

HOFSTEDE'S CULTURAL DIMENSIONS AND THE  
RELATIONSHIP BETWEEN ESG PERFORMANCE AND FIRM  
VALUES

Master's Thesis  
Nguyen Tran Truc Quan  
Aalto University School of Business  
Finance  
Fall 2022

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**Author** Nguyen Tran Truc Quan

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**Title of thesis** Hofstede's Cultural Dimensions and the Relationship between ESG Performance and Firm Values

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**Programme** Master of Science in Economics and Business Administration

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**Major** Finance

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**Thesis supervisor** Markku Kaustia

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**Date** 30.12.2022    **Number of pages** 113 + 36    **Language** English

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### **Abstract**

This thesis aims at exploring the linkage between corporate ESG conduct and relative financial performance. Achieving that involves examining a panel data sample of 30,030 observations from 2,730 companies over 48 countries. According to the results, the ESG-firm value connection is significant and positive yet humble. Therefore, enterprises should be conscious but only focus on ESG investments when benefits justify costs. Similar findings are observed for E and S pillars of ESG when investigated separately but no significant relation is found for G pillar. Dimensions of Hofstede are then employed to look into how culture moderate the relationship between sustainability activities and organizational values. Among the six dimensions, individualism and masculinity heighten the favourable association, power distance, long-term orientation and indulgence weaken such link whilst uncertainty avoidance has no significant effects. Modifying ESG mechanisms based on national cultures is hence generally beneficial although the gains could be quite minimal. The thesis contributes to the existing literature by studying ESG ratings with a controversy overlay to avoid overstating the sustainable performance of firms. Moreover, this thesis is the first to investigate three ESG pillars in different regressions for ease of comparison and also the only paper which takes into consideration moderating impacts of all six dimensions of Hofstede.

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**Keywords** ESG, firm value, Tobin's Q, ROA, ROE, national culture, Hofstede, moderate, HLM

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## **I. Introduction and motivation**

Environmental-social-governance, also known by its abbreviation ESG, has become a highly discussed topic in recent years, especially when the Covid-19 pandemic strengthened public awareness of sustainability issues. Similarly, academics have published several papers on the subject, including those by Lankoski (2000), Fernando et al. (2010), Shi and Veenstra (2021) and Griffin et al. (2021b) that focus on environmental factors, studies by Orlitzky et al. (2003), Brammer & Millington (2008), Margolis et al. (2009), Eccles et al. (2014), Luo et al. (2015) and Shi and Veenstra (2021) that target social elements and research by Amman et al. (2011), Black et al. (2015), Aggarwal et al. (2019) and Xie et al. (2022) which investigate the impact of governance practices. This thesis seeks to add to the current literature by looking into not just the ESG-firm value relationship, but also the moderation of national culture.

According to a study by Economist Intelligence Unit (EIU), delegated by World Wildlife Fund (WWF), searches for sustainable goods have grown by more than 70% over the last five years (Climate Action, 2021). Phenomena like the pandemic and climate change act as an awakening call to people as they start to comprehend humans are not owners of the planet, but its stewards. Stakeholders are therefore expected to exert greater pressure on businesses to adopt sustainability practices. Adding ESG outlooks to periodic reports will attract more investors and improve analysts' coverage of companies.

As defined by Geert Hofstede (2011: 3), national culture is the “collective programming of the mind that distinguishes the members of one group or category of people from others”. In other words, human behavior is not completely random but somehow predictable depending on the situation. Since national culture affects individual behavior, it can also govern the decision-making of investors and businesses regarding sustainability issues, which further creates implications for firm values.

While there are several ways to measure sustainability performance, ESG scores are the most used. To envision how culture influences individual actions and decisions, Hofstede developed six facets of national culture and how they differ across countries, known as Hofstede's six cultural dimensions (Hofstede Insights, 2022). This thesis shall investigate the relationship between ESG Combined Scores, the pillars of ESG and the value of firms in various nations using six cultural dimensions of Hofstede as moderator variables. The dataset is made of a global

sample across 48 countries with 30,030 observations from 2,730 companies. Measures of firm performance have their values range from 2010 to 2020 while values of other time-varied variables range from 2009 to 2019. ESG and firm-related data are retrieved from Thomson Reuters Eikon/Datastream/Worldscope, country-related data are obtained from World Bank databases except for Hofstede's scores, which are taken from Hofstede Insights (2022).

The methodology employed in the thesis is hierarchical linear modeling (HLM), also known as mixed or multilevel modeling (Raudenbush & Bryk, 2002). The relationship between ESG and firm values is tested by regressing Tobin's Q, ROA and ROE sequentially on ESG-related scores, and the moderating role of culture is checked by regressing three firm performance indicators on the cross-level interactions of Hofstede's dimensions with firm-level ESG-related ratings. Elaborations on the variables are later addressed in the 'Data and Variables' section.

Although HLM is often seen in marketing and psychology (Bryk & Raudenbush, 1987; MacKenzie, 2001), there have recently been applications in the financial segment. HLM in this thesis is adopted from the work of Griffin and others (2021a), Griffin and colleagues (2021b) and Shi and Veenstra (2021). Within them, the papers of Griffin et al. (2021a) and Griffin et al. (2021b) are from major finance journals, namely the Journal of Financial and Quantitative Analysis and Journal of Corporate Finance respectively. The latter study by Shi and Veenstra (2021) is published in the Journal of Business Ethics which is a reputable ethics journal but not a finance journal. However, this article actually has its methodology based on another research by Li et al. (2013) from the Journal of Corporate Finance, the same finance journal as Griffin et al. (2021b). The similarity among these studies as well as this thesis is the analysis of data with multiple levels: country and company. Particularly, Griffin et al. (2021a) investigated the association between gender diversity and corporate innovation together with the moderating effect of one of Hofstede's cultural dimensions, masculinity. Key variables contain measures of corporate innovation like citation-weighted number of patents applied for by a firm over a three-year window as the dependent variable, female director ratio as the independent variable, board size and female labor market participation as firm-level and country-level control variables. Models in the paper additionally include a cross-level interaction between the female-director ratio and masculinity to study the moderating impact of this Hofstede dimension. Reasons for

focusing on moderating impacts of national culture will be discussed below in the segment for ‘Research questions’.

Li et al. (2013) also employ multilevel data at national and firm levels. The authors explored the connection between individualism and uncertainty avoidance dimensions of Hofstede and corporate risk-taking behavior. A small difference exists as the cultural dimensions are explanatory variables and the moderator variable is managerial discretion. Still, the status of having nested data with interactions between variables of different levels to explore the moderating effect stays the same. This again could be observed in the research of Griffin et al. (2021b) whose units of analysis are identical to mine: the ESG-firm value association and moderating impact of Hofstede’s individualism expressed through the cross-level interactions with firm-level ESG-related ratings. Hence, the use of HLM in this thesis is justified through previous studies from prestigious finance journals with analogous topics and settings.

There are three advantages to the employment of HLM. First are corrections for distortions induced by sample size differences across nations as well as distortions in standard errors introduced by clustering at the firm level (cross-correlations between businesses due to having common country components) (Griffin et al., 2021a). Second is the benefit of HLM over dividing Hofstede cultural dimensions into higher and lower halves and conducting multiple normal regressions with firm and country fixed effects. Although the latter could reveal differences in the relationship between ESG and corporate performance for high and low cultural scores, it could not show the exact moderating impact of each cultural dimension. Third, HLM allows the exploration of potentially distinct connections between sustainability and firm value at both country and firm levels (ibid). Despite this not being the aim of this thesis, it could still add interesting insights, especially when companies are interested in knowing whether their performance is related to controllable (ESG scores at the firm level) or less controllable factors (ESG scores at the country level).

The results show a significant and positive relation between ESG at the firm level and company value regardless of whether it is measured by Tobin’s Q, ROA or ROE. This is consistent with what is hypothesized as detailed in the ‘Hypotheses’ subsection below. Nevertheless, the small economic significance of the associations, especially in comparison to previous findings, should be taken into consideration. When replacing the overall ESG ratings with those of individual

pillars, the findings are similar for environmental and social whist governance sees no significant results. Individualism and masculinity act as positive moderators of the ESG-business performance linkage. Power distance, long-term orientation, and indulgence, on the other hand, adversely mitigate such a link. An exception exists with uncertainty avoidance which was found to have no statistically significant moderating impacts. Among the dimensions, power distance, individualism and indulgence follow their proposed hypotheses.

The following is an outline of the thesis structure. Section 2 introduces the research questions and hypotheses before moving to Section 3 with contributions. Section 4 then discusses the theoretical and empirical findings from relevant literature. Next is the presentation of data and variables in Section 5. After that are Section 6 featuring the methodology and regression models and Section 7 highlighting results and discussions with previous findings. The thesis continues with robustness checks in Section 8, additional tests in Section 9 prior to reaching result implications, potential limitations and future research suggestions in Section 10. The thesis ends with the conclusion in Section 11.

## **II. Research question and hypotheses**

### **2.1. Research questions**

The following research questions are addressed in this thesis:

1. What is the relationship between ESG performance and firm values?

As specified in research by Ammann et al. (2010), Benabou and Tirole (2010), Albuquerque et al. (2019) and Bardos et al. (2020), better ESG performance means higher firm value. There have been several different mechanisms proposed by researchers for how ESG activities might generate value for firms, but all of them could be categorized into one of two types. The first type is where ESG increases shareholder wealth (Gillan et al. 2021). A cash flow increase is one source of value creation under this type. To illustrate, clients prefer firms that are known to have good ESG profiles and employees produce more when they work for such companies. Reduced systematic risks and discount rates are other means of value creating because they lower the costs of capital (Albuquerque et al., 2019; Gillan et al. 2021; Bannier et al., 2022; Li et al.,



2022). In addition to having more cash, firms with reputable ESG practices could create value for investors through utility maximization. One explanation is that investing in companies with high ESG profiles reflects investors' intrinsic altruism and protects their social image and self-esteem (Benabou & Tirole, 2010).

On the other hand, the focus on ESG may be a result of managerial agency issues which create advantages to the management instead of investors. One example is the free cash flow problem, which implies that higher ESG spending could be expected as companies obtain higher values/performance (Jensen, 1986). This leads to a reverse causation between business value and ESG activities, implying that higher values and better financial success result in improved ESG performance (Gillan et al., 2021).

Another body of literature with growing popularity argues that the performance of companies is not systematically correlated with their ESG performance, whether that is positive or negative (Orlitzky, 2013). As McWilliams and Siegel (2001) and Curran and Moran (2007) demonstrate consistently, marginal cost and Corporate social Responsibility (CSR) benefits shall offset each other in an equilibrium condition and other things being equal. There exist connections between the concepts of ESG and CSR. In specific, CSR can be thought of as the precursor to ESG. Companies must self-regulate and follow sustainable practices in order to have a positive societal impact. The efforts made as part of a CSR strategy can then be enhanced and integrated into ESG measures and reporting (O'Neill, 2022). Considering the debatable nature of the relation between ESG and firm valuation, it is interesting to revisit this question.

2. What are the relationships between environmental, social and governance pillars on firm values when considered independently?

Besides examining the total ESG score, additional insights could be gained by looking into the elements within it separately as some companies in certain industries might value one factor more than the other. For instance, it could be that stakeholders of energy companies and companies using natural resources in production are most interested in the environmental facet of ESG.

3. To what extent do Hofstede's cultural dimensions moderate the relationship between ESG performance and firm values?

# Hofstede's Cultural Dimensions

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## Power Distance Index (PDI)

High: Acceptance of a hierarchical order in which everybody has a place and which needs no further justification.

Low: People strive to equalize the distribution of power and demand justification for inequalities of power.

**PDI**

## Individualism versus Collectivism (IDV)

Individualism: As a preference for a loosely-knit social framework

Collectivism: Tightly-knit framework in society.

**IDV**

## Masculinity versus Femininity (MAS)

Masculinity: Preference in society for achievement, heroism, assertiveness and material rewards for success.

Femininity: Stands for a preference for cooperation, modesty, caring for the weak and quality of life.

**MAS**

## Uncertainty Avoidance Index (UAI)

High: Maintains rigid codes of belief and behavior and are intolerant of unorthodox behavior and ideas.

Low: Societies maintain a more relaxed attitude in which practice counts more than principles.

**UAI**

## Long Term Orientation versus Short Term Normative Orientation (LTO)

High: Pragmatic approach, they encourage thrift and efforts in modern education as a way to prepare for the future.

Low: Societies prefer to maintain time-honored traditions and norms while viewing societal change with suspicion.

**LTO**

## Indulgence versus Restraint (IND)

Indulgence: Societies that allow relatively free gratification of basic and natural human drives related to enjoying life and having fun.

Restraint: Societies that suppress gratification of needs and regulates it by means of strict social norms.

**IND**

Figure 1: Hofstede's cultural dimensions overview (Sources: Sordo, 2015; Hofstede Insights, 2022)

Geert Hofstede's cultural dimension theory serves as a basis for cross-cultural communication. It applies a component analysis-derived structure to describe the impact of culture on the values of people in a society and how these values associate with human behaviors (Hofstede, 2011). Six key aspects of national culture are identified, forming six scales ranging from 0 to 100 for

comparing between countries. The aspects are named as follows: power distance, individualism against collectivism, masculinity against femininity, uncertainty avoidance, Long-Term against short-term orientation and indulgence against Restraint (ibid). The graphic above depicts and provides short descriptions of the dimensions.

Research on the relationship between ESG performance and business value has been undertaken while distinguishing between nations promoting shareholder theory and those supporting stakeholder theory (La Porta et al., 2000; Braam & Peeters, 2018). However, how culture determines the ESG performance-firm value relationship has received little attention. So far there have been two papers by Shi and Veenstra (2021) and Griffin and others (2021b) that investigated this topic but similar to the previous research question the papers do not cover all instead only limit to some cultural dimensions, particularly individualism/collectivism and flexibility/monumentalism which is the reconceptualization of long/short-term orientation (Hofstede, 2011). Hence, it would be a meaningful addition to the existing literature to review the question with the complete set of Hofstede's cultural dimensions.

One might question the study of moderating effects of cultural dimensions instead of their direct relationships with ESG performance or the valuation of firms. In fact, Griffin and others (2021b) did examine the relation between individualism of Hofstede and firm-level E/S performance. In this case, however, the cultural dimension is at the country level whilst E/S ratings are at the firm level. On the other hand, when cultural dimensions are investigated for their moderating effects, ESG-related scores are separated into firm deviations and country means, and cultural dimensions are only included through their interactions with the firm-deviated ESG ratings. HLM could be differentiated from traditional OLS through two steps: regressing the firm-level dependent variable on firm-level variables and regressing the intercept in the previous regression on country-level variables (Raudenbush & Bryk, 2002). If a country-level variable acts as an explanatory variable then the functions of HLM might not be exploited in full. Not only does studying moderating effects of cultural dimensions make sense in a statistical manner, but it also has more theoretical and economic meanings. Specifically, culture as a moderator could be understood through the "cultural value conformity hypothesis" proposed by Shi and Veenstra (2021). This hypothesis ties national culture and the relationship between ESG and firm values through the level to which the cultural dimension adheres to social norms of a country. The

association between stakeholder actions and company performance has been made known since Kaplan and Norton (1992) introduced the balanced scorecard which takes into consideration the positions of various stakeholders in determining corporate successes. In the study by Fu et al. (2019), the favorable influence of long shareholder horizons on CSR engagement is associated with social norms. Furthermore, social norms are indeed priced, as stated by Hong and Kacperczyk (2009). More precisely, institutional ownership and analyst coverage of sin stocks are lower than those of non-sin stocks. Shall national culture is reflected through social norms, it should display a significant effect on the association between stakeholder behavior and firm performance (Shi & Veenstra, 2021). Therefore, the examination of cultural dimensions as moderator variables is meaningful. The economic side of the debate focuses on the importance of moderating effects in comparison to direct consequences on enterprises. Studying the relationship between national culture and ESG would be more beneficial if it eventually results in improved performance for businesses. Regarding this, there are ongoing discussions about whether ESG would enhance or detract from a company's values.

## **2.2.Hypotheses**

Bardos et al. (2020) and Griffin et al. (2021b) report a positive connection between ESG and firm performance. Sources of the positive relation include reduction in capital costs (Wong et al., 2021), strengthening the reputation of firms (Bardos et al., 2020), nonlinear initiation of innovation (Broadstock et al., 2020), mitigation of risks like default risks (Li et al., 2022) and risks at times of crisis (Broadstock et al., 2021), to name a few. Not only ESG rating and ESG conduct themselves but also ESG disclosure has been found to have a favorable influence on values of companies (Choi & Luo, 2021). Therefore, the first hypothesis is specified as follows:

H1: The relationship between ESG performance and firm valuation is positive

With regard to social and environmental influences, a positive effect of CSR on firm values is reported (Fatemi et al., 2015; Buchanan et al., 2018; Zolotoy et al., 2019; Bardos et al., 2020; Barros et al., 2021). Specifically, the environmental component could mitigate the risks of the pandemic which improves the stock return of firms (Garel & Petit-Romec, 2021), and good practices in corporate governance could lead to higher valuation measures for firms (Yermack,

1996; Gompers et al., 2003; Cremers and Nair, 2005; Core et al., 2006; Bebcuk et al., 2009). Ammann and others (2011) investigated and reached the same conclusion when using different corporate governance indices. The hypotheses are thus:

H2: The relationship between the environmental pillar and firm valuation is positive

H3: The relationship between the social pillar and firm valuation is positive

H4: The relationship between the governance pillar and firm valuation is positive



*Figure 2: ESG pillars (Source: Community First Foundation, 2022)*

The first Hofstede dimension to be discussed is power distance. As specified on the website of Hofstede Insights (2022), power distance influences how much less powerful people understand and accept the reality of unequal power distribution in society. This means that customers, employees and managers assuming higher power distance might consider sustainability issues as uncontrollable and at the discretion of people with high political stances only. Although regulations could still influence the ESG performance of firms, the impact would be smaller in the absence of other forces. It is also hard to have regulations covering all aspects of ESG activities. Those living in low power distance societies, on the other hand, seek power equality and are less willing to tolerate it. Consequently, they are more inclined to engage in environmental, social and governance debates.

In terms of existing research, Ho et al. (2012) detected a significantly positive relation between power distance and corporate social performance (CSP). However, when analyzing the relationship separately for environmental and social components, the positive connection only remains for the environmental factor while it is negative for the social factor. Although the impact of the environmental element outweighs that of the social one, the paper by Ho et al.

(2012) does not investigate the governance component, which is also part of ESG. To defend their interests, shareholders exercise oversight over business insiders and management through corporate governance (John & Senbet, 1998). Because the ability to exercise control is analogous to power distance, it is anticipated that power distance will be associated with sustainable activities.

Regarding studies that look more into the moderating effects of cultural dimensions, Mueller and others (2012), using a dataset of nearly 1,100 employees from 17 nations, found lower power distance as one of the GLOBE (Global Leadership and Organizational Behaviour Effectiveness) value dimensions increasing the positive association of perceived CSR and affective organizational commitment. Affective organization commitment is described as feeling positive emotions toward an organization and taking an active role in it, as specified by Solinger et al. (2008). The power distance dimension of GLOBE has a similar definition as that of Hofstede (House et al., 2004; Hofstede Insights, 2022). If power distance is negatively related to sustainability performance, the finding of Mueller shows that conformity between cultural values (lower power distance) and organizational behaviors (CSR practices) could bring support from stakeholders, in this case, employees. Such conformity is known as organizational legitimacy (Suchman, 1995; Aguilera & Jackson, 2003). In line with Suchman (1995), high organizational legitimacy could increase the reputation of corporations and ease the process of finding resources. As a result, growth in firm value is expected. The hypothesis is therefore:

H5: The positive relationship between ESG performance and firm valuation is weaker in countries with high power distance

Next is hypothesis building for individualism. While individualistic countries value equality and the identity of people within a group as well as their ability to express personal opinions, collectivistic nations prioritize mutual interests and harmony (Trompenaars, 1993; Hofstede, 2001). Consequently, a greater level of accountability is assumed of corporate management in individualistic societies (Crossland & Hambrick, 2011). Managers are also more likely to appeal to the well-being of each stakeholder by carrying out projects that alleviate environmental issues, increasing employee social benefits and supporting ESG information disclosure (Gray, 1988; Hofstede, 2011). Contrastingly, executives in collectivistic cultures are provided with less

freedom in decision-making and prioritize the benefits of those within their organizations only such as shareholders (Griffin et al., 2017).

Not only does individualism affect ESG-related choices made by managers, but it might also determine requirements stakeholders have for companies regarding ESG topics. According to Allik and Realo (2004) and Nikolaev and colleagues (2017), those who live in individualistic nations have a greater likelihood to volunteer and donate to charities. A call for more focus on ESG activities is thus anticipated in countries scoring high on individualism.

Findings are limited concerning how individualism moderates the connection between ESG and business value. Shi and Veenstra (2021) were the first to explore this, and their findings reveal that CSP and firm financial performance are positively associated with cultures on the lower end of the individualism scale. However, Griffin et al. (2021b) discover a much larger positive connection between the combined score of environmental and social components in more individualist societies. The difference between the two articles is that Griffin and others (2021b) studied Hofstede's dimension while Shi and Veenstra (2021) examined that of Minkov and colleagues (2018). The work of Minkov et al. (2018) is a collaboration between MediaCom, an international media corporation, and the Hofstede Center, a cross-cultural consulting agency (House et al., 2004). Individualism in this paper is a reconceptualization of that of Hofstede hence some differences exist between the two. Regarding publication, while the study of Griffin et al. (2021b) is published in the *Journal of Corporate Finance*, a major Finance journal, the research of Shi and Veenstra (2021) belongs to the *Journal of Business Ethics*, which is highly respected in the fields of Business and Philosophy. Since this thesis is of finance major, the hypothesis shall be constructed based on the finding of Griffin et al. (2021b):

H6: The positive relationship between ESG performance and firm valuation is stronger in countries with high individualism

The third Hofstede dimension is masculinity, a notion indicating the importance of success and competition relative to pleasure in doing what one enjoys (Hofstede Insights, 2022).

Interestingly, Muncy and Eastman (1998) have revealed a negative correlation between materialism and a sense of morality. Modic (1987) also states that ambition, personal financial gain, and a sense of winning are the most contributing factors to unethical behavior. Thus,

enterprises, stakeholders and governments in nations with a high level of masculinity may be less inclined to value sustainable activities.

Previous research on whether masculinity moderates the ESG performance-firm value link is lacking. Nonetheless, if the preceding paragraph is correct in that the link between ESG performance and company value is stronger in less masculine countries, and that parallelism between stakeholder values and ESG practices at firms would bring support from stakeholders and eventually increase firm value, the seventh hypothesis should be:

H7: The positive relationship between ESG performance and firm valuation is weaker in countries with high masculinity

The fourth dimension studied by Hofstede is uncertainty avoidance. It measures the level of threat and responsiveness members of a society have when faced with ambiguous situations (Hofstede Insights, 2022). Corporations, stakeholders and governments in nations characterized by high uncertainty avoidance would thus deem sustainable activities attractive because issues that these activities attempt to tackle are of great importance, but the immediate consequences might be hard to observe. Moreover, uncertainty avoidance has been connected to improved CSR performance (Liou et al., 2021).

Considering the moderating impact of uncertainty avoidance, Choi and Luo (2020) observe that high uncertainty avoidance mitigates the detrimental impact of carbon emissions on firm valuation. They also conclude that high uncertainty avoidance offers better firm protection, ensuring that companies can disclose sustainability information with confidence.

Furthermore, according to Wang and Bansal (2012), engaging in CSR activities brings both upsides and downsides to companies. The advantages include value creation, gaining access to critical resources and acting as insurance against risks while disadvantages consist of higher expenses and management distraction. For entrepreneurs that are in the early stage of growth, negative impacts could outweigh positive ones (Wang & Bansal, 2012). New ventures which score highly on uncertainty avoidance, nevertheless, could offset the detriment of being new and improve their financial performance (ibid). Thus, the hypothesis regarding moderating effects of uncertainty avoidance on the ESG-firm value relationship is as follows:



H8: The positive relationship between ESG performance and firm valuation is stronger in countries with high uncertainty avoidance

The last two dimensions are long-term orientation and indulgence. Societies scoring lowly on long-term orientation are known as normative, they honor traditions and are more reluctant to change. Normative societies are also famous for demanding quick results and are not good savers (Hofstede Insights, 2022). Hence, socially responsible activities might not be the emphasis in these nations.

Flammer and Bansal (2017) also found that long-term orientation leads to a greater focus on stakeholder management, which includes social and environmental practices. Additionally, Gareil and Petit-Romec (2021) investigate the relation between environmental strategies and stock performances during periods of Covid-19 and suggest that the positive environment-stock return connection is more evident the higher the percentage of shareholders with long-term orientation culture is within a company. The hypothesis is therefore:

H9: The positive relationship between ESG performance and firm valuation is stronger in countries with a high long-term orientation

Last but not least, indulgence describes the extent to which desires and impulses are controlled and restrained (Hofstede, 2011). A high score indicates optimism, higher spending and a tendency to enjoy life. Restraint cultures, such as Vietnam, China and Korea, on the other hand, restrain their citizens' desires for pleasure through stringent social rules (ibid). It could hence be that stakeholders in indulgent nations are more concerned about ESG-related issues as they could affect their quality of life while restraint stakeholders are more dependent on regulators to take action.

Nonetheless, when looking at the moderating effect, there is evidence that the association between firm performance and ESG is weaker in indulgent compared to restraint societies (Sun et al., 2019). This is because it is not likely for businesses in indulgent nations to abide by sustainability reporting standards and regulations. As a result, enterprises in constraint countries adhere to sustainability requirements more closely, resulting in stronger long-term financial performance. One could thus assume that indulgence negatively moderates the ESG-firm value link.

H10: The positive relationship between ESG performance and firm valuation is weaker in countries with high indulgence

### **III. Contribution**

This thesis contributes to the stream of literature that studies the value implications of ESG performance of firms but on a global scale compared to previous research which mostly gets data from a single country like the US. Moreover, Although there exist papers investigating the connection between ESG and firm performance, hardly any research has looked into all three pillars of ESG at the same time. Griffin et al. (2021b) analyzed the E and S but not the G elements of ESG. Examining three factors would reveal whether all of them have significant impacts on company valuations and how strong those impacts are. The moderating effect of national culture is also an under-studied part of existing literature that this thesis aims to explore.

The thesis is based on the paper of Griffin and colleagues (2021b) on ‘National Culture and the Value Implications of Corporate environmental and social Performance’ from the Journal of Corporate Finance. Griffin et al (2021b) studied the association of firm valuation and E/S performance with the moderating impact of individualism/collectivism. Another research that acts as a foundation for this thesis is the study by Shi and Veenstra (2021) which looks into individualism and flexibility dimensions as moderators of the corporate financial and social performance relation. Instead of investigating only one cultural dimension of Hofstede which is individualism/collectivism, my thesis aims to study all six dimensions to gain a more comprehensive view. This is because some countries might be similar in terms of individualism/collectivism but dissimilar in one or some other dimensions.

As mentioned above, besides environmental and social factors, this thesis shall investigate the governance pillar. How corporate governance plays an integral part in determining firm values is not a novel topic as it had been studied extensively by authors like Ammann et al., 2011; Aggarwal et al., 2019; Baek et al., 2004; Black et al., 2015. Still, academic works taking into account governance mechanisms while examining whether ESG differs with changing national culture are absent.

## **IV. Literature review**

### **4.1. National culture**

Culture is often mentioned in the case of tribal communities and ethnic groups when studying anthropology, in organizational and national contexts when studying sociology and management or from the perspectives of professions, generations, social classes and genders (Hofstede, 2011). Contextual changes bring variations in the disposition of the concept. Cultures of society, nation and gender are deeply rooted in human minds from their earliest years of life but the same does not apply to occupational or organizational cultures because professions and workplaces could be changed. People are also unconsciously aware of societal or national culture as opposed to being conscious of it as in the case of organizational culture (Hofstede, 2001). National culture hence is the most common form of culture.

Several definitions of national culture have been presented. Olie (1995) examines 164 distinct interpretations of culture gathered up until 1951. The most known among them, as mentioned in the introduction of the thesis, is that of Hofstede (1980). It defines culture as certain programming rules within a human's mind identifying people belonging to the group from those that do not. In essence, culture delineates a set of values that cater to individuals' or societies' enduring opinions about how to conduct themselves and how to live (Rokeach, 1973; Hofstede, 2001). North (1990: 37) also described national culture as something that “provides a language-based conceptual framework for encoding and interpreting the information that the senses are presenting to the brain”. It appears from these definitions that national culture plays an integral part in an individual thinking process and how he/she forms his/her perspectives of the world, which then influence preferences for organizational sustainability practices.

Words like 'programming' and 'framework' are key concepts when defining culture. They demonstrate that culture does not readily exist, but results from a gradual development into civilization (Hofstede, 2011). It is a combination of different elements, from beliefs, mental outlook, customs, the embodiment of hero, folklore to specialized languages like local speeches (Guiso et al., 2006). It is from birth that these elements of culture are acquired. Some factors that could affect these cultural ingredients include family, friends, institutions like school and workplace and means of media such as books, newspapers and television, to name a few

(Hofstede, 2011). Moreover, interpreting culture as “shared motives, values, beliefs, identities, and interpretations or meanings of significant events that result from common experiences of members of collectives that are transmitted across generations” House et al. (2004: 23) shows that culture and its impact remain stable over time.

#### 4.1.1. Hofstede’s cultural dimensions

The Cultural Dimensions Theory, established by Geert Hofstede (2011), is a framework for recognizing culture variations between countries and how business is conducted in dissimilar cultures. Since the theory of Hofstede focuses on human behavior in general as well as the implications of such in organizational contexts, it is expected to explain actions taken by both stakeholders within and outside firms that would impact ESG and financial performance.

In the 1970s and 1980s, Hofstede (1980) conducted surveys in 70 countries around the world. The participants worked for IBM, an international corporation. As a consequence, four aspects were discovered: power distance, individualism/collectivism, uncertainty avoidance and masculinity/femininity. These dimensions are given scores from 0 to 100 to characterize the cultures of different nations (Hofstede 1980). Subsequently, in an effort to develop a cultural dimension suitable for Asian countries, Hofstede joined with Bond (Hofstede & Bond, 1984; Hofstede & Bond, 1988) to present the fifth dimension of Confucian dynamism, which eventually became long/short-term orientation (Hofstede, 1991).

The research of Hofstede has had a profound impact on both practitioners and academics. Specifically, applications of the model of Hofstede, besides in cross-cultural research and practices, have been seen in numerous segments of businesses like ethical decision-making (Vitell et al., 1993; Kim & Kim, 2010), rewards and recognition, conflict resolution, teamwork performance and diversity, learning platform development, cost management and entrepreneur and innovation (Randall, 1993).

#### 4.1.1.1. Power Distance

To differentiate countries depending on their culture, Hofstede has identified a total of six dimensions. The first one is power distance, which discusses the inequality in individual identities and how people within a culture react to this. As noted by Hofstede (2011), power distance is the degree to which power is acknowledged and expected by people within a group (e.g., societies, families and organizations) to be distributed in an unbalanced manner. Unequal societies exist everywhere, but the extent of inequality is greater in some than in others. In particular, countries with high power distance scores include those in Asia, Africa, Latin America and Eastern Europe while those at the lower end of the scale could be found in English and Germanic-speaking Western regions (Hofstede et al., 2010).

There have been multiple cases where power distance was said to have effects on organizational activities. An example would be a study by Fu et al. (2019) in which power distance has been found to strengthen the moderating impact of organizational coordination on the positive connection between high-performing work systems and firm performance. Another notable article is that of Zheng and colleagues (2012) where countries scoring higher in power distance were shown to employ a greater level of short-term debt. These indicate potential influences power distance has on firm valuation. One could find illustrations of the scores in Figure 3.

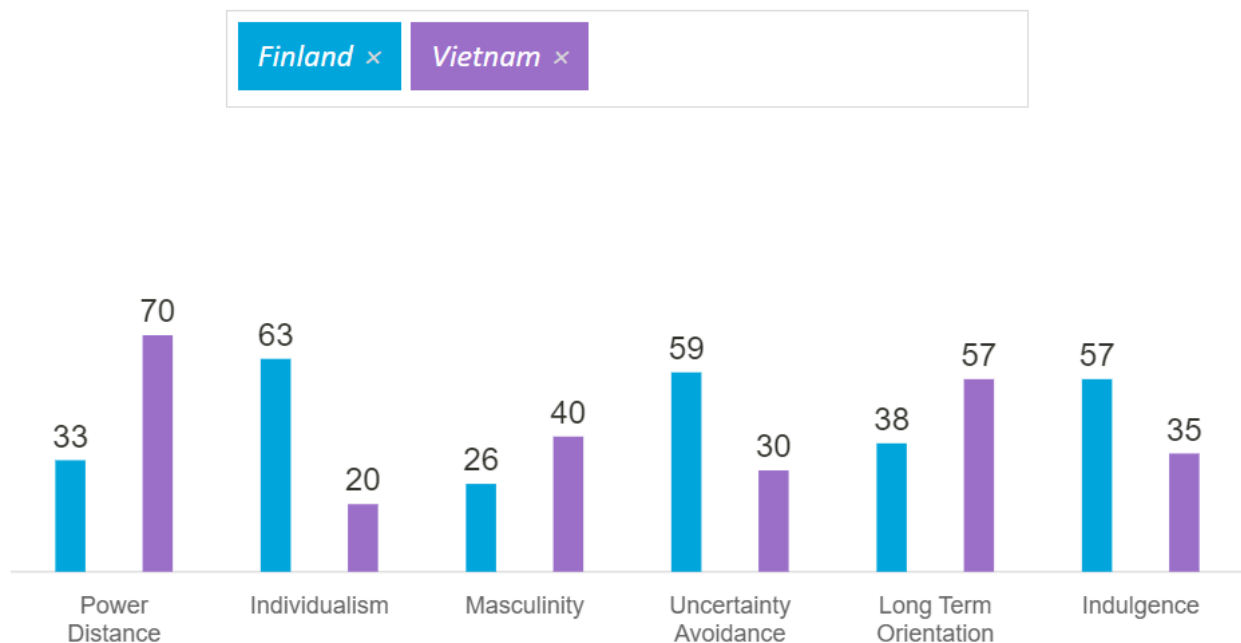


Figure 3: Power Distance in low (Finland) and high (Vietnam) countries (Source: Hofstede Insights, 2022)

#### 4.1.1.2. Individualism

individualism measures the level to which those who live in a society are accommodated into groups (Hofstede, 2011). The greater the score in individualism, the more the connection between individuals within a society loses its strength. Individualist nations are characterized by people focusing mainly on their immediate family. Meanwhile, collectivist countries tend to have people living in extended families, and members of a family protect one another in exchange for loyalty (ibid). Because of their close-knit tie, collectivists might feel obliged to protect the common good of those within a social group, including solving ESG-related problems. Nevertheless, living in a collectivist nation also means that following common practice is crucial. This could make it harder to voice changes especially when ESG is a relatively new issue in some regions of the world. Concerning geographical distribution, the second dimension of Hofstede is higher in Western and developed countries than in Eastern and developing ones. On this metric, Japan is in the middle (Hofstede et al., 2010). Examples could be observed in Figure 4 below.

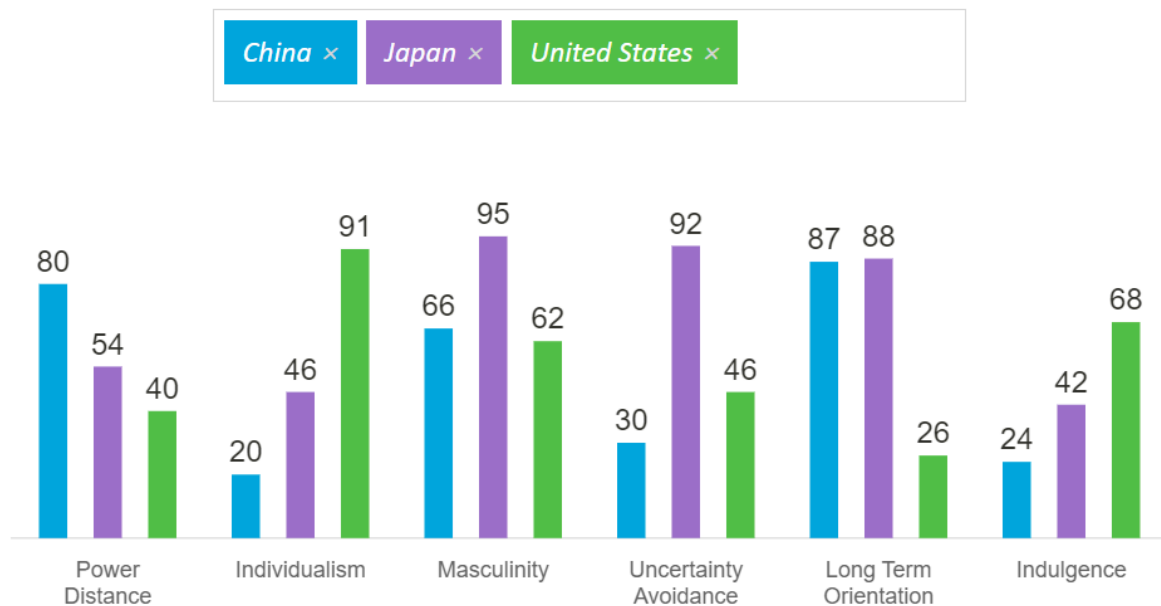


Figure 4: Individualism in Japan, developing (China) and developed countries (US) (Source; Hofstede Insights, 2022)

#### 4.1.1.3. Masculinity

A high score in masculinity implies that people within that culture are competitive and strive to give the best performance in everything that they engage in (Hofstede, 2011). This applies to all contexts and environments like schools, workplaces and pastime activities and is a trait that could be formed early in life and persist through an individual's lifetime (ibid). When the masculinity score is low, it means that a country is more on the feminine side, which is characterized by care among people within the same society and success is defined based on the well-being of a person and enjoyment in life rather than focusing on being the best (ibid). Hofstede et al. (2010) report that Japanese, German-speaking, and Latin American countries generally have greater levels of masculinity, as shown in Figure 5. As people in masculine cultures aim to reach the top in anything they are involved in, it could be that they care about results more than the process and consequences. In this case, sustainable practices would not spark their interest, not to mention the possibility of them considering sustainability as a cost rather than a value-enhancing activity.

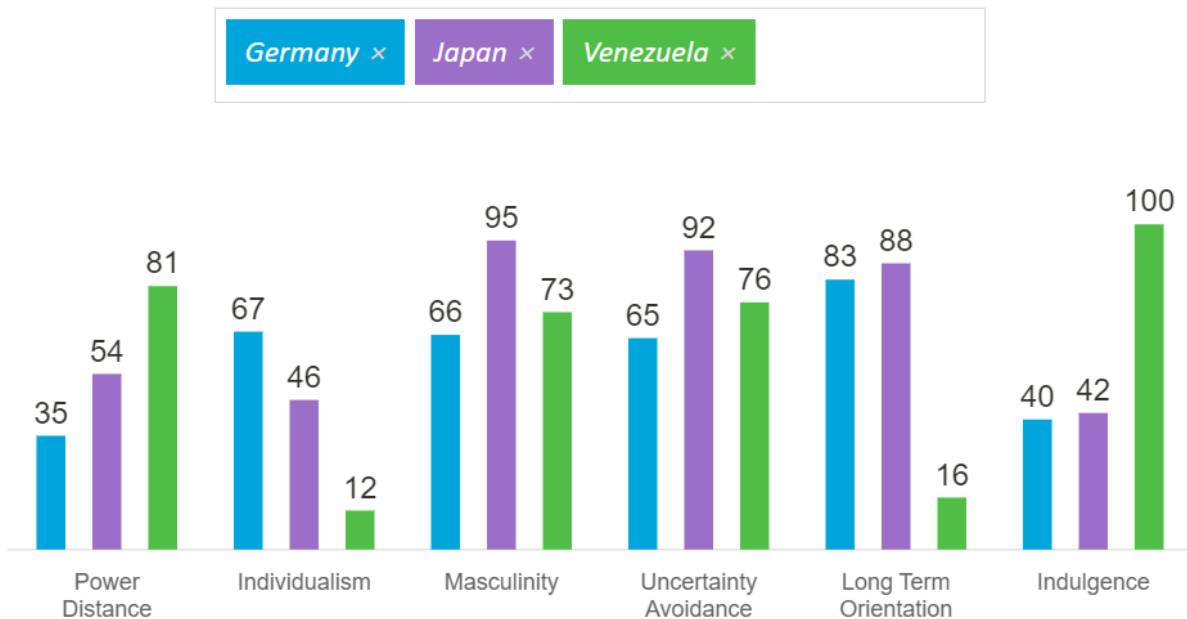


Figure 5: Masculinity in Japan, Latin America (Venezuela) and German-speaking nations (Germany)  
(Source; Hofstede Insights, 2022)

#### 4.1.1.4.Uncertainty Avoidance

uncertainty avoidance refers to how comfortable it is for people in a society in tackling ambiguities (Hofstede, 2011). Ambiguities mean situations that are unexpected, unprecedented and are deemed to rarely happen. To cope with those circumstances, individuals in nations with high uncertainty avoidance would introduce rules, regulations, codes of conduct, means to condemn inappropriate behaviors and promotions of the absolute Truth (ibid). This means that people scoring high on uncertainty avoidance would put more effort into preparing for uncertain situations or preventing them from happening; they might also reward actions that promote such effort and/or punish actions that do not. Additionally, studies mention that people living in these cultures are often associated with stress and anxiety and are more likely to be manipulated by emotions and their inner nervous energy (Matsumoto, 1989). It is thus reasonable that their defense mechanism would encourage them to respond more decisively to unstructured conditions such as challenges regarding the environment, society and corporate governance.

On the other hand, in more uncertainty-tolerant countries, one could find people to be more accepting of conflicted opinions, have fewer principles, choose their religions based on life experiences and are open to different religious opinions. They are also known to have better control of their emotions (Hofstede, 2011). As stated by Hofstede et al. (2010), countries that score highly on uncertainty avoidance include Japan, German-speaking nations and those located in East and Central Europe. Figure 6 presents some instances of this.



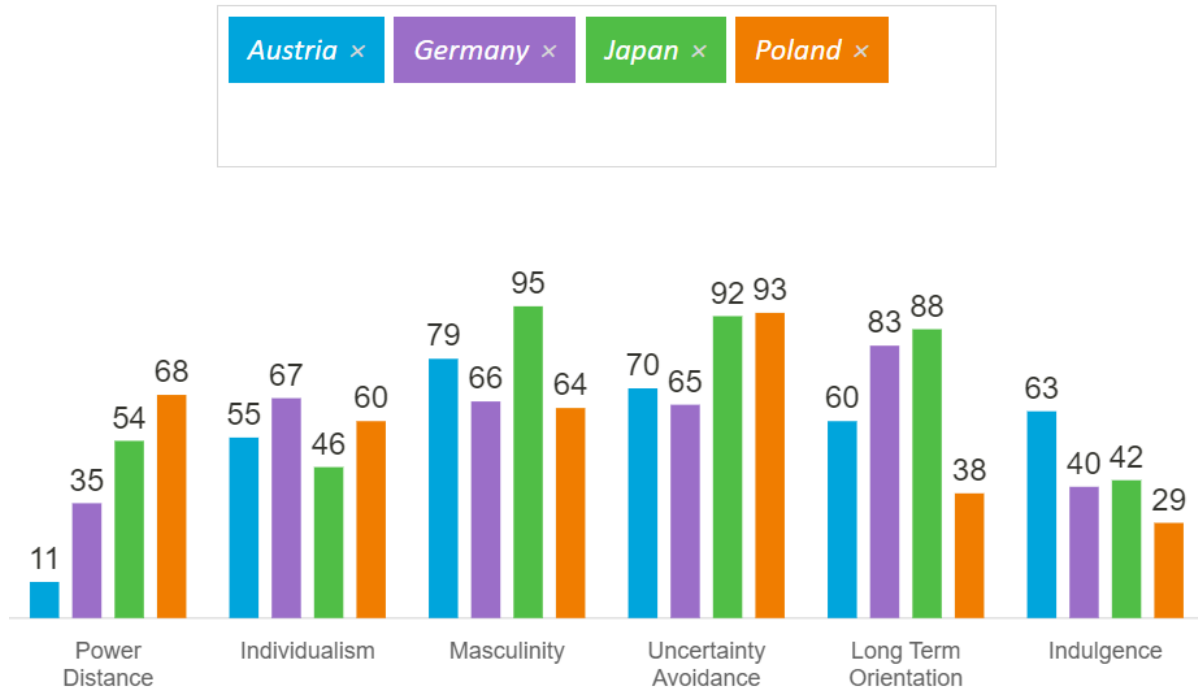


Figure 6: Uncertainty Avoidance in Japan, German-speaking country (Germany) and East-Central Europe (Austria and Poland) (Source: Hofstede Insights, 2022)

#### 4.1.1.5. Long-Term Orientation

long-term orientation describes how attached people in a culture to their past (Hofstede, 2011). Countries scoring low on this dimension are classified as normative. They value custom and traditional practices whilst being apprehensive in coping with changes in society (ibid). Pragmatic countries, those that score highly on long-term orientation, in contrast, welcome modern development and value education as a way of equipping for the future (ibid). Since long-term oriented nations possess a more future-focused outlook, one would expect them to pay more attention to ESG topics and responses of companies to these. When it comes to the ranking of countries on long-term orientation, the order starts with the East and Center of Europe, after which is the South and North of Europe and the South of Asia before ends with North America particularly the US, Latin America, Africa, Muslim nations and Australia (ibid). Illustrations are available in Figure 7 below.

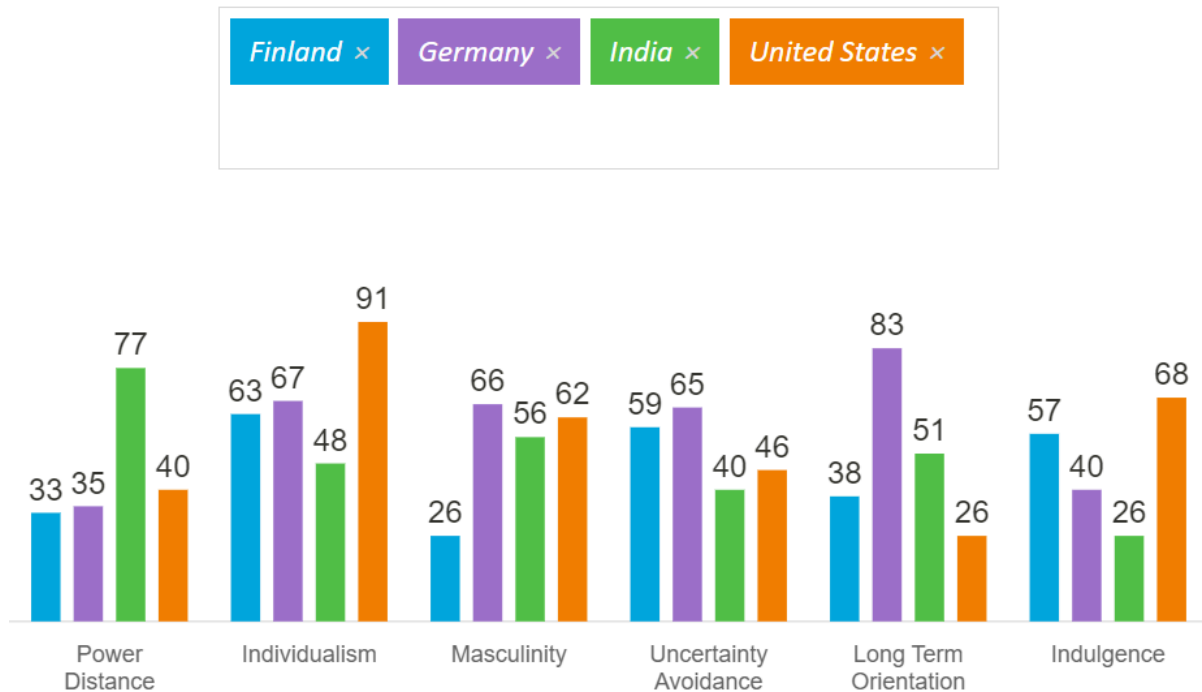


Figure 7: Long-Term Orientation in East-Central Europe (Germany), North Europe (Finland), South Asia (India) and North America (US) (Source; Hofstede Insights, 2022)

#### 4.1.1.6. Indulgence

The final dimension, indulgence/Restraint, is also a new addition from the work of Minkov (2007). While the indulgent are known to take time to enjoy life and live to the fullest, restraint people often hold back these desires through regulations and social norms (Hofstede, 2011). As mentioned in the ‘Hypotheses’ subsection, indulgent individuals could take a more active role in promoting ESG as they are more straightforward in expressing their opinions and needs. The prevalence of indulgence could be most observed in America, the list then ranges from Western Europe, followed by Sub-Sahara Africa, other parts of Europe, Asia and those in the Muslim region (ibid). Examples are seen in Figure 8 below.

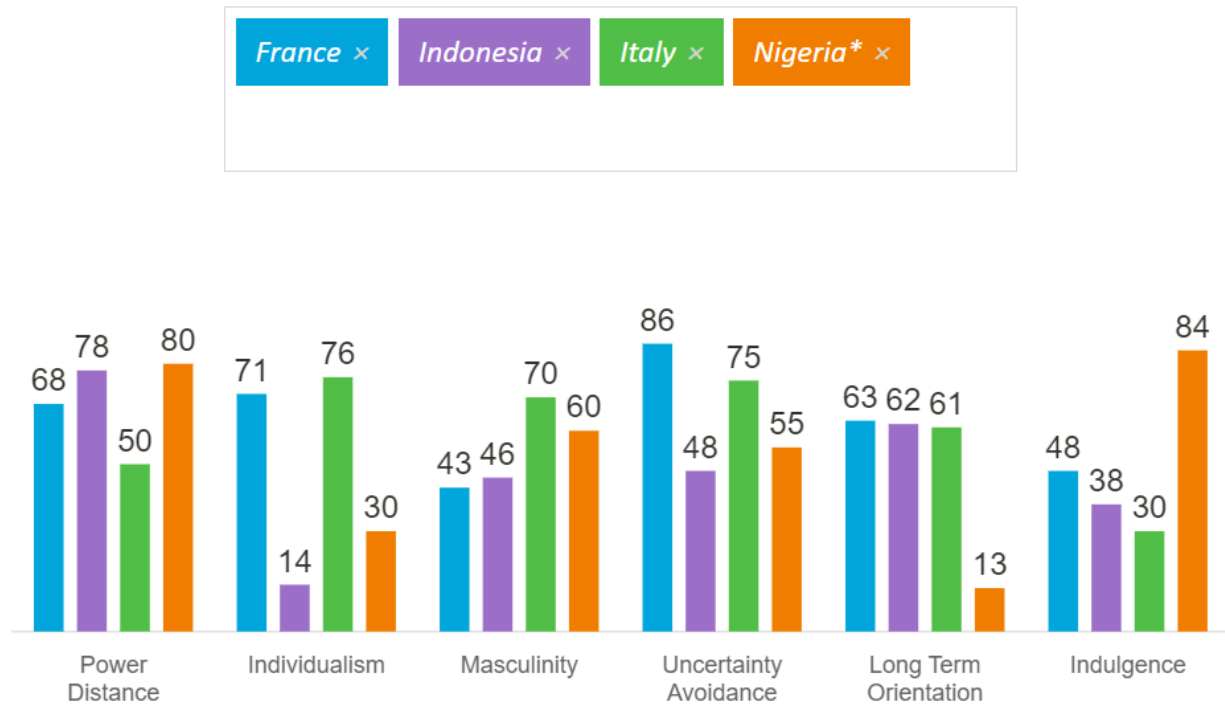


Figure 8: Indulgence in West Europe (France), Sub-Sahara Africa (Nigeria), South Europe (Italy) and Muslim Asia (Indonesia) (Source; Hofstede Insights, 2022)

#### 4.1.2. Debate on Hofstede and alternative cultural theories

The most frequently referenced research on culture is that of Hofstede (Bond 2002). However, such a pioneering body of work is not without its detractors. There are several arguments circulating around the theory of Hofstede but since they are not the focal points of this thesis, only the relevant and most common controversies are considered.

The first critique, lack of cultural heterogeneity, is perhaps the most widely discussed one on the list. Hofstede (1998) established the assumption that all citizens inside a country have the same cultural values. Hofstede (2011) responded by saying there could be distinctnesses among individuals in the same society but as a result of personality differences. The second argument against Hofstede mentions the use of nation as a mean to study culture. According to McSweeney (2000), the concept of culture does not have to be confined within a country as borders are not needed to define culture. The study by Matthews (2007) supports Hofstede in using country to study culture by discovering that the motivational composition of middle-level managers is highly impacted by their nationalities. However, there have also been findings that

culture could exist at the group level (DiMaggio, 1997). Hofstede (1998) recognized this but admitted that looking at culture from the national perspective is the only means to address cultural diversities. It is undeniable that other types of culture like organizational culture still exist, but such culture is manifested when one has matured and is developed in a specific environment instead of something that is nurtured since birth like national culture.

The third disagreement is another common one, which comes from the fact that Hofstede only had one company acting as a source of data for the whole theory. The opposers believe that such a study could not provide a complete picture of the national cultural system (Graves, 1986; Søndergaard, 1994; Olie, 1995). In his defense, Hofstede (1998) claimed that the cultural dimensions attempt to measure the relative rather than absolute dissimilarities in the culture of different countries. Hofstede (1998) also argued that employing an international company instead of having several companies around the globe participating in the study means that one needs not to keep in mind variations in management practices and corporate administration.

In the fourth and last criticism being referred to here, critics (Schwartz, 1994; Kirkman et al., 2006) contended that cultural scores by Hofstede, which are based on a study in the 1970s, are no longer valid. In response to this, Hofstede (1998) stated that the establishment of a cultural outlook is a long process in the life of an individual and there were no reports on decreasing correlations between Hofstede's cultural dimension scores and related variables. This is also conforming with the model of Williamson (2000) in which culture is regarded as extremely slow to change. Again, it is harder for the dimensional score of Hofstede to deviate as what is being analyzed is the relative cultural position of one country to the others (Hofstede, 2001). Hence, forces that are often suggested to have impacts on national cultural values like technological innovation would have similar effects on all nations such that their rankings on cultural dimensions remain unchanged. An adverse situation where drastic events occur and shift the score on a dimension of solely one country has a low chance of happening (Hofstede, 2011).

Besides raising doubts about the applicability of Hofstede's theory, academics have attempted to come up with alternative cultural theories. Nonetheless, other theories on national culture or reconceptualizations of Hofstede's dimensions all end up (highly) correlated with those of Hofstede. A typical example would be Inglehart (1997) with survival versus self-expression and traditional versus secular-rational which are negatively correlated to Hofstede's power distance

and a combination of individualism and masculinity respectively (Hofstede, 2011). Another example is Schwartz (1994) whose dimensions are connected to individualism, masculinity, and uncertainty avoidance (Hofstede, 2001). Additionally, Triandis (1995), because of the importance of individualism against collectivism, divided the dimension into horizontal and vertical individualism. This division ignores the fact that the horizontal/vertical component is already sufficiently addressed by the Hofstede dimension of high/low power distance (Hofstede, 2001). Next is the large-scale application of the GLOBE project, which was conceived in 1991 by US management professor Robert J. House. The dimensions of Hofstede that have been found to be correlated to those developed by House et al. (2004) include power distance, uncertainty avoidance, individualism, long-term orientation and to some extent masculinity. Last but not least is the theory by Fons Trompenaars (1993). He established seven dimensions, five of which were obtained from Parsons and Shils (1951) and the other two from Kluckhohn and Strodtbeck (1961) (Hofstede, 2011). However, only two interpretable characteristics emerged from the only statistical study of his data, both connected with Hofstede's individualism, one of which was also correlated with power distance (Smith et al., 1995; Smith et al., 1996). As a result, the argument of Trompenaars for having seven dimensions lacks empirical validity.

While there are still disputes over his work, most of the complaints have been answered by Hofstede. Moreover, despite several attempts in exploring and adding other cultural dimensions, the theory of Hofstede maintains its validity and relevance. Hence, the six cultural dimensions of Hofstede shall be chosen for studying culture in this thesis.

#### **4.2. ESG performance and firm values**

There are two distinct theories that explain sustainability performance, according to Yu and Zhao (2015): value-creating and value-destroying hypotheses. The value-creating theory states that participating in ESG-related activities decreases company risk while creating value over time (Yu & Zhao, 2015). The value-destroying view, in contrast, claims that sustainability expenses are paid by shareholders, hence undermining shareholder value (ibid).

The latter argument resembles the definition of CSR in traditional corporate governance literature. Particularly, CSR is deemed to allocate corporate resources to activities that are not

beneficial to shareholders and might or might not deliver value to other stakeholders (Friedman & Miles, 2006). As a result, corporations should focus on generating shareholder profits while leaving choices on social duty to shareholders (ibid). In contrast, the stakeholder theory places a premium on the CSR efforts of firms. This paradigm argues that while the interests of shareholders are important, corporations must still be responsible to any other entities or parties impacted by their actions (Freeman, 1984; Freeman & McVea, 2001; Freeman et al., 2004).

An even more realistic approach has recently surfaced, resulting in a confluence of the two points of view. In other words, increasing shareholder value while also considering the interests of other stakeholders (Roberts, 2004). Viewing CSR as an external issue generates an investors-other stakeholders conflicts; however, this new concept evaluates CSR in how it contributes to value creating (Fatemi et al., 2015). As a result, companies are required to participate and maintain activities that bring value to stakeholders, including stockholders.

Like theoretical suggestions, the outcome of empirical tests has been proven contradictory. While many scholars discover a beneficial CSR-company performance relation, others find the inverse. Another set of researchers even claims to have discovered an inverted U connection (Gillan et al., 2021). To say it differently, the performance of firms increases with a moderate amount of CSR investments and declines as the number increases. The graphic below depicts a non-exhaustive review of research on the association between ESG/CSR and company value/performance.

Performance, value and ESG/CSR.

Primary Variable	Independent/Dependent Variable of Interest	Sign	Citation
Financial constraints	Independent	–	Hong et al. (2012)
Revenue growth	Dependent	0	Di Giuli and Kostovetsky (2014)
ROA	Dependent	–	Di Giuli and Kostovetsky (2014)
	Dependent	+	Gillan et al. (2010)
	Dependent	0	Hsu et al. (2018)
	Dependent	+	Lins et al. (2017)
	Dependent	+	Liang and Renneboog (2017a)
	Dependent	+	Iliev and Roth (2020)
	Independent	+	Borghesi et al. (2014)
Free cash flow	Independent	+	Borghesi et al. (2014)
Long-run returns	Independent	+	Hong et al. (2012)
	Dependent	–	Di Giuli and Kostovetsky (2014)
	Dependent	0	Humphrey et al. (2012)
	Dependent	–	Hong and Kacperczyk (2009)
	Dependent	–	Bolton and Kacperczyk (2020)
	Dependent	+	Dimson et al. (2015)
	Dependent	+	Edmans (2011)
	Dependent	+	Lins et al. (2017)
	Dependent	+	Barko et al. (2018)
	Dependent	+	Statman and Glushkov (2009)
Short-run returns	Dependent	–	Masulis and Reza (2015)
	Dependent	+/-	Krüger (2015)
	Dependent	+	Deng et al. (2013)
	Dependent	+	Tang and Zhang (2020)
	Dependent	+	Flammer (2015)
	Dependent	+	Flammer (2021)
Tobin's q	Dependent	+	Gillan et al. (2010)
	Dependent	–	Buchanan et al. (2018)
	Dependent	0	Hsu et al. (2018)
	Dependent	+	Albuquerque et al. (2019)
	Dependent	+/-	Servaes and Tamayo (2013)
	Dependent	+	Gao and Zhang (2015)
	Dependent	+	Liang and Renneboog (2017a)
	Dependent	+	Ferrell et al. (2016)
Cash value	Dependent	+	Chang et al. (2019)
ROE	Dependent	+	Cornett et al. (2016)
Bond values	Dependent	+	Amiraslani et al. (2017)
Bond returns	Dependent	–	Amiraslani et al. (2017)

Figure 9: Literature summary on ESG-firm value relationship (Source: Gillan et al., 2021)

#### 4.2.1. Positive relationships

The first group of research supporting a favorable connection between ESG conduct and firm values employs similar firm relative performance ratios to those utilized in this thesis, namely Tobin's Q and ROA/ROE. Gillan et al. (2010), for example, used seven categories in the MSCI KLD 400 social Index to analyze the link between ESG ratings and corporate performance and observed better Tobin's Q for organizations with higher sustainability scores. Gao and Zhang (2015) have similar findings for Tobin's Q employing six instead of a total of seven categories. Besides stronger performance in operation, Borghesi et al. (2014) find strengthened free cash flow going along with greater KLD ratings. Ferrell et al. (2016), using Tobin's Q once more, discover CSR ratings to be positively related to company value, before extending the examination showing that possessing greater CSR performance mitigates the negative connection

between corporate values and management entrenchment. Moreover, increases in ESG initiatives led by directors, according to Iliev and Roth (2020), raise ROA and other operating performance measures.

To continue the discussion, Chang et al. (2019) investigate whether ESG practices are associated with business values by determining if an additional dollar in cash holdings has a larger value for corporations with better or worse ESG ratings. They discover that for organizations with high instead of low ESG ratings, one more dollar of cash leads to greater changes in firm values. Liang and Renneboog (2017a), by using donations from peers as instrumental variables and featuring a global sample of businesses, demonstrate that charity donations increase company operating performance and value.

Other research reaches similar conclusions concerning the impacts of ESG/CSR, this time under the investigation of stock returns. Dimson, Karakas, and Li (2015), for instance, report positive returns after effective ESG investor contacts. Edmans (2011) approves the premise that ESG activities generate value with stock returns by evaluating employee satisfaction. He believes that ESG creates good stock returns that fall gradually as intangibles like excellent employee treatments get mispriced initially but turn to accurately priced after being translated into tangible benefits, which is expressed through earning surprises.

Several publications examine market reactions toward ESG/CSR events in the short term to estimate the relationship between ESG/CSR and firm valuation. Krüger (2015) studies stock market reactions to over 2,000 sustainability events in the US, both positive and negative, and discovers significant disparities for two types of occurrences. Despite having no significant responses to favorable events, the market does react negatively following bad sustainability news with the strongest reactions to environment and community-related topics (Krüger, 2015). This finding reinforces the notion that unsustainable corporate behavior is costly to stockholders.

Deng et al. (2013) answer the question concerning ESG-firm value relation from the standpoint of merger announcement returns. Merger announcements are unexpected occurrences that allow research of the association between ESG and firm valuation without reverse causality difficulties. From their results, acquiring companies with better CSR conduct enjoy larger returns following their merger announcements. These firms also have higher improvements in operating performances in the long term post-mergers (Deng et al., 2013).



Eccles, Ioannou and Serafeim (2012) expand the sustainability viewpoint by comparing a dataset of 180 organizations with good sustainability performance against those with poor performance. They discover that high-sustainability firms have distinct characteristics for the board of director tasks, management incentive structure, stakeholder engagement approaches and proclivity to focus on the long term. Their results also demonstrate that enterprises with favorable ESG mechanisms surpass their competitors over time. Finally, Margolis, Elfenbein and Walsh (2009) indicate a positive, yet humble, CSP and corporate financial performance association in a 251-paper meta-analysis.

Environmental, social, and governmental performance can be linked to corporate values in various ways. According to Giese et al. (2019), these channels would be risk mitigation, cash flow and valuation enhancement. Among them, the most known one is diminishing enterprises' unsystematic risks and their capital expenses. El Ghouli et al. (2011) discover that higher CSR ratings reduce the amount spent on equity financing using a sample of more than 12,000 companies in the US from 1992 to 2007. Human resource relations, environmental preservation and improved product strategy are examples of CSR-related initiatives that work as catalysts for this. El Ghouli and colleagues (2011) also find that enterprises in controversial sectors such as cigarettes and nuclear power have higher equity costs. This is due to a smaller investor base and higher perceived risks.

Furthermore, Goss and Roberts (2011) investigate borrowing costs and conclude that enterprises at the bottom spectrum of CSR incur higher borrowing expenses. Still, because firms with large CSR expenditures also face additional costs, their work assumes that socially responsible activities above a certain degree do not benefit corporations. CSR measures, according to Ge and Liu (2012), should reduce the perceived riskiness and bond yields of companies by minimizing informational asymmetries between the firm and suppliers of capital. To test this theory, they look at how CSR disclosure and performance could influence bond yield spreads. A negative relationship is uncovered using a sample of public bond issues in the US from 1992 to 2009. Magnanelli and Izzo (2017) report the opposite results. They claim that CSR fails as a value generator and wastes resources thus harming the success of firms. Nonetheless, the reliability of their study is low due to a limited sample of only 332 firm data collected over five years.

Becchetti et al. (2008) make progress with the analysis by looking into the performances of companies in the KLD index whose design is to assist socially and environmentally conscious investors in making investment decisions in US companies. According to the results, enterprises in this index possess higher revenues per worker yet inferior ROE than those of comparable companies not included in the index. Moreover, as specified by Bouslah et al. (2013), corporate risks rise with concerns related to diversity, employees and corporate governance. In the same year, Gregory et al. (2013) noticed that drivers behind the performance-strengthening implication of CSR are increases in long-run growth potentials and decreases in costs of equity. Additionally, Albuquerque and colleagues (2012) develop a CSR asset pricing model that views CSR as an investment in improving consumer loyalty. They uncover decreases in systematic risk and expected returns as a result of investing in CSR. There is further evidence that adopting CSR at the industry level could even lessen undiversifiable risks faced by non-adopters (Albuquerque et al., 2012).

The ability of environmental and social components of ESG to create values by lowering risks could also be seen during crisis times. Lee et al. (2021) studied how CSR influences the stock returns of firms and the trading activities of shareholders during the Covid-19 pandemic in Korea. A comparison of two portfolios containing CSR and non-CSR firms shows that those with good CSR reputations have higher returns and lower volatility. In addition, it is revealed that non-CSR stocks have been liquidated at a faster rate than CSR stocks by pension funds as well as other institutional investors. With a focus on environmental responsibility, Garel and Petit-Romec (2021) conducted an examination of the sentiment and confidence of investors with respect to environmental issues during the Covid-19 outbreak. According to the findings, corporations with better performance in environmental responsibility experience higher stock returns. Such a result is primarily attributed to efforts in reducing emissions and increasing effective energy usage. It is thus suggested that a crisis like the pandemic has not diverted the interest of investors from sustainability topics but rather strengthen it.

Bae et al. (2021) also examine the role of CSR before and after Covid-19 causes market crashes. In opposition to what was argued by Garel and Petit-Romec (2021) and Lee and others (2021), their results, whose robustness is secured using several sensitivity tests, do not show that CSR affects stock performance during the crash. However, there exists evidence, although weak, that

CSR and stock returns are more positively correlated if CSR is compatible with the institutional setting of firms. According to Bae et al. (2021), companies that made commitments to maintain stakeholder protection pre-outbreak do not outperform those that did not. This means that CSR activities done before the crisis could not protect the well-being of shareholders at the time the crisis took place. This is caused by inconsistencies between CSR scores and the actual conduct of corporations. Hence, investors have the ability to differentiate firms that genuinely engage in CSR activities from those that only make promises but take no actions (Bae et al., 2021).

Next, Fatemi and others (2009) find that enterprises belonging to the MSCI 400 Social Index have a lower unique risk profile than their peers. Opinions of investors on the qualities of firms compared to their counterparts might be one driver. Investors, for instance, may believe that these companies provide less contentious products and/or services, employ more responsible and rather risk-free production and operation systems, have a higher level of environmental-footprint consciousness, and are not as likely to suffer from detrimental actions from the rest of the stakeholders.

When considering the above value drivers of ESG with other positive influences like proportionately higher demand stability due to having loyal customer and investor bases (Heinkel et al., 2001; Cornett et al., 2016; Breuer et al., 2018; Dai et al., 2021), lower likelihood of businesses being interrupted (Bolton & Kacperczyk, 2014; Gao & Zhang, 2015) and a more dedicated workforce (Gillan et al., 2010; Masulis & Reza, 2015), ESG/CSR expenditures can place considerable impacts on valuations of firms. Furthermore, ESG/CSR can increase a firm value by strengthening its survival chances and lengthening its cash-flow streams (Henisz et al., 2019; Gillan et al., 2021).

#### 4.2.2. Negative relationships

Similar to the theoretical findings stated at the beginning of section 4.3, there exists empirical evidence supporting the premise that ESG/CSR is an outcome of agency problems and hence not beneficial to stockholders. Over a three-year period, Di Giuli and Kostovetsky (2014) study how modifications in CSR ratings are linked to sales growth. According to their interpretations of the results, any stakeholder gains from CSR come directly at the price of corporate value (Di Giuli &

Kostovetsky, 2014). They also argue that increasing investments in CSR leads to underperformance in future stock returns and depreciations in ROA in the long-run. They go on to conclude that disappointing stock performances are direct, and market reactions to modifications in CSR policies are lagged as investors come to know of such changes later on (Di Giuli & Kostovetsky, 2014).

Another worth-mentioning paper supporting a negative relationship is that by Buchanan and others in 2018. The researchers utilize data from Bloomberg to calculate ESG scores at the company level. Data from the Bloomberg data source assesses the quality of the ESG disclosure instead of the ESG quality itself. They contend that agency issues grew more intense in periods of financial crises and that deeper reduction in corporate values happen to companies scoring more highly in ESG due to overinvestments.

#### 4.2.3. No or ambiguous relationships

According to Hsu and colleagues (2018), environmental decisions made by state-owned firms have no significant relation to Tobin's Q as an indicator of stockholder values. The same applies to when the measure is long-term profitability. Humphrey et al. (2012) employ CSP ratings in UK firms and conclude that significant differences in risk-adjusted corporate performance could not be found between companies with low and high CSP scores. To be specific, the authors state that investments in sustainability could be made by managers and investors without noteworthy reductions in returns or rises in risks (Humphrey et al., 2012).

Overall, from Figure 9, one could see the number of findings backing a positive ESG/CSR-firm performance/value association outweighs those stating otherwise. Moreover, most of the papers showing negative results employed relatively older data from around 1990 to 2005 when the ESG concept was not as well known while the agency theory was communicated widely. Other cases like the article by Buchanan et al. (2018) investigated ESG disclosures and not ESG ratings and the research by Masulis and Reza (2015) only looked into one aspect of ESG which is CEO charity donations. Humphrey et al. (2012), who discovered no connection between CSP and cost of capital, also used rather old data from 2002 to 2010. Hence, the positive connection is more probable. This is also the conclusion made by Brooks and Oikonomou (2018).

#### 4.2.4. E, S, G pillars and firm value

Even when examining individually, social and environmental pillars are shown to have favorable influences on firm performance (Cheung et al., 2013; El Ghouli et al., 2017; Fu et al., 2019; Shi & Veenstra, 2020; Griffin et al., 2021b). Regarding the E pillar, Klassen and McLaughlin (1996) determine a positive linkage between environmental management signified by environmental performance awards/crises and firm-level financial performance. In newer literature, the environmental component could also mitigate the risks of the pandemic which improves stock returns of firms (Garel & Petit-Romec, 2021).

An article that looks solely into the social pillar of ESG and firm performance association is that of Mănescu (2011). The author reviews extensive ESG panel data on publicly-traded US firms between 1992 and 2008 and finds that community relations are positively related to risk-adjusted stock returns. When Edmans (2011) investigates whether work satisfaction is connected to firm value, he discovers that those who belong to the list of US 100 Best Companies to Work for create yearly returns that are 2.4 to 3.7% higher than their counterparts. Expanding to other stakeholders besides employees, Jiao (2010) still finds a positive valuation effect from CSR. Specifically, a unit increase in the stakeholder welfare score developed by Jiao (2010) results in a 0.587 unit increase in Tobin's Q.

Good practices in corporate governance could also lead to higher valuation measures for firms (Yermack, 1996; Gompers et al., 2003; Cremers and Nair, 2005; Core et al., 2006; Bebchuk et al., 2009). Ammann and others (2011) investigate this and reach the same conclusion using different corporate governance indices. When looking at a specific corporate governance practice, Bhojraj and Sengupta (2003) find that external institutional ownership lowers default risks through mitigations of agency costs and curbing information asymmetry between companies and debt holders. Additionally, Isidro and Sobral (2015) discover that although board gender diversity is not directly associated with Tobin's Q, it is indirectly related to this firm value measure through its positive connection with ROA and ROE. Another aspect of the corporate governance mechanism that is worth paying attention to is disclosure quality. In the research by Baek et al. (2004) using a Korean sample, a higher quality in disclosure is found to lessen the impacts of the Korean Financial Crisis in 1997. Complementing this is the study by

Gu and Hackbarth (2013) in which companies with superior governance mechanisms have greater abnormal returns, and even more so if their governance practices are transparent.

#### **4.3. National culture, corporate decisions and the moderating role of cultural dimensions in the relationship between ESG and firm values**

The analytical framework of Williamson (2000) illustrates the economic impact of culture on ESG. It explains the disposition of institutions and contains four levels of social analysis in which the upper level institutes a constraint on the one directly below (Williamson, 2000). Feedback from the lower to a higher level is not considered. At the top of the framework (level I) lies social embeddedness, which includes informal institutions, traditions, customs, norms, codes of conduct and religion. These institutions vary depending on the country and according to the definition, culture also belongs here (Zheng et al., 2012). As specified by Williamson (2000), it takes a great amount of time (around 100 to 1,000 years) for changes to happen at this level. Follows level I is level II, which encompasses the institutional environment. Different from level I in which constraints are informal, level II consists of formal rules. Some examples of institutions at this level are laws, judiciary and bureaucracy (Williamson, 2000). Levels III and IV respectively are governance structure (play of the game) and resource allocation through incentive alignment (ibid).

Moving from level I to IV, one observes the fundamental impact culture has on the lower levels (Williamson, 2000; Zheng et al., 2012). North (1990) argues that even though formal rules are crucial in shaping choices, their share of total drivers is small. Using the paper by Williamson (2000) as a foundation, Licht et al. (2005) demonstrate that rules and regulations are in fact reflections of prevailing cultures in societies. Based on the evidence that different countries experience different outcomes under the same formal rules and/or constitutions, North (1990) stresses that informal constraints like culture are more than simply appendices of formal institutions. In support of this statement, Stultz and Williamson (2003), when studying why investor protection varies between countries, uncover that cultural dissimilarity, even after being proxied by disparities in language and religion, cannot be overlooked.

Culture affects economic activities through individual behaviors. A society's underlying values motivate and justify individuals' choices and conduct according to their culture, which is imprinted into their minds during early socialization (Hofstede & Bond, 1988; Licht et al., 2005). The cultural background also determines how people handle information and how they analyze life issues, thereby affecting their ability to make decisions (North, 1990). Empirical research on the direct and indirect effects of culture on organizational decision-making leaves no doubt about the importance of culture to economic activities. As specified by Schuler & Rogovsky (1998), national culture plays a part in establishing employee compensation schemes. In more recent work, Felix et al. (2018) suggest that indulgence weakens the translation from entrepreneurial intention to action.

Shifting to more finance-related topics, Morosini et al. (1998) and Ahern et al. (2015) find that differences in culture are associated with cross-border mergers and acquisitions volumes and successes. Also, Shao et al. (2010) note the effect of culture on dividend policy. Newman and Nollen (2003) then discover that the financial performance of work units within corporations is higher the more aligned their national culture is with management practices. Moreover, Gupta et al. (2018) state that nations scoring highly in power distance, collectivism and long-term orientation have a positive connection with levels of IPO activity. Other notable studies include the paper by Lawrence et al. (2021) concluding that culture affects the initiation of acquisition and the investigation of Gaganis et al. (2019) finding individualism to be positively linked with insurance firms' risks while the relations with uncertainty avoidance and power distance are negative. Based on these findings, one could anticipate that national culture would have a role in determining firm values.

The literature described above suggests that culture is more powerful at explaining financial procedures than formal systems such as legal, political, and economic institutions. In Chui et al. (2002), they find that even when the condition of the economy, legal framework and financial growth are considered, the linkage between corporate debt ratio and national culture remains significant. Because of the dominant impact national culture has on economic activities and human decisions, it is expected that culture would also influence other decisions such as sustainability practices and forming perceptions of corporate worth. In fact, DeBacker et al. (2015) do find that culture affects the likelihood of corporate tax evasion.

After discussing how national culture could be relevant in explaining company valuation and sustainability conducts, the following paragraphs shall feature the moderating impacts of culture on the ESG-firm value connection. The reason to focus on the moderating effects has been elaborated in subsection 2.1 on ‘Research question’. The discussion on the moderating influence starts with the paper used as a foundation for this thesis: ‘National Culture and the Value Implications of Corporate environmental and social Performance’ by Griffin and colleagues (2021b). It examines variations in environmental and social practices across countries, cultures and companies as well as their value implications. Applying hierarchical linear modeling to 33,021 observations of 4587 firms over the 2003-2015 period, the authors uncover a positive association between individualism and E/S performance at the firm level. Also, they find that cost of equity, cash flows and their variability are related to firms’ E/S scores. In more individualistic cultures, these beneficial connections are higher. Similarly, the study by Shi and Veenstra (2021), another paper that is the basis for this thesis, finds that CSP initiatives and culture interact to affect firm valuation, suggesting that ESG performance is influenced by the culture of the nation where the firm situates.

When looking solely at the environmental component, the article by Garel and Petit-Romec (2021) has results showing that businesses with environmentally friendly initiatives possess greater stock returns. Such a finding is more significant for enterprises with a higher portion of shares owned by long-term investors. This and the paragraphs above to some extent confirm the vitality of national culture on the relationship between ESG and firm values.

## **V. Data and variables**

### **5.1.Data**

This thesis makes use of ESG Combined Score (ESGC Score) panel data obtained from Thomson Reuters Eikon. The ESGC Score combines the overall performances of companies in environmental, social and corporate governance (as shown in the ESG Score) with a controversial overlay. By punishing ESG performance in response to adverse media attention, this score increases the effect of notable and material ESG disputes on overall ESGC scores (Thomson Reuters, 2017). Every fiscal period, the ESGC Scores take the weighted mean of the



two components mentioned above, with recent concerns displayed in the most up-to-date periods (ibid).

The ESG Scores of Thomson Reuters were developed using company-reported data to clearly and objectively quantify the relative performance of firms in ESG across ten areas such as innovation in environmental products, emissions, shareholder treatments and human rights policies, to name a few. The scores are in the forms of letters (A+ for best and D- for worst) as well as percentages or range from 0 to 100 as what is utilized in this thesis. Since 2002, the Thomson Reuters database has been giving access to over 400 ESG metrics and has had observations from more than 6,000 public companies worldwide (Thomson Reuters, 2017).

The firm value measurements will be the same as those used by Griffin et al. (2021b) and Shi and Veenstra (2021), including Tobin's Q, the ratio of a company's market value divided by its replacement asset costs, return on assets (ROA) and return on equity (ROE). Among the three, Tobin's Q is the main measure because it captures the perspectives investors have on the firms. In this thesis, the association between ESG and business performance is based on the potential benefits of ESG that help it gain attention from stakeholders, including shareholders, who use it as a foundation for decision-making. Cultural dimensions, which relate to another research question of this thesis, reflect stakeholder thought processes and behaviors. Following Griffin et al. (2021b) as well as Shi and Veenstra (2021) and as a common practice in financial studies, winsorization is conducted for all firm-level variables whose data values are below the 1<sup>st</sup> or above the 99<sup>th</sup> percentiles. Regarding the moderating variables, Hofstede dimensional scores are taken from the Hofstede Insights website. The data is based on the result of the studies in 1980 and 2001 by Hofstede.

## **5.2.Variables**

Dependent variables are successively Tobin's Q, ROA and ROE. Independent variables are either ESGC Scores or any of the pillar scores depending on the hypothesis being tested. The six cultural dimensions of Hofstede act as moderating variables and are measured using their interaction with the ESGC Scores. There will also be control variables based on the research by

Griffin et al. (2021b) in the Journal of Corporate Finance. These variables are both firm and country-specific. A full list of variables, their types and descriptions is found in Appendix A.

### 5.2.1. Firm value measures

$$\text{Tobin's Q} = \frac{\text{MV of equities} + \text{BV of liabilities}}{\text{BV of assets}}$$

MV: market value  
BV: book value

Tobin's Q is a percentage formed by a numerator which is a combination of market and book values and a denominator that only has book value elements. The market value of equity is obtained through the multiplication of share prices by the number of shares outstanding while book values of liabilities and assets are taken from financial statements. Tobin's Q commonly acts as a firm valuation proxy when found in accounting and finance literature (Lewellen & Badrinath 1997; Lang et al., 2004). In economics, the measure indicates values of intangibles (Lindenberg & Ross, 1981). Tobin's Q also demonstrates the perceptions of investors about what could happen to firms (ibid). Market excitement and speculation, as well as investor pessimism and prejudice, can all influence Tobin's Q (ibid). Hence, culture and investments in CSR should have impacts on business valuation if they affect the perceptions of investors.

$$\text{ROA} = \frac{\text{Net income}_t}{\frac{1}{2}(\text{Total asset}_t + \text{Total asset}_{t-1})}$$

$$\text{ROE} = \frac{\text{Net income}_t}{\frac{1}{2}(\text{Total equity}_t + \text{Total equity}_{t-1})}$$

ROA and ROE have been widely employed in previous scholarly articles to assess corporate performance (Larcker et al., 2013; Richard, 2017). As indices of corporate performance, ROA and ROE are concerned with prior accounting data. This makes them different from Tobin's Q which is concerned with perceptions of stock markets on the prospects of companies. The difference between Tobin's Q and ROA/ROE also comes from ROA and ROE expressing operational performance whilst Tobin's Q reflecting the growth opportunities of a company.

Investigating Tobin's Q, ROA and ROE could help apprehend the relation of ESG with other measures of firm values with different implications. Still, Tobin's Q remains the main measure

because it captures shareholder perspectives of firms, which matches with how culture influences behaviors of investors, leading to moderating impacts on the ESG-firm performance relationship.

### 5.2.2. ESG scores

The ESG performance at the firm level aids in answering the second and third research questions. Measures of ESG-related performance in this thesis include the ESGC ratings and their pillar scores. As mentioned above, the ESGC score is made of ESG score and a controversy overlay. Regarding the ESG component, 400 ESG measures at the company level are calculated. Then the data points are evaluated for their importance and those belonging to the top 178 are chosen (Thomson Reuters, 2017). Materiality, data availability, and industrial relevance are other influences on the underlying measurements. The selected ones are classified into 10 categories. The overall ESG score, which determines the ESG performance at the firm level as measured by publicly accessible data, is calculated by combining the ten categories (ibid).

Next is about the controversy overlay or also known fully as the ESG Controversy Category Score. It analyses the exposures of corporations to environmental, social and governance issues and bad occurrences reported in international media according to a list of 23 ESG controversy concerns (Thomson Reuters, 2017). If a dispute arises throughout the year, a penalty is granted, which has an impact on the total ESGC ratings and grades of companies. If other events related to the scandal occur, such as lawsuits, continued legislative battles or fines, the consequences might be felt in the coming year (ibid). As the scenario progresses, all fresh media pieces are recorded. Every controversy evaluation is completely objective and automatic. The 23 controversy criteria are then aggregated to create a controversy rank across E, S, and G in percentile form (ibid). Together ESG Scores and Controversy Category Scores construct the ESG Combined Scores. The primary purpose of this score is to avoid overestimating ESG performance by discounting the ESG scores according to negative reports from the media globally (ibid).

### 5.2.3. Cultural dimension scores

Scores on six dimensions of Hofstede are taken from the webpage of Hofstede Insights (2022). Data values range from 0 to 100 for lowest to greatest. Such ratings show the level of each Hofstede dimension for one country relative to those of others. The scores are moderating variables for the third research question.

### 5.2.4. Control variables

The control variables chosen in this thesis are based on the articles of Shi and Veenstra (2021) and Griffin et al. (2021b).

#### 5.2.4.1. Country-level variable

Country-level economic development and institutions are controlled in this thesis using four measures: GDP per capita in logarithmic format, government effectiveness, control of corruption and mean years of schooling. Yearly GDP per capita is added to adjust for national wealth because Hofstede (1984) in his original book indicated a 0.82 association between individualism and national income. Government effectiveness and control of corruption account for how the government as an institution could formally affect the ESG performance of businesses whereas education (average school years) is included due to its crucial role in determining civil societies and their systems (Griffin et al., 2021b). In answering the third research question, these control variables are also added to ensure the cultural dimensions are not just proxies of other, unobserved determinants (Aggarwal et al., 2016).

#### 5.2.4.2. Firm-level control variables

Control variables at the firm level employed in this thesis are influenced by previous work from La Porta et al. (2002), Chua et al. (2007), Ioannou & Serafeim (2012), El Ghouli et al. (2017) and Liang and Renneboog (2017b).

$$\text{Firm size} = \log(\text{Total assets})$$

$$\text{Sales growth} = \frac{\text{Net sales}_t}{\text{Net sales}_{t-1}} - 1$$

US cross-list has a value of one if a company is directly listed on one of the major exchanges in the US or indirectly under Level II/III sponsored American Depositary Receipts (ADRs) and zero if none of these apply (Doidge et al., 2004). Information on the definitions and formulas of these variables are available in Appendix A. Below is the research framework that lists the variables used and how they are hypothesized to be connected.

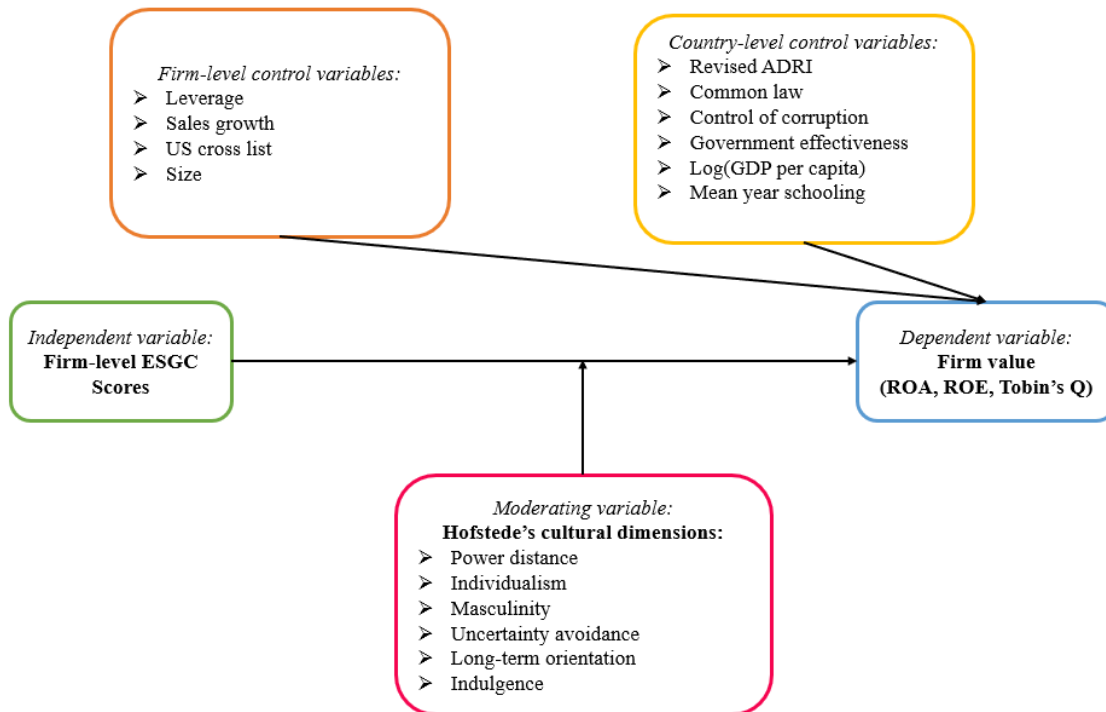


Figure 10: Research framework

### 5.3. Data overview

**Table 1: Data description**

Country	No. of firm-year data	No. of companies	Percentage	Cumulative
Australia	2046	186	6.81 %	6.81 %
Austria	143	13	0.48 %	7.29 %
Belgium	220	20	0.73 %	8.02 %
Brazil	88	8	0.29 %	8.32 %
Canada	1914	174	6.37 %	14.69 %
Chile	187	17	0.62 %	15.31 %
China	825	75	2.75 %	18.06 %
Colombia	44	4	0.15 %	18.21 %
Czech Republic	22	2	0.07 %	18.28 %
Denmark	242	22	0.81 %	19.08 %
Egypt	55	5	0.18 %	19.27 %
Finland	253	23	0.84 %	20.11 %
France	814	74	2.71 %	22.82 %
Germany	1408	128	4.69 %	27.51 %
Greece	99	9	0.33 %	27.84 %
Hong Kong	1452	132	4.84 %	32.67 %
Hungary	33	3	0.11 %	32.78 %
India	99	9	0.33 %	33.11 %
Indonesia	220	20	0.73 %	33.85 %
Israel	99	9	0.33 %	34.18 %
Italy	330	30	1.10 %	35.27 %
Japan	3938	358	13.11 %	48.39 %
Luxembourg	44	4	0.15 %	48.53 %
Malaysia	396	36	1.32 %	49.85 %
Mexico	11	1	0.04 %	49.89 %
Morocco	11	1	0.04 %	49.93 %
Netherlands	264	24	0.88 %	50.81 %
New Zealand	110	10	0.37 %	51.17 %
Norway	209	19	0.70 %	51.87 %
Peru	22	2	0.07 %	51.94 %
Poland	176	16	0.59 %	52.53 %
Portugal	121	11	0.40 %	52.93 %
Qatar	11	1	0.04 %	52.97 %
Russia	297	27	0.99 %	53.96 %
Saudi Arabia	55	5	0.18 %	54.14 %
Singapore	418	38	1.39 %	55.53 %
South Africa	605	55	2.01 %	57.55 %

<b>South Korea</b>	979	89	3.26 %	60.81 %
<b>Spain</b>	385	35	1.28 %	62.09 %
<b>Sri Lanka</b>	11	1	0.04 %	62.12 %
<b>Sweden</b>	451	41	1.50 %	63.63 %
<b>Switzerland</b>	528	48	1.76 %	65.38 %
<b>Taiwan</b>	1155	105	3.85 %	69.23 %
<b>Thailand</b>	154	14	0.51 %	69.74 %
<b>Turkey</b>	198	18	0.66 %	70.40 %
<b>UK</b>	2486	226	8.28 %	78.68 %
<b>United Arab Emirates</b>	11	1	0.04 %	78.72 %
<b>US</b>	6391	581	21.28 %	100.00 %
<b>Total</b>	<b>30030</b>	<b>2730</b>		

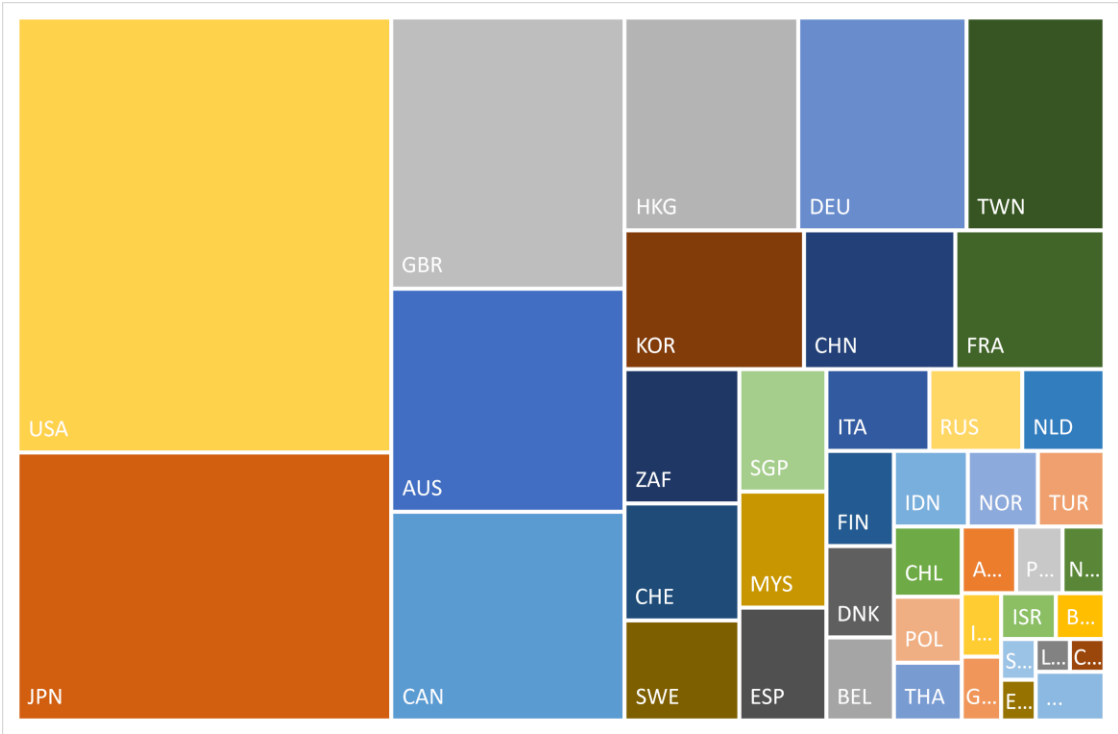


Figure 11: Tree map on country components of the sample (country abbreviations follow ISO 3)

Table 1 presents a quick look into the national component of the data sample while Figure 11 visualizes it. The thesis uses a panel dataset comprising 30,030 firm-year observations from 48 countries and 2,730 companies of which the US takes the majority of over 20% of the sample.

**Table 2: Descriptive statistics**

Variable	Observations	Mean	Std. Dev	Min	Max
ESG Combined Score	30030	45.35	20.17	0.60	94.30
environmental Pillar Score	30030	43.43	28.33	0.00	99.04
social Pillar Score	30030	46.69	24.98	0.05	98.47
governance Pillar Score	30030	51.86	22.49	0.10	99.14
Leverage	30030	0.58	1.18	-0.23	200.81
Sales growth 3Y	30030	0.55	25.38	-33.87	2040.08
US cross list	30030	0.67	0.47	0.00	1.00
Size	30030	3.81	0.71	-1.11	6.54
Revised ADRI	30030	3.78	0.94	1.00	5.00
Common law	30030	0.54	0.50	0.00	1.00
Control of corruption	30030	1.34	0.69	-1.13	2.45
Government effectiveness	30030	1.42	0.49	-0.78	2.27
GDP per capita	30030	42552.15	17190.69	1101.96	123678.70
Log(GDP)	30030	4.57	0.28	3.04	5.09
Mean year schooling	30030	12.15	1.89	4.15	14.13
Tobin's Q	30030	1.72	3.66	-0.07	365.48
ROA	30030	0.04	0.12	-8.17	2.30
ROE	30030	0.11	3.04	-248.50	315.60

Table 2 contains descriptive statistics for the data and variables at hand. Dependent-variable data on Tobin's Q, ROA and ROE are collected from 2010 to 2020 whereas data for independent and control variables are obtained one year earlier. The choice for the lagged data is because, under no causality assumptions, stakeholders might use ESG-related ratings for decision-making. Specifically, investors employ ESG data to make decisions regarding capital financing while other stakeholders like customers decide whether to support the products and/or services of firms.

As the number of observations is the same for all variables, there are no missing values in the dataset. Still, there exist outliers which could be seen from the extreme values of 365.48 for Tobin's Q or -248.5 for ROE. Hence, the decision to winsorize the data at the 1<sup>st</sup> and 99<sup>th</sup> percentiles is justified.



**Table 3: Summary of Hofstede’s cultural dimensions**

Country	power distance	individualism	masculinity	uncertainty avoidance	long-term orientation	indulgence
Australia	38	90	61	51	21	71
Austria	11	55	79	70	60	63
Belgium	65	75	54	94	82	57
Brazil	69	38	49	76	44	59
Canada	39	80	52	48	36	68
Chile	63	23	28	86	31	68
China	80	20	66	30	87	24
Colombia	67	13	64	80	13	83
Czech Republic	57	58	57	74	70	29
Denmark	18	74	16	23	35	70
Egypt	80	37	55	55	42	0
Finland	33	63	26	59	38	57
France	68	71	43	86	63	48
Germany	35	67	66	65	83	40
Greece	60	35	57	100	45	50
Hong Kong	68	25	57	29	61	17
Hungary	46	80	88	82	58	31
India	77	48	56	40	51	26
Indonesia	78	14	46	48	62	38
Israel	13	54	47	81	38	0
Italy	50	76	70	75	61	30
Japan	54	46	95	92	88	42
Luxembourg	40	60	50	70	64	56
Malaysia	100	26	50	36	41	57
Mexico	81	30	69	82	24	97
Morocco	70	46	53	68	14	25
Netherlands	38	80	14	53	67	68
New Zealand	22	79	58	49	33	75
Norway	31	69	8	50	35	55
Peru	64	16	42	87	25	46
Poland	68	60	64	93	38	29
Portugal	63	27	31	99	28	33
Qatar	93	25	55	80	0	0
Russia	93	39	36	95	81	20
Saudi Arabia	72	48	43	64	27	14
Singapore	74	20	48	8	72	46
South Africa	49	65	63	49	34	63
South Korea	60	18	39	85	100	29
Spain	57	51	42	86	48	44

<b>Sri Lanka</b>	80	35	10	45	45	0
<b>Sweden</b>	31	71	5	29	53	78
<b>Switzerland</b>	34	68	70	58	74	66
<b>Taiwan</b>	58	17	45	69	93	49
<b>Thailand</b>	64	20	34	64	32	45
<b>Turkey</b>	66	37	45	85	46	49
<b>UK</b>	35	89	66	35	51	69
<b>United Arab Emirates</b>	74	36	52	66	22	22
<b>US</b>	40	91	62	46	26	68

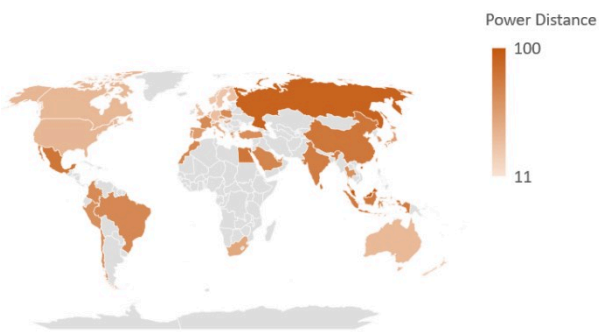


Figure 12: power distance world map

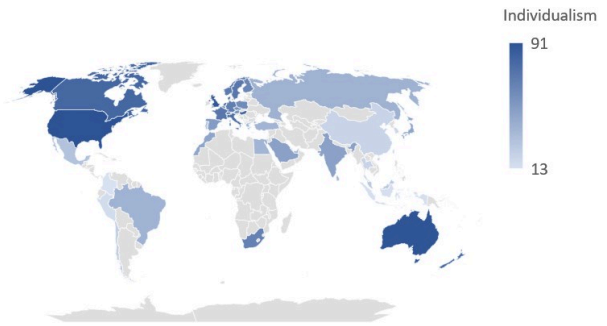


Figure 13: individualism world map

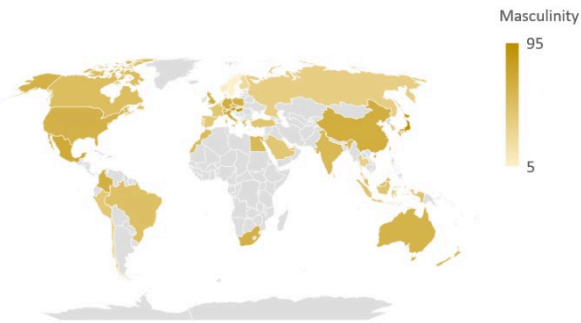


Figure 14: masculinity world map

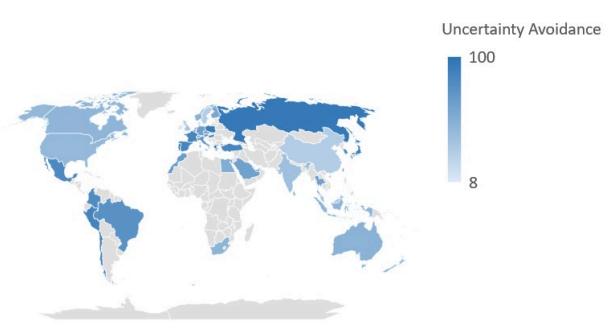


Figure 15: uncertainty avoidance world map

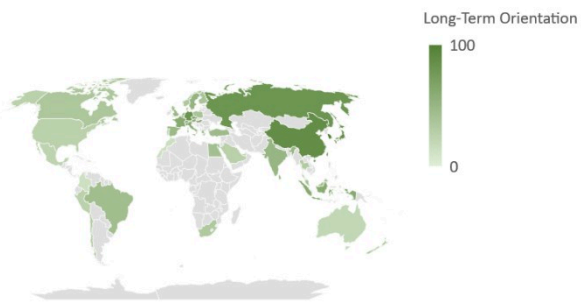


Figure 16: long-term orientation world map



Figure 17: indulgence world map

Table 3 summarizes Hofstede’s cultural dimension scores across the sample by nation. Figures 12 to 17 show the distribution of the dimensions in world maps. The scores range from 0 to 100 for lowest to highest. However, values used in the analysis have been transferred into z-scores by removing means and divided by standard deviations for all countries.

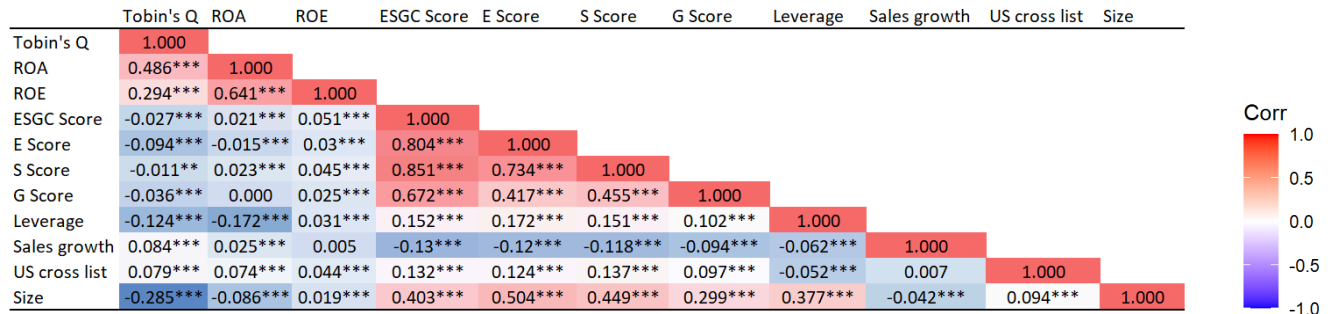


Figure 18: Firm-level variable correlations

Figure 18: Firm-level variable correlations Figure 18 displays the correlation matrix for dependent variables (Tobin’s Q, ROA and ROE) and independent variables (other variables shown in Figure 18) at the firm level after their country means have been removed. The significance levels are shown in stars (\*\*\*) for 1%, \*\* for 5% and \* for 10%). The figure shows strong correlations between ESGC scores and its pillar scores, as well as among the firm performance measures. This is understandable and since most of these variables shall not be featured in the same regression, it should not be a concern. The ESGC score and its pillar scores are significantly and negatively correlated with Tobin’s Q but because these correlations have not taken into account confounding firm and country variables, they might create a false image of the true associations. Contrastingly, all correlations of EGSC scores and its pillar scores with ROE are significant and slightly positive. The same applies to ROA except for the E pillar when the correlation is significant and marginally positive and the G pillar score when the correlation is not significant. Again, regressions with control variables ought to be applied to get more accurate results of the relationships.

	ESGC Score	E Score	S Score	G Score	Leverage	Sales growth	US cross list	Size	Revised ADRI	Common law	Control of corruption	Government effectiveness	Log(GDP per capita)	Mean year schooling	Power distance	Individualism	Masculinity	Uncertainty avoidance	Long term orientation	Indulgence	
ESGC Score	1.000																				
E Score	0.931***	1.000																			
S Score	0.952***	0.801***	1.000																		
G Score	0.488***	0.261***	0.545***	1.000																	
Leverage	0.628***	0.59***	0.651***	0.391***	1.000																
Sales growth	-0.664***	-0.771***	-0.557***	-0.061***	-0.512***	1.000															
US cross list	0.413***	0.332***	0.481***	0.32***	0.265***	-0.396***	1.000														
Size	0.37***	0.478***	0.309***	0.04***	0.73***	-0.459***	0.153***	1.000													
Revised ADRI	0.016***	0.036***	-0.082***	0.07***	-0.362***	-0.008	-0.21***	-0.347***	1.000												
Common law	-0.266***	-0.512***	-0.076***	0.47***	-0.12***	0.484***	0.191***	-0.375***	0.183***	1.000											
Control of corruption	0.099***	0.084***	0.101***	0.185***	-0.209***	-0.008	0.386***	-0.281***	0.275***	0.232***	1.000										
Government effectiveness	0.055***	0.068***	0.047***	0.104***	-0.183***	-0.005	0.349***	-0.16***	0.254***	0.24***	0.932***	1.000									
Log(GDP per capita)	0.142***	0.116***	0.179***	0.216***	-0.011*	-0.062***	0.511***	-0.047***	0.046***	0.251***	0.836***	0.847***	1.000								
Mean year schooling	0.185***	0.139***	0.208***	0.418***	0.019***	-0.16***	0.598***	0.043***	0.232***	0.314***	0.673***	0.647***	0.753***	1.000							
Power distance	-0.292***	-0.16***	-0.381***	-0.508***	-0.083***	0.149***	-0.556***	0.275***	0.051***	-0.307***	-0.644***	-0.539***	-0.653***	-0.609***	1.000						
Individualism	0.256***	0.054***	0.412***	0.618***	0.146***	-0.022***	0.716***	-0.195***	-0.139***	0.565***	0.465***	0.352***	0.576***	0.626***	-0.756***	1.000					
Masculinity	-0.207***	-0.045***	-0.318***	-0.042***	-0.156***	-0.136***	0.296***	0.103***	0.154***	-0.027***	0.081***	0.098***	0.112***	0.289***	-0.023***	0.049***	1.000				
Uncertainty avoidance	0.223***	0.431***	0.039***	-0.275***	0.01*	-0.466***	0.015***	0.267***	0.029***	-0.705***	-0.197***	-0.183***	-0.095***	-0.037***	0.213***	-0.312***	0.321***	1.000			
Long term orientation	0.028***	0.328***	-0.193***	-0.451***	0.02***	-0.314***	-0.389***	0.338***	0.138***	-0.76***	-0.165***	-0.089***	-0.234***	-0.24***	0.419***	-0.707***	0.26***	0.507***	1.000		
Indulgence	0.182***	-0.024***	0.321***	0.437***	-0.077***	-0.006	0.541***	-0.424***	-0.075***	0.507***	0.423***	0.349***	0.433***	0.36***	-0.666***	0.779***	-0.126***	-0.347***	-0.667***	1.000	

Figure 19: Correlations between country means of firm-level variables and country-level variables

In opposition to Figure 18, Figure 19 shows numerous high correlations among country-level variables and country means of firm-level variables. Although this should not be a concern as it does not affect explanatory variables, checks on multicollinearity will be performed to ensure the accuracy of the estimated coefficients. One thing still to keep in mind is the relatively high correlations among the cultural dimensions by Hofstede. This shall be addressed later under regression analysis for H5 to H10 in the ‘Results’ section.

## VI. Methodology and regression models

### 6.1. Methodology

Due to the multiple-level nature of the data (culture and some control variables being a country-level variable whereas ESG scores, firm value measurements: Tobin’s Q, ROA, ROE and other control variables are at the firm-level), separating effects at country and firm levels is necessary. When analyzing individual enterprises' ESGC scores and values, three relationships should be considered: the within-country effect (firm-level), the between-country effect (country-level) and the total effect, which is a weighted composite of the first two. Because the location of the influence is uncertain, it is far more difficult to draw significant conclusions (Curran & Bauer, 2011).

To consider the nested structure of the data, hierarchical linear modeling will be employed in this thesis to collect empirical results. This follows the studies of Griffin et al. (2021b) and Shi and Veenstra (2021). Among the two papers, the one by Griffin et al. (2021b) is from the Journal of

Corporate Finance, an excellent, specialized finance journal. There is also other research published under prestigious finance journals that have utilized HLM as a mean to analyze nested data, particularly the article by Li et al. (2013) also from the Journal of Corporate Finance, the work by Griffin et al. (2021a) from Journal of Financial and Quantitative Analysis and the study by El Ghouli et al. (2016) from Financial Management. Hierarchically structured data is layered data in which ordered groupings of units, such as pupils inside classrooms within schools, are clustered together (see Figure 20 for visualization) (Raudenbush & Bryck, 2002; Greene et al., 2011; Li et al., 2011; Griffin et al., 2021b). Because the clusters of observations are not independent of each other, the layered structure of the data violates the independence requirement of OLS regression (Griffin et al., 2021b). This thesis features data with two levels: country at level 2 and firm at level 1, which explains the use of HLM.

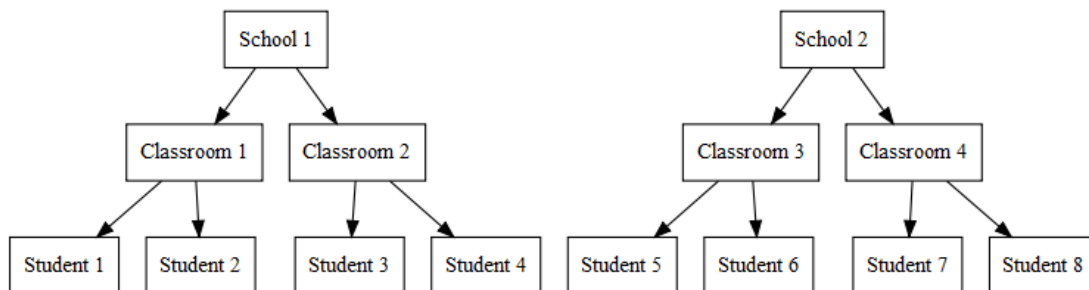


Figure 20: Hierarchically structured data

Predictors are classified as either random or fixed effects in HLM. Random effects are factors, despite not being the primary focal point of an investigation, must be included in the model as they may have influences on the dependent variable(s). Fixed effects, on the contrary, are important predictors of the research (Raudenbush & Bryck, 2002). The thesis investigates the relationship between sustainability performance and firm valuation measured by ESG scores and mainly Tobin's Q respectively. The sample includes longitudinal data of firms from various countries with different characteristics that would impact ESG and firm performance in distinctive manners. For instance, companies in larger nations (high GDP) are likely to have higher Tobin's Q since they probably have a wider pool of shareholders with the need to invest,

increasing the demand and thus the share price. Therefore, firms from different countries might possess similar ESG ratings but have distinct valuations. According to the example, ESG ratings are classified as fixed effects, but countries could be treated as random effects because the variable can influence business performance but is not the primary focus of the study. Random effects should be categorical, whereas fixed effects can be dummy variables or continuous variables (Chansiri, 2022).

Before the introduction of the multilevel model or hierarchical linear model that is used in this thesis, nested data is dealt with using either disaggregation or aggregation methods (Woltman et al., 2012). The presence of group distinctions is ignored by disaggregation (ibid). It considers all variable associations as context-free and is located at the first level of the hierarchy in Figure 21, which would be the firm level with respect to this thesis. As a result, disaggregation misses the possibility of cross-group or cross-country diversity (Osborne, 2000; Beaubien et al., 2001; Gill, 2003). An example of the relationship between breakfast consumption of students and their GPA, without taking into consideration these students might come from different classrooms, under the application of disaggregation could be observed in the figure below.

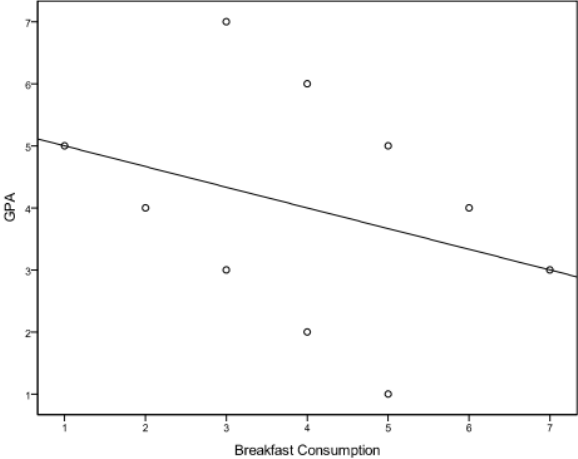


Figure 21: The association between student breakfast consumption and GPA using disaggregation (Source: Woltman et al., 2012)

Aggregation, on the other hand, overlooks individual distinctions at the lowest level. Individual variabilities are lost at level 1 since variables in this level are elevated to upper levels in the

hierarchy (Woltman et al., 2012). With reference to this thesis, this would mean that variables at the firm level are moved to the country level. Within-group or within-country variance is ignored as a result, and all companies are viewed as homogeneous entities (Osborne, 2000; Beaubien et al., 2001; Gill, 2003; Woltman et al., 2012). A representation of aggregation is illustrated here, using a similar example to disaggregation:

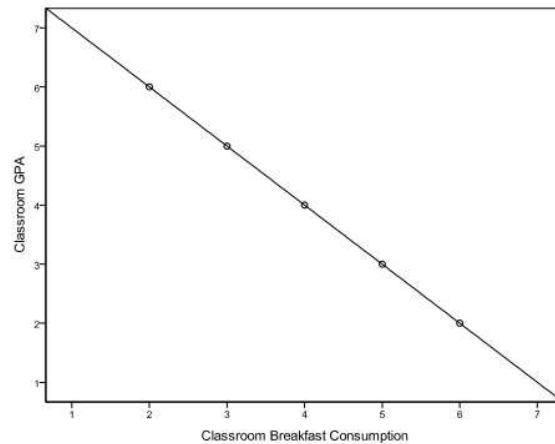


Figure 22: The association between student breakfast consumption and GPA using aggregation (Source: Woltman et al., 2012)

Figure 23 demonstrates the association between student GPA and breakfast consumption under HLM. Each observation at level 1 (breakfast eating and GPA of individual students in the example or firm-level characteristics in the thesis) is recognized by the level-2 cluster (classrooms in the example or country in the thesis). The slope of each level-2 cluster is likewise detected and studied independently. To demonstrate the association between breakfast intake and GPA, HLM uses both within-group and between-group regressions (Woltman et al., 2012).

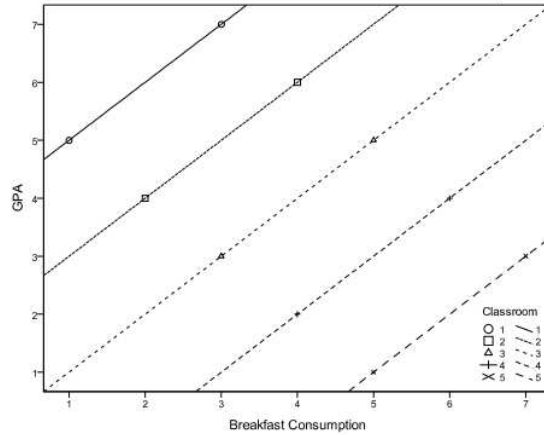


Figure 23: The association between student breakfast consumption and GPA using HLM (Source: Woltman et al., 2012)

One might question whether it is possible to have a single-level regression with control for random effects (e.g., country as in this thesis). Because residuals (i.e., data in the same group) are often correlated, doing so may result in incorrect standard error estimates. The error term in a single-level model captures clustered data errors across levels, preventing one from knowing the true link between the key predictor (ESGC scores) and firm values after adjusting for the country in which observations are nested (Chansiri, 2022). The following simplified equations shall be employed to dive deeper into how HLM works.

$$y_i = \beta_0 + \beta_1 x_i + e_i \text{ (1): a single regression model}$$

$$y_{ij} = \beta_0 + u_j + e_{ij} \text{ (2): a variance components model}$$

$$y_{ij} = \beta_0 + \beta_1 x_{ij} + u_j + e_{ij} \text{ (3): a multilevel (mixed) model (with random intercepts)}$$

- $i$  is the number of observations (for instance, firm number 1, 2, 3, etc.).
- $j$  is the nation category to which each observation belongs.
- $u$  is the variation in  $y$  that cannot be explained by nations after controlling for other factors.
- $e$  is the variance in  $y$  that cannot be explained by ESG-related scores after allowing for other factors.

The error term ( $e_i$ ) in equation 1 denotes an unexplained variance of the outcome that is not accounted for by the explanatory variable. The error term ( $u_j$ ) of random effects (nations for the



thesis) and that of the fixed effects nested in random effects ( $e_{ij}$ ) (ESG scores in different countries) are shown in Equation 2. Equation 3 is a mixed model that combines equations 1 and 2, yielding more accurate error estimates than the single-level regression model in equation 1 (Chansiri, 2022).

Before running the regressions, the multilayer data needs to be pre-processed. The pre-processing is based on the research of Li et al. (2013) and Shi and Veenstra (2021) using grand mean centering. The technique of subtracting the mean from observed values of a variable is known as centering (Griffin et al., 2021a). Centering allows one to distinguish between within- and between-group effects in multilayer models by separating within- and between-group variations in lower-level predictors (Li et al., 2013). Country-level variables are centered using grand means, or the averages across firms and countries, giving new variables means of zero. A suffix “\_ctry” is added to denote these variables. The same applies to firm-level variables with the grand mean being the average across firms and countries. In the following step, mean values are calculated for every country using the variables that have previously been centered with grand means. The resulting variables are added the suffix “\_ctrymean” representing cross-country variations. In the final step, within-country residuals are created by subtracting country means from grand-mean adjusted variables. Within-country variations are represented by the suffix “\_firmdev” (Shi & Veenstra, 2021). The covariances at the nation and company levels are completely isolated through the separation of firm-level variables into firm deviations and country means (Li et al., 2013). This decomposition enables the investigation of possibly distinct effects at the two levels (ibid).

The moderating impacts of cultural values are examined by regressing firm performance indicators (Tobin's Q, ROA and ROE) on the interactions between national cultural dimensions and ESG ratings at the firm level. In testing the first hypothesis, all data except for those related to the cultural dimensions are used. The hypotheses related to cultural dimensions will be tested using each of the six cultural dimensions consecutively.

## **6.2. Regression models**

The equation for the testing of H1 would be:

$$\begin{aligned} \text{Firm value}_{ij} = & \alpha + \beta_1 \text{ESGC Score\_firmdev}_{ij} + \beta_2 \text{ESGC Score\_ctrymean}_{ij} + \\ & \beta_3 \text{Leverage\_firmdev}_{ij} + \beta_4 \text{Leverage\_ctrymean}_{ij} + \\ & \beta_5 \text{Sales growth\_firmdev}_{ij} + \beta_6 \text{Sales growth\_ctrymean}_{ij} + \\ & \beta_7 \text{US cross list\_firmdev}_{ij} + \beta_8 \text{US cross list\_ctrymean}_{ij} + \\ & \beta_9 \text{Size\_firmdev}_{ij} + \beta_{10} \text{Size\_ctrymean}_{ij} + \\ & \beta_{11} \text{Government effectiveness\_ctry}_j + \beta_{12} \text{Control of corruption\_ctry}_j + \\ & \beta_{13} \text{Log(GDP per capita)\_ctry}_j + \beta_{14} \text{Years of schooling\_ctry}_j + \varepsilon_{ij} \end{aligned}$$

The following equations are for testing H2, H3 and H4:

$$\begin{aligned} \text{Firm value}_{ij} = & \alpha + \beta_1 \text{E Score\_firmdev}_{ij} + \beta_2 \text{E Score\_ctrymean}_{ij} + \\ & \beta_3 \text{Leverage\_firmdev}_{ij} + \beta_4 \text{Leverage\_ctrymean}_{ij} + \\ & \beta_5 \text{Sales growth\_firmdev}_{ij} + \beta_6 \text{Sales growth\_ctrymean}_{ij} + \\ & \beta_7 \text{US cross list\_firmdev}_{ij} + \beta_8 \text{US cross list\_ctrymean}_{ij} + \\ & \beta_9 \text{Size\_firmdev}_{ij} + \beta_{10} \text{Size\_ctrymean}_{ij} + \\ & \beta_{11} \text{Government effectiveness\_ctry}_j + \beta_{12} \text{Control of corruption\_ctry}_j + \\ & \beta_{13} \text{Log(GDP per capita)\_ctry}_j + \beta_{14} \text{Years of schooling\_ctry}_j + \varepsilon_{ij} \end{aligned}$$

$$\begin{aligned} \text{Firm value}_{ij} = & \alpha + \beta_1 \text{S Score\_firmdev}_{ij} + \beta_2 \text{S Score\_ctrymean}_{ij} + \\ & \beta_3 \text{Leverage\_firmdev}_{ij} + \beta_4 \text{Leverage\_ctrymean}_{ij} + \\ & \beta_5 \text{Sales growth\_firmdev}_{ij} + \beta_6 \text{Sales growth\_ctrymean}_{ij} + \\ & \beta_7 \text{US cross list\_firmdev}_{ij} + \beta_8 \text{US cross list\_ctrymean}_{ij} + \\ & \beta_9 \text{Size\_firmdev}_{ij} + \beta_{10} \text{Size\_ctrymean}_{ij} + \\ & \beta_{11} \text{Government effectiveness\_ctry}_j + \beta_{12} \text{Control of corruption\_ctry}_j + \\ & \beta_{13} \text{Log(GDP per capita)\_ctry}_j + \beta_{14} \text{Years of schooling\_ctry}_j + \varepsilon_{ij} \end{aligned}$$

$$\begin{aligned}
\text{Firm value}_{ij} = & \alpha + \beta_1 \text{G Score\_firmdev}_{ij} + \beta_2 \text{G Score\_ctrymean}_{ij} + \\
& \beta_3 \text{Leverage\_firmdev}_{ij} + \beta_4 \text{Leverage\_ctrymean}_{ij} + \\
& \beta_5 \text{Sales growth\_firmdev}_{ij} + \beta_6 \text{Sales growth\_ctrymean}_{ij} + \\
& \beta_7 \text{US cross list\_firmdev}_{ij} + \beta_8 \text{US cross list\_ctrymean}_{ij} + \\
& \beta_9 \text{Size\_firmdev}_{ij} + \beta_{10} \text{Size\_ctrymean}_{ij} + \\
& \beta_{11} \text{Government effectiveness\_ctry}_j + \beta_{12} \text{Control of corruption\_ctry}_j + \\
& \beta_{13} \text{Log(GDP per capita)\_ctry}_j + \beta_{14} \text{Years of schooling\_ctry}_j + \varepsilon_{ij}
\end{aligned}$$

The equation for testing H5 to H10 is as follows:

$$\begin{aligned}
\text{Firm value}_{ij} = & \alpha + \beta_1 \text{ESGC Score\_firmdev}_{ij} + \beta_2 \text{ESGC Score\_ctrymean}_{ij} + \\
& \beta_3 \text{Leverage\_firmdev}_{ij} + \beta_4 \text{Leverage\_ctrymean}_{ij} + \\
& \beta_5 \text{Sales growth\_firmdev}_{ij} + \beta_6 \text{Sales growth\_ctrymean}_{ij} + \\
& \beta_7 \text{US cross list\_firmdev}_{ij} + \beta_8 \text{US cross list\_ctrymean}_{ij} + \\
& \beta_9 \text{Size\_firmdev}_{ij} + \beta_{10} \text{Size\_ctrymean}_{ij} + \\
& \beta_{11} \text{Government effectiveness\_ctry}_j + \beta_{12} \text{Control of corruption\_ctry}_j + \\
& \beta_{13} \text{Log(GDP per capita)\_ctry}_j + \beta_{14} \text{Years of schooling\_ctry}_j + \\
& \beta_{15} \text{Cultural dimension\_ctry}_j + \beta_{16} \text{Cultural dimension\_ctry}_j * \text{ESGC Score\_firmdev}_{ij} + \varepsilon_{ij}
\end{aligned}$$

Firm value could either be Tobin's Q, ROA or ROE although Tobin's Q is the key focus due to the reason mentioned in the 'Data and Variables' section above. In the regression investigating hypotheses H5 to H10, the cultural dimension is each of the six dimensions in association with the respective hypothesis. The "i" subscript stands for the firm while the "j" subscript represents the country. There will be year dummies functioning as fixed effects in each regression.

## VII. Results

Due to a considerable number of variables in regression analyses, a test for multicollinearity will be conducted for each regression. The Variance Inflation Factor (VIF) approach is utilized, which measures the variances of explanatory variables that are inflated (Belsley et al., 2005) and thus determines the severity of multicollinearity of regression analyses. A VIF of more than 10 means a concern for multicollinearity (ibid). In fact, due to the multilevel nature of data in this thesis, VIF is not an optimal assessment of multicollinearity. As specified by Clark Jr (2013), a multilevel VIF is needed to get a correct result of multicollinearity for multilevel models. Nevertheless, such a tool is not available in any statistical packages at the moment. Hence, VIF is one of the best options and could guarantee ease of application in checking multicollinearity in this thesis.

In addition to the control variables mentioned in the tables below, regressions from the base paper by Griffin et al. (2021b) also include ‘Revised ADRI’ and ‘Common law’ as country-level control variables. However, these variables appeared to be insignificant for all regressions in this thesis. As a result, ‘Revised ADRI’ and ‘Common law’ had been removed from the regressions. Actually, the removal does not make notable changes to the standard errors of any of the variables in the regressions thus condoning the decision.

Another modification from the regressions in the papers by Griffin et al. (2021b) and Shi and Veenstra (2021) is the elimination of industry fixed effects in all regressions. 2-digit NAICS codes are to be used as industry identifications and transformed into dummy variables. Nonetheless, these dummy variables are insignificant across the regressions and have markedly high VIFs of over 20. When trying to remove these industry fixed effects from the regressions, there are no significant changes in the estimated coefficients as well as standard errors of the remained variables, which support their removal.

On the last note, since the thesis focuses on firm-level ESG performance, the ESG-related independent variables tested below shall be within-country variables created by separating the firm-deviation ESG scores from their country means.

## 7.1. Regression analysis of H1

**Table 4: The relation between within-country ESGC scores and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. The independent variable is the within-country (with suffix “\_firmdev”) ESGC score and the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	1.834e-03*** (3.434e-04)	3.020e-03 (7.966e-03)	1.900e-04*** (3.182e-05)	-1.148e-04 (4.314e-04)	6.870e-04*** (1.101e-04)	-4.361e-04 (1.124e-03)
Leverage	3.5e-01*** (3.450e-02)	-2.495e+00** (-2.495e+00)	-2.964e-02 (3.103e-03)	-1.683e-01*** (5.489e-02)	7.887e-02*** (1.045e-02)	-1.558e-01 (1.443e-01)
Sales growth	2.837e-01*** (1.575e-02)	7.529e-01 (1.300e+00)	1.691e-02*** (1.543e-03)	-1.131e-01 (6.885e-02)	2.646e-02*** (5.661e-03)	-1.854e-01 (1.764e-01)
U.S cross list	3.609e-01*** (4.715e-02)	9.093e-01*** (2.215e-01)	1.732e-02*** (2.895e-03)	9.6e-03 (9.647e-03)	3.254e-02*** (8.127e-03)	3.105e-02 (3.150e-02)
Size	-6.869e-01*** (1.865e-02)	1.810e-01*** (2.392e-01)	-2.105e-02*** (1.450e-03)	3.661e-02*** (1.280e-02)	-2.806e-02*** (4.484e-03)	6.309e-02* (3.300e-02)
<b>Country-level variables</b>						
Control of corruption		3.723e-02*** (3.212e-02)		1.105e-02*** (2.990e-03)		8.978e-03 (1.051e-02)
Government effectiveness		2.271e-01*** (3.552e-02)		1.910e-02*** (3.378e-03)		5.959e-02*** (1.200e-02)
Log(GDP per capita)		-5.580e-01*** (7.180e-02)		-7.694e-02*** (6.577e-03)		-1.802e-01*** (2.269e-02)
Years of schooling		-1.298e-01*** (1.876e-02)		1.329e-04 (1.471e-03)		1.612e-03 (4.419e-03)
Year FEs		Yes		Yes		Yes

Table 4 shows the results of testing the first hypothesis H1, which is about the relationship between a company's ESG Combined Score and its values. Hence, ESGC firm-level (within-country) scores act as dependent variables for this analysis. From the table, Tobin's Q, ROA and ROE are found to be related to ESGC firm-level scores at a 1% level of significance and their relationships are positive. These findings support the first hypothesis, H1. The positive relationship between ESG ratings and company relative performance is consistent with the

findings of the base work by Griffin et al. (2021b) as well as with other studies with similar topics like Gillan et al. (2010), Borghesi et al. (2014), Zhang (2015) and Ferrell et al. (2016).

Particularly, within countries, ESG is most related to firm values for Tobin's Q with an estimate of  $1.8e-03$ , followed by  $6.9e-04$  for ROE and  $1.9e-04$  for ROA. It seems that the association is stronger between ESG and forward-looking measures of performance like Tobin's Q compared to those linked to book values like ROA and ROE. This reinforces the decision to concentrate on Tobin's Q.

Interestingly, when comparing the estimated coefficients of Tobin's Q, ROA and ROE with those of other significant firm-level variables, their absolute values are much lower. This shows that even though ESG is significantly associated with firm performance, its connection is weaker than those of other firm characteristics. However, Griffin et al. (2021b) find a significant relationship that is on par and even higher than that of other significant firm-level control variables. Griffin et al. (2021b) investigated the E/S-firm value connection from the year 2003 to 2015. According to United Nations (2020) in its Principles for Responsible Investment report, the amount of assets under management and the number of signatories on sustainable investments was much smaller and increased at a slower pace during 2006-2014 compared to 2015-2020. Hence, one explanation would be that although the attention of investors has increased tremendously for ESG, it might not be such an exciting topic as when it was first introduced and became widely known. Another feasible reason is that since this thesis looks into not just E and S but also the G factors and any controversy categories, these elements could have reduced the association between E/S and firm values. Nonetheless, considering the analyses below where E and S factors have low coefficients even on their own, this would not be the case.

Another interesting finding is that variations in ESGC scores at the national level are not statistically and significantly related to business values. Although it is not the focus of this thesis, this differs from the findings of Griffin and colleagues (2021b), who discovered that the link is significant and positive at 1% for both Tobin's Q and ROA. It is possible that not only has the connection at the corporate level deteriorated over time but so has the ESG at the country level.

Tests of multicollinearity are done on the regressions reported in Table 4. When calculating VIFs for the Table 4 regressions, all values are below 10 and most are smaller than 3. Because of markedly small values of VIFs, even with the multi-level data, multicollinearity problems are not

likely to exist. The accuracy of estimated coefficients and standard errors in Table 4 could be warranted.

## 7.2. Regression analysis of H2 to H4

**Table 5: The relation between within-country environmental pillar scores and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the within-country (with suffix “\_firmdev”) G pillar of ESG scores and the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively. Standard errors are shown in brackets.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
Environmental Pillar Score	6.437e-04* (3.160e-04)	1.284e-03 (1.080e-02)	1.113e-04*** (2.535e-05)	-1.882e-04 (3.148e-04)	4.089e-04** (8.652e-05)	-7.036e-04 (8.208e-04)
Leverage	3.483e-01*** (3.451e-02)	-2.454e+00** (9.998e-01)	-2.956e-02*** (3.106e-03s)	-1.632e-01*** (5.494e-02)	7.937e-02*** (1.047e-02)	-1.366e-01 (1.439e-01)
Sales growth	2.838e-01*** (1.576e-02)	7.560e-01 (1.334e+00)	1.701e-02*** (1.545e-03)	-1.212e-01* (7.052e-02)	2.670e-02*** (5.668e-03)	-2.185e-01 (1.811e-01)
U.S cross list	3.669e-01*** (4.727e-02)	9.222e-01*** (2.205e-01)	1.767e-02*** (2.904e-03)	1.060e-02 (1.198e-02)	3.376e-02*** (8.152e-03)	3.372e-02 (3.085e-02)
Size	-6.801e-01*** (1.887e-02)	1.784e-01 (2.424e-01)	-2.116e-02*** (1.485e-03)	3.753e-02*** (1.289e-02)	-2.859e-02*** (4.636e-03)	6.660e-02* (3.319e-02)
<b>Country-level variables</b>						
Control of corruption		3.876e-02 (3.221e-02)		1.152e-02*** (2.997e-03)		1.084e-02 (1.052e-02)
Government effectiveness		2.246e-01*** (3.558e-02)		1.865e-02*** (3.385e-03)		5.813e-02*** (1.203e-02)
Log(GDP per capita)		-5.481e-01*** (7.189e-02)		-7.631e-02*** (6.570e-03)		-1.780e-01*** (2.263e-02)
Years of schooling		-1.322e-01*** (1.878e-02)		-6.654e-06 (1.465e-03)		1.186e-03 (4.395e-03)
Year FEs		Yes		Yes		Yes

**Table 6: The relation between within-country social pillar scores and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the within-country (with suffix “\_firmdev”) S pillar of ESG scores and the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
Social Pillar Score	2.292e-03*** (3.055e-04)	4.081e-03 (5.686e-03)	1.696e-04*** (2.814e-05)	-4.269e-05 (3.082e-04)	5.217e-04** (9.683e-05)	-1.258e-04 (7.980e-04)
Leverage	3.500e-01*** (3.448e-02)	-2.571e+00** (9.790e-01)	-2.949e-02*** (3.102e-03)	-1.703e-01*** (5.463e-02)	7.960e-02*** (1.046e-02)	-1.655e-01 (1.439e-01)
Sales growth	2.852e-01*** (1.575e-02)	8.435e-01 (1.289e+00)	1.696e-02*** (1.543e-03)	-1.111e-01 (6.885e-02)	2.640e-02*** (5.663e-03)	-1.749e-01 (1.761e-01)
U.S cross list	3.550e-01*** (4.698e-02)	8.742e-01*** (2.212e-01)	1.722e-02*** (2.892e-03)	8.956e-03 (1.230e-02)	3.285e-02*** (8.135e-03)	2.860e-02 (3.183e-02)
Size	-6.952e-01*** (1.867e-02)	1.733e-01 (2.364e-01)	-2.130e-02*** (1.459e-03)	3.632e-02*** (1.276e-02)	-2.806e-02*** (4.538e-03)	6.197e-02* (3.286e-02)
<b>Country-level variables</b>						
Control of corruption		3.599e-02 (3.208e-02)		1.081e-02*** (2.988e-03)		7.903e-03 (1.050e-02)
Government effectiveness		2.299e-01*** (3.549e-02)		1.926e-02*** (3.376e-03)		5.977e-02*** (1.199e-02)
Log(GDP per capita)		-5.388e-01*** (7.160e-02)		-7.514e-02*** (6.568e-03)		-1.742e-01*** (2.266e-02)
Years of schooling		-1.310e-01*** (1.871e-02)		-5.409e-05 (1.470e-03)		1.137e-03 (4.411e-03)
Year FEs		Yes		Yes		Yes



**Table 7: The relation between within-country governance pillar scores and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the within-country (with suffix “\_firmdev”) G pillar of ESG scores and the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
Governance Pillar Score	9.471e-06 (2.436e-04)	6.653e-03 (1.191e-02)	-2.217e-05 (2.301e-05)	-3.181e-04 (6.638e-04)	-9.691e-06 (8.102e-05)	-9.502e-04 (1.756e-03)
Leverage	3.488e-01*** (3.452e-02)	-2.518e+00** (9.864e-01)	-2.946e-02*** (3.109e-03)	-1.634e-01*** (5.514e-02)	7.927e-02*** (1.048e-02)	-1.450e-01 (1.455e-01)
Sales growth	2.824e-01*** (1.575e-02)	5.048e-01 (1.308e+00)	1.666e-02*** (1.543e-03)	-1.010e-01 (6.900e-02)	2.516e-02*** (5.662e-03)	-1.465e-01 (1.749e-01)
U.S cross list	3.715e-01*** (4.731e-02)	9.075e-01*** (2.099e-01)	1.851e-02*** (2.911e-03)	8.626e-03 (1.167e-02)	3.638e-02*** (8.156e-03)	2.775e-02 (3.020e-02)
Size	-6.710e-01*** (1.852e-02)	1.906e-01 (2.376e-01)	-1.905e-02*** (1.433e-03)	3.547e-02*** (1.281e-02)	-2.076e-02*** (4.408e-03)	5.958e-02* (3.298e-02)
<b>Country-level variables</b>						
Control of corruption		3.674e-02 (3.209e-02)		1.091e-02*** (2.987e-03)		8.451e-03 (1.050e-02)
Government effectiveness		2.286e-01*** (3.550e-02)		1.896e-02*** (3.379e-03)		5.872e-02*** (1.202e-02)
Log(GDP per capita)		5.321e-01*** (7.175e-02)		-7.510e-02*** (6.596e-03)		-1.757e-01*** (2.283e-02)
Years of schooling		-1.305e-01*** (1.869e-02)		7.254e-05 (1.469e-03)		1.704e-03 (4.431e-03)
Year FEs		Yes		Yes		Yes

Tables 5–7 seek to address the second research question on the relationship between business value and the individual ESG pillars. When Tobin's Q is used as the dependent variable for testing hypotheses, the environmental pillar has a significant link with firm valuation at the 10% significance level, as seen in Table 5. Since the relationship is positive, hypothesis H2 is failed to be rejected. Table 6 shows that the within-country social pillar is likewise connected to Tobin's Q at the 1% level of significance. Once again, hypothesis H3 fails to be rejected. Because the level of significance for the social pillar is lower than that for the environmental pillar, it is less likely that the significant association of the S pillar occurs by coincidence. Moreover, the

strength of the relationship is higher at  $2.292e-03$  for the social pillar compared to  $6.437e-04$  for the environmental pillar.

The reason behind the lower result of the environmental pillar compared to the social one probably comes from the fact that the environmental factor has been gotten extreme attention these past years, especially when the awareness of global warming and climate change increases and signs of environmental risks worsen (Borunda, 2020; Roper, 2020; UNDP, 2021; World Meteorological Organization, 2022). It is also the most common pillar and the one that people often think of whenever ESG is mentioned (Gitman et al., 2009; S&P Global, 2019). Because Tobin's Q represents market prospects on the growth potentials of firms, investors might think that the environmental factor has been accounted for enough in affecting the development of companies and shift more of their focus on other pillars, probably the social pillar which has become increasingly popular after Covid-19 brings to the surface poor labor practices of companies regarding benefit packages or layoff decisions (Wu & Juvyns, 2020). Moreover, the pandemic raises the need for remote working and equal access to healthcare systems (Wu & Juvyns, 2020; UBS, 2022). Although the Covid-19 outbreak also strengthens the awareness on the environmental factor, the social pillar is still expected to be the priority (Kachaner et al., 2020). These cause the estimated coefficient with Tobin's Q to be lower for the environmental pillar in comparison to the social one.

The governance pillar, on the other hand, has no significant relationship with any of the business performance measures, hence hypothesis H4 is rejected. In this regard, while the regression model used lagged 1-year data for governance pillar score compared to Tobin's Q, corporate governance is unlikely to be a leading indicator because governance issues are frequently kept private and only become public after they have grown into big scandals. Enron would be a perfect example of this. Before its collapse, Enron was still able to maintain an investment grade rating for its corporate debt although its bond has fallen to a level indicating the debt was highly risky (Gillan & Martin, 2007). Another reasoning is that compared to when the concept of corporate governance is first known, the influences corporate governance ratings have on organizational performance have been decreasing with time, especially in comparison to the other two pillars. A supporting finding for this statement would be that of Jo & Harjoto (2011) in which corporate governance has weaker firm value enhancement capability when analyzed alone

than when the whole CSR practices are examined. As corporate governance becomes a familiar topic, investors could influence through the “invisible hand” (Renders et al., 2010).

The results of the supplemental studies with ROA and ROE are comparable to those of Tobin's Q. Interestingly, the association strengths are lower for both environmental and social pillars, showing that these pillars are more related to organizations' prospects than their fundamental values.

On a final note, consistent with what is observed for ESGC ratings, cross-country or country-level E, S and G pillar scores are not significantly connected to firm performance, either through Tobin's Q, ROA or ROE. This contrasts with Shi and Veenstra (2021), who discover that the country-level S pillar has significant and positive relationships with ROA and ROE, whereas the country-level E pillar has a strong and positive connection with Tobin's Q. A probable answer for this would be that the relationships have been reduced over time, like what was commented in the previous section for ESGC scores. It could also be that the relationships between country E and S pillars and firm value actually come from other variables such as country income (GDP per capita) and level of education (mean year schooling). According to Leiserowitz and Howe (2015) in their project for the Yale Program on Climate Change Communication, developed countries have a strikingly higher level of awareness of climate change compared to developing countries. The same applies to nations with higher and lower academic degrees. By having the GDP per capital and GDP growth rate in regressions with cross-country E and S pillar scores, multicollinearity is probable in the work of Shi and Veenstra (2021). However, the authors did not have any measures against it. Nevertheless, since it happens with variables that are not the focus of this thesis, it should not be a concern.

### **7.3. Regression analysis for H5 to H10**

All the dimensions of Hofstede, which originally range from 0 to 100, have been transformed into z-scores for ease of analysis and interpretation. In terms of the moderating impacts of cultural dimensions, Shi and Veenstra (2021) chose to have multiple dimensions in the same regression. However, since the dimensions are correlated with one another and correlations are high for some pairs, exceeding 70% as seen from Figure 19 above, it is ideal to run the

dimensions in separate regressions to be safe from multicollinearity. In the case of Shi and Veenstra (2021), the paper employed two dimensions: individualism and flexibility whose correlation was moderate at 36% and the authors did not control for multicollinearity. The risk might still exist due to the multilevel nature of the data.

**Table 8: The moderating effects of Hofstede’s Power Distance on the relationship between within-country ESGC scores and firm performance**

This table displays estimation results for regressions with Tobin’s Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and power distance while the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin’s Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	1.991e-03*** (3.435e-04)	2.602e-03 (7.347e-03)	1.967e-04*** (3.186e-05)	-8.730e-05 (4.432e-04)	7.028e-04*** (1.102e-04)	-4.443e-04 (1.149e-03)
Leverage	3.557e-01*** (3.447e-02)	-2.520e+00*** (9.305e-01)	-2.943e-02*** (3.102e-03)	-1.605e-01*** (5.678e-02)	7.932e-02*** (1.045e-02)	-1.552e-01 (1.497e-01)
Sales growth	2.820e-01*** (1.573e-02)	1.055e+00 (1.172e+00)	1.685e-02*** (1.543e-03)	-1.160e-01 (7.037e-02)	2.644e-02*** (5.661e-03)	-1.845e-01 (1.791e-01)
U.S cross list	3.552e-01*** (4.716e-02)	6.378e-01*** (2.046e-01)	1.708e-02*** (2.890e-03)	6.886e-03 (1.251e-02)	3.196e-02*** (8.121e-03)	2.646e-02 (3.192e-02)
Size	-6.903e-01*** (1.865e-02)	2.972e-01 (2.322e-01)	-2.123e-02*** (1.450e-03)	3.441e-02** (1.415e-02)	-2.857e-02*** (4.487e-03)	6.400e-02* (3.671e-02)
<b>Country-level variables</b>						
Control of corruption		1.669e-02 (3.236e-02)		1.047e-02*** (3.072e-03)		6.421e-03 (1.082e-02)
Government effectiveness		2.524e-01*** (3.545e-02)		2.038e-02*** (3.399e-03)		6.272e-02*** (1.207e-02)
Log(GDP per capita)		-5.134e-01*** (7.245e-02)		-7.506e-02*** (6.723e-03)		-1.781e-01*** (2.313e-02)
Years of schooling		-1.081e-01*** (1.907e-02)		8.261e-04 (1.560e-03)		2.205e-03 (4.654e-03)
Power Distance		-1.094e-01* (5.491e-02)		1.003e-03 (3.490e-03)		-1.132e-03 (9.207e-03)
<b>Cross-level interaction</b>						
ESGC Score x Power Distance		-2.457e-03*** (2.957e-04)		-1.068e-04*** (2.757e-05)		-2.621e-04*** (9.623e-05)
Year FEs		Yes		Yes		Yes

It could be seen from Table 9 that the association between within-country ESGC performance and firm valuation measures (Tobin's Q, ROA and ROE) is significantly weaker in nations scoring highly in power distance. In other words, companies in nations with great power distance enjoy better increases in performance investing in ESG matters. This matches what is stated in hypothesis H5 hence this hypothesis is failed to be rejected.

**Table 9: The moderating effects of Hofstede's Individualism on the relationship between within-country ESGC scores and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and individualism while the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	2.071e-03*** (3.439e-04)	2.885e-03 (7.221e-03)	2.036e-04*** (3.190e-05)	-9.690e-05 (4.435e-04)	7.327e-04*** (1.104e-04)	-4.249e-04 (1.152e-03)
Leverage	3.506e-01*** (3.445e-02)	-2.296e+00*** (9.081e-01)	-2.963e-02*** (3.100e-03)	-1.616e-01*** (5.590e-02)	7.897e-02*** (1.044e-02)	-1.476e-01 (1.469e-01)
Sales growth	2.830e-01*** (1.572e-02)	5.623e-01 (1.152e+00)	1.691e-02*** (1.543e-03)	-1.131e-01 (7.064e-02)	2.672e-02*** (5.660e-03)	-1.902e-01 (1.805e-01)
U.S cross list	3.561e-01*** (4.718e-02)	5.152e-01** (2.141e-01)	1.705e-02*** (2.885e-03)	6.613e-03 (1.325e-02)	3.170e-02*** (8.103e-03)	2.396e-02 (3.382e-02)
Size	-6.922e-01*** (1.864e-02)	2.045e-01 (2.156e-01)	-2.124e-02*** (1.448e-03)	3.545e-02** (1.328e-02)	-2.883e-02*** (4.478e-03)	6.198e-02* (3.430e-02)
<b>Country-level variables</b>						
Control of corruption		2.394e-02 (3.196e-02)		1.039e-02*** (3.027e-03)		5.826e-03 (1.065e-02)
Government effectiveness		2.678e-01*** (3.559e-02)		2.085e-02*** (3.437e-03)		6.530e-02*** (1.232e-02)
Log(GDP per capita)		-5.088e-01*** (7.158e-02)		-7.531e-02*** (6.647e-03)		-1.776e-01*** (2.291e-02)
Years of schooling		-1.094e-01*** (1.914e-02)		9.516e-04 (1.607e-03)		2.771e-03 (4.892e-03)
Individualism		1.705e-01** (7.580e-02)		-1.212e-03 (4.830e-03)		-4.565e-05 (1.257e-02)
<b>Cross-level interaction</b>						
ESGC Score x Individualism		2.680e-03*** (2.857e-04)		1.351e-04*** (2.641e-05)		4.268e-04*** (9.142e-05)
Year FEs		Yes		Yes		Yes

Individualism is a statistically significant moderator of the within-country ESGC score-firm performance association, as seen in Table 9. The relations are significant and positive across all measures of company performance. These findings are compatible with hypothesis H6, hence this hypothesis could not be rejected. The findings also match those of Griffin and colleagues (2021b).

Despite being equivalently small, the estimated coefficient of individualism in the regression with Tobin's Q still has the highest absolute value in comparison to those of other dimensions as shown in Tables 8 and 9 above and Tables 10 to 13 below. This agrees with what was stated by Griffin et al. (2021b) about individualism being the most important dimension, including in explaining the ESG-firm value relationship.

**Table 10: The moderating effects of Hofstede’s Masculinity on the relationship between within-country ESGC scores and firm performance**

This table displays estimation results for regressions with Tobin’s Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and masculinity while the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin’s Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	1.966e-03*** (3.439e-04)	1.073e-03 (8.292e-03)	1.945e-04*** (3.186e-05)	-2.487e-04 (4.533e-04)	6.934e-04*** (1.101e-04)	-7.033e-04 (1.190e-03)
Leverage	3.520e-01*** (3.448e-02)	-2.448e+00** (9.860e-01)	-2.953e-02*** (3.103e-03)	-1.670e-01*** (5.481e-02)	7.900e-02*** (1.046e-02)	-1.544e-01 (1.449e-01)
Sales growth	2.838e-01*** (1.574e-02)	9.474e-01 (1.295e+00)	1.692e-02*** (1.543e-03)	-1.031e-01 (6.916e-02)	2.648e-02*** (5.661e-03)	-1.683e-01 (1.787e-01)
U.S cross list	3.603e-01*** (4.717e-02)	9.365e-01*** (2.260e-01)	1.730e-02*** (2.896e-03)	1.251e-02 (1.259e-02)	3.252e-02*** (8.129e-03)	3.718e-02 (3.289e-02)
Size	-6.889e-01*** (1.865e-02)	2.008e-01 (2.394e-01)	-2.114e-02*** (1.450e-03)	3.800e-02*** (1.289e-02)	-2.822e-02*** (4.486e-03)	6.599e-02* (3.346e-02)
<b>Country-level variables</b>						
Control of corruption		3.432e-02 (3.213e-02)		1.073e-02*** (2.998e-03)		8.342e-03 (1.056e-02)
Government effectiveness		2.085e-01*** (3.561e-02)		1.826e-02*** (3.389e-03)		5.805e-02*** (1.205e-02)
Log(GDP per capita)		-5.355e-01*** (7.184e-02)		-7.624e-02*** (6.586e-03)		-1.794e-01*** (2.275e-02)
Years of schooling		-1.218e-01*** (1.874e-02)		3.960e-04 (1.472e-03)		2.092e-03 (4.456e-03)
Masculinity		-5.687e-02 (6.046e-02)		-3.276e-03 (3.198e-03)		-6.019e-03 (8.219e-03)
<b>Cross-level interaction</b>						
ESGC Score x Masculinity		1.893e-03*** (3.052e-04)		8.073e-05*** (2.808e-05)		1.493e-04 (9.640e-05)
Year FEs		Yes		Yes		Yes



Table 10 examines whether masculinity mediates the connection between within-country ESG performance and enterprise valuation. Masculinity has a significantly positive moderating impact on Tobin's Q and ROA, but not on ROE. Again, because Tobin's Q is used as the primary metric of corporate values in this thesis, hypothesis H7, claiming that the positive relationship between ESG performance and firm value is weaker in nations with higher masculinity, should be rejected with a 99% confidence level. This means that companies in more masculine nations would receive greater rewards instead of less by engaging in ESG activities. Because there are no studies that specifically investigate masculinity from the perspective of a moderating variable on the ESG-firm value relationship, comparisons could not be made. From Table 10, it appears that even though the materialistic nature of masculinity is harmful to ethical activities (Modic, 1987), its moderating impact is not. One likely reason would be that companies in masculine countries are aware of the financial benefits connected to sustainability, hence they further their investment in such areas, leading to larger increases in performance. About the insignificant result for ROE, it seems that together debtors and shareholders gain from the moderating effect of masculinity while shareholders alone do not. It could also be that this is not an actual difference between the measures but rather inconsistencies caused by dissimilarities in financial reporting standards or choices made for book values of equities and liabilities under the same financial reporting standard.

**Table 11: The moderating effects of Hofstede’s Uncertainty Avoidance on the relationship between within-country ESGC scores and firm performance**

This table displays estimation results for regressions with Tobin’s Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and uncertainty avoidance while the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin’s Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	1.823e-03*** (3.437e-04)	3.500e-03 (7.970e-03)	1.900e-04*** (3.187e-05)	-6.771e-05 (4.247e-04)	7.014e-04*** (1.102e-04)	-2.636e-04 (1.098e-03)
Leverage	3.488e-01*** (3.450e-02)	-2.483e+00** (9.928e-01)	-2.965e-02*** (3.103e-03)	5.405e-02*** (5.481e-02)	7.886e-02*** (1.045e-02)	-1.540e-01 (1.409e-01)
Sales growth	2.833e-01*** (1.576e-02)	5.363e-02 (1.422e+00)	1.693e-02*** (1.545e-03)	-1.481e-01 (7.315e-02)	2.704e-02*** (5.666e-03)	-2.865e-01 (1.841e-01)
U.S cross list	3.606e-01*** (4.716e-02)	8.586e-01*** (2.249e-01)	1.732e-02*** (2.895e-03)	7.070e-03 (1.207e-02)	3.269e-02*** (8.117e-03)	2.366e-02 (3.075e-02)
Size	-6.865e-01*** (1.866e-02)	2.219e-01 (2.416e-01)	-2.105e-02*** (1.450e-03)	3.838e-02*** (1.265e-02)	-2.822e-02*** (4.481e-03)	6.731e-02** (3.219e-02)
<b>Country-level variables</b>						
Control of corruption		3.394e-02 (3.225e-02)		1.043e-02*** (3.010e-03)		5.964e-03 (1.059e-02)
Government effectiveness		2.241e-01*** (3.560e-02)		1.860e-02*** (3.390e-03)		5.802e-02*** (1.204e-02)
Log(GDP per capita)		-5.445e-01*** (7.330e-02)		-7.650e-02*** (6.666e-03)		-1.839e-01*** (2.284e-02)
Years of schooling		-1.313e-01*** (1.890e-02)		2.662e-04 (1.467e-03)		3.195e-03 (4.363e-03)
Uncertainty Avoidance		-7.906e-02 (6.525e-02)		-4.198e-03 (3.340e-03)		-1.232e-02 (8.429e-03)
<b>Cross-level interaction</b>						
ESGC Score x Uncertainty Avoidance		2.848e-04 (3.042e-04)		9.885e-07 (2.806e-05)		-1.994e-04** (9.667e-05)
Year FEs		Yes		Yes		Yes

When Tobin's Q is the dependent variable, uncertainty avoidance is the only dimension displaying insignificant cross-level interaction with within-country ESGC scores. As a result, hypothesis H8, which states that the positive linkage between ESG and firm value is greater in countries with a higher level of uncertainty avoidance, is rejected. This finding is interesting and even surprising as uncertainty avoidance is about mitigating risks, which should be most connected to sustainability. However, such a claim is about the direct link while this analysis looks into uncertainty avoidance as a moderating variable. It could thus be that shareholders no longer consider ESG as just a mean to reduce risks but also as a practice that would enhance the valuation of firms. In a study by Harjoto and Laksmana (2018), the authors find that CSR acts as a mean to avoid firms from deviating from optimal risk levels. In other words, CSR could restrain both excessive risk taking and avoidance. Since the two effects even out, it might lead to an ambiguous or insignificant moderating impact on firm value/performance.

On the additional tests with ROA and ROE, the result with ROA is similar to that of Tobin's Q while uncertainty was found to have a significant and negative moderating influence on the positive connection between ESG and ROE. It appears that equity holders do attain less from the within-country ESG-firm value connection in countries with high uncertainty avoidance while when debtors are also considered, such result is neutralized. Again, this could also be a result of dissimilarities in financial reporting standards or different choices made under the same standard. Since two out of three firm value measures report insignificant results, there is a higher chance that no significant moderating impacts exist for uncertainty avoidance on the ESG-firm performance association.

**Table 12: The moderating effects of Hofstede’s Long-Term Orientation on the relationship between within-country ESGC scores and firm performance**

This table displays estimation results for regressions with Tobin’s Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and long-term orientation while the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin’s Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	1.885e-03*** (3.438e-04)	3.018e-03 (7.843e-03)	1.970e-04*** (3.187e-05)	-1.434e-04 (4.389e-04)	7.173e-04*** (1.102e-04)	-5.221e-04 (1.142e-03)
Leverage	3.462e-01*** (3.450e-02)	-2.489e+00** (9.810e-01)	-2.984e-02*** (3.101e-03)	-1.682e-01*** (5.576e-02)	7.843e-02*** (1.044e-02)	-1.599e-01 (1.466e-01)
Sales growth	2.851e-01*** (1.575e-02)	7.826e-01 (1.278e+00)	1.705e-02*** (1.544e-03)	-1.168e-01 (7.033e-02)	2.721e-02*** (5.665e-03)	-1.978e-01 (1.800e-01)
U.S cross list	3.603e-01*** (4.715e-02)	8.659e-01*** (2.180e-01)	1.723e-02*** (2.886e-03)	8.354e-03 (1.249e-02)	3.220e-02*** (8.100e-03)	2.734e-02 (3.235e-02)
Size	-6.891e-01*** (1.866e-02)	2.681e-01 (2.489e-01)	-2.111e-02*** (1.448e-03)	3.836e-02*** (1.389e-02)	-2.840e-02*** (4.475e-03)	7.178e-02* (3.599e-02)
<b>Country-level variables</b>						
Control of corruption		4.517e-02 (3.215e-02)		1.155e-02*** (3.002e-03)		1.002e-02 (1.056e-02)
Government effectiveness		2.434e-01*** (3.581e-02)		2.051e-02*** (3.418e-03)		6.478e-02*** (1.217e-02)
Log(GDP per capita)		-5.618e-01*** (7.180e-02)		-7.832e-02*** (6.618e-03)		-1.855e-01*** (2.288e-02)
Years of schooling		-1.262e-01*** (1.869e-02)		1.673e-04 (1.488e-03)		1.612e-03 (4.481e-03)
Long-Term Orientation		-7.967e-02 (7.279e-02)		-8.952e-04 (3.988e-03)		-5.004e-03 (1.017e-02)
<b>Cross-level interaction</b>						
ESGC Score x Long-Term Orientation		-9.637e-04*** (2.945e-04)		-9.193e-05*** (2.708e-05)		-3.458e-04*** (9.314e-05)
Year FEs		Yes		Yes		Yes

Table 12 displays the significant moderating effects of long-term orientation on the within-country ESG-firm performance relationship, regardless of the ratio employed to measure company valuation. However, the estimated coefficients are negative instead of positive as hypothesized in hypothesis H9, thus this hypothesis is rejected. Despite the growing popularity of sustainability concerns, many businesses may still follow the shareholder theory rather than the stakeholder theory, as that was what had been assumed for decades. As a result, short-term, bottom-line investments may be prioritized over long-term, pragmatic ones, making the beneficial relationship between ESG and business performance less prominent in long-term oriented countries. This is consistent with the finding by Shi and Veenstra (2021) despite them using flexibility, a reconceptualization of Hofstede's long-term orientation by Minkov et al. (2018).

**Table 13: The moderating effects of Hofstede's Indulgence on the relationship between within-country ESGC scores and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and indulgence while the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	1.899e-03 *** (3.434e-04)	1.412e-03 (8.585e-03)	1.958e-04*** (3.182e-05)	3.000e-05 (4.881e-04)	7.073e-04*** (1.100e-04)	-1.211e-04 (1.264e-03)
Leverage	3.504e-01 *** (3.448e-02)	-2.245e+00** (9.856e-01)	-2.965e-02*** (3.100e-03)	-1.735e-01*** (5.670e-02)	7.868e-02*** (1.044e-02)	-1.706e-01 (1.487e-01)
Sales growth	2.841e-01*** (1.574e-02)	6.495e-01 (1.257e+00)	1.696e-02*** (1.543e-03)	-1.118e-01 (7.047e-02)	2.688e-02*** (5.661e-03)	-1.859e-01 (1.800e-01)
U.S cross list	3.574e-01*** (4.715e-02)	7.892e-01*** (2.159e-01)	1.704e-02*** (2.886e-03)	7.563e-03 (1.252e-02)	3.165e-02*** (8.099e-03)	2.789e-02 (3.229e-02)
Size	-6.880e-01*** (1.865e-02)	2.036e-01 (2.434e-01)	-2.107e-02*** (1.447e-03)	3.301e-02*** (1.385e-02)	-2.825e-02*** (4.473e-03)	5.520e-02* (3.587e-02)
<b>Country-level variables</b>						
Control of corruption		2.776e-02 (3.217e-02)		1.029e-02*** (3.025e-03)		5.854e-03 (1.066e-02)
Government effectiveness		2.645e-01*** (3.603e-02)		2.195e-02*** (3.436e-03)		6.813e-02*** (1.219e-02)
Log(GDP per capita)		-5.208e-01*** (7.206e-02)		-7.500e-02*** (6.640e-03)		-1.761e-01*** (2.291e-02)
Years of schooling		-1.192e-01*** (1.861e-02)		3.588e-04 (1.486e-03)		1.788e-03 (4.474e-03)
Indulgence		3.694e-02 (6.447e-02)		-2.657e-03 (3.716e-03)		-5.853e-03 (9.713e-03)
<b>Cross-level interaction</b>						
ESGC Score x Indulgence		1.833e-03*** (2.974e-04)		1.339e-04*** (2.762e-05)		4.321e-04*** (9.603e-05)
Year FEs		Yes		Yes		Yes

Table 13 reports findings for the moderating impact of indulgence. For all three dependent variables, the effect is significant and positive. This results in the rejection of hypothesis H10. It appears that although those living in restraint nations are more submissive to norms, rules and regulations, there is no guarantee that these aspects take into account ESG topics. On the other hand, citizens of indulgent societies care about their well-being, which would include the maintenance of sustainability.

### **VIII. Robustness checks**

Because companies from US, UK and Japan together account for more than 30% of the sample, determining whether the findings hold when enterprises from these nations are excluded might yield helpful insights. To perform robustness checks, the same regressions as those employed in the previous section are used but with the exclusion of data from the US, UK and Japan.

Concerning the first hypothesis, which is about the relationship between within-country ESGC scores and company values, the results, including the level of significance and the sign of the relationship, are the same as when the entire sample is used. Even the predicted coefficients do not differ much from the original regression. Table 15 in Appendix B illustrates these.

Regarding the tests for hypotheses H2–H4 (see Tables 16–18 in Appendix B), only the S pillar maintains its significance and positive link with all three measures: Tobin's Q, ROA, and ROE. With Tobin's Q, the E pillar loses its significance, although the significant and positive linkages with ROA and ROE remain unchanged. This demonstrates that the relationship between the E pillar and Tobin's Q comes primarily from the US, UK and Japan, and that there could be more than one cluster in the dataset corresponding to multiple regressions. Because the E pillar still harbors a strongly significant result for the full sample, hypothesis H2 shall not be rejected but a note would be put in the conclusion.

Concerning governance, interesting findings are reported as the pillar continues to be insignificant in terms of Tobin's Q and ROE but is significantly and negatively associated with ROA. Corporate governance has become well-known among investors for its effect on reducing information asymmetry and improving shareholder values as early as the development of the agency theory by authors like Alchian and Demsetz (1972), Ross (1973), Mitnick (1975) and

Jensen and Meckling (1976). Thus, corporate governance could be something investors expect companies, especially public companies like those featured in the thesis, to do. This decreases the benefits of corporate governance in comparison to the costs it takes to maintain good practices and makes the relationship negative with ROA.

The following discussion shall focus on the robustness checks for hypotheses H5 to H10, which are about the moderating effects of cultural dimensions of Hofstede on the relationships between firm-level ESG performance and company valuation. Results are found in Tables 19 to 24 in Appendix B. With power distance, there are no changes compared to the original analyses except the test with ROE has lost its significance. In the case of individualism, findings also stay the same as the regressions with the full sample if not for the reduced levels of significance for ROA and ROE.

On the reduced significance, with the removal of the US, UK and Japan from the dataset, there are only around 17,200 observations for the remaining 45 nations. This equals slightly more than 380 values for each country. Hence, ESG and the six cultural dimensions explain a relatively little amount of variance, especially when taking into account control variables and year fixed effects.

The moderating impacts of masculinity and uncertainty avoidance, in contrast, have become insignificant for all three dependent variables. For long-term orientation, the only remaining significant value is from the regression with Tobin's Q. However, the moderating effect has changed from negative to positive. Finally, about indulgence, the significance moderating effect is lost in the regression with Tobin's Q but those with ROA and ROE remain. Interestingly, indulgence has changed from having a negative to a positive moderating impact. Changes in the sign or the significance of the estimated coefficients imply the availability of clusters for the dominant countries (US, UK, Japan) and the rest. Deep dive analysis into this is, however, outside the scope of this thesis and hypotheses testing will still follow the results of the full sample.



## IX. Additional tests

### 9.1. The relationship between firm-level ESG performance and firm values at different ESG levels

An intriguing question about the positive relation between firm-level ESG and company valuation is whether such a relationship would hold at different levels of ESG score. In other words, whether ESG is more related to firm performance when the score is already high or when the scores are low. To test this, the dataset is divided into three parts: the one with the top quarter ESGC scores, one with the bottom quarter and the rest.

When ESGC scores are above the highest 25%, it is not significantly related to Tobin's Q while the positive relationships with ROA and ROE maintain their significance (see Tables 25 to 27 in Appendix C). The same result applies when ESGC scores are at the middle tier. However, when the scores are at the bottom 25%, the ESGC scores become significantly and positively related to Tobin's Q while the connections with the other two measures are insignificant. This implies that, assuming no causal relationships, when the ESGC scores vary from an average level to high, one might not observe changes in forward-looking firm performance measures like Tobin's Q should the ESGC scores change. Nonetheless, when the ESGC scores are low, one could see changes in ESGC scores together with changes in Tobin's Q. This creates advantages for companies at the lower tier if their ESGC scores improve but would be a disadvantage if the scores further diminish. The results are in line with what was found by Barnea and Rubin (2010) except that Barnea and Rubin (2010) even found a negative linkage between CSR and firm valuation when CSR expenses exceed a certain threshold. It appears that stockholders have become more aware of the benefits sustainability activities bring to the future outlook of firms, but they continue to be the most sensitive when ESG ratings are relatively low. On the other hand, for accounting, past-looking value indicators like ROA and ROE, investors are most concerned about them when the values vary from average to high.

A similar scenario is observed for E pillar scores when the business valuation measure is Tobin's Q (see Tables 28 to 30 in Appendix C). However, for ROA and ROE, only ROA is able to maintain the significance at the top quarter, but when the values reach the middle tier, both measures turn insignificant. For the significant relationship between the E pillar score and

Tobin's Q when the E score is low, the confidence level has been reduced from 99% to 90%. The likelihood of committing a type I error of rejecting a true null hypothesis thus rises from 1% to 10%, making the association less stable. Apart from these, the implication to companies is generally the same as what is stated for the ESGC score above.

The case of S pillar scores also resembles that of the ESGC scores but the S scores are significantly related to Tobin's Q both when the scores are below the 25<sup>th</sup> quartile and when they are in the middle range (see Tables 31 to 33 in Appendix C). Contradictorily, the pillar is only significantly connected to ROA and ROE when the score is low. This indicates that compared to firms whose S pillar scores are high, those whose scores are at the average and lower levels should be conscious of the relationship social activities have with their prospects and investor perceptions rather than past-looking, accounting-based operating profitability.

The final discussion is on the G pillar (refer to Tables 34 to 36 in Appendix C). Interestingly, the G pillar has a significant link with Tobin's Q when its scores are at the medium level and lose such relationship as the scores deviate up or down. When the relationship is significant, it is found to be negative. There seems to be a threshold at the medium range that investors deem as an adequate governance performance hence they are most sensitive to changes. As the G score starts going above what is needed to satisfy the investors, governance is considered more of an expense that eats on the growth potential indicated by Tobin's Q. When the scores decline but still stay in the satisfactory range, the growth prospect could slightly improve. Regarding ROA and ROE, governance is significantly related to ROA at all levels while only related to ROE when the scores are either low or high.

What makes the case of the G pillar even more special is that without the division into different score ranges, governance as a component of ESG is not significantly related to any of the firm value measures. This suggests that the relationship between corporate governance and business performance could be described by numerous linear regressions for distinct levels of G pillar scores.

## **9.2. The moderating effects of Hofstede's cultural dimensions under high versus low degrees of foreign impact**

With the increasing speed of globalization, many businesses nowadays have an international presence. These companies could be influenced by the culture of countries they have exposure to. Therefore, following the practice of Shi and Veenstra (2021), additional analyses shall be carried out on the moderating impacts of six Hofstede's cultural dimensions, this time with differentiations between firms with high and low foreign market influences. Being the proxy for foreign influence is the percentage of foreign sales. Businesses with foreign sales exceeding the top 75% of values will be classified as having a high global presence while others are not.

It could be seen from Tables 37 to 48 in Appendix C that findings stay largely the same as those of normal analyses for both low and high degrees of foreign impact (see Tables 37 to 48 in Appendix C) although the significance with ROA and ROE is sometimes lost. Hence, whether a firm is local or multinational does not cause considerable changes to the results, which enhances the strength of the analyses.

## **X. Discussion**

### **10.1. Implications of the results**

According to the findings, ESG has a favorable relationship with business valuation, regardless of whether the indicators are forward-looking like Tobin's Q or fundamental and past-looking like ROA and ROE. Although the statistical significance has been examined, the economic significance is yet to be discussed. Compared to the confidence level of the statistical results, the magnitude of the estimated coefficients is rather modest. From Table 4, one could see that holding other variables constant and assuming no causality, a one-unit increase in the within-country (firm-level) ESGC score equals an increase in Tobin's Q by approximately 0.001834. According to a survey by the Securities and Exchange Commission (2022), a company on average spend around \$677 thousand a year on climate-related disclosures. This amount has not accounted for other environmental expenses as well as expenditures in social and governance pillars. Individual investors also spend considerably on ESG data. In fact, their investments in

attaining the data cost more than twice the number spent by a firm annually. Moreover, in a forecast from the International Data Corporation (2022), spending on ESG-related services will reach approximately \$160 billion in 2025, growing at a 32.3% compound annual growth rate (CAGR) over the next five years. As a result, while businesses should be aware of the beneficial association between ESG and firm value, they should also carefully assess the associated costs. Compared to sustainability at the firm level, companies might not need to pay much attention to ESG variations by nation.

Besides the upsides in firm performance that goes along with improvement in within-country ESGC scores, companies might need to bear in mind the possible downsides shall ESGC scores diminish. The results have shown that, by dividing the ESGC scores into three levels: high, medium and low, ESGC scores are significantly and positively associated with Tobin's Q only when the scores are below the bottom quartile of the dataset. Hence, companies should be aware of adverse changes to their prospects should ESGC scores further decrease from their low level. Businesses that fail to consider this face financial consequences. As seen in Table 4 in the 'Regression analysis for H1' and Table 27 in Appendix C, the relationship between ESG and Tobin's Q is stronger at low sustainability levels compared to when looking at the whole sample. This, however, does not mean that firms should ignore adjustments in ESGC scores when the scores are in the middle and high ranges. The reason comes from the significantly positive association of ESGC scores at these levels with firm operational performance measures like ROA and ROE.

The preceding comments also apply to the environmental and social pillars. However, the governance pillar is unique. When the whole data sample is analyzed, the G pillar is not statistically connected to any of the firm value measures, although it is significantly related to Tobin's Q when its scores are at the medium level. This is where companies should keep their corporate governance performance in check. Businesses may not need to increase investments in governance but should maintain satisfactory practices. Firms should also monitor their operational performance indicators at other score ranges because these are levels at which the G pillar has significant connections with ROA and ROE. Among the pillars, one with the greatest magnitude of relationship with firm value is the social component of ESG. Thus, it should receive the greatest focus from companies especially when the social factor is expected to

receive more attention as Covid-19 raises the need for efficient healthcare systems and an effective remote working environment (Siermann & van der Sluijs, 2022). From an industry perspective, corporations specializing in labor-intensive tasks such as services, healthcare and production lines should pay extra efforts to employee treatment and benefits. The E pillar is also highly significant for the full sample although its relationship is not as strong as that of the S pillar. In this case, businesses whose work involve emitting a great amount of chemical into the environment should closely monitor the E factor.

In terms of culture, the dimensions of Hofstede do moderate the link between sustainability and corporate values. As a result, it is necessary to take globalization and local contexts into consideration when designing ESG practices instead of having a universal framework for all countries. Amidst the dimensions of Hofstede, individualism, masculinity and indulgence hold positive moderating impacts on the ESG-firm performance connection. Conversely, power distance and long-term orientation negatively moderate such relationship. Uncertainty avoidance, distinct from the rest, has no significant moderating impacts. When testing on different levels of foreign market exposures, the results remain generally identical. Based on these findings, companies should modify their sustainability practices so that they could take advantage of positive moderating effects and mitigate the negative ones. For example, when operating in countries high in individualism and masculinity, companies should pay special attention to sustainability concerns while in nations high in power distance, long-term orientation and indulgence, firms should be careful not to overspend on ESG. Firms also ought to pay more attention to countries where there are many beneficial dimensions and be cautious of where the dimensions have conflicting moderating impacts. Still, looking from an economic perspective, the magnitudes of all moderating influences are rather small. Such magnitudes resemble those found by Shi and Veenstra (2021) more than those of Griffin et al. (2021b).

Apart from companies, especially public ones who wish to engage in ESG activities and disclosures, the findings in this thesis could apply to investors who are thinking of using ESG ratings as guidance for decision-making. These investors may want to know whether they should spend a great amount of money on collecting and studying ESG data and once they have the data in possession, which pillar would be the most important. It is also beneficial for investors to gain

awareness of the cultural dimensions of their nations and what meaning that has on the relationship between ESG and firm values.

A financial service provider is another stakeholder who would gain from this thesis. These financial institutions might improve their grasp of the relationship between ESG and corporate performance to provide advise and recommendations to companies, retail and institutional investors. The last group of people who shall be addressed here is the academics. Compared to previous studies on similar topics, this thesis conducts analyses on more recent data. Moreover, although many of the results concerning the ESG-firm value relationship are accordant with those of other researchers, divergences exist. There are also findings on new areas like moderating effects of cultural dimensions that have rarely been investigated before.

## **10.2. Limitations**

Due to the complexities of having multi-level data, the thesis only investigates the relationship between ESG and firm values without any discussions on causality. Moreover, although the independent variables do not suffer from multicollinearity problems in any regressions, the risks still exist as VIF is not the most precise method in determining multicollinearity in HLM. In addition, due to limited access to data by students, the thesis could not conduct tests with data from multiple ESG data providers. As specified by Liang and Renneboog (2020), ESG ratings from various data providers are correlated at roughly 0.3. Hence, there are possibilities of producing dissimilar results employing data from various sources. There is also a lack of alternative measures of cultural dimensions. Notwithstanding, since there does not exist a similar version from other theories for every cultural dimension, a comprehensive robustness check could not be performed on this. Furthermore, due to an excessively large quantity of missing data from Eikon, the proportion of investment in research and development (R&D) is not included in this thesis as a firm-level control variable. Griffin et al. (2021b), however, have found that companies being more innovative due to greater R&D expenditures pay more attention to recent developments in their E/S performance. The final limitation comes from the limited amount of data for each country in the sample. This reduces the variances that could be explained by the independent variables of interest.

### **10.3. Further research**

As one of the drawbacks of this thesis is the limited amount of data for certain countries in the dataset, future research could choose to wait for more data to become available and study similar topics with a longer period of data. This could create opportunities to cover important time frames like the financial crisis in 2008 and the Covid-19 pandemic in 2019. Interesting questions to ask when having a longer period of data would be whether the financial crisis in 2008 put more pressure on the G pillar while the E pillar is the most crucial during the Covid-19 pandemic. Although this thesis has data until 2020 for dependent variables and 2019 for independent variables, a one-year period is not adequate to produce valid results. Moreover, improvements from the current thesis could be made by obtaining data from additional data providers to increase the external validity, or the capability of studies to apply or generalize findings to the real world. Analyzing the associations between E, S and G pillars with each of Hofstede's cultural dimensions is one more interesting idea to look into but could not be done in this paper considering the scope of a Master's thesis. It could be that corporate governance, which is about managing risks of agency issues, is (more) connected to uncertainty avoidance when examined independently.

Besides working on research with similar subjects, future studies could also explore new but related topics. Particularly, instead of focusing on cultural dimensions, one could look into the moderating impacts of religions and/or languages, to name a few, or investigate the ESG-firm value link from the perspective of different industries. Investigating whether the cultural dimensions of Hofstede could directly affect ESG scores at the national level is another exciting option. Since this does not involve data at different levels (e.g., country versus firm), instrumental variables, should they be found, could be employed to conclude any causal relationships. A useful source of data for this is the Sustainable Development Goals (SDGs) by United Nations.

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a worldwide call to action for poverty eradication, environmental protection and for promoting the target of universal peace and prosperity by 2030 (Sachs et al., 2022). The Sustainable Development Report (formerly known as the SDG Index & Dashboards)

is the first global research to analyze each country's progress towards meeting the Sustainable Development Goals (ibid). There are a total of 17 SDGs as shown in the following figure:



Figure 24: List of UN's Sustainable Development Goals (Source: United Nations, 2022)

As stated in the Sustainable Development Report (Sachs et al., 2022), the SDG Index provides normalized ratings to gauge national sustainability performance. Scores range from 0 to 100 and are available for 163 countries. Although it is not specified that the goals could be categorized into groups according to the environment, social and governance components of ESG, it could be implied from the names of the goals that they are indeed following this rule. World Bank (2022) also developed a Sovereign ESG Data Framework whose data are collected based on the 17 SDGs. The below figure is an example of how SDGs are mapped into E, S and G pillars by Berenberg (2018).





Figure 25: ESG categorization for 17 SDGs (Source: Berenberg, 2018)

Alternative data sources are also available for measuring sustainability performance by country. An ideal option would be the Sovereign ESG Framework by World Bank (2022) whose data, as previously mentioned, are categorized according to environmental, social and governance themes. Nonetheless, this framework does not provide ratings but raw data for 67 measures. Since SDGs scores are also available in this format before being transformed, future researchers could use the same method employed by the SDG Index to preprocess the World Bank data.

Such preprocessing includes three steps: establishing performance thresholds, normalization and weighting and aggregation (Sachs et al., 2022).

## **XI. Conclusion**

There are continuous debates on the linkage between corporate ESG performance and firm valuation. Such controversies could be found not only in theoretical works but also in empirical studies. In particular, while Friedman (1970) who believes in the shareholder theory argues that sustainability policies would damage values of shareholders and wealth of companies, those who follow the stakeholder theory state that environmental and social practices are constructive to financial performances as it enhances stakeholder relations, which can be a source of competitive advantage (Freeman, 1984; Donaldson & Preston 1995).

Thus, to address such conflicts, the purpose of this thesis is to investigate the relationship between financial performance and ESG ratings of organizations. To avoid overestimation of ESG scores, a controversy overlay is added to the usual ESG ratings, forming the ESG Combined Score utilized in this paper. In total, the thesis employs a dataset of 30,030 firm-year observations for 2,730 companies from 48 countries during the period of 2010 to 2020 for business value measurements (Tobin's Q, ROA and ROE) as dependent variables. Independent variables of ESG-related scores use one-year lagged data from 2009 to 2019.

From the results, there exists a strongly significant and positive connection between firm-level ESG ratings and firm values. However, since the magnitude of such connection is modest, firms should assess whether the benefits of promoting and maintaining good ESG performances are comparable to the costs. Furthermore, breaking down ESG into its components reveals interesting differences in which the E and S pillars continue to be positively related to firm values while there exist no significant relationships for the G pillar. Possible explanations on this would be that corporate governance is a lagging instead of leading indicator and/or corporate governance has become what is expected of firms. Another noticeable discovery is that when carrying out robustness checks by removing US, UK and Japan from the data sample, only the E pillar has its relationship with firm performance changes from significant to insignificant. This is a sign of having multiple clusters of data, and the significant result is driven by the major

countries in the sample. One should hence be aware of the generalizability of the E pillar-firm value association. When changing sustainability performance at the firm to the national level, ESG and its pillars have no relation with the firm value measurements. Hence, companies could focus their efforts on sustainability conducts inside the firm instead of the sustainability outlook of countries where they operate, which is hard to control.

In terms of cultural dimensions of Hofstede, the thesis uses cross-level interactions of the dimensions with within-country ESGC scores to investigate their moderating impacts on the sustainability-firm value association. The findings demonstrate that positive moderating influences are found for individualism, masculinity and indulgence, negative moderating effects exist for power distance and long-term orientation whilst uncertainty avoidance is insignificant. With the same topic as this thesis, there is hardly any research looking into other dimensions, except for individualism.

Besides the main findings, additional tests are conducted dividing the ESG, as well as its pillar scores into multiple ranges. The results show that ESG Combined scores, the E and S pillar scores are significantly related to firm values, specifically Tobin’s Q, when their scores are below the 25<sup>th</sup> percentile. Governance continues to be different from the rest as its significant result is only found in the medium score range. For cultural dimensions, checks for the influence of having a strong foreign presence find largely unchanged results.

In summary, the conclusions on hypotheses testing are presented as follows:

**Table 14: Hypotheses testing results summary**

<b>Hypotheses</b>	<b>Condition</b>
H1: The relationship between ESG performance and firm valuation is positive	Failed to be rejected
H2: The relationship between the environmental pillar and firm valuation is positive	Failed to be rejected
H3: The relationship between the social pillar and firm valuation is positive	Failed to be rejected

H4: The relationship between the governance pillar and firm valuation is positive	Rejected
H5: The positive relationship between ESG performance and firm valuation is weaker in countries with high power distance	Failed to be rejected
H6: The positive relationship between ESG performance and firm valuation is stronger in countries with high individualism	Failed to be rejected
H7: The positive relationship between ESG performance and firm valuation is weaker in countries with high masculinity	Rejected
H8: The positive relationship between ESG performance and firm valuation is stronger in countries with high uncertainty avoidance	Rejected
H9: The positive relationship between ESG performance and firm valuation is stronger in countries with a high long-term orientation	Rejected
H10: The positive relationship between ESG performance and firm valuation is weaker in countries with high indulgence	Failed to be rejected

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## Appendices

### Appendix A: Variable definitions

Variable	Type	Definition	Data source
Tobin's Q	Dependent variable	Market value of equity combined with book value of debt divided by book assets	Thomson Reuters Eikon/Datastream
ROA	Dependent variable	The ratio of net income to average of total assets	Thomson Reuters Eikon
ROE	Dependent variable	The ratio of net income to average of shareholders' equities	Thomson Reuters Eikon
ESG Combined Score	Independent variable	By overlaying the ESG score and ESG controversies, the ESGC Score provides a comprehensive assessment of the company's sustainability performance and conduct over time.	Thomson Reuters Eikon
environmental Pillar Score	Independent variable	Evaluates the categories: resources used, emission and innovation	Thomson Reuters Eikon
social Pillar Score	Independent variable	Evaluates the categories: workforce, human rights, community and product responsibility	Thomson Reuters Eikon
governance Pillar Score	Independent variable	Evaluates the categories: management, shareholders, CSR strategy	Thomson Reuters Eikon
Cultural dimensions	Moderating variables	Six dimensions of Hofstede: power distance, individualism, masculinity, uncertainty avoidance, long-term orientation and indulgence	Hofstede Insights
Size	Firm-level control variable	Number of total assets in millions expressed as a logarithm	Thomson Reuters Eikon

Sales growth	Firm-level control variable	Average annual growth of net sales over the past three years	Thomson Reuters Eikon
Leverage	Firm-level control variable	Total liabilities divided by total assets ratio	Thomson Reuters Eikon
U.S cross list	Firm-level control variable	When a company is directly listed on a major US exchange or indirectly through Level II or III ADRs, this indicator will be one, otherwise it will be zero.	Worldscope/Datastream and Sarkissian and Schill (2016).
Log (GDP per capita)	Country-level control variable	The logarithm of GPD per capita	World Bank's World Development Indicators Database
Years of schooling	Country-level control variable	The average number of completed years of education for the population aged 25 and over	World Bank
Government effectiveness	Country-level control variable	It evaluates the quality of public service, the independence of civil service from political restrictions, policy formulation and implementation, and the credibility of the government in adhering to such policies. A higher score indicates a better governance outcome.	World Bank's World governance Indicators Database.
Control of corruption	Country-level control variable	It analyzes the amount to which public power is utilized for personal gain, including both minor and major kinds of corruption. It also encapsulates the state by elites and commercial interests. A higher score indicates a better governance outcome.	World Bank's World governance Indicators Database.

## Appendix B: Robustness checks

### ESGC Score

**Table 15: Robustness check on the relationship between within-country ESGC score and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the ESGC score and the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations exclude the US, UK and Japan and are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	1.708E-03*** (4.483E-04)	6.508E-03 (7.298E-03)	1.410E-04*** (4.507E-05)	1.383E-04 (3.753E-04)	5.328E-04*** (1.336E-04)	-6.756E-05 (9.444E-04)
Leverage	2.901E-01*** (4.474E-02)	-2.782E+00*** (9.395E-01)	-3.151E-02*** (4.380E-03)	-2.180E-01*** (5.131E-02)	1.172E-01*** (1.274E-02)	-3.061E-01** (1.292E-01)
Sales growth	2.205E-01*** (1.797E-02)	6.152E-01 (1.192E+00)	1.380E-02*** (1.905E-03)	-1.217E-01** (5.762E-02)	2.337E-02*** (5.899E-03)	-2.180E-01 (1.452E-01)
U.S cross list	3.741E-01*** (5.488E-02)	8.119E-01*** (2.147E-01)	1.855E-02*** (3.753E-03)	6.711E-03 (1.056E-02)	4.422E-02*** (9.445E-03)	3.101E-02 (2.668E-02)
Size	-6.797E-01*** (2.341E-02)	1.775E-01 (2.303E-01)	-1.500E-02*** (2.016E-03)	3.760E-02*** (1.155E-02)	-3.552E-02*** (5.514E-03)	7.259E-02** (2.910E-02)
<b>Country-level variables</b>						
Control of corruption		2.439E-02 (3.980E-02)		8.346E-03** (3.826E-03)		-4.638E-03 (1.141E-02)
Government effectiveness		1.058E-01** (4.609E-02)		8.961E-03* (4.618E-03)		4.816E-02*** (1.395E-02)
Log(GDP per capita)		-6.012E-01*** (9.796E-02)		-5.395E-02*** (8.954E-03)		-1.175E-01*** (2.581E-02)
Years of schooling		-7.487E-02*** (2.173E-02)		-9.568E-04 (1.495E-03)		-2.796E-03 (3.994E-03)
Year FEs		Yes		Yes		Yes



## E Score

**Table 16: Robustness check on the relationship between within-country E pillar score and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the E pillar score and the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations exclude the US, UK and Japan and are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
environmental Pillar Score	4.634E-04 (3.642E-04)	5.231E-03 (5.342E-03)	9.039E-05** (3.625E-05)	9.462E-05 (2.767E-04)	3.070E-04*** (1.069E-04)	-2.393E-04 (6.968E-04)
Leverage	2.893E-01*** (4.477E-02)	-2.827E+00*** (9.494E-01)	-3.153E-02*** (4.382E-03)	-2.180E-01*** (5.180E-02)	1.176E-01*** (1.276E-02)	-2.963E-01** (1.304E-01)
Sales growth	2.205E-01*** (1.798E-02)	7.286E-01 (1.213E+00)	1.387E-02*** (1.906E-03)	-1.204E-01* (5.924E-02)	2.349E-02*** (5.903E-03)	-2.330E-01 (1.492E-01)
U.S cross list	3.792E-01*** (5.504E-02)	8.125E-01*** (2.123E-01)	1.864E-02*** (3.762E-03)	7.081E-03 (1.045E-02)	4.481E-02*** (9.479E-03)	3.277E-02 (2.635E-02)
Size	-6.688E-01*** (2.355E-02)	1.588E-01 (2.328E-01)	-1.496E-02*** (2.044E-03)	3.725E-02*** (1.173E-02)	-3.490E-02*** (5.624E-03)	7.421E-02** (2.955E-02)
<b>Country-level variables</b>						
Control of corruption		2.220E-02 (3.986E-02)		8.427E-03** (3.830E-03)		-4.146E-03 (1.141E-02)
Government effectiveness		1.047E-01** (4.615E-02)		8.773E-03* (4.627E-03)		4.803E-02*** (1.398E-02)
Log(GDP per capita)		-5.979E-01*** (9.812E-02)		-5.444E-02*** (8.952E-03)		-1.180E-01*** (2.578E-02)
Years of schooling		-7.586E-02*** (2.172E-02)		-9.267E-04 (1.499E-03)		-2.759E-03 (4.002E-03)
Year FEs		Yes		Yes		Yes

## S Score

**Table 17: Robustness check on the relationship between within-country S pillar score and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the S pillar score and the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations exclude the US, UK and Japan and are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
social Pillar Score	2.576E-03*** (3.896E-04)	5.664E-03 (5.296E-03)	1.542E-04*** (3.903E-05)	2.318E-05 (2.728E-04)	4.571E-04*** (1.154E-04)	-1.091E-04 (6.829E-04)
Leverage	2.941E-01*** (4.470E-02)	-2.788E+00*** (9.237E-01)	-3.128E-02*** (4.378E-03)	-2.145E-01*** (5.118E-02)	1.181E-01*** (1.274E-02)	-3.050E-01** (1.283E-01)
Sales growth	2.215E-01*** (1.796E-02)	7.048E-01 (1.191E+00)	1.385E-02*** (1.905E-03)	-1.256E-01** (5.874E-02)	2.340E-02*** (5.900E-03)	-2.227E-01 (1.470E-01)
U.S cross list	3.653E-01*** (5.467E-02)	7.885E-01*** (2.162E-01)	1.824E-02*** (3.750E-03)	7.745E-03 (1.087E-02)	4.386E-02*** (9.447E-03)	3.207E-02 (2.724E-02)
Size	-6.911E-01*** (2.333E-02)	1.670E-01 (2.286E-01)	-1.541E-02*** (2.017E-03)	3.779E-02*** (1.161E-02)	-3.567E-02*** (5.530E-03)	7.249E-02** (2.907E-02)
<b>Country-level variables</b>						
Control of corruption		1.642E-02 (3.975E-02)		7.961E-03** (3.831E-03)		-6.109E-03 (1.142E-02)
Government effectiveness		1.131E-01** (4.605E-02)		9.431E-03** (4.621E-03)		4.949E-02*** (1.395E-02)
Log(GDP per capita)		-5.916E-01*** (9.775E-02)		-5.350E-02*** (8.974E-03)		-1.154E-01*** (2.583E-02)
Years of schooling		-7.470E-02*** (2.166E-02)		-1.004E-03 (1.503E-03)		-2.926E-03 (3.993E-03)
Year FEs		Yes		Yes		Yes

## G Score

**Table 18: Robustness check on the relationship between within-country G pillar score and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the G pillar score and the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations exclude the US, UK and Japan and are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	<b>Tobin's Q</b>		<b>ROA</b>		<b>ROE</b>	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
governance Pillar Score	-4.016E-04 (3.352E-04)	4.147E-04 (1.142E-02)	-5.768E-05* (3.405E-05)	-4.656E-04 (6.141E-04)	-6.029E-05 (1.017E-04)	-1.268E-03 (1.538E-03)
Leverage	2.907E-01*** (4.477E-02)	-2.585E+00*** (9.601E-01)	-3.133E-02*** (4.384E-03)	-2.024E-01*** (5.215E-02)	1.178E-01*** (1.276E-02)	-2.788E-01** (1.303E-01)
Sales growth	2.198E-01*** (1.797E-02)	4.619E-01 (1.245E+00)	1.365E-02*** (1.905E-03)	-1.194E-01** (5.655E-02)	2.267E-02*** (5.900E-03)	-1.950E-01 (1.398E-01)
U.S cross list	3.840E-01*** (5.507E-02)	8.792E-01*** (2.085E-01)	1.944E-02*** (3.765E-03)	8.173E-03 (1.013E-02)	4.687E-02*** (9.468E-03)	3.055E-02 (2.520E-02)
Size	-6.591E-01*** (2.317E-02)	1.987E-01 (2.353E-01)	-1.295E-02*** (1.980E-03)	3.713E-02*** (1.160E-02)	-2.884E-02*** (5.389E-03)	7.015E-02** (2.881E-02)
<b>Country-level variables</b>						
Control of corruption		2.166E-02 (3.988E-02)		8.462E-03** (3.830E-03)		-4.515E-03 (1.141E-02)
Government effectiveness		1.084E-01** (4.613E-02)		8.973E-03* (4.624E-03)		4.776E-02*** (1.395E-02)
Log(GDP per capita)		-5.907E-01*** (9.841E-02)		-5.444E-02*** (9.058E-03)		-1.184E-01*** (2.605E-02)
Years of schooling		-7.778E-02*** (2.193E-02)		-8.204E-04 (1.519E-03)		-2.272E-03 (4.022E-03)
Year FEs		Yes		Yes		Yes

## Hofstede's cultural dimensions

**Table 19: Robustness check on the moderating effect of Hofstede’s Power Distance on the relationship between within-country ESGC score and firm performance**

This table displays estimation results for regressions with Tobin’s Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Power Distance while the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations exclude the US, UK and Japan and are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	<b>Tobin’s Q</b>		<b>ROA</b>		<b>ROE</b>	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	2.197E-03*** (4.624E-04)	5.234E-03 (6.854E-03)	1.637E-04*** (4.641E-05)	1.383E-04 (3.851E-04)	5.595E-04*** (1.375E-04)	-1.049E-04 (9.711E-04)
Leverage	2.975E-01*** (4.476E-02)	-3.004E+00*** (8.961E-01)	-3.128E-02*** (4.380E-03)	-2.148E-01*** (5.324E-02)	1.175E-01*** (1.275E-02)	-3.078E-01** (1.347E-01)
Sales growth	2.201E-01*** (1.796E-02)	9.291E-01 (1.098E+00)	1.379E-02*** (1.905E-03)	-1.218E-01** (5.884E-02)	2.341E-02*** (5.900E-03)	-2.142E-01 (1.486E-01)
U.S cross list	3.674E-01*** (5.486E-02)	6.255E-01*** (1.994E-01)	1.824E-02*** (3.749E-03)	6.024E-03 (1.073E-02)	4.386E-02*** (9.451E-03)	3.067E-02 (2.713E-02)
Size	-6.817E-01*** (2.343E-02)	3.303E-01 (2.283E-01)	-1.515E-02*** (2.018E-03)	3.682E-02*** (1.297E-02)	-3.574E-02*** (5.526E-03)	7.434E-02** (3.284E-02)
<b>Country-level variables</b>						
Control of corruption		4.572E-03 (4.006E-02)		7.920E-03** (3.937E-03)		-5.487E-03 (1.179E-02)
Government effectiveness		1.206E-01*** (4.600E-02)		9.537E-03** (4.641E-03)		4.898E-02*** (1.405E-02)
Log(GDP per capita)		-5.672E-01*** (9.842E-02)		-5.241E-02*** (9.121E-03)		-1.168E-01*** (2.633E-02)
Years of schooling		-7.437E-02*** (2.182E-02)		-8.316E-04 (1.572E-03)		-2.894E-03 (4.192E-03)
Power distance		-1.208E-01** (5.138E-02)		2.230E-04 (2.964E-03)		-1.078E-03 (7.598E-03)
<b>Cross-level interaction</b>						
ESGC Score x Power distance		-1.394E-03*** (3.334E-04)		-6.704E-05** (3.331E-05)		-8.073E-05 (9.921E-05)
Year FEs		Yes		Yes		Yes

**Table 20: Robustness check on the moderating effect of Hofstede’s Individualism on the relationship between within-country ESGC score and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Individualism while the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations exclude the US, UK and Japan and are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	2.333E-03*** (4.918E-04)	5.670E-03 (7.152E-03)	1.896E-04*** (4.925E-05)	3.085E-04 (3.636E-04)	6.451E-04*** (1.459E-04)	2.228E-04 (9.432E-04)
Leverage	2.943E-01*** (4.476E-02)	-2.659E+00*** (9.158E-01)	-3.133E-02*** (4.377E-03)	-2.130E-01*** (4.941E-02)	1.175E-01*** (1.274E-02)	-2.945E-01** (1.274E-01)
Sales growth	2.212E-01*** (1.797E-02)	5.449E-01 (1.150E+00)	1.388E-02*** (1.906E-03)	-1.102E-01* (5.438E-02)	2.367E-02*** (5.902E-03)	-1.935E-01 (1.424E-01)
U.S cross list	3.676E-01*** (5.487E-02)	6.267E-01*** (2.222E-01)	1.804E-02*** (3.746E-03)	1.154E-02 (1.059E-02)	4.306E-02*** (9.448E-03)	4.128E-02 (2.764E-02)
Size	-6.833E-01*** (2.344E-02)	1.875E-01 (2.245E-01)	-1.528E-02*** (2.015E-03)	3.237E-02*** (1.120E-02)	-3.626E-02*** (5.522E-03)	6.252E-02** (2.921E-02)
<b>Country-level variables</b>						
Control of corruption		2.020E-02 (3.985E-02)		8.505E-03** (3.812E-03)		-3.950E-03 (1.148E-02)
Government effectiveness		1.209E-01*** (4.624E-02)		7.722E-03* (4.689E-03)		4.448E-02*** (1.434E-02)
Log(GDP per capita)		-5.458E-01*** (9.980E-02)		-4.846E-02*** (8.921E-03)		-1.065E-01*** (2.595E-02)
Years of schooling		-7.795E-02*** (2.250E-02)		-1.824E-05 (1.528E-03)		-8.278E-04 (4.209E-03)
Individualism		1.050E-01 (8.072E-02)		-7.528E-03* (3.973E-03)		-1.436E-02 (1.051E-02)
<b>Cross-level interaction</b>						
ESGC Score x Individualism		1.223E-03*** (3.984E-04)		9.488E-05** (3.878E-05)		2.195E-04* (1.144E-04)
Year FEs		Yes		Yes		Yes

**Table 21: Robustness check on the moderating effect of Hofstede's Masculinity on the relationship between within-country ESGC score and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Masculinity while the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations exclude the US, UK and Japan and are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	2.016E-03*** (5.178E-04)	2.922E-03 (7.734E-03)	1.527E-04*** (5.214E-05)	3.403E-08 (3.983E-04)	5.578E-04*** (1.549E-04)	-2.708E-04 (1.008E-03)
Leverage	2.898E-01*** (4.474E-02)	-2.697E+00*** (9.494E-01)	-3.153E-02*** (4.379E-03)	-2.111E-01*** (5.200E-02)	1.172E-01*** (1.274E-02)	-2.946E-01** (1.316E-01)
Sales growth	2.214E-01*** (1.798E-02)	9.676E-01 (1.230E+00)	1.384E-02*** (1.907E-03)	-1.059E-01* (6.004E-02)	2.346E-02*** (5.904E-03)	-1.944E-01 (1.528E-01)
U.S cross list	3.748E-01*** (5.486E-02)	8.838E-01*** (2.215E-01)	1.858E-02*** (3.752E-03)	9.893E-03 (1.104E-02)	4.429E-02*** (9.444E-03)	3.589E-02 (2.816E-02)
Size	-6.802E-01*** (2.343E-02)	2.142E-01 (2.340E-01)	-1.502E-02*** (2.019E-03)	3.823E-02*** (1.169E-02)	-3.560E-02*** (5.528E-03)	7.345E-02** (2.969E-02)
<b>Country-level variables</b>						
Control of corruption		1.893E-02 (4.000E-02)		7.946E-03** (3.861E-03)		-5.078E-03 (1.155E-02)
Government effectiveness		9.952E-02** (4.624E-02)		8.488E-03* (4.643E-03)		4.734E-02*** (1.406E-02)
Log(GDP per capita)		-6.106E-01*** (9.823E-02)		-5.405E-02*** (8.995E-03)		-1.178E-01*** (2.605E-02)
Years of schooling		-7.461E-02*** (2.189E-02)		-8.477E-04 (1.513E-03)		-2.611E-03 (4.076E-03)
Masculinity		-9.339E-02 (6.289E-02)		-3.279E-03 (3.069E-03)		-4.601E-03 (7.803E-03)
<b>Cross-level interaction</b>						
ESGC Score x Masculinity		5.537E-04 (4.711E-04)		2.078E-05 (4.756E-05)		4.479E-05 (1.415E-04)
Year FEs		Yes		Yes		Yes

**Table 22: Robustness check on the moderating effect of Hofstede's Uncertainty Avoidance on the relationship between within-country ESGC score and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Uncertainty Avoidance while the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations exclude the US, UK and Japan and are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	1.711E-03*** (4.492E-04)	7.058E-03 (7.374E-03)	1.411E-04*** (4.516E-05)	2.237E-04 (3.717E-04)	5.418E-04*** (1.339E-04)	1.329E-04 (9.374E-04)
Leverage	2.900E-01*** (4.475E-02)	-2.671E+00*** (9.499E-01)	-3.148E-02*** (4.380E-03)	-2.113E-01*** (5.087E-02)	1.173E-01*** (1.274E-02)	-2.887E-01** (1.281E-01)
Sales growth	2.207E-01*** (1.799E-02)	3.177E-02 (1.305E+00)	1.383E-02*** (1.908E-03)	-1.476E-01** (5.919E-02)	2.373E-02*** (5.906E-03)	-2.787E-01* (1.488E-01)
U.S cross list	3.740E-01*** (5.487E-02)	7.640E-01*** (2.212E-01)	1.855E-02*** (3.753E-03)	3.247E-03 (1.050E-02)	4.411E-02*** (9.438E-03)	2.320E-02 (2.653E-02)
Size	-6.794E-01*** (2.341E-02)	1.929E-01 (2.323E-01)	-1.502E-02*** (2.016E-03)	3.691E-02*** (1.129E-02)	-3.567E-02*** (5.513E-03)	7.058E-02** (2.848E-02)
<b>Country-level variables</b>						
Control of corruption		1.895E-02 (4.026E-02)		7.317E-03* (3.892E-03)		-6.775E-03 (1.161E-02)
Government effectiveness		1.004E-01** (4.634E-02)		7.924E-03* (4.674E-03)		4.460E-02*** (1.415E-02)
Log(GDP per capita)		-5.990E-01*** (1.003E-01)		-5.199E-02*** (9.115E-03)		-1.147E-01*** (2.632E-02)
Years of schooling		-7.362E-02*** (2.199E-02)		-6.912E-04 (1.485E-03)		-1.708E-03 (3.964E-03)
Uncertainty avoidance		-7.254E-02 (6.276E-02)		-3.836E-03 (2.912E-03)		-9.160E-03 (7.445E-03)
<b>Cross-level interaction</b>						
ESGC Score x Uncertainty avoidance		-3.539E-05 (3.912E-04)		-3.441E-06 (3.934E-05)		-1.276E-04 (1.170E-04)
Year FEs		Yes		Yes		Yes

**Table 23: Robustness check on the moderating effect of Hofstede's Long-Term Orientation on the relationship between within-country ESGC score and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Long-Term Orientation while the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations exclude the US, UK and Japan and are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	1.277E-03*** (4.602E-04)	5.858E-03 (7.800E-03)	1.409E-04*** (4.632E-05)	1.721E-04 (3.730E-04)	5.469E-04*** (1.374E-04)	-7.521E-05 (9.599E-04)
Leverage	2.908E-01*** (4.473E-02)	-2.851E+00*** (9.916E-01)	-3.152E-02*** (4.380E-03)	-2.163E-01*** (5.102E-02)	1.172E-01*** (1.274E-02)	-3.020E-01** (1.307E-01)
Sales growth	2.170E-01*** (1.798E-02)	7.349E-01 (1.299E+00)	1.379E-02*** (1.908E-03)	-1.252E-01** (5.707E-02)	2.350E-02*** (5.910E-03)	-2.200E-01 (1.482E-01)
U.S cross list	3.822E-01*** (5.504E-02)	9.062E-01*** (2.310E-01)	1.855E-02*** (3.759E-03)	7.614E-03 (1.049E-02)	4.395E-02*** (9.457E-03)	3.218E-02 (2.732E-02)
Size	-6.741E-01*** (2.346E-02)	2.182E-01 (2.617E-01)	-1.495E-02*** (2.019E-03)	3.133E-02** (1.254E-02)	-3.556E-02*** (5.521E-03)	6.830E-02** (3.235E-02)
<b>Country-level variables</b>						
Control of corruption		4.555E-04 (4.037E-02)		8.711E-03** (3.838E-03)		-3.705E-03 (1.154E-02)
Government effectiveness		8.662E-02* (4.649E-02)		8.293E-03* (4.652E-03)		4.771E-02*** (1.416E-02)
Log(GDP per capita)		-6.439E-01*** (9.906E-02)		-5.484E-02*** (8.968E-03)		-1.184E-01*** (2.614E-02)
Years of schooling		-7.283E-02*** (2.245E-02)		-9.029E-04 (1.489E-03)		-2.863E-03 (4.074E-03)
Long-term orientation		-1.674E-02 (7.817E-02)		4.208E-03 (3.443E-03)		3.097E-03 (8.947E-03)
<b>Cross-level interaction</b>						
ESGC Score x Long-term orientation		1.694E-03*** (4.133E-04)		1.462E-06 (4.043E-05)		-5.081E-05 (1.188E-04)
Year FEs		Yes		Yes		Yes

**Table 24: Robustness check on the moderating effect of Hofstede's Indulgence on the relationship between within-country ESGC score and firm performance**



This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Indulgence while the rest are control variables at the firm and country levels. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations exclude the US, UK and Japan and are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	1.798E-03*** (4.641E-04)	4.844E-03 (8.332E-03)	1.752E-04*** (4.656E-05)	4.895E-04 (4.029E-04)	6.149E-04*** (1.379E-04)	8.637E-04 (1.004E-03)
Leverage	2.909E-01*** (4.476E-02)	-2.677E+00*** (9.734E-01)	-3.142E-02*** (4.375E-03)	-2.440E-01*** (5.135E-02)	1.172E-01*** (1.273E-02)	-3.791E-01*** (1.286E-01)
Sales growth	2.208E-01*** (1.797E-02)	5.815E-01 (1.203E+00)	1.391E-02*** (1.906E-03)	-1.272E-01** (5.474E-02)	2.378E-02*** (5.902E-03)	-2.333E-01 (1.364E-01)
U.S cross list	3.727E-01*** (5.490E-02)	7.986E-01*** (2.173E-01)	1.800E-02*** (3.742E-03)	6.613E-03 (1.006E-02)	4.292E-02*** (9.436E-03)	3.238E-02 (2.511E-02)
Size	-6.796E-01*** (2.342E-02)	2.084E-01 (2.450E-01)	-1.504E-02*** (2.011E-03)	2.916E-02** (1.196E-02)	-3.576E-02*** (5.505E-03)	4.993E-02 (2.983E-02)
<b>Country-level variables</b>						
Control of corruption		2.132E-02 (4.008E-02)		8.250E-03** (3.846E-03)		-4.401E-03 (1.144E-02)
Government effectiveness		1.107E-01** (4.676E-02)		1.097E-02** (4.623E-03)		5.242E-02*** (1.388E-02)
Log(GDP per capita)		-5.938E-01*** (9.949E-02)		-5.006E-02*** (8.872E-03)		-1.084E-01*** (2.530E-02)
Years of schooling		-7.559E-02*** (2.180E-02)		-1.470E-03 (1.444E-03)		-4.110E-03 (3.813E-03)
Indulgence		2.522E-02 (6.394E-02)		-5.878E-03* (3.228E-03)		-1.583E-02* (8.091E-03)
<b>Cross-level interaction</b>						
ESGC Score x Indulgence		2.695E-04 (3.657E-04)		1.046E-04*** (3.619E-05)		2.563E-04** (1.073E-04)
Year FEs		Yes		Yes		Yes

## Appendix C: Additional tests

### High ESGC

**Table 25: The relationship between within-country ESGC score at high level and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the high-level, within-country ESGC score and the rest are control variables at the firm and country levels. High level is defined as above the top quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	3.436E-04 (5.782E-04)	4.776E-04 (2.201E-02)	1.211E-04** (5.250E-05)	2.677E-04 (8.922E-04)	4.189E-04* (2.203E-04)	-9.381E-04 (2.717E-03)
Leverage	3.137E-01*** (7.339E-02)	-1.579E+00 (2.726E+00)	-3.514E-02*** (5.975E-03)	-7.140E-02 (1.124E-01)	2.496E-02 (2.367E-02)	1.112E-02 (3.458E-01)
Sales growth	5.212E-01*** (4.523E-02)	3.516E+00 (3.590E+00)	1.992E-02*** (4.111E-03)	1.394E-01 (1.395E-01)	3.572E-02** (1.727E-02)	-9.181E-02 (4.109E-01)
U.S cross list	4.731E-01*** (1.076E-01)	1.121E+00** (4.710E-01)	2.186E-02*** (5.731E-03)	2.696E-02 (1.918E-02)	5.770E-02*** (2.026E-02)	8.560E-02 (5.714E-02)
Size	-6.312E-01*** (4.058E-02)	4.505E-02 (6.256E-01)	-3.204E-02*** (2.765E-03)	-1.274E-02 (2.392E-02)	-4.261E-02*** (1.029E-02)	-5.571E-02 (6.982E-02)
<b>Country-level variables</b>						
Control of corruption		-1.808E-01*** (5.469E-02)		-4.656E-03 (4.663E-03)		-2.304E-02 (1.872E-02)
Government effectiveness		2.613E-01*** (6.117E-02)		2.139E-02*** (5.342E-03)		6.690E-02*** (2.160E-02)
Log(GDP per capita)		3.561E-01** (1.410E-01)		-4.240E-02*** (1.157E-02)		-1.464E-01*** (4.543E-02)
Years of schooling		-2.563E-01*** (3.290E-02)		-2.100E-03 (2.324E-03)		-7.700E-05 (8.216E-03)
Year FEs		Yes		Yes		Yes

## Medium ESGC

**Table 26: The relationship between within-country ESGC score at medium level and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the medium-level, within-country ESGC score and the rest are control variables at the firm and country levels. Medium level is defined as excluding the top and bottom quarters of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	6.808E-04 (4.558E-04)	6.899E-03 (9.110E-03)	7.675E-05* (4.534E-05)	6.144E-05 (5.510E-04)	5.149E-04*** (1.762E-04)	8.722E-04 (1.481E-03)
Leverage	2.209E-01*** (4.537E-02)	-2.316E+00* (1.266E+00)	-3.490E-02*** (4.122E-03)	-1.518E-01* (7.687E-02)	8.835E-02*** (1.485E-02)	-2.484E-01 (2.067E-01)
Sales growth	3.369E-01*** (2.342E-02)	7.232E-01 (1.575E+00)	2.137E-02*** (2.342E-03)	-4.444E-02 (9.732E-02)	4.530E-02*** (9.169E-03)	-7.914E-02 (2.486E-01)
U.S cross list	3.010E-01*** (6.576E-02)	7.977E-01*** (2.331E-01)	1.449E-02*** (3.767E-03)	7.452E-03 (1.469E-02)	2.455E-02** (1.136E-02)	1.444E-02 (3.828E-02)
Size	-6.945E-01*** (2.569E-02)	7.412E-02 (2.612E-01)	-2.832E-02*** (1.920E-03)	1.749E-02 (1.616E-02)	-4.727E-02*** (6.274E-03)	5.434E-02 (4.190E-02)
<b>Country-level variables</b>						
Control of corruption		-6.822E-02 (4.160E-02)		1.311E-03 (3.947E-03)		-1.609E-02 (1.445E-02)
Government effectiveness		2.501E-01*** (4.605E-02)		2.009E-02*** (4.470E-03)		6.032E-02*** (1.668E-02)
Log(GDP per capita)		-1.808E-01* (9.271E-02)		-6.033E-02*** (8.709E-03)		-1.219E-01*** (3.138E-02)
Years of schooling		-1.074E-01*** (2.217E-02)		1.656E-03 (1.802E-03)		3.180E-03 (5.445E-03)
Year FEs		Yes		Yes		Yes

## Low ESGC

**Table 27: The relationship between within-country ESGC score at low level and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the low-level, within-country ESGC score and the rest are control variables at the firm and country levels. Low level is defined as below the bottom quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	2.724E-03*** (1.045E-03)	1.926E-03 (1.558E-02)	-1.207E-04 (3.163E-04)	1.824E-04 (2.178E-03)	3.213E-05 (1.033E-04)	1.451E-04 (9.912E-04)
Leverage	4.938E-01*** (7.281E-02)	-2.627E+00* (1.544E+00)	6.583E-02*** (1.896E-02)	-5.713E-02 (2.228E-01)	-2.453E-02*** (6.798E-03)	-1.853E-01* (1.012E-01)
Sales growth	1.704E-01*** (2.738E-02)	-5.465E-01 (2.127E+00)	1.019E-02 (8.544E-03)	-5.075E-01* (2.834E-01)	1.258E-02*** (2.737E-03)	-2.518E-01* (1.299E-01)
U.S cross list	2.062E-01** (9.253E-02)	4.872E-01 (3.932E-01)	1.173E-02 (1.429E-02)	-2.924E-02 (5.408E-02)	6.496E-03 (6.484E-03)	-1.295E-02 (2.450E-02)
Size	-7.667E-01*** (4.075E-02)	6.036E-01 (3.618E-01)	5.701E-04 (9.384E-03)	1.511E-01*** (4.941E-02)	-1.152E-02*** (3.589E-03)	8.168E-02*** (2.243E-02)
<b>Country-level variables</b>						
Control of corruption		2.512E-01*** (7.637E-02)		6.111E-02*** (2.138E-02)		3.466E-02*** (7.241E-03)
Government effectiveness		2.252E-01*** (8.419E-02)		3.905E-02 (2.424E-02)		1.469E-02* (8.049E-03)
Log(GDP per capita)		-1.190E+00*** (1.558E-01)		-2.060E-01*** (4.216E-02)		-9.750E-02*** (1.456E-02)
Years of schooling		-2.520E-03 (4.111E-02)		-6.362E-03 (7.632E-03)		-2.387E-03 (3.147E-03)
Year FEs		Yes		Yes		Yes

High E**Table 28: The relationship between within-country E pillar score at high level and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the high-level, within-country E pillar score and the rest are control variables at the firm and country levels. High-level is defined as above the top quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
Environmental Pillar Score	-9.864E-05 (5.851E-04)	-8.748E-03 (1.823E-02)	9.469E-05* (5.562E-05)	-6.246E-04 (7.822E-04)	1.975E-04 (2.510E-04)	-2.754E-03 (2.192E-03)
Leverage	6.562E-01*** (6.815E-02)	-2.113E+00 (2.804E+00)	-3.176E-02*** (5.702E-03)	-7.531E-02 (1.227E-01)	2.912E-03 (2.399E-02)	-3.339E-02 (3.476E-01)
Sales growth	3.335E-01*** (3.698E-02)	3.289E+00 (3.527E+00)	1.596E-02*** (3.552E-03)	9.648E-02 (1.517E-01)	3.781E-02** (1.619E-02)	-1.507E-01 (4.286E-01)
U.S cross list	4.047E-01*** (9.650E-02)	8.144E-01 (5.032E-01)	1.815E-02*** (5.066E-03)	2.334E-02 (2.246E-02)	4.293E-02** (1.883E-02)	1.109E-01* (6.258E-02)
Size	-5.169E-01*** (3.748E-02)	9.548E-02 (6.504E-01)	-2.349E-02*** (2.506E-03)	-3.342E-05 (2.781E-02)	-2.568E-02*** (9.792E-03)	-3.741E-02 (7.665E-02)
<b>Country-level variables</b>						
Control of corruption		-1.225E-01** (5.095E-02)		1.630E-03 (4.668E-03)		-2.545E-02 (2.012E-02)
Government effectiveness		2.155E-01*** (5.534E-02)		1.775E-02*** (5.180E-03)		5.932E-02*** (2.253E-02)
Log(GDP per capita)		4.249E-01*** (1.270E-01)		-7.555E-02*** (1.114E-02)		-2.004E-01*** (4.616E-02)
Years of schooling		-1.961E-01*** (3.083E-02)		3.209E-03 (2.427E-03)		1.039E-02 (8.788E-03)
Year FEs		Yes		Yes		Yes

## Medium E

**Table 29: The relationship between within-country E pillar score at medium level and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the medium-level, within-country E pillar score and the rest are control variables at the firm and country levels. Medium level is defined as excluding the top and bottom quarters of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
Environmental Pillar Score	-2.252E-04 (3.265E-04)	3.769E-03 (6.405E-03)	-8.470E-06 (3.357E-05)	-1.421E-04 (3.547E-04)	1.528E-04 (1.222E-04)	-5.277E-04 (9.693E-04)
Leverage	1.910E-01*** (4.392E-02)	-1.963E+00 (1.198E+00)	-3.833E-02*** (4.180E-03)	-1.072E-01 (6.587E-02)	8.412E-02*** (1.442E-02)	1.602E-02 (1.779E-01)
Sales growth	3.373E-01*** (2.247E-02)	5.004E-01 (1.462E+00)	1.789E-02*** (2.348E-03)	-8.673E-02 (7.833E-02)	3.225E-02*** (8.675E-03)	-1.208E-01 (2.076E-01)
U.S cross list	3.621E-01*** (6.209E-02)	7.863E-01*** (2.206E-01)	2.125E-02*** (3.755E-03)	4.626E-03 (1.211E-02)	4.493E-02*** (1.109E-02)	1.561E-02 (3.204E-02)
Size	-6.511E-01*** (2.575E-02)	-9.855E-02 (2.508E-01)	-2.619E-02*** (2.099E-03)	8.509E-03 (1.355E-02)	-4.667E-02*** (6.740E-03)	9.892E-03 (3.608E-02)
<b>Country-level variables</b>						
Control of corruption		-8.372E-02** (3.973E-02)		-1.994E-03 (3.862E-03)		-5.244E-03 (1.354E-02)
Government effectiveness		2.773E-01*** (4.379E-02)		2.169E-02*** (4.387E-03)		5.015E-02*** (1.560E-02)
Log(GDP per capita)		-3.048E-01*** (8.928E-02)		-4.695E-02*** (8.555E-03)		-1.010E-01*** (2.939E-02)
Years of schooling		-1.106E-01*** (2.156E-02)		-4.767E-05 (1.667E-03)		-1.598E-03 (4.947E-03)
Year FEs		Yes		Yes		Yes

## Low E

**Table 30: The relationship between within-country E pillar score at a low level and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the low-level, within-country E pillar score and the rest are control variables at the firm and country levels. Low level is defined as below the bottom quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
Environmental Pillar Score	1.610E-03* (9.565E-04)	5.280E-04 (9.556E-03)	1.055E-04 (8.862E-05)	-1.472E-04 (5.973E-04)	3.466E-04 (2.904E-04)	6.066E-04 (1.413E-03)
Leverage	4.517E-01*** (7.824E-02)	-2.483E+00* (1.468E+00)	-1.399E-02** (6.829E-03)	-1.715E-01* (9.145E-02)	1.097E-01*** (2.024E-02)	-1.824E-01 (2.139E-01)
Sales growth	2.107E-01*** (3.029E-02)	6.167E-01 (1.788E+00)	1.662E-02*** (2.812E-03)	-1.713E-01 (1.087E-01)	1.996E-02** (9.254E-03)	-2.948E-01 (2.561E-01)
U.S cross list	2.576E-01** (1.100E-01)	8.396E-01** (3.300E-01)	-2.025E-03 (7.118E-03)	1.249E-02 (2.031E-02)	-6.325E-03 (1.645E-02)	1.858E-02 (4.832E-02)
Size	-8.548E-01*** (4.512E-02)	5.876E-01 (3.533E-01)	-2.350E-02*** (3.727E-03)	8.918E-02*** (2.146E-02)	-2.257E-02** (1.037E-02)	1.713E-01*** (5.079E-02)
<b>Country-level variables</b>						
Control of corruption		3.007E-01*** (8.460E-02)		3.929E-02*** (7.472E-03)		4.986E-02** (2.322E-02)
Government effectiveness		1.817E-01* (9.576E-02)		9.040E-03 (8.493E-03)		5.581E-02** (2.673E-02)
Log(GDP per capita)		-1.142E+00*** (1.761E-01)		-9.310E-02*** (1.516E-02)		-2.284E-01*** (4.548E-02)
Years of schooling		-7.442E-02* (4.300E-02)		-5.414E-03* (3.092E-03)		-5.751E-03 (7.949E-03)
Year FEs		Yes		Yes		Yes

## High S

Table 31: The relationship between within-country S pillar score at high level and firm performance

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the high-level, within-country S pillar score and the rest are control variables at the firm and country levels. High level is defined as above the top quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
Social Pillar Score	-2.600E-04 (6.361E-04)	6.105E-03 (1.512E-02)	1.472E-04** (6.118E-05)	1.095E-03* (6.037E-04)	4.915E-04* (2.817E-04)	1.992E-03 (1.773E-03)
Leverage	4.601E-01*** (7.045E-02)	-1.241E+00 (2.497E+00)	-3.542E-02*** (6.088E-03)	-8.102E-02 (1.005E-01)	3.633E-02 (2.561E-02)	-1.680E-01 (3.006E-01)
Sales growth	3.538E-01*** (3.798E-02)	5.849E+00* (3.098E+00)	1.766E-02*** (3.701E-03)	1.970E-01 (1.191E-01)	3.688E-02** (1.732E-02)	2.183E-01 (3.425E-01)
U.S cross list	4.917E-01*** (1.144E-01)	1.025E+00** (4.756E-01)	2.146E-02*** (6.276E-03)	1.134E-02 (1.953E-02)	5.504E-02** (2.212E-02)	6.105E-02 (5.643E-02)
Size	-6.221E-01*** (3.872E-02)	-2.632E-01 (6.451E-01)	-3.302E-02*** (2.706E-03)	-3.693E-02 (2.412E-02)	-4.478E-02*** (1.024E-02)	-9.722E-02 (6.738E-02)
<b>Country-level variables</b>						
Control of corruption		-2.245E-01*** (5.495E-02)		-7.606E-03 (4.947E-03)		-5.811E-02*** (2.164E-02)
Government effectiveness		1.792E-01*** (6.314E-02)		1.269E-02** (5.889E-03)		5.391E-02** (2.604E-02)
Log(GDP per capita)		5.735E-01*** (1.464E-01)		-2.121E-02* (1.264E-02)		-9.125E-02* (5.199E-02)
Years of schooling		-2.378E-01*** (3.312E-02)		1.480E-03 (2.446E-03)		1.345E-02 (8.774E-03)
Year FEs		Yes		Yes		Yes

## Medium S

**Table 32: The relationship between within-country S pillar score at medium level and firm performance**



This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the medium-level, within-country S pillar score and the rest are control variables at the firm and country levels. Medium level is defined as excluding the top and bottom quarters of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
Social Pillar Score	1.704E-03*** (3.927E-04)	3.955E-03 (6.067E-03)	4.660E-05 (3.763E-05)	-2.924E-04 (3.631E-04)	1.850E-04 (1.397E-04)	-4.032E-04 (1.081E-03)
Leverage	2.785E-01*** (4.615E-02)	-1.649E+00 (1.199E+00)	-3.437E-02*** (4.087E-03)	-1.358E-01* (7.155E-02)	7.232E-02*** (1.418E-02)	-8.774E-02 (2.125E-01)
Sales growth	3.364E-01*** (2.433E-02)	1.626E+00 (1.277E+00)	2.064E-02*** (2.349E-03)	-5.266E-02 (7.730E-02)	2.918E-02*** (8.804E-03)	-9.807E-02 (2.313E-01)
U.S cross list	3.805E-01*** (6.770E-02)	8.003E-01*** (2.102E-01)	1.656E-02*** (3.847E-03)	1.189E-02 (1.307E-02)	3.271E-02*** (1.113E-02)	3.459E-02 (3.940E-02)
Size	-7.117E-01*** (2.670E-02)	-5.874E-02 (2.356E-01)	-2.766E-02*** (2.025E-03)	2.066E-02 (1.427E-02)	-3.281E-02*** (6.452E-03)	5.485E-02 (4.270E-02)
<b>Country-level variables</b>						
Control of corruption		-1.357E-01*** (4.297E-02)		1.424E-03 (3.953E-03)		1.534E-02 (1.442E-02)
Government effectiveness		3.044E-01*** (4.723E-02)		2.012E-02*** (4.428E-03)		5.626E-02*** (1.633E-02)
Log(GDP per capita)		-1.034E-01 (9.479E-02)		-5.379E-02*** (8.536E-03)		-1.450E-01*** (3.064E-02)
Years of schooling		-1.112E-01*** (2.190E-02)		-1.095E-04 (1.714E-03)		-4.123E-03 (5.651E-03)
Year FEs		Yes		Yes		Yes

## Low S

**Table 33: The relationship between within-country S pillar score at low level and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the low-level, within-country S pillar score and the rest are control variables at firm and country levels. Low level is defined as below the bottom quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
Social Pillar Score	1.965E-03** (8.904E-04)	8.955E-03 (9.457E-03)	-8.711E-06 (8.987E-05)	9.146E-05 (6.062E-04)	-4.194E-05 (2.697E-04)	6.256E-04 (1.377E-03)
Leverage	3.701E-01*** (7.280E-02)	-2.845E+00** (1.343E+00)	-2.404E-02*** (6.919E-03)	-1.624E-01* (8.836E-02)	1.055E-01*** (1.933E-02)	-4.908E-02 (2.009E-01)
Sales growth	1.946E-01*** (2.715E-02)	3.291E-01 (1.792E+00)	1.418E-02*** (2.752E-03)	-1.660E-01 (1.070E-01)	2.422E-02*** (8.314E-03)	-2.435E-01 (2.352E-01)
U.S cross list	9.502E-02 (8.494E-02)	3.070E-01 (3.337E-01)	7.404E-04 (6.198E-03)	-6.907E-03 (2.029E-02)	3.888E-03 (1.449E-02)	-2.407E-02 (4.481E-02)
Size	-7.650E-01*** (4.021E-02)	6.769E-01* (3.410E-01)	-1.381E-02*** (3.581E-03)	8.151E-02*** (2.077E-02)	-2.754E-02*** (9.464E-03)	1.301E-01** (4.621E-02)
<b>Country-level variables</b>						
Control of corruption		3.281E-01*** (7.283E-02)		3.350E-02*** (6.981E-03)		3.572E-02* (2.012E-02)
Government effectiveness		2.678E-01*** (8.003E-02)		2.306E-02*** (7.718E-03)		6.673E-02*** (2.246E-02)
Log(GDP per capita)		-1.380E+00*** (1.464E-01)		-1.188E-01*** (1.399E-02)		-2.273E-01*** (3.998E-02)
Years of schooling		-1.983E-02 (4.013E-02)		-3.891E-03 (2.961E-03)		-5.922E-03 (7.046E-03)
Year FEs		Yes		Yes		Yes

## High G

Table 34: The relationship between within-country G pillar score at high level and firm performance

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the high-level, within-country G pillar score and the rest are control variables at the firm and country levels. High level is defined as above the top quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
Governance Pillar Score	-1.706E-04 (5.310E-04)	2.664E-03 (1.625E-02)	-8.417E-05* (4.994E-05)	-5.961E-04 (7.846E-04)	-3.428E-04* (1.914E-04)	-1.639E-03 (2.500E-03)
Leverage	9.976E-02 (7.132E-02)	-7.917E-01 (1.690E+00)	-3.705E-02*** (5.963E-03)	-3.345E-02 (7.797E-02)	7.484E-02*** (2.172E-02)	1.695E-01 (2.416E-01)
Sales growth	3.845E-01*** (3.760E-02)	4.866E-01 (1.844E+00)	2.271E-02*** (3.526E-03)	2.310E-02 (7.944E-02)	2.541E-02* (1.351E-02)	7.635E-02 (2.389E-01)
U.S cross list	2.583E-01*** (9.575E-02)	6.157E-01* (3.050E-01)	1.405E-02*** (5.200E-03)	1.214E-02 (1.375E-02)	2.819E-02 (1.722E-02)	3.270E-02 (4.175E-02)
Size	-5.648E-01*** (3.642E-02)	-2.645E-01 (3.705E-01)	-2.571E-02*** (2.458E-03)	-4.552E-03 (1.632E-02)	-3.572E-02*** (8.449E-03)	-1.687E-02 (4.957E-02)
<b>Country-level variables</b>						
Control of corruption		-1.592E-02 (5.640E-02)		1.464E-04 (4.859E-03)		5.472E-03 (1.796E-02)
Government effectiveness		1.245E-01** (6.292E-02)		1.013E-02* (5.592E-03)		3.096E-02 (2.092E-02)
Log(GDP per capita)		1.118E-01 (1.269E-01)		-5.081E-02*** (1.071E-02)		-1.318E-01*** (3.897E-02)
Years of schooling		-1.277E-01*** (3.000E-02)		2.722E-03 (1.978E-03)		5.053E-03 (6.567E-03)
Year FEs		Yes		Yes		Yes

## Medium G

**Table 35: The relationship between within-country G pillar score at medium level and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the medium-level, within-country G pillar score and the rest are control variables at the firm and country levels. Medium level is defined as excluding the top and bottom quarters of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
Governance Pillar Score	-6.191E-04** (3.063E-04)	3.181E-02* (1.614E-02)	-6.811E-05** (3.157E-05)	6.176E-04 (9.467E-04)	-1.428E-04 (1.223E-04)	2.633E-04 (2.616E-03)
Leverage	3.139E-01*** (4.697E-02)	-3.319E+00*** (1.239E+00)	-2.520E-02*** (4.398E-03)	-1.626E-01** (7.271E-02)	7.000E-02*** (1.544E-02)	-1.653E-01 (1.997E-01)
Sales growth	3.267E-01*** (2.315E-02)	1.112E-01 (1.381E+00)	2.578E-02*** (2.377E-03)	-7.451E-02 (7.819E-02)	5.240E-02*** (9.179E-03)	-9.645E-02 (2.074E-01)
U.S cross list	3.803E-01*** (6.749E-02)	9.025E-01*** (2.243E-01)	2.111E-02*** (4.137E-03)	1.497E-02 (1.318E-02)	4.339E-02*** (1.192E-02)	5.552E-02 (3.550E-02)
Size	-6.739E-01*** (2.697E-02)	1.119E-01 (2.592E-01)	-2.618E-02*** (2.157E-03)	2.594E-02* (1.489E-02)	-3.677E-02*** (6.870E-03)	3.661E-02 (4.013E-02)
<b>Country-level variables</b>						
Control of corruption		3.920E-02 (4.219E-02)		7.154E-03* (4.059E-03)		-7.410E-03 (1.486E-02)
Government effectiveness		2.733E-01*** (4.775E-02)		2.352E-02*** (4.706E-03)		7.411E-02*** (1.749E-02)
Log(GDP per capita)		-4.820E-01*** (9.634E-02)		-7.112E-02*** (9.155E-03)		-1.726E-01*** (3.275E-02)
Years of schooling		-1.338E-01*** (2.349E-02)		-6.442E-04 (1.878E-03)		6.085E-04 (5.846E-03)
Year FEs		Yes		Yes		Yes

## Low G

**Table 36: The relationship between within-country G pillar score at low level and firm performance**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the low-level, within-country G pillar score and the rest are control variables at the firm and country levels. Low level is defined as below the bottom quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The observations are in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
Governance Pillar Score	5.847E-04 (6.463E-04)	-3.038E-03 (1.903E-02)	-1.104E-04* (6.111E-05)	-6.686E-04 (1.266E-03)	-4.784E-04** (1.998E-04)	-9.033E-04 (2.843E-03)
Leverage	4.949E-01*** (7.143E-02)	-1.506E+00 (1.347E+00)	-3.453E-02*** (6.324E-03)	-1.563E-01* (8.907E-02)	9.107E-02*** (1.906E-02)	-9.621E-02 (2.010E-01)
Sales growth	2.039E-01*** (2.806E-02)	5.912E-01 (1.568E+00)	7.877E-03*** (2.652E-03)	-2.350E-01** (1.048E-01)	6.548E-03 (8.674E-03)	-3.626E-01 (2.164E-01)
U.S cross list	3.545E-01*** (9.678E-02)	6.338E-01** (2.701E-01)	9.325E-03 (6.208E-03)	-1.762E-02 (1.837E-02)	2.060E-02 (1.521E-02)	-4.793E-02 (3.884E-02)
Size	-8.173E-01*** (3.890E-02)	2.891E-01 (3.031E-01)	-1.297E-02*** (3.161E-03)	5.624E-02*** (2.026E-02)	-1.169E-02 (8.814E-03)	8.265E-02* (4.330E-02)
<b>Country-level variables</b>						
Control of corruption		7.484E-02 (7.101E-02)		1.778E-02*** (6.455E-03)		1.088E-02 (1.962E-02)
Government effectiveness		2.400E-01*** (7.789E-02)		1.909E-02*** (7.141E-03)		4.810E-02** (2.202E-02)
Log(GDP per capita)		-9.351E-01*** (1.515E-01)		-8.281E-02*** (1.350E-02)		-1.460E-01*** (3.966E-02)
Years of schooling		-2.366E-02 (3.580E-02)		-1.146E-03 (2.784E-03)		8.348E-04 (6.723E-03)
Year FEs		Yes		Yes		Yes

### High foreign presence: Power Distance

**Table 37: The moderating effect of Hofstede's Power Distance on the relationship between within-country ESGC score and firm performance with high foreign presence**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Power Distance while the rest are control variables at the firm and country levels. High foreign presence is defined as companies having more average foreign sales percentage than the top quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	-3.305E-04 (8.147E-04)	1.653E-02 (1.535E-02)	1.076E-04 (7.869E-05)	1.280E-03 (8.732E-04)	2.664E-04 (2.506E-04)	2.651E-03 (2.039E-03)
Leverage	1.997E-01** (8.332E-02)	-1.225E+00 (2.096E+00)	-1.468E-02* (7.744E-03)	-2.159E-01* (1.204E-01)	9.031E-02*** (2.365E-02)	-4.916E-01* (2.816E-01)
Sales growth	3.264E-01*** (3.826E-02)	7.059E+00** (2.535E+00)	3.651E-02*** (3.888E-03)	2.281E-01 (1.397E-01)	6.136E-02*** (1.326E-02)	4.758E-01 (3.189E-01)
U.S cross list	5.837E-01*** (1.302E-01)	4.718E-01 (3.935E-01)	4.512E-02*** (8.171E-03)	6.337E-03 (2.238E-02)	8.736E-02*** (2.018E-02)	3.136E-02 (5.192E-02)
Size	-4.854E-01*** (4.488E-02)	4.366E-01 (5.308E-01)	-1.643E-02*** (3.568E-03)	6.035E-02* (3.045E-02)	-1.377E-02 (9.815E-03)	1.485E-01** (7.108E-02)
<b>Country-level variables</b>						
Control of corruption		-1.341E-01* (7.355E-02)		-8.402E-03 (6.924E-03)		-2.134E-02 (2.195E-02)
Government effectiveness		1.874E-01** (8.390E-02)		1.876E-02** (8.165E-03)		6.951E-02*** (2.668E-02)
Log(GDP per capita)		-7.212E-01*** (2.064E-01)		-9.912E-02*** (1.854E-02)		-2.121E-01*** (5.496E-02)
Years of schooling		5.025E-03 (4.461E-02)		6.183E-03* (3.418E-03)		6.276E-03 (8.828E-03)
Power Distance		-2.028E-01* (1.065E-01)		-1.101E-02* (6.423E-03)		-3.048E-02* (1.536E-02)
<b>Cross-level interaction</b>						
ESGC Score x Power Distance		-4.271E-03*** (6.856E-04)		-1.049E-04 (6.626E-05)		-5.156E-04** (2.133E-04)
Year FEs		Yes		Yes		Yes

### High foreign presence: Individualism

**Table 38: The moderating effect of Hofstede's Individualism on the relationship between within-country ESGC score and firm performance with high foreign presence**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Individualism while the rest are control variables at the firm and country levels. High foreign presence is defined as companies having more average foreign sales percentage than the top quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	3.491E-04 (8.082E-04)	1.259E-02 (1.619E-02)	1.261E-04 (7.792E-05)	1.554E-03 (9.575E-04)	3.683E-04 (2.479E-04)	2.689E-03 (2.204E-03)
Leverage	1.806E-01** (8.344E-02)	-4.601E-01 (2.126E+00)	-1.534E-02** (7.748E-03)	-1.317E-01 (1.252E-01)	8.672E-02*** (2.367E-02)	-3.171E-01 (2.869E-01)
Sales growth	3.316E-01*** (3.831E-02)	5.359E+00* (2.663E+00)	3.669E-02*** (3.886E-03)	1.988E-01 (1.526E-01)	6.210E-02*** (1.326E-02)	2.775E-01 (3.401E-01)
U.S cross list	5.861E-01*** (1.310E-01)	3.189E-01 (4.540E-01)	4.570E-02*** (8.237E-03)	1.138E-02 (2.653E-02)	8.774E-02*** (2.032E-02)	2.117E-02 (6.011E-02)
Size	-4.937E-01*** (4.495E-02)	1.050E-01 (4.989E-01)	-1.663E-02*** (3.575E-03)	2.830E-02 (2.937E-02)	-1.390E-02 (9.833E-03)	7.978E-02 (6.723E-02)
<b>Country-level variables</b>						
Control of corruption		-1.042E-01 (7.272E-02)		-5.139E-03 (6.883E-03)		-1.147E-02 (2.185E-02)
Government effectiveness		1.960E-01** (8.491E-02)		1.753E-02** (8.386E-03)		7.032E-02** (2.769E-02)
Log(GDP per capita)		-6.516E-01*** (2.067E-01)		-9.534E-02*** (1.872E-02)		-2.000E-01*** (5.549E-02)
Years of schooling		1.715E-03 (4.544E-02)		9.244E-03** (3.675E-03)		1.057E-02 (9.616E-03)
Individualism		2.291E-01 (1.591E-01)		-1.842E-03 (9.695E-03)		1.284E-02 (2.276E-02)
<b>Cross-level interaction</b>						
ESGC Score x Individualism		3.343E-03*** (7.520E-04)		7.554E-05 (7.130E-05)		3.410E-04 (2.254E-04)
Year FEs		Yes		Yes		Yes

### High foreign presence: Masculinity

**Table 39: The moderating effect of Hofstede's Masculinity on the relationship between within-country ESGC score and firm performance with high foreign presence**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Masculinity while the rest are control variables at the firm and country levels. High foreign presence is defined as companies having more average foreign sales percentage than the top quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	1.232E-03 (8.676E-04)	1.459E-02 (1.707E-02)	1.564E-04* (8.327E-05)	1.265E-03 (9.732E-04)	4.420E-04* (2.641E-04)	2.802E-03 (2.265E-03)
Leverage	1.796E-01** (8.357E-02)	-4.253E-02 (2.134E+00)	-1.545E-02** (7.754E-03)	-1.397E-01 (1.212E-01)	8.645E-02*** (2.371E-02)	-2.701E-01 (2.808E-01)
Sales growth	3.420E-01*** (3.834E-02)	6.574E+00** (2.683E+00)	3.696E-02*** (3.886E-03)	2.058E-01 (1.484E-01)	6.287E-02*** (1.326E-02)	3.691E-01 (3.371E-01)
U.S cross list	6.299E-01*** (1.311E-01)	8.764E-01* (4.274E-01)	4.649E-02*** (8.236E-03)	1.602E-02 (2.489E-02)	9.083E-02*** (2.035E-02)	4.865E-02 (5.790E-02)
Size	-4.952E-01*** (4.507E-02)	-5.647E-02 (4.975E-01)	-1.678E-02*** (3.581E-03)	3.350E-02 (2.766E-02)	-1.362E-02 (9.850E-03)	6.800E-02 (6.330E-02)
<b>Country-level variables</b>						
Control of corruption		-8.396E-02 (7.275E-02)		-5.262E-03 (6.852E-03)		-7.712E-03 (2.189E-02)
Government effectiveness		1.214E-01 (8.441E-02)		1.615E-02** (8.230E-03)		6.162E-02** (2.695E-02)
Log(GDP per capita)		-7.699E-01*** (2.054E-01)		-9.783E-02*** (1.863E-02)		-2.045E-01*** (5.579E-02)
Years of schooling		5.877E-03 (4.291E-02)		9.047E-03*** (3.333E-03)		1.320E-02 (8.751E-03)
Masculinity		-4.592E-02 (9.648E-02)		-4.142E-03 (5.350E-03)		-4.909E-03 (1.221E-02)
<b>Cross-level interaction</b>						
ESGC Score x Masculinity		1.931E-03*** (6.968E-04)		6.841E-05 (6.746E-05)		1.695E-04 (2.161E-04)
Year FEs		Yes		Yes		Yes

### High foreign presence: Uncertainty Avoidance

**Table 40: The moderating effect of Hofstede's Uncertainty Avoidance on the relationship between within-country ESGC score and firm performance with high foreign presence**



This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Uncertainty Avoidance while the rest are control variables at the firm and country levels. High foreign presence is defined as companies having more average foreign sales percentage than the top quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	3.905E-04 (8.179E-04)	1.443E-02 (1.539E-02)	1.241E-04 (7.872E-05)	1.344E-03 (8.824E-04)	3.287E-04 (2.504E-04)	2.592E-03 (2.029E-03)
Leverage	1.812E-01** (8.364E-02)	-7.865E-02 (2.033E+00)	-1.550E-02** (7.753E-03)	-1.450E-01 (1.162E-01)	8.560E-02*** (2.368E-02)	-2.819E-01 (2.658E-01)
Sales growth	3.386E-01*** (3.840E-02)	5.368E+00* (2.580E+00)	3.691E-02*** (3.889E-03)	1.402E-01 (1.431E-01)	6.352E-02*** (1.327E-02)	2.278E-01 (3.185E-01)
U.S cross list	6.200E-01*** (1.308E-01)	8.233E-01** (3.917E-01)	4.590E-02*** (8.208E-03)	1.152E-02 (2.281E-02)	8.988E-02*** (2.026E-02)	4.246E-02 (5.203E-02)
Size	-4.884E-01*** (4.511E-02)	1.567E-01 (4.780E-01)	-1.658E-02*** (3.581E-03)	4.057E-02 (2.673E-02)	-1.377E-02 (9.847E-03)	8.495E-02 (5.988E-02)
<b>Country-level variables</b>						
Control of corruption		-8.528E-02 (7.268E-02)		-6.338E-03 (6.863E-03)		-1.351E-02 (2.184E-02)
Government effectiveness		1.287E-01 (8.422E-02)		1.612E-02* (8.225E-03)		6.045E-02** (2.692E-02)
Log(GDP per capita)		-7.490E-01*** (2.059E-01)		-9.461E-02*** (1.857E-02)		-1.947E-01*** (5.511E-02)
Years of schooling		-1.001E-02 (4.255E-02)		7.921E-03** (3.251E-03)		1.175E-02 (8.299E-03)
Uncertainty Avoidance		-1.775E-01 (1.049E-01)		-8.276E-03 (5.932E-03)		-1.775E-02 (1.348E-02)
<b>Cross-level interaction</b>						
ESGC Score x Uncertainty Avoidance		8.184E-05 (7.777E-04)		-2.293E-05 (7.558E-05)		-3.277E-04 (2.436E-04)
Year FEs		Yes		Yes		Yes

### High foreign presence: Long-Term Orientation

**Table 41: The moderating effect of Hofstede's Long-Term Orientation on the relationship between within-country ESGC score and firm performance with high foreign presence**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Long-Term Orientation while the rest are control variables at the firm and country levels. High foreign presence is defined as companies having more average foreign sales percentage than the top quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	2.231E-03*** (3.790E-04)	-1.979E-04 (8.185E-03)	2.156E-04*** (3.478E-05)	-5.238E-04 (4.773E-04)	8.168E-04*** (1.233E-04)	-1.571E-03 (1.212E-03)
Leverage	3.922E-01*** (3.782E-02)	-2.658E+00** (1.019E+00)	-3.238E-02*** (3.373E-03)	-1.633E-01*** (5.995E-02)	7.480E-02*** (1.167E-02)	-6.907E-02 (1.546E-01)
Sales growth	2.720E-01*** (1.722E-02)	-1.493E-01 (1.301E+00)	1.246E-02*** (1.671E-03)	-1.829E-01** (7.509E-02)	1.947E-02*** (6.262E-03)	-3.116E-01* (1.841E-01)
U.S cross list	2.756E-01*** (5.116E-02)	8.737E-01*** (2.247E-01)	1.139E-02*** (3.121E-03)	1.154E-02 (1.344E-02)	1.945E-02** (9.041E-03)	2.808E-02 (3.327E-02)
Size	-7.434E-01*** (2.044E-02)	3.046E-01 (2.525E-01)	-2.278E-02*** (1.579E-03)	3.793E-02** (1.468E-02)	-3.257E-02*** (5.030E-03)	6.331E-02* (3.675E-02)
<b>Country-level variables</b>						
Control of corruption		7.159E-02** (3.565E-02)		1.482E-02*** (3.316E-03)		8.374E-03 (1.178E-02)
Government effectiveness		2.826E-01*** (3.942E-02)		2.238E-02*** (3.730E-03)		6.863E-02*** (1.343E-02)
Log(GDP per capita)		-5.156E-01*** (7.584E-02)		-7.383E-02*** (6.955E-03)		-1.755E-01*** (2.426E-02)
Years of schooling		-1.581E-01*** (2.019E-02)		-3.185E-03** (1.609E-03)		-2.280E-03 (4.703E-03)
Long-Term Orientation		-7.946E-02 (7.380E-02)		-9.277E-04 (4.251E-03)		-7.269E-03 (1.035E-02)
<b>Cross-level interaction</b>						
ESGC Score x Long-Term Orientation		-1.274E-03*** (3.123E-04)		-8.364E-05*** (2.850E-05)		-3.674E-04*** (1.006E-04)
Year FEs		Yes		Yes		Yes

### High foreign presence: Indulgence

**Table 42: The moderating effect of Hofstede's Indulgence on the relationship between within-country ESGC score and firm performance with high foreign presence**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Indulgence while the rest are control variables at the firm and country levels. High foreign presence is defined as companies having more average foreign sales percentage than the top quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	2.798E-04 (8.095E-04)	5.876E-03 (1.869E-02)	1.227E-04 (7.801E-05)	1.123E-03 (1.059E-03)	3.535E-04 (2.486E-04)	2.125E-03 (2.433E-03)
Leverage	1.816E-01** (8.353E-02)	7.900E-01 (2.201E+00)	-1.531E-02** (7.748E-03)	-1.143E-01 (1.249E-01)	8.690E-02*** (2.369E-02)	-2.080E-01 (2.878E-01)
Sales growth	3.371E-01*** (3.832E-02)	6.324E+00** (2.648E+00)	3.678E-02*** (3.884E-03)	1.900E-01 (1.464E-01)	6.250E-02*** (1.325E-02)	3.436E-01 (3.307E-01)
U.S cross list	6.110E-01*** (1.308E-01)	7.046E-01 (4.173E-01)	4.566E-02*** (8.215E-03)	8.984E-03 (2.408E-02)	8.926E-02*** (2.032E-02)	3.837E-02 (5.564E-02)
Size	-4.897E-01*** (4.500E-02)	1.300E-01 (5.398E-01)	-1.661E-02*** (3.574E-03)	3.778E-02 (3.023E-02)	-1.360E-02 (9.843E-03)	8.241E-02 (6.890E-02)
<b>Country-level variables</b>						
Control of corruption		-1.034E-01 (7.340E-02)		-6.072E-03 (6.934E-03)		-1.149E-02 (2.209E-02)
Government effectiveness		1.735E-01** (8.513E-02)		1.797E-02** (8.288E-03)		6.577E-02** (2.708E-02)
Log(GDP per capita)		-6.945E-01*** (2.074E-01)		-9.614E-02*** (1.869E-02)		-2.020E-01*** (5.560E-02)
Years of schooling		-3.350E-04 (4.288E-02)		8.560E-03** (3.310E-03)		1.235E-02 (8.615E-03)
Indulgence		1.225E-01 (1.371E-01)		4.116E-03 (7.755E-03)		1.007E-02 (1.768E-02)
<b>Cross-level interaction</b>						
ESGC Score x Indulgence		2.090E-03*** (6.867E-04)		7.324E-05 (6.655E-05)		2.291E-04 (2.149E-04)
Year FEs		Yes		Yes		Yes

### Low foreign presence: Power Distance

**Table 43: The moderating effect of Hofstede's Power Distance on the relationship between within-country ESGC score and firm performance with low foreign presence**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Power Distance while the rest are control variables at the firm and country levels. Low foreign presence is defined as excluding companies with average foreign sales percentages above the top quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	2.420E-03*** (3.805E-04)	-1.055E-03 (7.972E-03)	2.228E-04*** (3.491E-05)	-4.434E-04 (4.820E-04)	8.096E-04*** (1.237E-04)	-1.414E-03 (1.233E-03)
Leverage	4.002E-01*** (3.781E-02)	-2.658E+00*** (9.970E-01)	-3.201E-02*** (3.374E-03)	-1.487E-01** (6.084E-02)	7.550E-02*** (1.168E-02)	-4.665E-02 (1.591E-01)
Sales growth	2.697E-01*** (1.721E-02)	2.011E-02 (1.242E+00)	1.232E-02*** (1.670E-03)	-1.857E-01** (7.481E-02)	1.873E-02*** (6.259E-03)	-3.051E-01 (1.848E-01)
U.S cross list	2.752E-01*** (5.119E-02)	7.298E-01*** (2.190E-01)	1.127E-02*** (3.126E-03)	1.077E-02 (1.342E-02)	1.937E-02** (9.073E-03)	3.121E-02 (3.314E-02)
Size	-7.443E-01*** (2.045E-02)	3.007E-01 (2.455E-01)	-2.297E-02*** (1.581E-03)	3.143E-02** (1.498E-02)	-3.269E-02*** (5.045E-03)	4.644E-02 (3.804E-02)
<b>Country-level variables</b>						
Control of corruption		4.630E-02 (3.603E-02)		1.414E-02*** (3.390E-03)		7.052E-03 (1.210E-02)
Government effectiveness		2.805E-01*** (3.908E-02)		2.231E-02*** (3.704E-03)		6.500E-02*** (1.332E-02)
Log(GDP per capita)		-4.729E-01*** (7.684E-02)		-7.002E-02*** (7.062E-03)		-1.667E-01*** (2.459E-02)
Years of schooling		-1.447E-01*** (2.084E-02)		-2.258E-03 (1.683E-03)		-1.168E-03 (4.920E-03)
Power Distance		-8.172E-02 (5.976E-02)		2.650E-03 (3.803E-03)		3.410E-03 (9.839E-03)
<b>Cross-level interaction</b>						
ESGC Score x Power Distance		-2.067E-03*** (3.293E-04)		-1.160E-04*** (3.044E-05)		-2.325E-04** (1.089E-04)
Year FEs		Yes		Yes		Yes

### Low foreign presence: Individualism

**Table 44: The moderating effect of Hofstede's Individualism on the relationship between within-country ESGC score and firm performance with low foreign presence**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Individualism while the rest are control variables at the firm and country levels. Low foreign presence is defined as excluding companies with average foreign sales percentages above the top quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	2.459E-03*** (3.798E-04)	8.535E-05 (7.704E-03)	2.275E-04*** (3.488E-05)	-4.751E-04 (4.785E-04)	8.428E-04*** (1.237E-04)	-1.436E-03 (1.227E-03)
Leverage	3.975E-01*** (3.778E-02)	-2.539E+00** (9.642E-01)	-3.213E-02*** (3.372E-03)	-1.575E-01** (5.993E-02)	7.550E-02*** (1.167E-02)	-5.802E-02 (1.565E-01)
Sales growth	2.706E-01*** (1.720E-02)	-2.837E-01 (1.203E+00)	1.240E-02*** (1.669E-03)	-1.795E-01** (7.495E-02)	1.912E-02*** (6.258E-03)	-2.976E-01 (1.864E-01)
U.S cross list	2.750E-01*** (5.120E-02)	6.061E-01** (2.258E-01)	1.123E-02*** (3.120E-03)	9.687E-03 (1.418E-02)	1.902E-02** (9.051E-03)	2.931E-02 (3.517E-02)
Size	-7.460E-01*** (2.043E-02)	2.421E-01 (2.255E-01)	-2.296E-02*** (1.579E-03)	3.532E-02** (1.408E-02)	-3.304E-02*** (5.035E-03)	5.119E-02 (3.563E-02)
<b>Country-level variables</b>						
Control of corruption		4.974E-02 (3.554E-02)		1.371E-02*** (3.340E-03)		4.973E-03 (1.189E-02)
Government effectiveness		2.984E-01*** (3.920E-02)		2.293E-02*** (3.746E-03)		6.821E-02*** (1.361E-02)
Log(GDP per capita)		-4.680E-01*** (7.575E-02)		-7.108E-02*** (6.981E-03)		-1.679E-01*** (2.437E-02)
Years of schooling		-1.416E-01*** (2.084E-02)		-2.367E-03 (1.734E-03)		-9.381E-04 (5.184E-03)
Individualism		1.313E-01 (7.980E-02)		-1.094E-03 (5.167E-03)		-1.892E-03 (1.307E-02)
<b>Cross-level interaction</b>						
ESGC Score x Individualism		2.610E-03*** (3.073E-04)		1.467E-04*** (2.819E-05)		4.534E-04*** (1.001E-04)
Year FEs		Yes		Yes		Yes

### Low foreign presence: Masculinity

**Table 45: The moderating effect of Hofstede's Masculinity on the relationship between within-country ESGC score and firm performance with low foreign presence**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Masculinity while the rest are control variables at the firm and country levels. Low foreign presence is defined as excluding companies with average foreign sales percentages above the top quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	2.109E-03*** (3.786E-04)	-1.103E-03 (8.637E-03)	2.055E-04*** (3.475E-05)	-6.001E-04 (4.927E-04)	7.748E-04*** (1.232E-04)	-1.667E-03 (1.275E-03)
Leverage	4.010E-01*** (3.781E-02)	-2.640E+00** (1.021E+00)	-3.200E-02*** (3.376E-03)	-1.625E-01*** (5.893E-02)	7.546E-02*** (1.169E-02)	-6.712E-02 (1.541E-01)
Sales growth	2.697E-01*** (1.721E-02)	-1.444E-02 (1.313E+00)	1.232E-02*** (1.670E-03)	-1.696E-01** (7.365E-02)	1.860E-02*** (6.259E-03)	-2.838E-01 (1.841E-01)
U.S cross list	2.735E-01*** (5.115E-02)	9.292E-01*** (2.333E-01)	1.132E-02*** (3.132E-03)	1.509E-02 (1.357E-02)	1.954E-02** (9.080E-03)	3.820E-02 (3.429E-02)
Size	-7.424E-01*** (2.042E-02)	2.307E-01 (2.432E-01)	-2.282E-02*** (1.581E-03)	3.766E-02*** (1.373E-02)	-3.235E-02*** (5.044E-03)	5.556E-02 (3.461E-02)
<b>Country-level variables</b>						
Control of corruption		6.232E-02* (3.563E-02)		1.413E-02*** (3.309E-03)		7.514E-03 (1.178E-02)
Government effectiveness		2.419E-01*** (3.915E-02)		2.011E-02*** (3.693E-03)		6.107E-02*** (1.328E-02)
Log(GDP per capita)		-4.726E-01*** (7.595E-02)		-7.123E-02*** (6.926E-03)		-1.685E-01*** (2.420E-02)
Years of schooling		-1.539E-01*** (2.022E-02)		-2.921E-03* (1.589E-03)		-1.926E-03 (4.709E-03)
Masculinity		-3.242E-02 (6.385E-02)		-2.657E-03 (3.581E-03)		-4.369E-03 (8.961E-03)
<b>Cross-level interaction</b>						
ESGC Score x Masculinity		2.096E-03*** (3.484E-04)		9.375E-05*** (3.162E-05)		1.616E-04 (1.110E-04)
Year FEs		Yes		Yes		Yes

### Low foreign presence: Uncertainty Avoidance

**Table 46: The moderating effect of Hofstede's Uncertainty Avoidance on the relationship between within-country ESGC score and firm performance with low foreign presence**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Uncertainty Avoidance while the rest are control variables at the firm and country levels. Low foreign presence is defined as excluding companies with average foreign sales percentages above the top quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	2.134E-03*** (3.798E-04)	-1.419E-06 (8.437E-03)	2.081E-04*** (3.488E-05)	-4.691E-04 (4.716E-04)	8.024E-04*** (1.237E-04)	-1.258E-03 (1.190E-03)
Leverage	3.954E-01*** (3.783E-02)	-2.702E+00** (1.044E+00)	-3.223E-02*** (3.376E-03)	-1.645E-01*** (5.912E-02)	7.524E-02*** (1.168E-02)	-7.106E-02 (1.511E-01)
Sales growth	2.695E-01*** (1.724E-02)	-4.586E-01 (1.481E+00)	1.232E-02*** (1.671E-03)	-1.961E-01** (8.051E-02)	1.909E-02*** (6.264E-03)	-3.677E-01* (1.933E-01)
U.S cross list	2.763E-01*** (5.116E-02)	9.074E-01*** (2.358E-01)	1.145E-02*** (3.132E-03)	1.142E-02 (1.332E-02)	2.010E-02** (9.070E-03)	2.720E-02 (3.232E-02)
Size	-7.402E-01*** (2.044E-02)	2.386E-01 (2.500E-01)	-2.272E-02*** (1.581E-03)	3.746E-02*** (1.377E-02)	-3.231E-02*** (5.038E-03)	5.603E-02 (3.361E-02)
<b>Country-level variables</b>						
Control of corruption		6.138E-02* (3.584E-02)		1.412E-02*** (3.333E-03)		5.782E-03 (1.185E-02)
Government effectiveness		2.596E-01*** (3.920E-02)		2.071E-02*** (3.704E-03)		6.122E-02*** (1.329E-02)
Log(GDP per capita)		-4.914E-01*** (7.783E-02)		-7.198E-02*** (7.051E-03)		-1.740E-01*** (2.440E-02)
Years of schooling		-1.656E-01*** (2.052E-02)		-3.130E-03* (1.605E-03)		-8.524E-04 (4.644E-03)
Uncertainty Avoidance		-3.191E-02 (6.882E-02)		-2.029E-03 (3.754E-03)		-8.802E-03 (9.022E-03)
<b>Cross-level interaction</b>						
ESGC Score x Uncertainty Avoidance		3.594E-04 (3.312E-04)		9.101E-06 (3.021E-05)		-1.691E-04 (1.064E-04)
Year FEs		Yes		Yes		Yes

### Low foreign presence: Long-Term Orientation

**Table 47: The moderating effect of Hofstede's Long-Term Orientation on the relationship between within-country ESGC score and firm performance with low foreign presence**

This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Long-Term Orientation while the rest are control variables at the firm and country levels. Low foreign presence is defined as excluding companies with average foreign sales percentages above the top quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	2.231E-03*** (3.790E-04)	-1.979E-04 (8.185E-03)	2.156E-04*** (3.478E-05)	-5.238E-04 (4.773E-04)	8.168E-04*** (1.233E-04)	-1.571E-03 (1.212E-03)
Leverage	3.922E-01*** (3.782E-02)	-2.658E+00** (1.019E+00)	-3.238E-02*** (3.373E-03)	-1.633E-01*** (5.995E-02)	7.480E-02*** (1.167E-02)	-6.907E-02 (1.546E-01)
Sales growth	2.720E-01*** (1.722E-02)	-1.493E-01 (1.301E+00)	1.246E-02*** (1.671E-03)	-1.829E-01** (7.509E-02)	1.947E-02*** (6.262E-03)	-3.116E-01* (1.841E-01)
U.S cross list	2.756E-01*** (5.116E-02)	8.737E-01*** (2.247E-01)	1.139E-02*** (3.121E-03)	1.154E-02 (1.344E-02)	1.945E-02** (9.041E-03)	2.808E-02 (3.327E-02)
Size	-7.434E-01*** (2.044E-02)	3.046E-01 (2.525E-01)	-2.278E-02*** (1.579E-03)	3.793E-02** (1.468E-02)	-3.257E-02*** (5.030E-03)	6.331E-02* (3.675E-02)
<b>Country-level variables</b>						
Control of corruption		7.159E-02** (3.565E-02)		1.482E-02*** (3.316E-03)		8.374E-03 (1.178E-02)
Government effectiveness		2.826E-01*** (3.942E-02)		2.238E-02*** (3.730E-03)		6.863E-02*** (1.343E-02)
Log(GDP per capita)		-5.156E-01*** (7.584E-02)		-7.383E-02*** (6.955E-03)		-1.755E-01*** (2.426E-02)
Years of schooling		-1.581E-01*** (2.019E-02)		-3.185E-03** (1.609E-03)		-2.280E-03 (4.703E-03)
Long-Term Orientation		-7.946E-02 (7.380E-02)		-9.277E-04 (4.251E-03)		-7.269E-03 (1.035E-02)
<b>Cross-level interaction</b>						
ESGC Score x Long-Term Orientation		-1.274E-03*** (3.123E-04)		-8.364E-05*** (2.850E-05)		-3.674E-04*** (1.006E-04)
Year FEs		Yes		Yes		Yes

### Low foreign presence: Indulgence

**Table 48: The moderating effect of Hofstede's Indulgence on the relationship between within-country ESGC score and firm performance with low foreign presence**



This table displays estimation results for regressions with Tobin's Q, ROA and ROE as dependent variables. Independent variable is the interaction between within-country ESGC scores and Indulgence while the rest are control variables at the firm and country levels. Low foreign presence is defined as excluding companies with average foreign sales percentages above the top quartile of the sample. Year dummies are also included as fixed effects for all regressions but are not reported. Details on the variables could be found in Appendix A. The sample includes 30,030 firm-year observations from 48 nations in the periods of 2010 to 2020 for dependent variables and 2009 to 2019 for independent and control variables. ESG data were taken from Thomson Reuters Eikon and firm fundamentals and market data retrieved from Eikon and Worldscope. Cultural dimension scores came from the Hofstede Insights website. Standard errors are indicated via brackets under the estimated coefficients. The symbols \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.

	Tobin's Q		ROA		ROE	
	Within-country	Cross-country	Within-country	Cross-country	Within-country	Cross-country
<b>Firm-level variables</b>						
ESGC Score	2.263E-03*** (3.789E-04)	-5.520E-04 (8.919E-03)	2.186E-04*** (3.475E-05)	-2.496E-04 (5.243E-04)	8.144E-04*** (1.231E-04)	-8.105E-04 (1.326E-03)
Leverage	3.977E-01*** (3.781E-02)	-2.580E+00** (1.027E+00)	-3.216E-02*** (3.371E-03)	-1.765E-01*** (6.078E-02)	7.517E-02*** (1.167E-02)	-1.075E-01 (1.571E-01)
Sales growth	2.710E-01*** (1.721E-02)	-2.421E-01 (1.292E+00)	1.243E-02*** (1.670E-03)	-1.767E-01** (7.533E-02)	1.920E-02*** (6.259E-03)	-2.916E-01 (1.855E-01)
U.S cross list	2.748E-01*** (5.114E-02)	8.168E-01*** (2.246E-01)	1.126E-02*** (3.117E-03)	1.038E-02 (1.350E-02)	1.911E-02** (9.041E-03)	3.141E-02 (3.352E-02)
Size	-7.418E-01*** (2.043E-02)	2.444E-01 (2.512E-01)	-2.276E-02*** (1.577E-03)	3.194E-02** (1.479E-02)	-3.237E-02*** (5.028E-03)	4.046E-02 (3.734E-02)
<b>Country-level variables</b>						
Control of corruption		5.478E-02 (3.571E-02)		1.381E-02*** (3.338E-03)		5.586E-03 (1.189E-02)
Government effectiveness		2.979E-01*** (3.967E-02)		2.427E-02*** (3.748E-03)		7.180E-02*** (1.343E-02)
Log(GDP per capita)		-4.781E-01*** (7.608E-02)		-7.062E-02*** (6.974E-03)		-1.659E-01*** (2.433E-02)
Years of schooling		-1.529E-01*** (2.014E-02)		-3.004E-03* (1.608E-03)		-2.333E-03 (4.725E-03)
Indulgence		2.810E-02 (6.652E-02)		-3.633E-03 (3.955E-03)		-1.001E-02 (1.013E-02)
<b>Cross-level interaction</b>						
ESGC Score x Indulgence		1.835E-03*** (3.299E-04)		1.504E-04*** (3.037E-05)		4.651E-04*** (1.081E-04)
Year FEs		Yes		Yes		Yes