreover, the variable is built upon company's self-reported data, but it also includes various Non-Governmental Organizations (NGO) and news sources information. The advantages of using the Thomson Reuter's ESG Score is that it aims for providing reliable, up-to-date and least biased ESG data by combining more than 400 ESG qualitative measures, which are later translated into quantitative data. Before the scores are published, the data goes through numerous verifications and data entry verification. Consequently, researchers choose to utilize the yearly updated ESG measures in their data, because of its high quality and accuracy (Eccles, Ioannou, & Serafeim, 2014; Ioannou & Serafeim, 2012).

Now turning to Table 3 for an overview of the CSP score, we can see that Australia, Canada, Japan and the UK and the US are the countries with the highest number of firms in the dataset comprising for 77% of the firms in the sample. Furthermore, the US outnumbers the other countries significantly with having a total of 1779 out of the 3633 firms in the sample, which is 48% of the companies. The firms scoring the highest, above 90, are located in the following countries - Australia, Canada, Switzerland, Spain, France, the UK, India, Japan, Netherlands and the US. While the firms scoring the lowest, below 10, are located in the countries Australia, China, Spain, Malaysia and the US. As we can see there is a high variation in the companies' sustainability performance in the countries Australia, Spain and the US, which have the best of the worst performing firms. This comparison, however, might be inaccurate, since many countries in the sample cover below 10 firms, which is a quite low representation of the companies based there. In Table 4 with every subsequent year, the number of observations increases while the mean CSP score decreases.

In order to verify the results, a robustness test is also conducted by replacing the dependent variable CSP score with a measurement which includes also a measurement for controversial coverages in the media. The robustness check dependent variable is called Combined CSP score. It is calculated as the average of the CSP score and of the Controversies score. If lawsuits and investigations around the controversial case continue in the subsequent year, the controversy is added again. Therefore, if a major scandal occurs at the end of the year around a certain company it will be accounted for in the combined CSP score evaluation for the subsequent year too. Since often the CSP score and the Combined CSP score to match, in Table 1 in the Appendix a comprehensive explanation of the calculation of the variable Combined CSP score is attached.

Table 3 Summary statistics for the two dependent variables CSP score and Combined score per country

			CSP score				Combined score			
Regional groups	**Firms n**	**Obs.**	**Min**	**Mean**	**Max**	**St.Dev.**	**Min**	**Mean**	**Max**	**St.Dev.**
Europe	727	3115	8,50	58,39	95,76	16,11	8,50	51,40	95,76	15,42
Asia	531	1302	7,95	51,35	92,31	17,08	7,95	47,75	92,31	16,56
South America	15	22	37,44	60,86	76,78	11,19	27,12	54,07	71,42	12,66
North America	2047	6375	8,71	48,79	97,25	17,53	8,71	42,89	94,73	15,05
Oceania	302	1181	8,25	46,94	93,16	17,28	8,25	43,81	92,23	15,80
Africa and Middle east	11	28	16,68	44,47	68,20	15,64	16,68	40,73	68,20	14,63
Total	3633	12023	7,95	51,39	97,25	17,62	7,95	45,73	95,76	15,82

Table 4 Summary statistics for the dependent variables CSP score and Combined score per year

Year	**CSP score**					**Combined score**				
	Obs	**Min**	**Mean**	**Max**	**St.Dev.**	**Obs**	**Min**	**Mean**	**Max**	**St.Dev.**
2009	713	13,97	53,43	97,25	18,70	713	11,06	46,02	89,30	15,98
2010	872	9,69	53,20	93,16	17,94	872	9,69	45,76	89,49	15,84
2011	1 182	7,95	51,91	94,29	18,10	1 182	7,95	45,40	94,29	15,69
2012	1 266	8,71	51,85	95,22	17,50	1 266	8,71	45,78	91,28	15,85
2013	1 500	8,66	51,95	93,25	17,52	1 500	8,66	45,88	92,31	15,58
2014	1 590	8,25	52,16	94,30	17,41	1 590	8,25	45,86	91,87	15,48
2015	2 140	11,25	50,88	94,86	17,48	2 140	11,25	46,66	94,73	16,52
2016	2 760	10,41	49,48	95,76	17,17	2 760	10,41	44,87	95,76	15,55
Total	12 023	7,95	51,39	97,25	17,62	12 023	7,95	45,73	95,76	15,82

Independent variables

A. Independent directors measure

Board independence is proxied by the variable Strictly Independent Board Members which is defined as '*Percentage of strictly independent board members (not employed by the company; not served on the board for more than ten years; not a reference shareholder with more than 5% of holdings; no cross-board membership; no recent, immediate family ties to the corporation; not accepting any compensation other than compensation for board service* ("ESG Research Data," n.d.). It is measured yearly for each firm and it ranges from 0 to 1 with a mean of 0.45. If the company's BOD independence score is 0 it means that none of the directors are strictly independent, while if it is equal to 1 it means that the whole BOD is composed of strictly independent directors. In the dataset, both the minimum and the maximum is observed with an average score for all firms of 0.45.

B. Board diversity measures

Nationality diversity

For measuring the *nationality diversity on the BOD,* the variable "nationality mix" is used, which is defined as "*Proportion of Directors from different countries at the Annual Report Date selected*". The variable ranges from 0 to 1, where 0 indicates the absence of nationality diversity on the BOD, while 1 translates to an absolute nationality diversity on the BOD. However, in this dataset, the maximum nationality diversity on the BOD is 0.9 with an average of 0.18.

Gender diversity

The variables gender ratio and the number of directors on the BOD are utilized in order to calculate the two gender diversity measures used in this thesis, i.e. female ratio and Blau's index of diversity. The variable gender ratio represents "*The proportion of male directors at the Annual Report Date selected*" (SOURCE Wharton Data Dictionary). The female ratio is computed as shown in the following formula:

$$FEMALERATIO = (1 - Gender\ ratio) x\ Number\ of\ Directors\ on\ BOD \Big/ Number\ of\ directors\ on\ BOD$$

Furthermore, another variable of gender diversity is included, which is also often used for assessing the effects of BOD diversity, i.e. Blau's index of diversity. It is constructed as follow:

$$BLAUINDEX = (1 - \sum \mathrm{pk}\ 2\ )$$

where p is the proportion of group members in each of the k categories. The range of the Blau's index is composed as (k-1) / k so that the gender diversity of the BOD, when measured by Blau's index, ranges from 0 when there is only one gender in the group to 0.50 when there is an absolute equality between male and female in that group (Ritter-Hayashi, Vermeulen, & Knoben, 2016). The index is computed early for each firm.

Overall diversity

The overall diversity proxy combines both gender diversity and nationality diversity into one measurement. In order to construct the measurement first, two dummy variables were created indicating whether a company in the sample possess higher than the average nationality and gender diversity. Then the two dummy variables were multiplied, and the outcome is that the overall DIVERSITY proxy, which is equal to 1 only when the company has both gender and nationality diversity on the BOD above the mean.

$$GENDERDIVERSITY\ DUMMY = 1\ if\ BLAUINDEX\ \geq mean\ (0.21)$$

$$NATDIVERSITY\ DUMMY = 1\ if\ NAT.DIV. \geq mean\ (0.18)$$

$$DIVERSITY = GENDERDIVERSITY\ DUMMY * NATDIVERSITY\ DUMMY$$

C. Cultural dimensions

The Hofstede's cultural dimensions variables - Power distance index (PDI), Individualism versus Collectivism (IND), Masculinity versus Femininity (MAS) and Long-term orientation versus Short-term (LTO) orientation are used in the analysis to research the effect of the national culture on the CSP score of companies. Data for 47 countries is collected, which match the countries' headquarters of the firms in the dataset. The scale of the dimensions ranges from 0 to 100 for all variables except for the Power distance index, for which the maximum is 104. Moreover, the interpretation of the scores on each of the four dimensions is as follows:

a) Higher value for the PDI indicates higher power distance in the society;
b) Higher value for the IND indicates a country which is rather individualistic as opposed to collectivistic;
c) Higher value for the MAS indicates that the society has masculine values as opposed to feminine;
d) Higher value for LTO indicates that the society is long-term oriented rather than short-term;

Control variables

The firm data withdrawn from Datastream is Total assets, Shareholder's equity, Country code for where the headquarter is situated, the return on assets (ROA) and a four-digit SIC code for each firm. With the data the variables LEVERAGE, FIRMSIZE and INDUSTRY were constructed, while ROA is used as given.

The variable FIRMSIZE is equal to the logarithm of the total assets. LEVERAGE is computed by the formula: 1- (Shareholder's equity/ Total assets). The four-digit SIC codes are used to divide the 3,633 companies into 48 industries according to the Fama-French industry classification and it is controlled for specific industry effects (Ioannou & Serafeim, 2012; "Kenneth R. French - Detail for 48 Industry Portfolios," n.d.). Moreover, the analysis control also for aggregated time-series trends by including year dummies. Consistent with previous research it is expected that the FIRMSIZE and the ROA have a positive impact on the CSP score, while the LEVERAGE has a negative impact (Artiach Tracy et al., 2010; Ioannou & Serafeim, 2012).

3.3. Regression model

The method, which is adopted in the thesis is the multilevel linear regression analysis. The model is suitable for this particular research because there is two level of analysis – firm and country level. Already previous research has identified that the firms in the cross-country research of CSP are nested within their national units (Erhardt, Werbel, & Shrader, 2003; Zhang, 2012), which is also the higher hierarchy level (Bristol, n.d.). Furthermore, multilevel analysis can distinguish the hierarchies and allows for residual components at each level in the hierarchy. Another characteristic of utmost importance is that the multilevel linear regression model allows for interactions between the different levels of analysis (Hox, 2002), which is one of the objectives of the paper.

The following equation shows the first model to be tested where both firm-level and country-level variables are included together with interaction terms between the two levels.

$$CSPscore\ ij = \gamma_{00} + \gamma_{10}INDEPDIR_{ij} + \gamma_{20}DIVERSITY_{ij}^{a} + \gamma_{01}LTO_j + \gamma_{02}PDI_j + \gamma_{03}MAS_j + \gamma_{23}MAS_j\ x\ DIVERSITY_{ij} + \gamma_{13}MAS_j\ x\ INDEPDIR_{ij} + \gamma_{04}IND_j + \gamma_{40}ROA_{ij} + \gamma_{50}LEVERAGE_{ij} + \gamma_{60}FIRMSIZE_{ij} + \gamma_{05}RULELAW_j + \gamma_{70}INDUSTRY_{ij} + \gamma_{06}YEAR + u_{0j} + \varepsilon_{ij}$$

Since DIVERSITY is measured in three different ways, there are three models of testes. The first model includes FEMALERATIO and NATDIVERSITY as proxies for BOD diversity, while the second model

tests the diversity measures BLAUINDEX and NATDIVERSITY. Lastly, the third model makes use of the overall diversity proxy – DIVERSITY. The interaction term between each of the diversity proxies and MAS is also included in the analysis.

A list with all variables abbreviations and their description can be found in Table 2 in the Appendix.

4. Results

4.1. Descriptive statistics

Before continuing with the regressions analysis, the data is inspected by looking at the descriptive statistics in Table 5. Both dependent variables, i.e. CSP score and COMBINED score, have low values for the skewness and kurtosis, hence they are normally distributed. Moreover, as we can see only the control variables ROA and LEVERAGE are not normally distributed. However, they are not log transformed since no disturbance in the error term is observed, in fact with and without the transformed variables LEVERAGE and ROA the error term does not change[2]. Furthermore, because of a large number of negative values, log-transforming the ROA causes numerous missing values. The change in the variables is that for ROA, LEVERAGE and FIRMSIZE were mean imputated, which means that the missing values have been replaced with the mean of the variable. In order to correct for bias resulting from the mean imputation, dummy variables are included in each regression. The replaces values for ROA, Leverage and Firm size were 155, 485 and 455 respectively.

Table 5 Descriptive statistics

Variable name	Min	Mean	Max	St. Dev.	Skewness	Kurtosis
CSP score	7,95	51,39	97,25	17,62	0,18	2,18
COMBINED score	7,95	45,73	95,76	15,82	0,50	2,68
INDEPDIR	0,00	0,45	1,00	0,21	-0,18	2,62
FEMALERATIO	0,00	0,14	0,75	0,12	0,68	3,20
BLAUINDEX	0,00	0,21	0,50	0,16	-0,04	1,77
DIVERSITY	0,00	0,24	1,00	0,43	1,23	2,51
NATDIVERSITY	0,00	0,18	0,90	0,24	0,93	2,54
LTO	9,00	38,32	100,00	18,37	1,35	3,98
PDI	11,00	42,87	104,00	13,22	2,22	8,46
MAS	5,00	58,65	95,00	12,94	-1,68	9,49
IND	13,00	79,55	91,00	20,04	-2,00	5,91
ROA	-308,96	4,91	267,24	13,48	-2,09	97,19
LEVERAGE	-1,73	0,58	50,88	0,71	57,88	4042,04
FIRMSIZE	2,08	14,86	21,77	1,93	0,05	4,05
RULELAW	-1,17	1,29	1,87	0,43	-2,68	11,40

[2] For more information inspect the residuals analysis of regressions 1 and 2 in the section 4.2, where it can be seen that the residuals of the fixed and random part of the linear multilevel model are normally distributed.

4.2. Regression results

Before conducting the analysis for Model 1, there are few notes on the transformation of the variables that should be discussed. Firstly, the control variables ROA, LEVERAGE, and FIRMSIZE have been winsorized at 1% and 99% level in order to remove influential cases, which also decreased the correlation between ROA and LEVERAGE. Furthermore, since in the analysis interaction terms between the cultural proxies MAS and LTO and the board characteristics INDEPDIR, NATDIVERSITY, FEMALERATIO, BLAUSINDEX, and DIVERSITY are investigated, these variables have been standardized. Moving now to the Pairwise correlation table (Table 6) we can see that the CSP score and the COMBINED score are highly significantly correlated with each other. However, there is still some difference between them due to the controversies which are considered in the COMBINED score. The board characteristics variables, e.g. INDEPDIR, FEMALERATIO, NATDIVERSITY, BLAUINDEX and DIVERSITY, are all significantly positively correlated with the dependent variables (CSP score and COMBINED score) at the 5 % level. Moreover, MAS and LTO are negatively and positively correlated as expected. However, the cultural variable PDI is positively and IND is negatively correlated with the dependent variables, which opposes the expectations. The gender diversity variables BLAUINDEX, FEMALERATIO, and DIVERSITY are highly correlated with each other and cannot be used together in the same model, thus their effects are estimated in three separate models. The same is valid for DIVERSITY and NATDIVERSITY. The RULELAW index is highly correlated with LTO and PDI, -0.747 and 0.504 respectively, thus it is omitted in order to avoid multicollinearity.

Table 6 Pairwise correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) CSP score	1.000														
(2) COMBINED Score	0.767*	1.000													
(3) INDEPDIR	0.155*	0.081*	1.000												
(4) FEMALERATIO	0.033*	0.030*	0.004	1.000											
(5) NATDIVERSITY	0.023*	0.045*	-0.023*	0.078*	1.000										
(6) BLAUINDEX	0.032*	0.028*	0.006	0.972*	0.079*	1.000									
(7) DIVERSITY	0.053*	0.053*	-0.004	0.453*	0.574*	0.474*	1.000								
(8) LTO	0.151*	0.165*	-0.258*	-0.042*	0.149*	-0.043*	0.083*	1.000							
(9) PDI	0.017	0.039*	-0.212*	-0.074*	-0.018*	-0.075*	-0.051*	0.391*	1.000						
(10) MAS	-0.089*	-0.098*	-0.031*	-0.178*	-0.056*	-0.164*	-0.126*	0.037*	-0.029*	1.000					
(11) IND	-0.041*	-0.096*	0.301*	0.032*	-0.085*	0.038*	-0.039*	-0.678*	-0.751*	0.207*	1.000				
(12) ROA	0.092*	0.083*	-0.008	-0.002	0.017	-0.002	0.012	0.072*	0.035*	-0.013	-0.055*	1.000			
(13) LEVERAGE	0.011	0.003	-0.017	0.010	-0.023*	0.010	-0.025*	0.052*	0.106*	-0.023*	-0.076*	0.018	1.000		
(14) FIRMSIZE	0.086*	0.067*	-0.075*	-0.008	0.037*	-0.012	0.016	0.281*	0.232*	-0.046*	-0.258*	0.017	0.478*	1.000	
(15) RULELAW	0.009	0.013	0.134	0.057*	0.051	0.105	0.073	-0.747*	0.504*	-0.083	-0.172	0.006	-0.067	-0.179	1.000

**Significance level * p<0.05*

Table 7 displays the results of the Model 1 which observes the relationships of the board characteristics (INDEPDIR, FEMALERATIO AND NATDIVERSITY) and the cultural variables (LTO, PDI, MAS and IND) with the CSP score. As it can be seen in table 7, INDEPDIR is highly statistically significant at the 0.1% level in all regressions and the sign is positive. The result confirms hypothesis 1, which states that companies with higher levels of independent directors on the BOD exhibit higher CSP than companies with lower levels of independent directors. The results are also supported by previous research on the topic (Johnson & Greening, 1999; Post et al., 2011). However, when looking at the diversity measures FEMALERATIO and NATDIVERSITY, we can see that only the females exhibit a significant effect (10%level) on the corporate sustainability. Having said that, the signs of both coefficient are positive, which is in line with hypothesis 2.

Since all three proxies of the board characteristics are measured as a ratio of the board size in Model 1, it can be also deduced that the positive effect size of INDEPDIR on the dependent variable CSP score is much larger (≈ 17.5) compared to the effect size of the FEMALERATIO (≈ 2.4). NATDIVERSITY has the smallest effect of the three board characteristics and it is statistically insignificant. Moving on to the cultural variables, we can see that LTO is positively influencing the dependent variable, however, it becomes significant only when MAS and IND are added to the regression. This indicated that some correlation exists between the variables and as a matter of fact the dimensions are constructed based on the correlation between each other, as already noted by Hofstede (Hofstede & Minkov, n.d.). To check for multicollinearity VIF estimation was performed for all regressions and it ranged from 6.28 to 5.64 for the regressions in Model 1, which is much lower than the "rule of thumb" of 10. In light of the above, it can be concluded that there is no multicollinearity issue.

Furthermore, while PDI is negative in regression (6), whenever the other cultural variables MAS and IND have added it becomes positive, yet still insignificant. The positive result of PDI matches the regressions outcomes of Ioannou and Serafeim (2012), who also initially hypothesized for a negative relationship. However, Waldman et al. (2006) and Ringov and Zollo (2007) observed a negative relationship between he PDI and the CSP, both with the Hofstede's and the Globe's dimensions.

The coefficient of MAS is negative and highly significant in all three regressions that are included, e.g. (7), (8) and (9). Moreover, also Ringov and Zollo (2007) find the same results. Finally, IND is positive as expected in hypothesis 6, but still insignificant just as in Ringov and Zollo (2007). Consequently, no support is found for hypothesis 4 and 6. Hypothesis 4 states that firms located in countries with higher levels of PDI will have lower levels of CSP score and hypothesis 6 states that companies located in countries with higher levels of IND exhibit higher CSP. However, Ioannou and Serafeim (2012) found significant positive relationship and they also measure the dependent variable with the ASSET 4 ESG proxies. Furthermore, Waldman et al (2006) also found a significant positive relationship when IND is measured with the GLOBE values.

On the contrary, the results support hypothesis 5, which notes that firms located in countries with higher levels of MAS observe lower levels of CSP score. Some evidence is also found in support for hypothesis 3, which states that higher levels of LTO have a positive effect on the CSP. This paper is the first to examine the relationship between the LTO and CSP, hence comparison with previous research cannot be made. The coefficient signs of all interaction terms are in line with their hypotheses (7 and 8), however only hypothesis 7 is supported due to the significance of the interaction term MAS*INDEPDIR. Indeed, the independent

directors can compensate for the negative impact of the high levels of the cultural dimension of masculinity. In fact, by inspecting the dataset it was recognized that in countries with masculinity above 50 there are 4, 105 observations with independent directors above the mean of 0.5, while in low masculine countries (MAS < 50) only 389 observations show independent directors above 0.5. This means that independent directors are more highly valued, and their effect is more prominent in highly masculine countries. For example, if we ignore everything else besides the interaction term MAS*INDEPDIR and the main effects, we can make a comparison of the change in the ratio of independent directors on the BOD holding the masculinity constant at 50. As an illustration, if MAS = 50 and INDEPDIR = 0.5 the CSP score will be equal to 22.545, while if INDEPDIR = 0.3 we get a CSP score = 10.847.

In addition, the regressions have been tested for normality of the residuals, since the variables ROA and LEVERAGE were not normally distributed. In the Appendix, Figure 1 shows the scatter plot of the fixed and random part residuals of regression (1) in Table 7, which seem to be not normally distributed. Further examination was needed by plotting the Kernel density against the normal density of the fixed and random parts residual of regression (1) in Table 7. Figure 2 in the Appendix shows that the residuals of the random part of regression (1) are relatively normally distributed, but this is not true for the residuals of the fixed part of the regression (Figure 3 in the Appendix). Before concluding that there is heteroscedasticity, the residuals of regression 2 in Table 7 were also examined and surprisingly the residuals turned out to be normally distributed. This can be seen in the Appendix in the Figures 4, 5 and 6. Which indicates that the residuals from regression (1) were not normally distributed due to a missing explanatory variable, rather than because of the variables ROA and LEVERAGE. Moreover, also Model (2) and Model (3) were tested in the same way and the same pattern was repeated as with Model (1), where firstly the regressions only with control variables had non-normally distributed error terms, but when other explanatory variables were added they became normally distributed. Moreover, for all regressions in all models that include interaction terms, robust standard errors were used.

Table 7 Regression results for model 1 (Dependent variable – CSP score; Diversity proxies – FEMALE RATIO, NATDIVERSITY) [a]

	Exp.Sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
					CSP score					
INDEPDIR	+		17.50***	17.52***	17.52***	17.53***	17.53***	17.47***	17.45***	17.74***
			(0.776)	(0.776)	(0.776)	(0.775)	(0.776)	(0.775)	(0.776)	(0.883)
FEMALERATIO	+			2.561+	2.519+	2.518+	2.511+	2.385+	2.375+	2.200
				(1.342)	(1.346)	(1.346)	(1.346)	(1.347)	(1.347)	(1.349)
NATDIVERSITY	+				0.288	0.286	0.284	0.285	0.283	0.287
					(0.673)	(0.673)	(0.673)	(0.673)	(0.673)	(0.678)
LTO	+					0.0669	0.0677	0.0892+	0.0956*	0.114*
						(0.050)	(0.051)	(0.046)	(0.046)	(0.047)
PDI	-						-	0.00119	0.0329	0.0283
							(0.050)	(0.044)	(0.061)	(0.063)
MAS	-							-0.146**	-0.152**	-0.134*
								(0.052)	(0.052)	(0.053)
IND	+								0.0432	0.0551
									(0.058)	(0.059)
MAS*INDEPDIR	+									0.815***
										(0.180)
MAS*NATDIVERSITY	+									0.0382
										(0.198)
MAS*FEMALERATIO	+									0.219
										(0.181)
ROA	+	0.120***	0.117***	0.116***	0.116***	0.116***	0.116***	0.116***	0.116***	0.116***
		(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
ROADUM		-1.363	-1.359	-1.425	-1.426	-1.414	-1.414	-1.395	-1.393	-1.366
		(1.357)	(1.329)	(1.329)	(1.329)	(1.329)	(1.329)	(1.329)	(1.329)	(1.328)
LEVERAGE	-	-2.025**	-2.083**	-2.091**	-2.091**	-2.086**	-2.085**	-2.092**	-2.090**	-2.054**
		(0.683)	(0.669)	(0.669)	(0.669)	(0.669)	(0.669)	(0.669)	(0.669)	(0.668)
LEVERAGEDUM		-7.339*	-6.203+	-6.339+	-6.337+	-6.336+	-6.337+	-6.324+	-6.328+	-6.338+
		(3.322)	(3.254)	(3.254)	(3.254)	(3.254)	(3.254)	(3.254)	(3.254)	(3.251)
FIRMSIZE	+	0.476***	0.427***	0.429***	0.428***	0.425***	0.425***	0.426***	0.427***	0.419***
		(0.098)	(0.096)	(0.096)	(0.096)	(0.096)	(0.096)	(0.096)	(0.096)	(0.096)
FIRMSIZEDUM		8.479*	7.292*	7.430*	7.430*	7.441*	7.440*	7.441*	7.440*	7.439*
		(3.451)	(3.380)	(3.380)	(3.380)	(3.380)	(3.380)	(3.381)	(3.381)	(3.377)
INTERCEPT		42.69***	38.41***	38.15***	38.14***	34.82***	35.20***	40.87***	36.86***	34.59***
		(3.237)	(3.195)	(3.194)	(3.195)	(4.042)	(4.733)	(4.836)	(7.214)	(7.361)
Snijders/Bosker R-squared Level 1:		0.0468	0.0713	0.0735	0.0733	0.0796	0.0798	0.1127	0.1159	0.1125
Snijders/Bosker R-squared Level 2:		0.0669	0.0489	0.0569	0.0558	0.0801	0.0812	0.2087	0.2214	0.2030
Observations		12023	12023	12023	12023	12023	12023	12023	12023	12023
LR test vs. Linear model		861.86	1020.24	1004.36	998.39	686.14	678.28	598.41	476.85	471.46

** Note: Standard errors are displayed in the parentheses beneath each coefficient. Significance levels: + p<0.1, * p<0.05, ** p<0.01, *** p<0.001.* [an] *All regressions include year dummies, industry dummies, random country effects, but are not included due to space constraints. Robust standard errors used in regression 9 to correct for possible multicollinearity between the interaction terms.*

The results of Model 2 are displayed in Table 8. When gender diversity is measured with BLAUINDEX it becomes statistically significant at the 5% level. This indicated that there is some support for hypothesis 2 which is linked with the positive effect of gender diversity on the BOD on the CSP. The positive significance of Blau's index can be interpreted as the higher equality on the board between males and females the higher the CSP score is. Previous research that finds gender equality and more females on the BOD to be significantly influencing the CSP are Bear et al. (2010), Boulouta (2013) and Post et al. (2011). Unfortunately, the coefficient of NATDIVERSITY is still insignificant but positive. On the contrary, nationality diversity measured as a percentage of Western European directors have shown to have significant positive effect on the CSP (Post et al, 2011), hence the insignificant result might be due to proxy differences.

Likewise, the interaction term MAS*BLAUINDEX is also insignificant, which means that hypothesis 8 is not supported. Accordingly, higher gender diversity on the BOD cannot compensate for the negative effect of the cultural variable MAS. In contrast, the statistical significance and the coefficients signs did not change for the variables INDEPDIR, LTO, PDI, MAS, IND and for the interaction terms MAS*INDEPDIR and MAS*NATDIVERSITY. Hence, the results from Model 2 support hypotheses 1, 3, 5 and 7, just as in Model 1. There is some evidence in support of hypothesis 2, but no support for hypotheses 4, 6 and 8. Hypothesis 4 refers to LTO, which is still insignificant but positive as expected. IND is also positive, yet insignificant.

Table 8 Regression results for Model 2 (Dependent variable – CSP score; Diversity proxies – BLAUINDEX, NATDIVERSITY)

	Exp. Sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)
		CSP score						
INDEPDIR	+	17.53***	17.53***	17.53***	17.53***	17.47***	17.45***	17.74***
		(0.776)	(0.776)	(0.775)	(0.776)	(0.775)	(0.776)	(0.883)
BLAUINDEX	+	2.150*	2.119*	2.114*	2.110*	2.022*	2.015*	1.785
		(1.000)	(1.003)	(1.003)	(1.004)	(1.004)	(1.004)	(1.016)
NATDIVERSITY	+		0.269	0.267	0.266	0.266	0.264	0.269
			(0.673)	(0.673)	(0.673)	(0.673)	(0.673)	(0.678)
LTO	+			0.0666	0.0674	0.0889+	0.0953*	0.114*
				(0.050)	(0.051)	(0.046)	(0.046)	(0.048)
PDI	-				-0.00740	0.00133	0.0331	0.0282
					(0.050)	(0.044)	(0.061)	(0.063)
MAS	-					-0.146**	-0.152**	-0.134*
						(0.052)	(0.052)	(0.053)
IND	+						0.0433	0.0549
							(0.058)	(0.059)
MAS*INDEPDIR	+							0.811**
								(0.180)
MAS*NATDIVERSITY	+							0.0319
								(0.198)
MAS*BLAUINDEX	+							0.261
								(0.201)
ROA	+	0.116***	0.116***	0.116***	0.117***	0.116***	0.116***	0.116**
		(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
ROADUM		-1.433	-1.433	-1.422	-1.422	-1.403	-1.401	-1.369
		(1.329)	(1.329)	(1.329)	(1.329)	(1.329)	(1.329)	(1.328)
LEVERAGE	-	-2.091**	-2.091**	-2.086**	-2.085**	-2.092**	-2.090**	-2.054**
		(0.669)	(0.669)	(0.669)	(0.669)	(0.669)	(0.669)	(0.668)
LEVERAGEDUM		-6.365+	-6.362+	-6.362+	-6.362+	-6.349+	-6.353+	-6.361**
		(3.254)	(3.254)	(3.254)	(3.254)	(3.254)	(3.254)	(3.251)
FIRMSIZE	+	0.430***	0.428***	0.425***	0.426***	0.426***	0.428***	0.420*
		(0.096)	(0.096)	(0.096)	(0.096)	(0.096)	(0.096)	(0.096)
FIRMSIZEDUM		7.462*	7.462*	7.472*	7.472*	7.472*	7.472*	7.466*
		(3.380)	(3.380)	(3.380)	(3.380)	(3.381)	(3.381)	(3.377)
INTERCEPT		38.06***	38.05***	34.75***	35.12***	40.78***	36.77***	34.55***
		(3.196)	(3.196)	(4.043)	(4.735)	(4.839)	(7.218)	(7.370)
Snijders/Bosker R-squared Level 1:		0.0735	0.0733	0.0795	0.0798	0.1126	0.1158	0.1123
Snijders/Bosker R-squared Level 2:		0.0567	0.0557	0.0798	0.0808	0.2082	0.2208	0.2017
Observations		12023	12023	12023	12023	12023	12023	12023
LR test vs. Linear model		1006.30	1000.29	688.18	680.25	599.28	477.91	470.81

** Note: Standard errors are displayed in the parentheses beneath each coefficient. Significance levels: + p<0.1, * p<0.05, ** p<0.01, *** p<0.001. [an] All regressions include year dummies, industry dummies, random country effects, but are not included due to space constraints. Robust standard errors used in regression 9 to correct for possible multicollinearity between the interaction terms.*

The last analysis (Model 3) combines the nationality diversity on the BOD and the gender diversity into one unified measurement (DIVERSITY). From the regression table (12) of model 3, we can again see that INDEPDIR is significantly positively impacting the CSP score. In addition, DIVERSITY is highly statistically significant at the 5% level and affects positively the CSP score of the firms. In order to test whether the board diversity moderates

the negative impact of the country-level cultural trait-masculinity, an interaction term is included (MAS*DIVERSITY). The interaction term is significantly positive on the 10% level supporting hypothesis 8 about the effect of overall diversity on the BOD. To elaborate further when gender and nationality diversity on the BOD are both above the mean, the negative effect of masculinity is counteracted.

So far only the results of the variables of interest were discussed, yet it is also necessary to discuss the results of the control variables ROA, LEVERAGE, and FIRMSIZE and their dummies. In all three models, ROA showed the highly significant positive effect on the dependent variable CSP score. This result is in line with other paper's findings (Artiach Tracy et al., 2010; Ioannou & Serafeim, 2012) and according to the theoretical argumentation that the more profitable a company is, the more it can afford to invest in sustainable developments. Regarding the dummy ROADUM it exhibits negative influence on the CSP score, but statistically insignificant. The negative effect might be due to survivorship bias, where only positive values are reported, while the negative values of ROA are simply left out. In times when the financial return is decreasing, companies might not be able to financially support broader sustainability initiatives, because meeting the demands of the stakeholders by reducing costs is crucial (Artiach Tracy et al., 2010). By contrast, LEVERAGE and LEVERAGEDUM are both negative and statistically significant which supports the idea that the more claimants the company has the less aware it is of the needs of the non-financial stakeholders. Finally, the FIRMSIZE and the FIRMSIZEDUM are also positive and statistically significant in all regressions in the 3 models, which Is not surprising. Larger firms have a broader shareholder base and are more exposed to public scrutiny compared to smaller firms. Larger firms attract easier media, governmental and stakeholder's attention, which forces them to implement corporate sustainability policies.

Table 9 Regression results for Model 3 (Dependent variable - CSP score; BOD diversity proxy – DIVERSITY)

	Exp. Sign	(1)	(2)	(3)	(4)	(5)	(6)
		CSP score					
INDEPDIR	+	17.51***	17.51***	17.51***	17.46***	17.43***	17.73***
		(0.775)	(0.775)	(0.776)	(0.775)	(0.775)	(0.883)
DIVERSITY	+	1.120**	1.118**	1.117**	1.093**	1.093**	1.063
		(0.366)	(0.366)	(0.366)	(0.366)	(0.366)	(0.366)
LTO	+		0.0667	0.0675	0.0889+	0.0954*	0.113*
			(0.050)	(0.051)	(0.046)	(0.046)	(0.048)
PDI	-			-0.00752	0.00132	0.0340	0.0298
				(0.050)	(0.045)	(0.061)	(0.063)
MAS	-				-0.146**	-0.153**	-0.133*
					(0.052)	(0.052)	(0.053)
IND	+					0.0444	0.0561
						(0.058)	(0.059)
MAS*INDEPDIR	+						0.801**
							(0.180)
MAS*DIVERSITY	+						0.309+
							(0.183)
ROA		0.117***	0.117***	0.117***	0.116***	0.116***	0.116**
		(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
ROADUM		-1.399	-1.388	-1.388	-1.371	-1.369	-1.330
		(1.329)	(1.329)	(1.329)	(1.328)	(1.328)	(1.327)
LEVERAGE		-2.046**	-2.042**	-2.041**	-2.049**	-2.047**	-2.006*
		(0.669)	(0.669)	(0.669)	(0.669)	(0.669)	(0.668)
LEVERAGEDUM		-6.359+	-6.358+	-6.359+	-6.349+	-6.354+	-6.377*
		(3.253)	(3.253)	(3.253)	(3.253)	(3.253)	(3.250)
FIRMSIZE		0.424***	0.421***	0.421***	0.422***	0.423***	0.415*
		(0.096)	(0.096)	(0.096)	(0.096)	(0.096)	(0.096)
FIRMSIZEDUM		7.501*	7.512*	7.512*	7.515*	7.515*	7.523+
		(3.379)	(3.379)	(3.379)	(3.380)	(3.380)	(3.376)
INTERCEPT		38.32***	35.02***	35.39***	41.05***	36.93***	34.66***
		(3.192)	(4.043)	(4.735)	(4.834)	(7.219)	(7.370)
Snijders/Bosker R-squared Level 1:		0.0731	0.0793	0.0795	0.1126	0.1159	0.1123
Snijders/Bosker R-squared Level 2:		0.0537	0.0778	0.0788	0.2071	0.2200	0.2005
Observations		12023	12023	12023	12023	12023	12023
LR test vs Linear model		991.30	693.11	685.58	602.19	478.22	481.51

** Note: Standard errors are displayed in the parentheses beneath each coefficient. Significance levels: + p<0.1, * p<0.05, ** p<0.01, *** p<0.001. [an] All regressions include year dummies, industry dummies, random country effects, but are not are not included due to space constraints. Robust standard errors used in regression 9 to correct for possible multicollinearity between the interaction terms.*

So far three models have been tested which revealed that hypothesis 1 is supported since the effect of the independent directors on the CSP score is highly significant in all regressions. When it comes to hypothesis 2, the nationality diversity on its own does not seem to affect the CSP. While the gender diversity measured as the female ratio on the BOD is significant on the 10% level and measured as Blau's index it is significant

on the 5% level. This indicates that indeed the more equality there is on the board between females and males the better the company's sustainability performance is. Finally, the overall board diversity proxy (DIVERSITY) was also statistically significant on the 1% level. Consequently, the results support the second hypothesis too. Considering the national culture variables, no support was found for hypotheses 4 and 5, since neither PDI nor IND was found to be statistically significant. While MAS and LTO were both statistically significant, supporting hypotheses 3 and 5. One unexpected result was the positive effect of PDI on the BOD, which can be explained with the idea that the more fortunate part of the society feels responsible to give back at the people which are in the lower levels of the hierarchy. Another explanation can be that people in the higher levels of the hierarchy feel a noble obligation to take care of the stakeholders, which are at lower levels of the hierarchy. Finally, the interaction term MAS*INDEPDIR was significant in all models, which give support for hypothesis 7. While there is some evidence in support of hypothesis 8 since the interaction MAS*DIVERSITY is statistically significant and positive on the 10% level. However, the interaction terms between masculinity and the other 3 diversity measures -female ratio Blau's index and nationality diversity are insignificant. Therefore, the hypothesis cannot be accepted.

The overall fit of the regressions is measured by the Snijders/Brosker's R-squared which can be found underneath the regressions in Table 7, 8 and 9. We can see from the R-squared of the second level of analysis that the included variables explain up to 22% of the variance and on the first level of analysis from 7% until 11% of the variance, which indicates that the model is relatively well specified.

Robustness tests

In order to test how the variable behave when another measurement of CSP is used, another proxy is used - Combined score from ESG ASSET 4. The results are represented in Table 10. The only difference with the previous proxy for sustainability performance is that if a firm has been involved in a scandal or investigation it might receive a lower CSP score than it would have otherwise. The first robustness check tests the stability of the results in connection to BLAUINDEX, while the female ratio is not tested since it showed lower statistical significance, which also varied from 0.05 to 0.1. On the contrary, Blau's index showed stable significance at the 0.01% level. Unfortunately, neither of the two, BLAUINDEX and the interaction term (MAS*BLAUINDEX) is significant. However, INDEPDIR and MAS continue to be statistically significant. There is no change in the significance and the signs of the coefficients of NATDIVERSITY and PDI. However, LTO is not significant any longer and the cultural variable IND has flipped its sign to negative, though it still insignificant. Additionally, residuals analysis is performed which showed that as with the other models, the first regression in Table 10 was not normally distributed, but the

second regression in Table 10 with the explanatory variable INDEPDIR has normally distributed error term. This is illustrated by Figure 7 to 12 in the Appendix.

Table 10 Robustness check 1 (Dependent variable – Combined score; BOD diversity proxies – BLAUINDEX, NATDIVERSITY)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
					COMBINED score				
INDEPDIR		10.97***	10.98***	10.98***	10.99***	10.99***	10.93***	10.94***	11.41***
		(0.709)	(0.709)	(0.709)	(0.709)	(0.710)	(0.709)	(0.710)	(0.808)
BLAUINDEX			0.946	0.846	0.843	0.855	0.749	0.752	0.527
			(0.916)	(0.918)	(0.918)	(0.919)	(0.919)	(0.919)	(0.930)
NATDIVERSITY				0.847	0.846	0.848	0.847	0.847	0.908
				(0.616)	(0.616)	(0.616)	(0.616)	(0.616)	(0.621)
LTO					0.0287	0.0269	0.0476	0.0443	0.0549
					(0.042)	(0.042)	(0.038)	(0.039)	(0.040)
PDI						0.0149	0.0249	0.00958	0.00468
						(0.041)	(0.037)	(0.052)	(0.052)
MAS							-0.134**	-0.131**	-0.127**
							(0.043)	(0.043)	(0.044)
IND								-0.0206	-0.0188
								(0.049)	(0.050)
MAS*INDEPDIR									0.184
									(0.164)
MAS*NATDIVERSITY									-0.110
									(0.182)
MAS*BLAUINDEX									0.230
									(0.184)
ROA	0.0976***	0.0960***	0.0957***	0.0956***	0.0956***	0.0956***	0.0952***	0.0952***	0.0953***
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
ROADUM	0.140	0.143	0.111	0.109	0.114	0.114	0.131	0.131	0.145
	(1.229)	(1.217)	(1.217)	(1.217)	(1.217)	(1.217)	(1.217)	(1.217)	(1.217)
LEVERAGE	-0.875	-0.913	-0.917	-0.917	-0.914	-0.915	-0.919	-0.920	-0.898*
	(0.619)	(0.613)	(0.613)	(0.613)	(0.613)	(0.613)	(0.612)	(0.612)	(0.612)
LEVERAGEDUM	-7.464*	-6.751*	-6.822*	-6.813*	-6.813*	-6.812*	-6.799*	-6.798*	-6.826**
	(3.009)	(2.979)	(2.980)	(2.980)	(2.980)	(2.980)	(2.980)	(2.980)	(2.979)
FIRMSIZE	0.219*	0.189*	0.190*	0.186*	0.184*	0.184*	0.183*	0.183*	0.180+
	(0.089)	(0.088)	(0.088)	(0.088)	(0.088)	(0.088)	(0.088)	(0.088)	(0.088)
FIRMSIZEDUM	9.102**	8.358**	8.433**	8.431**	8.436**	8.437**	8.438**	8.439**	8.474**
	(3.126)	(3.095)	(3.096)	(3.095)	(3.095)	(3.095)	(3.095)	(3.095)	(3.095)
INTERCEPT	42.10***	39.33***	39.18***	39.13***	37.71***	36.99***	42.15***	44.09***	43.47***
	(2.889)	(2.884)	(2.887)	(2.888)	(3.558)	(4.088)	(4.145)	(6.188)	(6.287)
Snijders/Bosker R-squared Level 1:	0.0363	0.0401	0.0408	0.0399	0.0415	0.0420	0.0719	0.0722	0.0697
Snijders/Bosker R-squared Level 2:	0.0427	-0.0064	-0.0034	-0.0080	-0.0008	0.0012	0.1338	0.1354	0.1225
Observations	12023	12023	12023	12023	12023	12023	12023	12023	12023
LR test vs. Linear model	805.51	940.49	932.81	910.75	579.43	579.40	449.04	436.97	430.52

** Note: Standard errors are displayed in the parentheses beneath each coefficient. Significance levels: + p<0.1, * p<0.05, ** p<0.01, *** p<0.001. [an] All regressions include year dummies, industry dummies, random country effects, but are not included due to space constraints. Robust standard errors used in regression 9 to correct for possible multicollinearity between the interaction terms.*

Since DIVERSITY was also highly statistically significant it was also tested for robustness of the outcomes. In Table 14 it can be seen that when regressed on the dependent variable COMBINED score, DIVERSITY is not statistically significant anymore and neither is the interaction term MAS*DIVERSITY. In fact, the

interaction term has flipped its sign and shows a negative effect on the CSP score. Again, the only statistically significant coefficients of interest are MAS and INDEPDIR.

Table 11 Robustness check 2 (Dependent variable – Combined score; Diversity proxies - DIVERSITY)

	(1)	(2)	(3)	(4)	(5)	(6)
			COMBINED score			
INDEPDIR	10.97***	10.98***	10.98***	10.92***	10.93***	11.43***
	(0.709)	(0.709)	(0.710)	(0.709)	(0.710)	(0.808)
DIVERSITY	0.512	0.511	0.514	0.487	0.487	0.478
	(0.335)	(0.335)	(0.335)	(0.335)	(0.335)	(0.335)
LTO		0.0287	0.0270	0.0477	0.0444	0.0543
		(0.042)	(0.042)	(0.038)	(0.039)	(0.040)
PDI			0.0143	0.0243	0.00942	0.00724
			(0.041)	(0.037)	(0.051)	(0.052)
MAS				-0.134**	-0.131**	-0.122**
				(0.043)	(0.043)	(0.044)
IND					-0.0201	-0.0186
					(0.049)	(0.049)
MAS*INDEPDIR						0.184
						(0.164)
MAS*DIVERSITY						-0.0298
						(0.168)
ROA	0.0958***	0.0958***	0.0957***	0.0953***	0.0953***	0.0950***
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
ROADUM	0.125	0.130	0.130	0.144	0.144	0.146
	(1.217)	(1.217)	(1.217)	(1.217)	(1.217)	(1.216)
LEVERAGE	-0.897	-0.894	-0.894	-0.901	-0.901	-0.886
	(0.613)	(0.613)	(0.613)	(0.613)	(0.613)	(0.613)
LEVERAGEDUM	-6.822*	-6.822*	-6.821*	-6.812*	-6.810*	-6.845*
	(2.979)	(2.979)	(2.979)	(2.979)	(2.979)	(2.979)
FIRMSIZE	0.187*	0.185*	0.185*	0.184*	0.184*	0.183*
	(0.088)	(0.088)	(0.088)	(0.088)	(0.088)	(0.088)
FIRMSIZEDUM	8.454**	8.459**	8.459**	8.464**	8.464**	8.500**
	(3.095)	(3.095)	(3.095)	(3.095)	(3.095)	(3.095)
INTERCEPT	39.29***	37.88***	37.18***	42.31***	44.20***	43.12***
	(2.883)	(3.552)	(4.078)	(4.131)	(6.174)	(6.238)
Snijders/Bosker R-squared Level 1:	0.0405	0.0421	0.0425	0.0723	0.0726	0.0715
Snijders/Bosker R-squared Level 2:	-0.0050	0.0022	0.0040	0.1360	0.1375	0.1313
Observations	12023	12023	12023	12023	12023	12023
LR test vs. Linear model	912.57	580.64	580.53	448.14	436.19	429.17

** Note: Standard errors are displayed in the parentheses beneath each coefficient. Significance levels: + p<0.1, * p<0.05, ** p<0.01, *** p<0.001. [an] All regressions include year dummies, industry dummies, random country effects, but are not included due to space constraints. Robust standard errors used in regression 9 to correct for possible multicollinearity between the interaction terms.*

The two robustness tests showed almost identical results. The INDEPDIR is positive and statistically significant on the 0.1% level in support of hypothesis 1. Moreover, neither of the BOD diversity

measurements (BLAUINDEX, NATDIVERSITY, DIVERSITY) was significant. Additionally, LTO is not significant anymore and neither is PDI. On the other hand, MAS continues being statistically significant at the 1% level, while IND is still insignificant, but it has flipped its sign and it is now negative. Finally, when examining the interaction terms, from Table 10 regression 9 and Table 11 regression 6, we can see that MAS*INDEPDIR is not statistically significant. Similarly, MAS*BLAUINDEX, MAS*NATDIVERSITY, and MAS*DIVERSITY are not significant and the difference between the main models is that the last 2 interactions have flipped their signs. Therefore, nationality diversity and overall BOD diversity have a negative impact on the CSP in countries with high masculinity levels when we take into account negative media coverage and lawsuits in connection to the firm's sustainability practices.

Another robustness check which was performed but is not included in the analysis was controlling for country factors, which might affect the level of CSP in firms in a given country. The two factors were the level of trade in the countries and the Balance of trade (BoT). The BoT has shown to have a positive effect while the trade level has a negative impact. However, it was not included in the analysis since neither of the variables was statistically significant and the results did not undergo any changes.

4.3. Discussion and limitations

Even though Hofstede's cultural dimensions do not reflect the organizational culture, the results of this research suggest that the societal level cultural traits do have an effect on the CSP of firms. The national culture determines how the business system is constructed in a given country and it reflects the sentiments, attitude, and practices of the society which in return influence the firm's commitment to sustainability initiatives. The results of the analysis show that hypothesis 1 and hypothesis 5 are supported by the main analysis and from the robustness tests. This means that indeed independent directors on the BOD have a positive influence on the CSP, while higher masculinity in a given country influences negatively the CSP score of firms. As discussed in Chapter 2, often independent directors are highly skilled and well-informed community representatives or lawyers. This makes them aware of the consequences of not complying with environmental laws for the sake of increasing the earnings in the short-term.

In regard to hypothesis 2, the national diversity on the BOD did not show to be significant in any of the analyses, nevertheless, the effect is positive as predicted. In contrast, the gender diversity indicated positive and statistically significant results with both measures (FEMALERATIO, BLAUINDEX), yet Blau's index was higher in statistical significance (5% level) compared to the female ratio (10% level). This demonstrates that equality between females and males on the BOD is more important for the CSP than simply having as many female directors as possible. In addition, the overall diversity measurement (DIVERSITY) is statistically significant on the 1% level indicating that board which has both higher than the average

nationality diversity (0.18) and gender diversity (0.2) exhibits higher sustainability performance compared to firms with lower than the average overall diversity. However, the robustness tests did not support the results of Model 1,2 and 3. Even though the signs of DIVERSITY and BLAUINDEX were positive, they were not significant anymore. This inconsistency can be due to the combined score expressing negative media coverage, which might not always be credible. Another explanation can be that independent directors have the knowledge and experience to keep the company away from scandals, lawsuits, and penalization and therefore they affect significantly the combined score. However, having higher gender diversity on the BOD does not necessarily mean that the directors are well acquainted with environmental and social laws and have the proficiency to avoid controversies. Consequently, there is some evidence supporting hypothesis 2 from the main analyses, but the robustness tests suggest that the results are inconclusive.

Concerning the long-term orientation dimension, the results of the main models support the hypothesis that it impacts positively the CSP, yet the significance of the results was not persistent thus the empirical backing of hypothesis 3 is inconclusive. Surprisingly, PDI and IND did not show statistically significant results in any of the analysis. Therefore, neither hypothesis 4 nor hypothesis 6 is supported.

Whereas the interaction term between masculinity and independent directors is significant and positive, which means that hypothesis 7 can be accepted. However, the interaction terms between masculinity and the four different proxies of diversity show mixed results. The interactions with the female ratio, the nationality diversity, and the Blau's index were all positive, but statistically insignificant. The only statistically significant interaction was between overall BOD diversity and the masculinity, but only on the 10% level. Surprisingly, in the robustness tests, the two interaction terms MAS*NATDIVERSITY and MAS*DIVERSITY are even negative, even though statistically insignificant. This means that the negative effect of masculinity is even stronger with higher nationality and overall diversity on the BOD, whereas gender diversity (MAS*BLAUINDEX) counteracts the negative effect but the effect is insignificant. Therefore, hypothesis 8 is not confirmed.

Contribution

The paper contributes in several ways both to the theoretical and the empirical literature. Firstly, the results in connection to the independent directors are also supported by previous research connected to the topic, however, this paper provides an overview of the impact of only strictly independent directors (Ibrahim & Angelidis, 1995; McKendall et al., 1999; O'Neill et al., 1989). While concerning the results for the cultural variable masculinity it is consistent with the results of Ringov and Zollo (2007), which is the only other paper which has researched this determinant of CSP. Moreover, no other paper has examined the cross-

level effect between the board characteristics and the country culture. In this paper, it has been established that in fact, independent directors do interact with the country level factor masculinity, while the interaction between board diversity and masculinity is inconclusive. Even though, the research on the BOD diversity gives a good start for a further research. In addition, this is the first paper which examines the influence of overall board diversity on the CSP. While other papers have focused on the ethnic and/or the gender diversity, this thesis combines both in one unified measurement. Consequently, this contributes to the papers of Post et al. (2011), Bear et al. (2010), Boulouta (2012), which examine the board diversity effect on the CSP.

Although research has been carried out on the cultural effect on CSP, they have excluded the long-term orientation of their analysis. Consequently, this paper contributes to the existing papers by Ringov and Zollo (2007), Waldman (2006) and Ioannou and Serafeim (2012) by including the long-term orientation in the analysis. Moreover, this paper broadens the sample of countries and firms researched to 47 and 3,633 respectively. Compared to previous papers where Ioannou and Serafeim (2012) include 42 countries and 2,000 firms; Ringov and Zollo (2007) – 34 countries and 1,100 firms and Waldman (2006) only 15 countries and 660 firms. Consequently, this improves the validity of the results

Limitations

Survival bias, the number of observations increases with each subsequent year, which indicates that there is a survival bias in the model. Furthermore, the data is collected only for active firms, because firms which seized their existence are not included in the analysis. From the available data, it is hard to distinguish between firms which went bankrupt from firms which went through a merger, were acquired or became privately owned. While firms which seized to exist are the one that could be taken for controlling for survivorship bias. Furthermore, another main source of this type of bias is that poor performance s not disclosed. For example, in the case of ROA and leverage, there are missing values, which significantly affect the CSP in firms.

Some company's headquarters are located in a different place than where their main operations are, due to tax avoidance. Many companies register their main headquarter in a low-tax regime country. Since in the analysis the company's country of origin is specified as the company's headquarter it might result in under or overestimation of the cultural variables effects. For example, in this research, it is estimated the effect of the Dutch national culture on a company located in the Netherlands (of a Dutch origin), but it is a well-known fact that some companies locate their headquarters there only to avoid tax while their main

operations are based in another country. In this way, the true effect of the national culture on the CSP can be distorted.

There might overestimation of the effect size of the independent directors, since in most of the regressions the t-statistics was between 17 and 20, indicating that there might be a missing explanatory variable (omitted variable bias). The BOD expertise is a likely important variable which has been omitted. Previous theoretical literature has argued that independent directors possess the better expertise and are trained specialists in a specific field. Their expertise and the expertise of inside directors, for which it is not controlled directly in the regression, might be increasing the effect of the independent directors on the dependent variable CSP. When board members come from different education or experience backgrounds, they might have a better understanding of the societal risk management and be considerably involved with their stakeholders. For instance, having lawyers, financial experts, community leaders, public affairs specialist and others, can improve the counseling and give better advice for future actions connected to sustainability practices. Furthermore, a higher diversity of expertise can advance the understanding of the operational processes of the company, which can lead to better organizational management, monitoring and planning (de Villiers, Naiker, & van Staden, 2011; Harjoto, Laksmana, & Lee, 2015; Hillman & Dalziel, 2003). Consequently, directors can identify the most optimal strategy for implementing sustainability reforms, which will give the optimal results.

Further research

The expertise has been omitted in the regression since a suitable proxy was not available. Therefore, a suggestion for a future research is to also explore the influence of diversity of expertise on the CSP. Because of the limited scope of the thesis, board characteristics such as the social relationships (personal ties) of the directors have not been considered, however further research might shade more light on the topic.

Furthermore, the problem of more precisely defining the country of origin of the companies should be dealt with, since it is of utmost importance when comparing the country-level factors affecting the CSP. Another measurement issue is finding the measurement which reflects accurately the CSP of the corporations. In the analysis two dependent variables have been adopted and even though they are similar to each other they yielded different results regarding the country's individualistic level and the interaction term between masculinity and diversity. Even though the ESG measurements are well-known for being accurate and reliable, it is constructed based on available information directly from the annual reports, sustainability reporting and websites. Moreover, the combined score also comprises media negative coverage, however to what extend the information matches the real firms' impact is unknown (Ioannou & Serafeim, 2012). To

elaborate further, the available information might not mirror the actual environmental and social impact that firms have. Therefore, future studies can focus on developing a proxy reflecting the actual social and environmental impact by various sources such as stakeholders' opinions and factual information rather than reports.

Moreover, a better approximation of the nationality diversity can be adopted, for example, Blau's index of nationality diversity. As we could see from Model 1 and Model 2, a measurement such as Blau's index can capture better the impact of diversity on the BOD compared to simply taking the ratio as a proxy for diversity. In order to construct such proxy, the nationality of all board members should be known, and this is quite a challenging task for a large dataset.

Further study could divide the CSP performance into three components – social, environmental and governance, and examine the effect of the country and firm-level factors on each of the components. By doing so it could be observed what is the channel through which the firms benefit from diversity and independent directors on the BOD.

Last but not least, the analysis can greatly benefit of adopting different measurements of the national culture. As noted before Hofstede's cultural dimensions have their pitfalls, such as not including cultural variation within the country or limiting the research to only IBM employees. Consequently, the analysis can be repeated with other cultural measures such as GLOBE, which includes more organizations.

5. Conclusion

Companies are constantly urged by various stakeholders to enhance their sustainability performance with the aim to minimize the negative footprint on the environment and the society created by business activities. However, improved insight on the factors that affect the sustainability performance may help companies to adopt the most optimal practices. Whereas previous research has focused on "hard determinants" to examine the level of CSP in the firms, this study focuses on the social side of the issue by investigating how the board characteristics and the national culture influence the Corporate Sustainability Performance (CSP), but also how they interact with one another. The hypotheses were tested using a dataset of 3,633 firms from 47 countries for the period 2008-2016, which reaches 12,023 observations. The results of the analysis suggest that the more independent directors and the more diversity there is on the board of directors, the superior the firm's sustainability performance is. In addition, the Hofstede's cultural dimension masculinity influences negatively the CSP, whereas the long-term orientation has a positive effect. The analysis also showed that the negative effect of the country-level factor of masculinity can be offset by employing more strictly independent directors on the board. Overall, the results show that not only financial performance is important for the level of CSP, but also "soft factors" are of equal importance and should not be overlooked by researchers and businesses.

Nowadays many companies attempt to appear more "green" and to promote gender diversity as a marketing strategy. The results of this study, however, demonstrate that there are real practical implications of the gender diversity on the BOD. The diversity has an actual positive effect on the CSP and should be taken more seriously. Businesses which would like to become more sustainable can take actions by increasing the voluntary quotas for the females on the BOD. Currently, few countries (Norway, Spain, Belgium, France, Italy, the Netherland and Germany) have compulsory quotas and even they do not exceed 20 % of the directors. As demonstrated here, having a target of above 21% can actually materialize the positive spillovers. Furthermore, while some countries are located in more favorable business systems with long-term orientation and low levels of masculinity, other countries are experiencing the negative impacts of short-term orientation and high levels of masculinity. Fortunately, the results show that the negative effects can be successfully countered by businesses by increasing the strictly independent board members. Having said that, the independent directors have a very strong positive influence on the CSP even if we control for the cultural effects. Another practical implication of this study is to inform the governments that in fact the cultural factors play a critical role in the sustainability performance of the firms and they should encourage sustainability initiatives to counterbalance the negative effects. The governments can work closer together with businesses in establishing future plans for reducing the ecological footprint and to ensure the ethical behavior towards the stakeholders.

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Appendix

Table 1 Combined CSP score explanation

Scenario	ESG Controversies Score	CSP Score	Combined CSP Score
If Controversy Score > =50, then CSP Score = Combined CSP Score	57	38	38
If Controversy Score >CSP Score but less than 50, then Combined CSP Score = CSP Score	49	42	42
If Controversies Score < 50 and Controversies Score < CSP Score , then Combined CSP score = average of the CSP score & Controversies Score	48	49	48.5

* Source: ESG Research Data (n.d.)

Table 2 Definition and abbreviation of all variables used in the regressions

Variable name	Variable definition
CSPscore	ESG score from ASSET 4. Ranges from 0 to 100.
COMBINED score	ESG score and Controversies score combined (ASSET 4). Ranges from 0 to 100.
INDEPDIR	The ratio of strictly independent directors on the BOD. From 0 to 1.
FEMALERATIO	The ratio of females on the BOD. From 0 to 1
BLAUINDEX	Blau's index of gender diversity. From 0 to 0.5, where zero is the absence of diversity and 0.5 is absolute diversity.
DIVERSITY	Board overall diversity proxy; Both the gender and the nationality diversity are above the average for the sample. Dummy equal to 1 when there is overall diversity on the BOD above the average; equals 0 otherwise.
LTO	Hofstede's long-term orientation versus short-term orientation. Range from 0 to 100.
PDI	Hofstede's power distance index. Range from 0 to 104
MAS	Hofstede's masculinity versus Femininity dimension. Range from 0 to 100
MAS*DIVERSITY	The interaction effect between DIVERSITY and MAS.
MAS*INDEPDIR	Interaction term between MAS and INDEPDIR
IND	Hofstede's individualism versus collectivism. Range from 0 to 100
ROA	Firm's return on assets measured in percentage
LEVERAGE	Firm's leverage rate
FIRMSIZE	Firm size calculated as a log of total assets
RULELAW	World Governance indicator Rule of law index
INDUSTRY	Dummy for 48 Fama-French industries
YEAR	Year dummy

Figure 1 Scatter plot of the residuals of the fixed and random parts of Regression 1 in Table 7

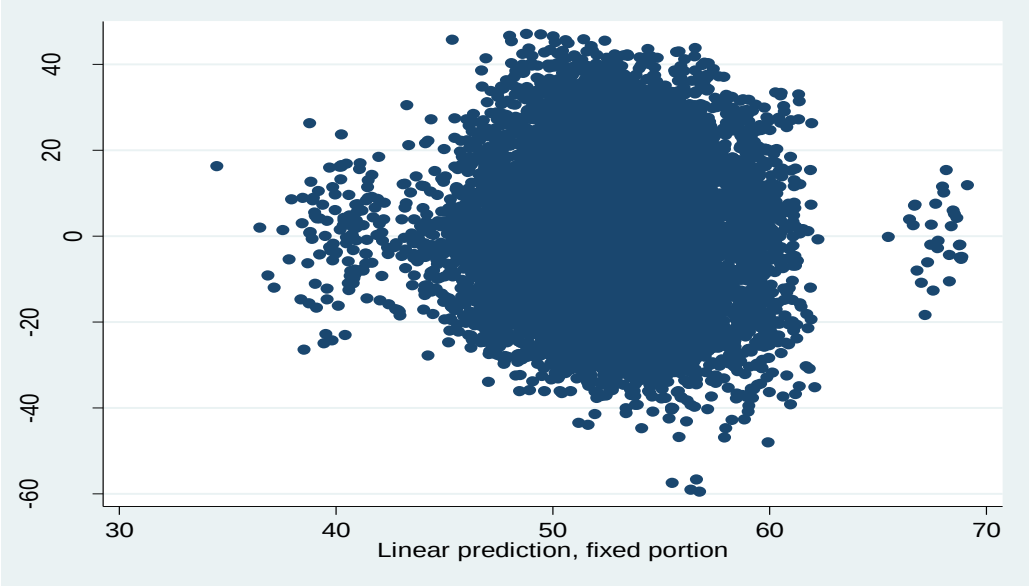

Figure 2 Histogram of Kernel density of the random part residuals of Regression 1 in Table 7 against Normal density

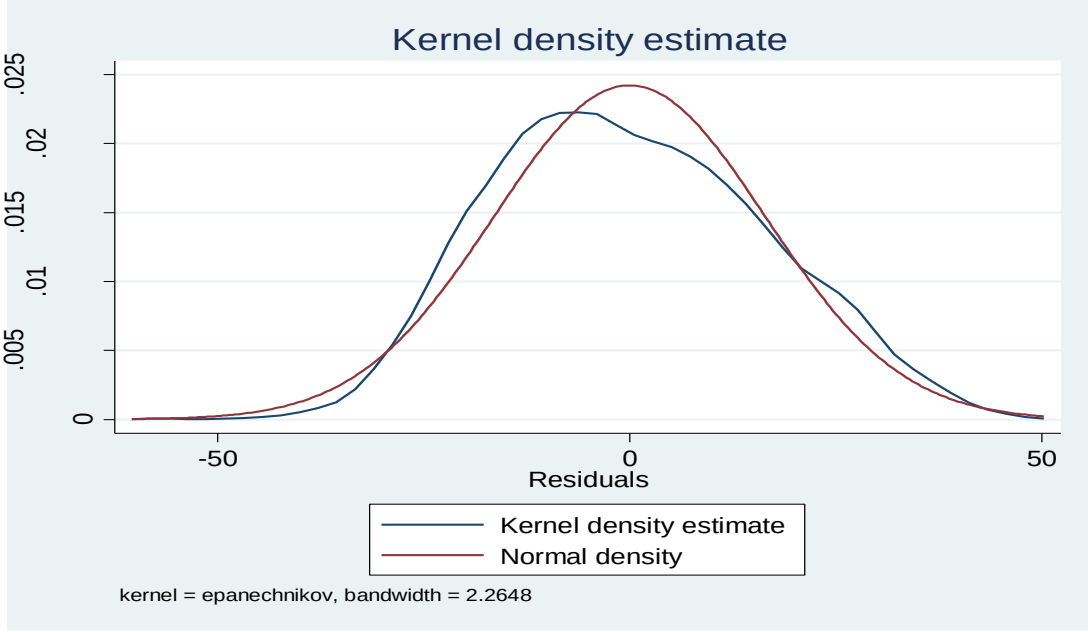

Figure 3 Histogram of Kernel density of the fixed part residuals of Regression 1 in Table 7 against Normal density

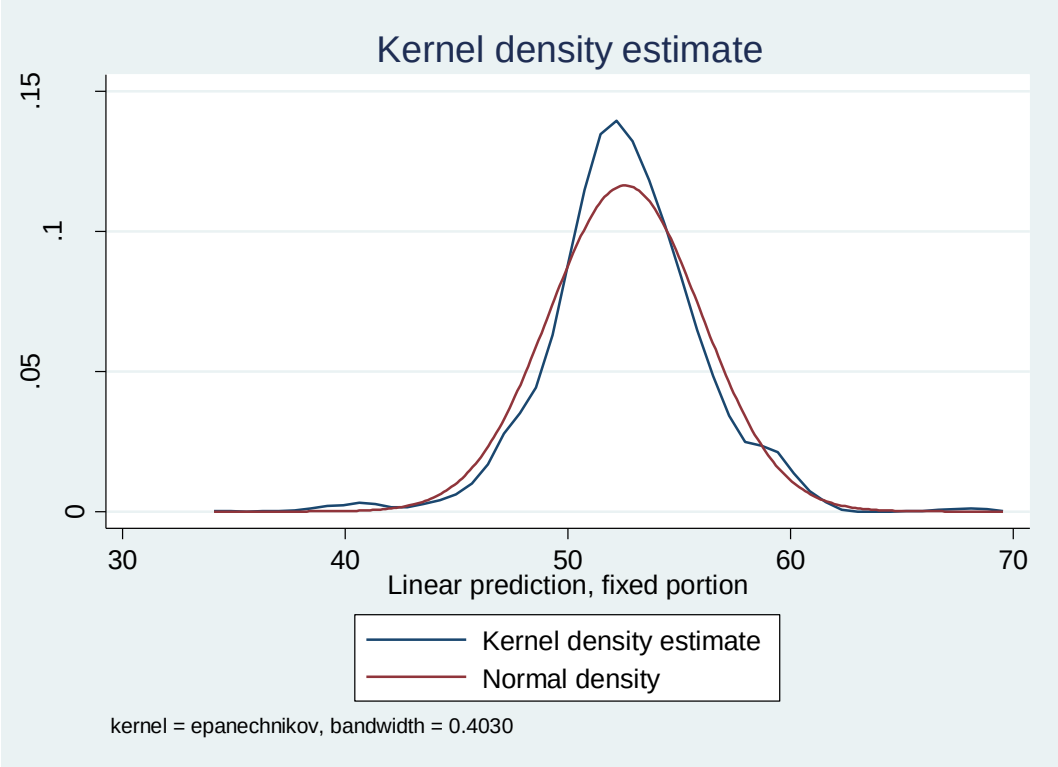

Figure 4 Scatter plot of the residuals of the fixed and random parts of Regression 2 in Table 7

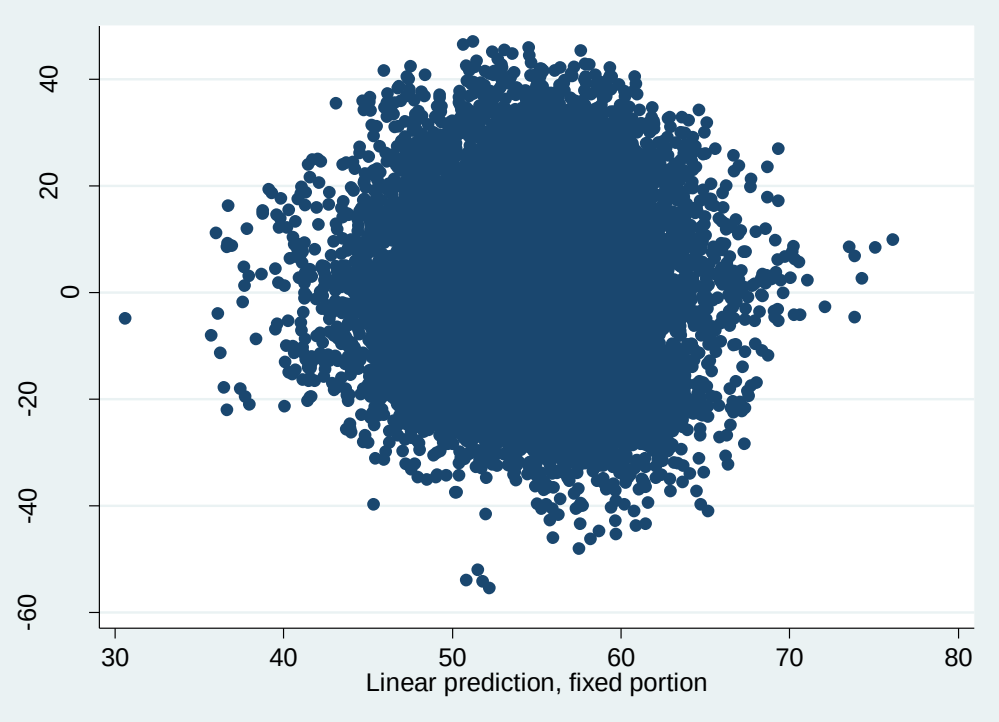

Figure 5 Histogram of Kernel density of the random part residuals of Regression 2 in Table 7 against Normal density

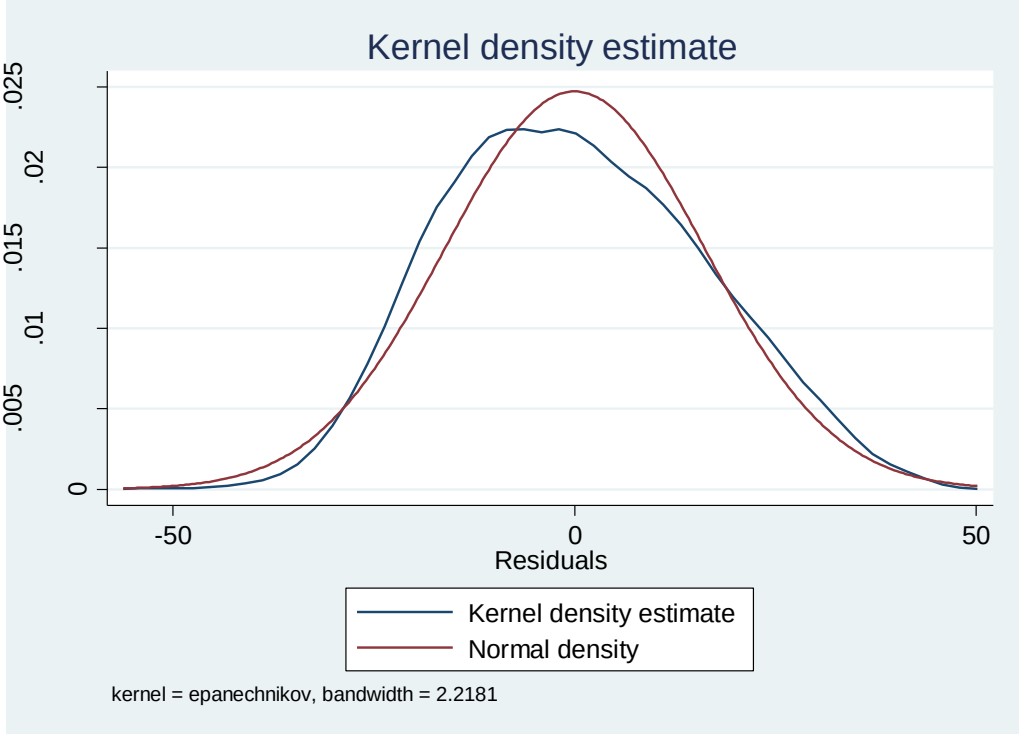

Figure 6 Histogram of Kernel density of the fixed part residuals of Regression 2 in Table 7 against Normal density

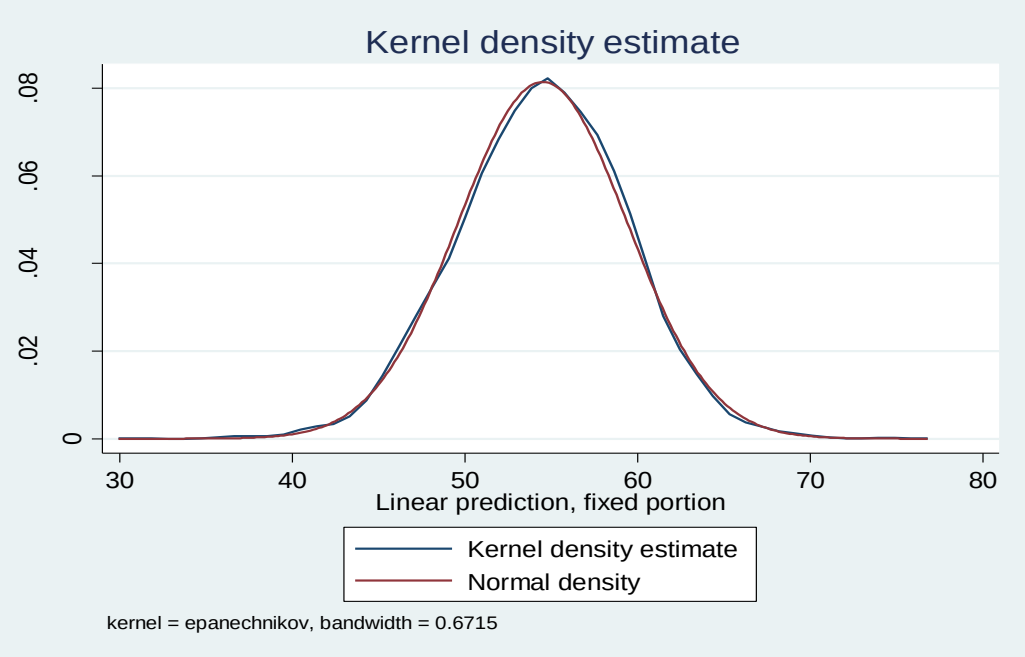

Figure 7 Scatter plot of the residuals of the fixed and random parts of Regression 1 in Table 10 (Robustness test 1)

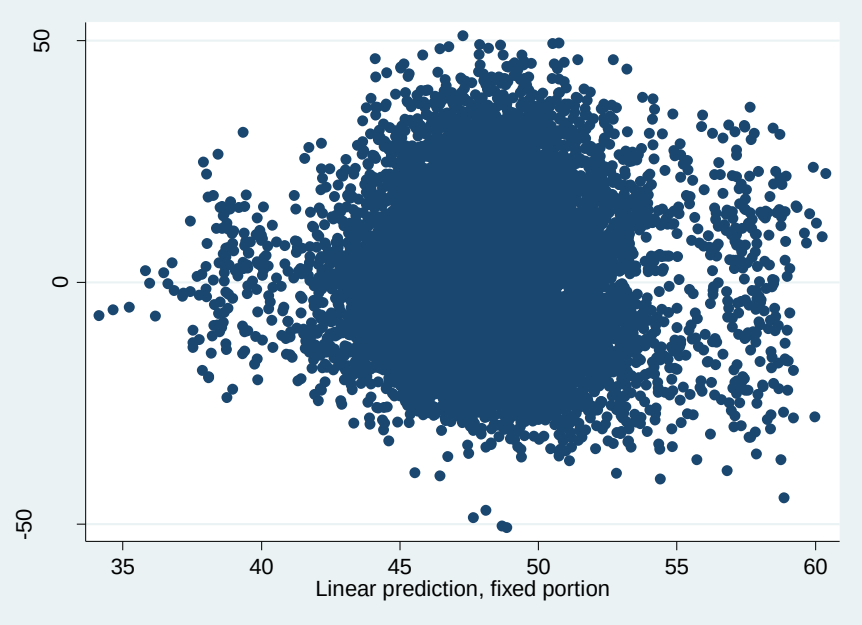

Figure 8 Histogram of Kernel density of the random part residuals of Regression 1 in Table 10 against Normal density

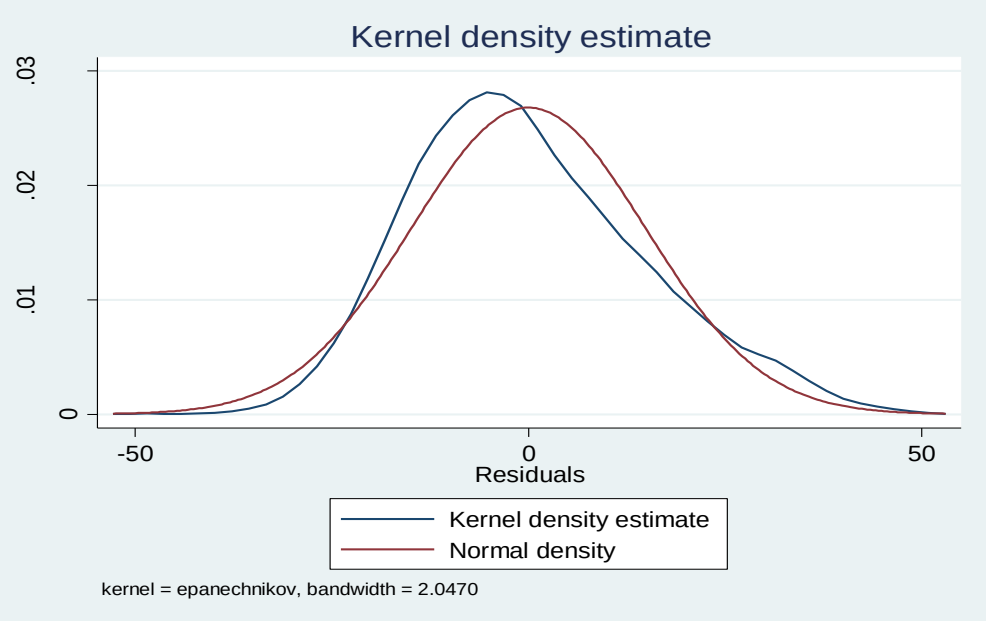

Figure 9 Histogram of Kernel density of the fixed part residuals of Regression 1 in Table 10 against Normal density

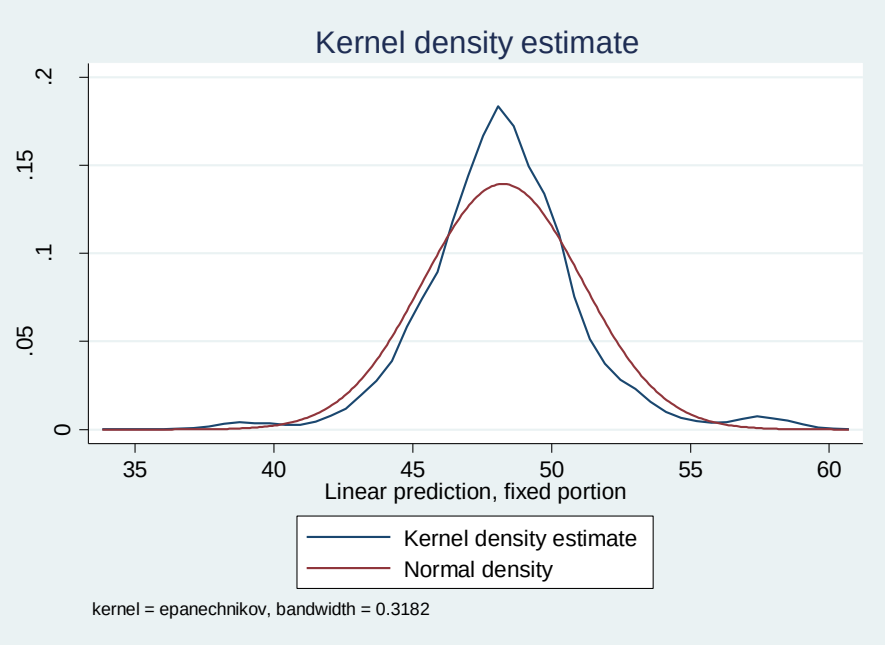

Figure 10 Scatter plot of the residuals of the fixed and random parts of Regression 2 in Table 10 (Robustness test 1)

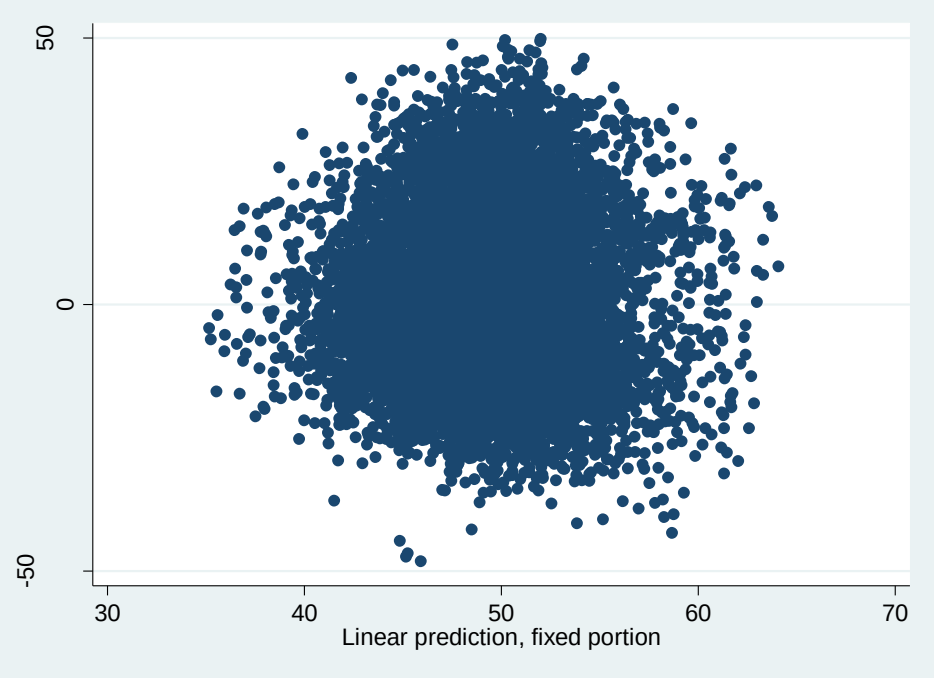

Figure 11 Histogram of Kernel density of the random part residuals of Regression 2 in Table 10 against Normal density

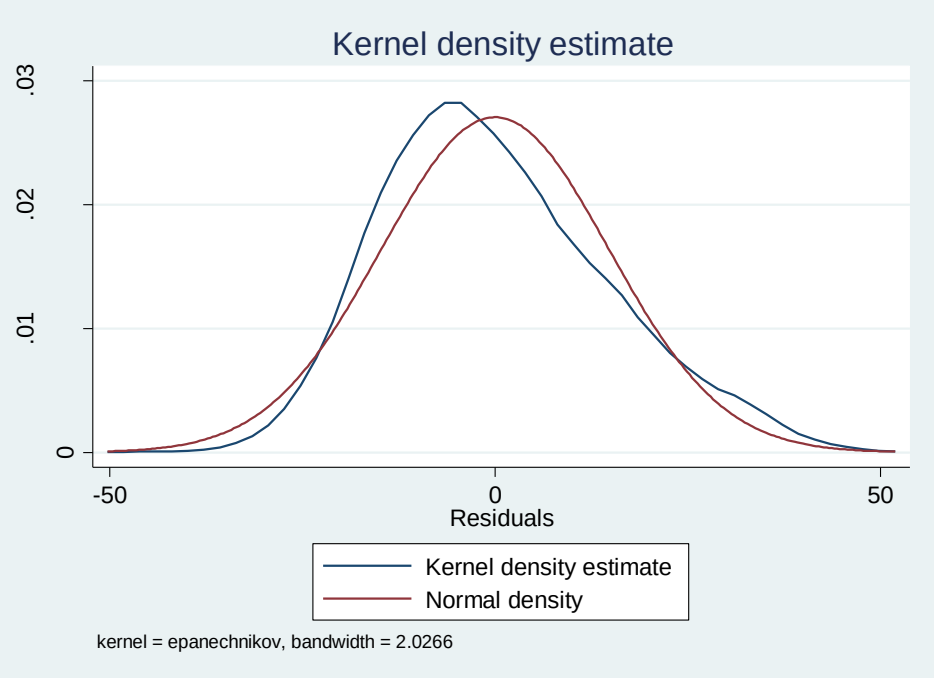

Figure 12 Histogram of Kernel density of the fixed part residuals of Regression 2 in Table 10 against Normal density