

The relationship of ESG controversies performance and firm value

The moderating influence of stakeholder engagement and stakeholder orientation



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Abstract

This paper researches the effect of ESG controversies performance on firm value. A positive effect of ESG controversies performance on firm value is assumed. Stakeholder engagement is included as a moderator to correct for the influences of the alignment of the firm's and stakeholders' preferences. In addition, stakeholder orientation is included as a moderator to correct for differences in business culture, government policy and law enforcement on the country level. The research covers the period 2015-2020 and is based on a global sample of listed firms. The applied method is panel data and includes two- and three-way interaction terms and split sample analyses. The results show that ESG controversies performance has solely a positive effect on the firm value of firms listed in stakeholder oriented countries.

Table of contents

1. Introduction.....	4
2. Literature review	6
2.1 ESG controversies performance and firm value.....	6
2.2 Stakeholder engagement	8
2.3 Stakeholder orientation	11
3. Research method	13
3.1 Sample and Data.....	13
3.2 Variables	16
3.2.1 Dependent variable	16
3.2.2 Independent variable	17
3.2.3 Moderating variables	18
3.2.4 Control variables.....	20
3.3 Model	22
Equation 1.....	22
Equation 2.....	22
Equation 3.....	22
4. Results	24
4.1 Descriptive statistics.....	24
4.2 Test of hypotheses	27
4.2.1 Hypothesis 1	27
4.2.2 Hypothesis 2	28
4.2.3 Hypothesis 3	30
4.3 Robustness test	36
5. Discussion and conclusion	38
6. References	41
Appendix 1.....	44
Appendix 2.....	46

1. Introduction

Nowadays an increasing focus lays on a firm's ESG performance (environmental, social, governance). The responsibilities of firms reach further than solely those of their shareholders. Firms are considered to bear responsibilities in an increasing array of topics concerning environmental, social and governance issues. If a firm fails to meet their responsibility on these topics it is considered to be an ESG controversy. The increasing interest in ESG controversies related topics by firms can be explained. Firstly, society is demanding firms to act in a more responsible way, concerning ESG related issues (Hoang, 2018). Because ESG issues have a high impact on society and social issues are partly caused by these firms. Secondly, ESG issues and how firms handle these issues might influence their ability to maximise profits. Taking ESG controversies into account is of key importance, because good ESG controversies performance is considered to have an influence on firm value in theory (Kang & Kim, 2013; Krüger, 2014; Nirino et al., 2021). Next to a direct relation between ESG controversies performance and firm value moderating relations are researched. Various moderating effects relate to standard stakeholder groups of customers, employees and shareholders (Oikonomou, 2012; van Duuren et al., 2016).

Stakeholder theory focusses on a broader group of stakeholders on firm and country level. Stakeholder engagement is a key topic within stakeholder theory which relates to the firm level. It covers the way firms and stakeholders engage with each other. Stakeholder engagement is of importance because it gives insights concerning the fulfilment of information demand. If firms and stakeholders are in dialogue, then it will lead to better alignment of both firms' and stakeholders' interests. Stakeholder engagement may be a factor which influences the relation between ESG controversies performance and firm value. Research which relates stakeholder engagement to the ESG controversies performance and firm value has not been performed yet. If firms communicate properly with their stakeholders, it might result in a situation where interest are better aligned. Then the effect of good ESG controversies performance may increase the effect on firm value (Goodstein and Wicks, 2007).

On the country level an important concept in stakeholder theory is stakeholder orientation. A country can be considered to a greater or lesser extent stakeholder oriented. Stakeholder orientation focusses on topics which extend beyond a single firm's scope. Examples of topics related to stakeholder orientation are business culture, government policy and law enforcement. In the majority of papers firm or country level is implemented. Although, stakeholder engagement may be reflected differently under different level of stakeholder orientation. If a country has high level of stakeholder orientation, then topics related to for example stakeholder protection are better embedded in law and policies. In

that case the quality of stakeholder engagement will be embedded in law and policies concerning stakeholder protection. Thus, if a country is stakeholder oriented, then the stakeholder engagement level is considered to be of proper quality, reflected by laws and policies.

By means of three hypothesis the research question will be answered:

“What is the effect of ESG controversies performance on value of firms under different levels of stakeholder engagement and stakeholder orientation?”

The contribution the research makes to current literature is three-fold. Firstly, the paper tries to give better insight in the direct effect ESG controversies performance has on firm value by making use of new non-dummy data which takes into account the intensity and frequency of ESG controversies. Current research makes predominately use of dummy-variable data which solely indicates if a firm is related to at least one controversy in a specific year. Intensity and frequency of ESG controversies are not taken into account in dummy-variable data. Secondly, a possible influence of stakeholder engagement on the ESG controversies and firm value relation is clarified. Thirdly, a country level influence of stakeholder orientation on the moderator stakeholder engagement will be researched.

The research will be conducted by making use of a panel data sample, which covers the period between 2015 and 2020. The research method is a fixed effects panel regression. The research includes 8511 globally listed firms. The first hypothesis tests the main relation between ESG controversies performance and firm value. The second hypothesis is tested by means of a two-way moderating term for stakeholder engagement. The third hypothesis is tested by means of a three-way moderating term for stakeholder orientation. In addition is the third hypothesis tested by means of a split sample analysis.

The paper is structured as follows. The second part reviews current literature. The reasoning behind the hypotheses will be explained there. The relation between ESG controversies performance and firm value, with the stakeholder engagement a stakeholder orientation as moderators will then be elaborated. The third part elaborates on the sample, variables and model. The fourth part discusses the descriptive statistics and tests the hypotheses. The fifth part includes the discussion and concluding remarks.

2. Literature review

2.1 ESG controversies performance and firm value

A variety of factors are currently known for influencing firm value. For example, basic factors like profitability or research and development expenses. However, an increasing quantity of research relates firm value to non-financial concepts (Aouadi & Marsat, 2018). The intuition is that non-financial factors do have an influence on a firm's value. Focussing merely on concepts which are finance related, leads to a too narrow focus on firm value assessment.

An example of broadening the scope is the concept of corporate social responsibility (CSR). CSR entails the responsibilities a firm has towards for example society, climate and employees (Gillan et al., 2021). While the interest in CSR increased other related concepts and measures were introduced. One of the leading concepts is ESG. ESG entails topics related to the environment, social issues and governance.

CSR and ESG are not perfectly similar. A major difference between CSR and ESG is the separation of the governance pillar within the ESG measure. ESG treats governance as a standalone factor. Thereby, ESG is better able to indicate how a firm performs on governance related topics. Furthermore, ESG is in a greater extent metric-based compared to CSR. The purpose of ESG is to give insight in a firm's performance. That is the reason why investment banks were the initial users of ESG. For these reasons ESG is preferred above CSR in researching firm value. Current studies on ESG and firm value consider a nonnegative relation (Friede et al., 2015). The nonnegative relation indicates a lack of evidence for a solely positive relation. Thus, if a firm performs well on ESG this may lead to higher firm value, however hard generalisable evidence is not there.

One of the research topics which originated from the ESG performance concept is ESG controversies. A controversy is negative publicity which causes damage to a firm. Examples of ESG controversies are, toxic waste spill (environmental), human rights violations (social) or a corrupt CEO (governance) (Refinitiv, 2020). If a firm has little ESG controversies, then the firm is considered to have good ESG controversies performance.

As mentioned, ESG has a nonnegative effect on firm value (Friede et al., 2015). The effect of ESG performance on firm value does not indicate that an effect of ESG controversies performance on firm value exists (Arora and Dharwadkar, 2011; Dorfleitner et al., 2020). Current research on ESG controversies performance and firm value has led to a diversity of results. Some research states that ESG controversies have a negative effect on firm value (Kang & Kim, 2013; Krüger, 2014; Nirino et al.,

2021.). While other research states that a direct relation does not exist (Aouadi & Marsat, 2018). Thus, a clear relation is not defined yet.

Furthermore, how ESG controversies performance is related to firm value is not clear yet. Current literature suggests a variety of explanations. One possible explanation concerns financial risk. Bad ESG controversies performance relates to higher financial risks and eventually lower firm value (Oikonomou, 2012). Preventing ESG controversies from occurring will lower financial risks (Klassen & McLaughlin, 1996). The financial risk principle is considered from a managerial perspective as well as an investors perspective. Managers want to reduce their risks in order increase their managerial power (van Duuren et al., 2016). An investor is considered to be rational and makes his/her decisions based on the trade-off between risk and return. If a firm shows a bad ESG controversies performance, then risk will increase. Higher risks will cause a decrease in the willingness to invest. Eventually, the lower wiliness to invest causes decreasing firm value.

The other way around is also mentioned in literature by Lundgren and Olsson (2009). Good ESG controversies performance may lead to a build-up of stock of goodwill capital. Goodwill is directly linked to firm value. Thus, an increase in goodwill causes a one-on-one increase in firm value, while goodwill is part of a firm's yearly statement (Lundgren and Olsson, 2009).

Besides managers and investors, consumers are also mentioned in ESG controversies performance research. The consumer perspective concerns consumers brand and product evaluations which can be influenced by bad ESG controversies performance. The effect on consumers can transcend the rational notion of product judgment, which is assumed to be a consideration purely based on product attributes. Changed consumer preferences may have an influence on future prospects and reputation, which results in lower firm value. Strong evidence is not found for this relationship yet, because consumer judgements is rather complex. Not all consumers appear to value firm (ir)responsibility the same way (Klein & Dawar, 2004).

Overall, ESG controversies performance and firm value are assumed to be positively related.

H1: ESG controversies performance is positively related to firm value.

2.2 Stakeholder engagement

It may be the case that a direct relation between ESG controversies performance and firm value is too simplistic. Therefore, the existence of a moderating effect is investigated. The moderating effect relates to stakeholder in general, in contrast to most research which focusses on specific stakeholder groups.

The relation between ESG controversies performance and firm value can be influenced by how a firm communicates with its stakeholders. Stakeholders are defined as: “those groups without whose support the organization would cease to exist.” (Mitchel et al, 1997). Freeman & Reed (1983) suggest two different definitions of the stakeholder. The first definition refers to a narrow sense of the stakeholder. The narrow definition is: “Any identifiable group or individual on which the organization is dependent for its continued survival.” (Freeman & Reed, 1983). The second definition of stakeholder by Freeman and Reed (1983) refers to a broader interpretation of the stakeholder concept: “Any identifiable group or individual who can affect the achievement of an organization’s objectives or who is affected by the achievement of an organization’s objectives.” (Freeman & Reed, 1983). The main discrepancy between the two definitions mentioned, relates to the firm’s externalities. The broad definition also includes stakeholders who are influenced by a firm’s externality, for example local residents who are affected by a firm’s air or noise pollution. By contrast, the narrow definition excluded them from the stakeholder group. Shareholders are a specific group of stakeholders and are characterised, in contrast to the other stakeholder groups by (partial) ownership of the firm. If the non-shareholding stakeholders are approached by a firm from a purely financial perspective, then direct financial incentive to keep them satisfied is absent. For a firm to attract new investors a proper shareholder relationship is key. However, stakeholder theory has become increasingly important in economics. The stakeholder model extended the traditional scope of conventional in- and output models. The conventional in- and output models state that investors, suppliers and employees are serving the firm with inputs factors like investments, materials and labour. Therefore, the firm is able to serve the customer with their products (output factor) (Donaldson and Preston, 1995).

Stakeholder theory increased the diversity of stakeholders and the nature of the relation between the stakeholders and the firm compared to the conventional in- and output models (Donaldson and Preston, 1995). The stakeholder model extended its scope beyond the conventional in- and output model groups of a firm. The conventional in- and output model contains customers, employees, investors and suppliers. The extended stakeholder model contains in addition: governments, political groups, communities etc. The stakeholder model of Donaldson and Preston (1995) refers to the broad stakeholder definitions suggested by Freeman & Reed (1983).

In addition, the nature of the relation between the stakeholder and firm changed in the stakeholder model compared to the conventional in- and output model, by the implementation of two-way relationship. For example, the relationship between the employees and firm changed. The conventional view describes a relation in which the employee has to meet the needs of the firm. The stakeholder view suggests an additional relation in which the firm has to take into account the employees needs as a part of the decision process.

Stakeholder theory tries to describe a normative way to examine corporate social responsibility. Key element of this type of research is how a firm has to act in respect to their stakeholder. Both theories focus on the managerial function within the firm. The manager has to make the decisions while running the firm. Shareholder theorists consider maximizing the shareholders returns as the primary goal. Thus, all decisions are valued on basis of increased shareholder wealth. The manager will be rewarded on the basis on share value. In contrast, stakeholder theory considers the job of a manager as more complex. A manager needs to balance the shareholders' and the stakeholders' needs. Thus, the financial incentives have to be weighed against the stakeholders' needs (Smith, 2003).

Stakeholder theory has become more influential for business operation of firms over the year (Freeman & Reed, 1983). The manner of an interaction between a firm and its stakeholders is defined as stakeholder engagement. Stakeholder engagement received more attention, due to an increase of empirical evidence which suggest that stakeholders who are non-shareholders, may have an influence on the firm value. Dal Maso et al. (2017) states that stakeholder engagement is related to firm value in countries with a hierarchical culture. Thus, even stakeholder groups which are not directly financially related to the firm may still have an influence on the firms' financials.

However, a point of misuse of stakeholder engagement is made by Manetti (2011). He concluded that not all sorts of stakeholder engagement approaches are sincere. Not all ways of stakeholder engagement are sincere. Firms can fake a manner of responsible firm behavior, by communicating incorrect or incomplete information to the stakeholders (Kaptein and Wempe, 2002). These kinds of manipulation could occur more frequently under stakeholder management. The difference between stakeholder management and stakeholder engagement is reflected by the different ways of communication. Stakeholder management is predominately based on influencing stakeholder in favour of the management's needs. Stakeholder engagement is based on a more intense way of communication which addresses a two-way communication (Goodstein and Wicks, 2007).

Stakeholder engagement can be an influential factor on the ESG controversies performance and firm value relation. Stakeholder engagement can fulfil a variety of functions, if it is based on two-way communication, like informing and preference alignment. Stakeholder engagement is based on an interaction between a firm and its stakeholders. During those interactions information is transferred from the stakeholder to the firm and vice versa. Interaction can fulfil an informing need from both firm and stakeholder's perspective. On the one hand firms are able to inform stakeholders concerning for example ESG policy, organizational policy or product policy. On the other hand, stakeholders are able to communicate to the firm what their interest are concerning various policies. Communication focussing on stakeholder engagement can lead to better preference alignment relating to for example moral and ethical standards (Goodstein & Wicks, 2007). If preferences are better aligned, this could lead to an increase in trust in the firm's policies. The firm is aware of the policy measures, which are considered important by the stakeholders after all. A focus on stakeholder engagement does lead to an increase in the sustainable innovation orientation. Hence, stakeholder engagement could increase the overall importance of ESG controversies related topics (Ayuso et al., 2011).

Due to the stakeholder engagement process the materiality and relevance of information becomes clear (Manetti, 2011). The materiality refers to the potential impact information may have. For example, the size of stakeholder groups the information relates to. Stakeholder engagement can be reflected in a dialogue between the stakeholder and the firm. Thus, the firm and stakeholders both exchange their thoughts on raised issues. A dialogue between a firm and its stakeholders can lead to better alignment of interest (Tokoro, 2007; Agudo-Valiente et al., 2015). However, the result of a dialogue can be two-fold. First of all, a dialogue may lead to a change of the effect ESG controversies performance has on firm value, because stakeholders are better informed concerning the firms' policies. Thus, stakeholders are more certain about the good ESG controversies performance of a firm. Secondly, firms may insure themselves in case their ESG controversies performance is low or decreases, due to the fact that they have built up a certain level of trust by engaging with their stakeholders. In addition, the dialogue between firms and for example non-governmental organisations (NGOs) is dynamic. Firms and NOGs select each other as dialogue partners based on resources. For example, a firm specialised in wood harvesting and a NGO which protects wildlife. The dialogue is dynamic, because firms as well as NGOs adapt and try to find consensus, although NGOs adjust for a great extent to firms' demands (Fontana, 2018).

After all, the firm value of firms which engage with their stakeholders based on two-way communication, may be stronger influenced by ESG controversies performance due to better information supply.

Hypotheses 2: ESG controversies performance has a stronger positive effect on firm value for stakeholder engaging firms.

2.3 Stakeholder orientation

The second hypothesis states the notion of the potential moderating effect stakeholder engagement has on the ESG controversies performance and firm value relation. The scope of the second hypothesis is limited to firm level. However, as presents by Donaldson and Preston (1995) stakeholders are not limited to the firm level. Governments are also stakeholder for a firm. Although governments might not be a direct consumer of the product or service a firm delivers, governments still have an influence on the firms by means of policy, law and enforcement.

It may be the case that stakeholder engagement expressed itself differently between countries. (Dhaliwal et al., 2012). Stakeholder orientation is a stakeholder theory which focusses on country level influences. Stakeholder orientation is defined by Cheung et al. (2018) as: “Stakeholder orientation defines the extent to which corporate management’s vision of its roles and responsibilities includes the interests and claims of stakeholder groups such as customers, suppliers, employees, communities, and the general public, and the power and legitimacy of these stakeholder groups to influence corporate activities.”

The definition is two-sided. On the one hand it relates to the extent managers take stakeholders interest into account. On the other hand, it relates to the extent of stakeholder’s influence on firm’s activities. Thus, a two directional situation is displayed as two-way communication in the stakeholder engagement theory (chapter 2.2). Williams & Aguilera (2008) add to that by including the overall business culture within a country. The business culture can be stakeholder oriented or shareholder wealth enhancing.

The stake- and shareholder orientation is represented by a countries law, policy and business culture. If the laws, policies and business culture is purely based on the stakeholders’ interest, then a country is considered stakeholder oriented. High levels of consumer and employee protection are related to stakeholder oriented countries. Vice versa, if laws, policies and business culture within a country is purely based on the shareholders’ profit, then a country is considered shareholder oriented (Williams & Aguilera, 2008). In reality the stake- or shareholder distinction is relative. A country is considered in more or less extend stake- or shareholder oriented. The extend of stake- or shareholder orientation differs among countries. Stakeholder oriented countries are considered to give high priority to stakeholders. Some countries could be considered hybrid in this sense. For example, Italy

has no real distinct orientation (Dhaliwal et al., 2012). Country specific economic and political ideologies have influences on how a problem is approached. A difference in approach between European and North American countries is explained by Doh and Guay (2006). Doh and Guay's main focus is on political institutional structures and the impact of NGOs on decision-making. Political institutions appear to influence the dynamic interaction between firms and their stakeholders. The overall political climate has an influence on the dialogue a firm and stakeholders have. Institutions and practical measures on the country level which have an influence on the dialogue between firms and stakeholders are mentioned by Campbell (2007): "Corporations are more likely to act in socially responsible ways the more they encounter strong state regulation, collective industrial self-regulation, NGOs and other independent organizations that monitor them, and a normative institutional environment that encourages socially responsible behavior." Thus, stakeholder orientation of a country is assumed to have an influence on a firm's stakeholder engagement.

Current literature goes beyond the effects of stakeholder orientation on stakeholder engagement and relates stakeholder orientation with practical ESG sustainability related effects. Husted et al. (2017) state that the institutional context of country concerning ESG performance matters. A stakeholder oriented country tends to have a higher implementation rate of ESG sustainability initiatives. As mentioned before ESG performance is not identical to ESG controversies performance. However, stakeholder orientation might have an influence on the ESG controversies performance and firm value relation via the moderating term stakeholder engagement.

Thus, the potential moderation effect of stakeholder engagement needs to be corrected for the country's stakeholder orientation. Stakeholder orientation will increase the effect of stakeholder engagement has on the ESG controversies performance and firm value relation.

Hypothesis 3: ESG controversies performance has a stronger positive effect on firm value for stakeholder engaging firms in stakeholder oriented countries.

3. Research method

3.1 Sample and Data

3.1.1 Sample of hypotheses 1 and 2

The research makes use of panel data. Panel data contains different economic entities measured over multiple points in time. The research covers the period from 2015 till 2020. The years prior to 2015 are not included, due to a lack of ESG controversies performance data. The high number of missing values make it impossible to run a trustworthy regression. All data is extracted from the Eikon ESG DataStream database (Refinitiv, 2021). The sample consists of 8511 listed firms with a global spread (Table 1). In order to maximize the number of observations a global data sample is used. Table 1 represents the number of firms specified per country. The first two hypotheses are tested on 83 countries, which are displayed in Table 1. The firms are not equally distributed over the countries. The total of firms included is 8511 from which 2929 are listed in the US. Thus, US listed firms make up 34% of the firm total. This could have a negative effect on global generalisability.

Data issues are a well-known problem in ESG controversies related research. A few concessions have to be made concerning the ESG controversies performance data, due to the limited availability. The availability of ESG controversies performance data of a specific pillar is insufficient yet. A pillar is revered to as a single component of the ESG variable, which consists out of the components: environment, social and government. Although categorical specification is recommended by prior research as follow up research (Aouadi & Marsat, 2018). Within the ESG controversies research realm data unavailability is a well-known problem.

3.1.2 Sample of hypothesis 3

In order to test the third hypothesis a distinction has to be made between stake- and shareholder-oriented countries. The distinction is made on the basis of research done by Dhaliwal et al., (2012). Within that research 31 countries are analysed on stakeholder orientation. For those 31 countries (Table 2) data is available on stake- and shareholder orientation. The countries which are not included in the stakeholder orientation research of Dhaliwal et al. (2012) will be left out. Within the Dhaliwal et al. (2012) paper all countries are given a value of "ORIENT" as represented in Table 2. The ORIENT variable is an index variable which consists of four individual variables. STAKELAW, CSRLAW, PUBAWARE and PUBAWARE1 (Dhaliwal et al., 2012). Detailed information concerning the composition of the ORIENT variable can be found in Table 3. A country is stakeholder oriented if the STAKE value is positive. A negative STAKE value indicates a country is shareholder orientated. The STAKE variable is not a dummy variable, thus countries within, for example the stakeholder oriented group can differ in extent of stakeholder orientation. Denmark and U.K.

are both part of the stakeholder oriented countries group, however Denmark (2.95) is relatively more stakeholder oriented compared to the U.K (0.47) (Table 2).

The data of Dhaliwal (2012) is used in three different ways. The first sample consists of a stakeholder orientation dummy variable which is derived from the stakeholder orientation data used in Dhaliwal's research (2012). How the data is derived, is discussed in the variables part (3.4). The methodological intuition behind the stakeholder orientation dummy is discussed in the model part (3.3).

The second sample consist of the numerical data as used in Dhaliwal's research (2012). This is a split sample regression which contains the countries displayed in Table 2. Although a split sample analysis relates to a three-way interaction analysis different aspects are researched. The three-way interaction analysis researches if stakeholder and shareholder oriented countries differ significantly. The split sample analysis gives better insights in the effect stakeholder engagement has on the ESG controversies performance and firm value relation within stakeholder or shareholder oriented countries.

The third sample is a reduced version of the second split sample. The sample includes Denmark, Sweden, Norway, Finland, Australia and The Netherlands as stakeholder oriented countries. U.S.A., Korea, Malaysia, Brazil, Philippines, Thailand and India considered shareholder oriented countries. The hybrid countries with an ORIENT value between (-1.5 and 1.5) are left out. The position of the boundary is not based on research outcomes within current stakeholder theory. The decision is based on the consideration between preserving a large enough sample and dropping the countries which don't have strong stakeholder or shareholder orientation characteristics.

Table 1 Number of firms grouped by country (Alpha-2 Code), 2015-2020					
AE	20	FO	1	KW	13
AN	1	FR	158	KZ	1
AR	56	GB	454	LI	2
AT	33	GG	21	LK	1
AU	392	GI	1	LR	1
BE	50	GR	26	LU	34
BH	7	HK	69	MY	64
BM	118	HU	5	MA	3
BR	122	ID	45	MH	14
BS	2	IE	50	MT	2
CA	407	IL	23	MU	2
CH	130	IM	6	MX	55
CL	43	IN	163	NG	1
CN	589	IT	99	NL	76
CO	21	JE	25	NO	58
CZ	4	JO	1	NZ	58
DE	183	JP	463	OM	10
DK	46	KI	157	PA	6
EG	11	KE	1	PE	31
				PK	5
				PL	42
				PR	5
				PT	16
				QA	17
				RO	2
				RU	42
				SA	38
				SE	155
				SG	86
				SI	1
				TH	103
				TR	55
				TW	150
				UG	2
				US	2929
				VG	7
				VN	2
				ZA	121

ES	77	KR	152	PG	1	ZW	1
FI	41	KR	152	PH	26	Total	8511

Table 2					
Country	ORIENT	Stakeholder oriented	Country	ORIENT	Shareholder oriented
Denmark	2.95	Stake	Italy	-0.09	Share
Sweden	2.90	Stake	Portugal	-0.29	Share
Norway	2.62	Stake	Greece	-0.33	Share
Finland	1.89	Stake	Spain	-0.42	Share
Australia	1.58	Stake	Singapore	-0.59	Share
The Netherlands	1.52	Stake	Chile	-0.88	Share
Switzerland	1.34	Stake	Japan	-0.95	Share
Belgium	1.29	Stake	Hong Kong	-1.11	Share
Austria	1.25	Stake	South Africa	-1.42	Share
France	1.12	Stake	Mexico	-1.47	Share
Germany	0.81	Stake	U.S.A.	-1.55	Share
New Zealand	0.64	Stake	Korea	-1.57	Share
Canada	0.56	Stake	Malaysia	-1.76	Share
U.K.	0.47	Stake	Brazil	-1.92	Share
			Philippines	-1.93	Share
			Thailand	-1.96	Share
			India	-2.73	Share
Stakeholder orientation (ORIENT) represents the level of stakeholder orientation of a country (Dhaliwal et al.,2012). Countries with an ORIENT value above zero are considered stakeholder oriented (Stake). Countries with an ORIENT value below zero are considered shareholder oriented (Share).					

3.2 Variables

3.2.1 Dependent variable

Tobin's Q is a frequently used variable to measure firm value in ESG related research (Aouadi & Marsat, 2018; Krüger, 2014). The measure was introduced by Kaldor Nicholas (1966) and represents how the market value of its asset relates to its replacement value. Different operationalisations of Tobin's Q exist. Formula (1) is commonly used in economic research (Aouadi & Marsat, 2018; Krüger, 2014).

Formula 1:

$$Tobin's\ Q = \frac{Equity\ Market\ value + Liabilities\ book\ value}{Equity\ book\ value + Liabilities\ book\ value}$$

Tobin's Q cannot be considered as purely market or accounting based measure, because it is made up of both market and accounting-based components (Brainard & Tobin, 1968; Aouadi & Marsat, 2018). The Tobin's Q ratio consist out of three different variables. The first one is equity market value also known as market capitalisation, which is a factorisation of the number of shares which have been issued in total by the end of a specific year and the market value of the shares which are outstanding. The second variable which is part of Tobin's Q are total liabilities. In the formula total liabilities are represented the liabilities book value. The book value of the liabilities is the sum of short- and long-term liabilities. The third component of Tobin's Q is common equity or also revered to as equity book value. Common equity is the sum of all investments made by a firm's shareholders. Tobin's Q is a ratio measure. Tobin's Q measures if and to what extend a firm is under- or overvalued. A value below one could indicate that the firm is undervalued, because the replacement costs are higher than the value of the assets. A value exceeding one could indicate an overvaluation, because the replacement costs are lower than the value of the assets.

Using Tobin's Q as a measure of firm value requires a sample of listed firms. If firms are not listed an equity market value cannot be obtained. The variable comes with some disadvantages, because denominator represents the replacement value of the assets. It may be the case that for some assets the costs replacement is not exact enough, because defining replacement for every asset cost may be difficult. A second disadvantage refers to possible incorrect valuation of intangible assets, because some intangible assets are not generating revenue yet. However, Tobin's Q is overall considered to be a proper operationalisation of firm value.

Tobin's Q covers current as well as future profitability's (Aouadi & Marsat, 2018). Current profitability's are covered by the book value components. Future profitability's are part of the market-based component, which is the equity market value (Formula 1).

3.2.2 Independent variable

Controversies are negative news outlets, which are considered to have materially impact on corporations (Refinitiv, 2020). ESG controversies relate to one of the ESG pillars: environmental, social or governance pillar. The pillars are subdivided into topics. The ESG specific controversies are covered by the following topics: resource use; emissions; innovation; workforce; human rights; community; product responsibility; management; shareholders and corporate social responsibility (CSR) strategy (Refinitiv, 2020). The topics are derived from the ESG index variable.

Within current research dummy variables are predominantly used to measure a firm's controversies performance. ESG controversies dummy variables give, for example, a value of one if a firm is related to a ESG controversies and a value of zero if a firm is not. The use of dummy variables as and measure is broadly accepted, however it has its flaws. Due to the binary nature of the measure there is a risk of oversimplification. Firms are operating in the complexity of the real world in which ESG related controversies vary in intensity and frequency. Aouadi & Marsat (2018) state that more research on the ESG controversies topic is needed, due to lack of non-dummy variable research. Data which takes the more detailed manner of ESG controversies into account will provide the possibility to optimize ESG controversies related research. More detailed data is available nowadays. Refinitiv (2021) provides an ESG controversies performance measure which evaluates a firm's performance during a specific year, while taking into account the intensity and frequency of the ESG controversies. The Refinitiv ESG controversies data is generated via an algorithm (Nugent, 2021). The syntax of the algorithm is not publicly available. The algorithm uses internet searches and information provided by eminent news outlets to calculate a performance score. The impact of a ESG controversy is taken into account by assigning the scores. If the algorithm is uncertain in regarding the relevance of the news outlet in relation to a ESG controversy topic, then it will be sent to a human analyst for confirmation. The ESG controversies performance score data represents a relative score compared to the other firms in the sample.

Formula 2:

$$ESG \text{ controversies performance score} = \frac{\text{no. of companies with a worse value} + \frac{\text{no. of companies with the same value included in the current one}}{2}}{\text{no. of companies with a value}}$$

Thus, a high score (100) indicates that a firm is performing well compared to the other firms within the sample. A low score of for example 0.6 indicates that a firm is performing poorly (Refinitiv, 2020). In the case of a ESG controversies performance score of 100, ESG related controversies are not observed by the algorithm in a specific year for a firm. All scores are relative compared to each other. Making distinction between different pillars of the ESG controversies performance score on a global scale is not possible yet, due to data unavailability. Most of recent research on the relation between ESG controversies and firm value makes use of the complete ESG controversies index scores (Dorfleitner et al., 2020).

The main disadvantage of the variable is uncertainty caused by the algorithm. It may be hard to observe if the algorithm is making mistakes by analysing for example the news reports, because only the reports on which the algorithm is not certain are done manually. Thus, there is no check if all news report analyses performed by the algorithm are correct.

3.2.3 Moderating variables

The model includes two potentially moderating variables which relate to the concepts of stakeholder engagement and stakeholder orientation. The potential moderating effects are measured by two-way and three-way moderators. The two-way moderator measures the influence of stakeholder engagement. The three-way moderator measures the influence of stakeholder orientation.

3.2.3.1 Two-way moderator

The multiplicative interaction term which relates to stakeholder engagement consists of two variables. On the one hand the ESG controversies performance (ESGC) variable and on the other hand the stakeholder engagement (ENGAGE) variable. The Stakeholder engagement variable is described by Eikon as: “The variable focuses on various ways of communication, like customer opinion surveys, Employee surveys, conferences, supplier forums and meetings and face-to-face interviews. A requirement is two-way communication between stakeholders and firms.” (Refinitiv, 2021). The

multiplicative interaction term ($ESGC*ENGAGE$) is added to account for the moderating effect. The moderator's purpose is to clarify the effect of stakeholder engagement on the ESG controversies and firm value relation. Stakeholder engagement ($ENGAGE$) is a dummy variable which, gives a value of one if a firm engages with their stakeholders, based on two-way communication. The manner of the two-way communication can be divers. The main communication channels are survey, interviews or reports. The main limitation of this variable is that a firm is assigned a one value if the firm makes it publicly clear that they interact with their stakeholders via two-way communication. This could be via social reporting or a survey on the firm's publicly available website. Thus, there actually are no real requirements the firms have to meet. The quality of the reporting is not guaranteed by means of a reporting standard. However, the reason why this interaction term is included in the research is because of data availability and the scarcity of stakeholder engagement data with a global coverage elsewhere.

In addition, other downsides have been taken into account while using the stakeholder engagement variable. These points are partly mentioned in the literature review chapter. Not all kinds of stakeholder engagement are considered to be as sincere as they appear initially. Managers can take advantage of the relation they have with stakeholders. Thus, it is important that the variables maintain the requirement of two-way communication. This reduces the chance that stakeholders are misled.

3.2.3.2 Three-way moderator

A three-way moderator will correct for stakeholder orientation. The three-way moderator consists of a multiplicative interaction term of three variables. The three-way moderator ($ESGC*ENGAGE*ORIENT$) consists of ESG controversies performance, stakeholder engagement and stakeholder orientation. ESG controversies is a non-dummy variable, with a value between zero and one hundred (chapter 3.2.2). Both stakeholder engagement and stakeholder orientation are dummy variables. Thus, the multiplicative interaction term has a value between zero and one hundred. A multiplicative interaction term value of zero implies as situation in which at least one of the three variables of the interaction term has a value of zero. If a value differs from zero, then the firm engages with their stakeholders; the country in which the firm is listed is stakeholder oriented and ESG controversies performance differs from zero. Stakeholder orientation variable is included as a dummy variable, because it contributes to the interpretation of the coefficient. Moreover, the split sample analysis does include the stakeholder orientation as a numerical value. Thus, if a real effect exists, then it will become clear anyway.

3.2.4 Control variables

Current literature assumes a diversity of factors influencing firm value. Within the analysis those relations have to be taken into account by using control variables. Using the control variables reduces the chance that the results of the effect on the dependent variable are in reality caused by other variables than the assumed independent and moderating variable. Including control variables will in the end increase the explanatory power of the model.

The control variables included are capital expenditure (CAPEX), ESG performance (environmental, social, governance), dividend yield (DIV), operating income (OI), research and development (RD), return on assets (ROA), firm size (SIZE) and sales and revenue growth (SRG).

The regression includes ESG as a control variable to correct for a potential positive relation with firm value (Aouadi & Marsat, 2018). Furthermore, return on assets (ROA) and operating income (IO) are considered to have a positive relation with firm value. Capital expenditure (CAPEX) are assumed to have an influence on firm value. A rise of capital expenditures accumulates wealth and fosters firm value. Capital expenditures are funds that are needed to purchase fixed assets. Capital expenditures and firm value are assumed to be positively related (Jiao, 2010). Besides capital expenditure dividend yield (DIV) is included in the regressions as a control variable (Aouadi & Marsat, 2018). Jiao (2010) stated that dividend yield is related to firm value. A firm with higher research and development (R&D) is assumed to have a higher firm value, due to the fact that on the long-term human capital which is accumulated by R&D expenses will pay out. R&D expenses are set to zero, if a firm's R&D expenses are missing in the data sample. This is a frequently used method to handle missing data concerning R&D expenses (Aouadi & Marsat, 2018; Barnett & Salomon, 2012). The growth factor control variable is indicated by annual sales or revenue growth rate (SRG). The expectation is that a firms growth rate is related to is firm value. A high growth rate will lead to higher firm value. Firm size (SIZE) is a common control variable for firm value. Firm size is measured as the natural logarithm of total assets. If a firm possesses more assets this provide a higher firm value. Thus, a positive relation between firm size and firm value is expected. Table three represents the summarization of the variables.

Table 3		
Variable	Eikon code	Definition Eikon (Refinitiv, 2021) / (Dhaliwal et al.,2012)
Q (Tobin's Q)	(WC08001+WC03351)/ (WC03501+WC03351)	-WC08001: Market Capitalization: Market Price-Year End * Common Shares Outstanding -WC03351: TOTAL LIABILITIES represent all short- and long-term obligations expected to be satisfied by the company. -WC03501: COMMON EQUITY represents common shareholders' investment in a company.
ESGC (ESG controversies performance score)	TRESGCCS	ESG controversies category score measures a company's exposure to environmental, social and governance controversies and negative events reflected in global media.
ENGAGE (Stakeholder engagement score)	CGVSDP023	Does the company explain how it engages with its stakeholders? - Information on how the company is engaging with its stakeholders, how it is involving the stakeholders in its decision-making process; what procedures are in place for engagement - Focus on having established two-way communication between the company and its various stakeholders
ORIENT (Stakeholder orientation)		Defined by: (Dhaliwal et al. 2012) "STAKELOW: A measure primarily assessing the legal environment of a country in protecting labour rights. CSRLAW: if the country has mandatory disclosure requirements on CSR issues for industrial companies or pension funds. PUBAWARE: Public awareness, based on public awareness issues at the country level. Includes the number of NGO per million capita and number of CSR reports issued. PUBAWARE1: Score based on surveys. Includes: sustainable development priority, ethical practice implementation, social responsibility of business leaders, corporate responsibility competitiveness index. "
CAPEX (Capital expenditures)	DWCX	Capital Expenditures represent the funds used to acquire fixed assets other than those associated with acquisitions. It includes but is not restricted to: - Additions to property, plant and equipment Investments in machinery and equipment.
DIV (Dividend yield)	DY	The dividend yield expresses the dividend per share as a percentage of the share price. The underlying dividend is calculated according to the same principles as datatype DPSC (Dividend per share, current rate) in that it is based on an anticipated annual dividend and excludes special or once-off dividends.
ESG (Environment, social, governance)	TRESGS	Refinitiv's ESG Score is an overall company score based on the self-reported information in the environmental, social and corporate governance pillars.
OI (Operating Income)	WC01250	OPERATING INCOME represents the difference between sales and total operating expenses
RD (Research & Development)	WC01201	RESEARCH AND DEVELOPMENT EXPENSE represents all direct and indirect costs related to the creation and development of new processes, techniques, applications and products with commercial possibilities.
ROA (Return on assets)	WC08326	$\frac{(\text{Net Income} - \text{Bottom Line} + ((\text{Interest Expense on Debt} - \text{Interest Capitalized}) * (1 - \text{Tax Rate})))}{\text{Average of Last Year's and Current Year's Total Assets}} * 100$
SIZE (ln(TA))	WC02999	TOTAL ASSETS represent the sum of total current assets, long term receivables, investment in unconsolidated subsidiaries, other investments, net property plant and equipment and other assets.
SRG (Annual growth per year, net sales/ revenues)	WC08631	$\frac{(\text{Current Year's Net Sales or Revenues} / \text{Last Year's Total Net Sales or Revenues} - 1) * 100}{\text{Interim Time Series: } (\text{Current Year's Trailing 12 Months Net Sales or Revenues} / \text{Last Year's Trailing 12 Months Total Net Sales or Revenues} - 1) * 100}$ This calculation uses restated data for last year's values where available

3.3 Model

The method used to test the hypotheses is a panel data analysis. The research includes multiple economic entities over multiple points in time. Panel data analysis is a commonly used method in ESG and firm value related research (Aouadi & Marsat, 2018; Krüger, 2014).

The analyses that can be done on a panel data set are diverse. The most common options for models are pooled panel, fixed effect panel and random effects panel. The pooled panel analysis is not used, because the assumptions made within the model are not applicable to our data sample. Pooled panel assumes that all intercepts and effects are the same for every firm (economic entity). Thus, firm are assumed to be identical. Perfect similarity is almost never the case in reality, neither in the sample of this paper. That is the reason why a pooled panel analysis is not an option. The remaining options are a fixed effects and random effect panel data analysis. The fixed effect model assumes differences between firms over time. Thus, its focus lays on the change over time for a specific firm. Which results is a different intercept per firm, however effects are assumed the same for all firms. The random effect model allows for individual differences in effect over time. To be able to check which model fits our data sample best, a Hausman test has to be done. The Hausman test gives significant result, thus using a fixed effect model compared to random effect model gives at least the same consistency. Which results in a preferred choice for the fixed effects model. An additional advantage of the fixed effect model is that industry and country dummies do not have to be included explicitly, because the model implicitly controls for them.

Equation 1

$$\ln Q_{it} = \beta_0 + \beta_1 ESGC_{it-1} + \beta_2 ENGAGE_{it-1} + \beta_3 ESG_{it-1} + \beta_4 CAPEX_{it-1} + \beta_5 DIV_{it-1} + \beta_6 OI_{it-1} + \beta_7 ROA_{it-1} + \beta_8 RD_{it-1} + \beta_9 SRG_{it-1} + \beta_{10} SIZE_{it-1} + \varepsilon_{it}$$

Equation 2

$$\ln Q_{it} = \beta_0 + \beta_1 ESGC_{it-1} + \beta_2 ENGAGE_{it-1} + \beta_3 ESGC * ENGAGE_{it-1} + \beta_4 ESG_{it-1} + \beta_5 CAPEX_{it-1} + \beta_6 DIV_{it-1} + \beta_7 OI_{it-1} + \beta_8 ROA_{it-1} + \beta_9 RD_{it-1} + \beta_{10} SRG_{it-1} + \beta_{11} SIZE_{it-1} + \varepsilon_{it}$$

Equation 3

$$\ln Q_{it} = \beta_0 + \beta_1 ESGC_{it-1} + \beta_2 ENGAGE_{it-1} + \beta_3 ORIENT_{it-1} + \beta_4 ESGC * ENGAGE_{it-1} + \beta_5 ESGC * ORIENT_{it-1} + \beta_6 ENGAGE * ORIENT_{it-1} + \beta_7 ESGC * ENGAGE * ORIENT_{it-1} + \beta_8 ESG_{it-1} + \beta_9 CAPEX_{it-1} + \beta_{10} DIV_{it-1} + \beta_{11} OI_{it-1} + \beta_{12} ROA_{it-1} + \beta_{13} RD_{it-1} + \beta_{14} SRG_{it-1} + \beta_{15} SIZE_{it-1} + \varepsilon_{it}$$

Three regression equations are presented above. Equation one (EQ1), equation two (EQ2) and equation three (EQ3), refer to hypothesis one, hypothesis two and hypothesis three.

All equations contain the dependent variable Tobin's Q (LnQ). Tobin's Q is the variable on which the effects of the independent, moderators and control variables are measured. The economic entity and time are represented by 'i' and 't'. B_0 (EQ1, EQ2, EQ3) represents the constant factor of the regression equation. The constant factor represents the y-intercept. The independent variable, moderating variables, and controls are lagged by one year, this is indicated by the (t-1) designation. T refers to the year the dependent variable data. If the year of Tobin's Q is for example (t) 2020, then the controls cover data from (t-1) 2019. Error term (ϵ) corrects for the differences between the statistical outcome and the real-world observation.

The first regression equation contains the main relation and measures the effect of ESGC (EQ1: β_1) on LnQ. The control variables included are: ESG, capital expenditures (CAPEX), dividend yield (DIV), operating income (OI), return on assets (ROA), research and development (RD), annual growth rate of sales or return (SRG) and firm size (SIZE), (EQ1: $\beta_2, \dots, \beta_{10}$).

The second equation adds a moderating effect (EQ2: β_3) compared to the first equation. The moderating effect measures the effect of stakeholder engagement on the ESG controversies performance and firm value relation.

The third equation consists of one three-way interaction term (EQ3: β_7) and three two-way interaction terms (EQ3: $\beta_4, \beta_5, \beta_6$). The three-way interaction term measures the influence of stakeholder orientation on the relation stated in the second hypothesis (EQ2). Interaction term ESGC*ENGAGE (EQ3: β_4) represents the same relation as in equation two (EQ2: β_3). ESGC*ORIENT (EQ: β_5) controls for an effect of stakeholder orientation on ESG controversies performance. ENGAGE*ORIENT (EQ: β_6) controls for an effect of stakeholder orientation on stakeholder engagement.

4. Results

4.1 Descriptive statistics

Variable 2015-2020	Obs	Mean	Std. Dev.	VIF	Min	Max
Q	48,101	3.218007	215.8722	1.28	-227.3707	47307.66
ESGC	32,395	93.8151	18.63343	2.89	.42	100
ENGAGE	34,105	.4024337	.4903956	1.28	0	1
ORIENT	41,130	0.326915	0.469092	1.86	0	1
ESGC*ENGAGE	29,163	36.2244	46.53695	-	0	100
ESGC*ENGAGE*ORIENT	24,201	13.55052	33.26006	-	0	100
CAPEX	47,616	4.64e+07	7.06e+08	5.48	-4.80e+08	5.09e+10
DIV	47,709	2.309654	12.8257	1.20	0	1760.39
ESG	36,259	42.51046	20.49907	1.79	.11	94.38
OI	49,907	7.38e+07	1.03e+09	4.62	-4.59e+09	5.89e+10
ROA	48,340	-.0011633	9.197956	1.11	-1969.047	4.61049
RD	19,688	1.84e+07	3.27e+08	4.37	-7463	2.11e+10
SRG	48,710	101.8695	6679.835	1.00	-100	1273900
SIZE	49,923	2.09e+09	2.73e+10	1.36	0	1.50e+12

From the data summary we can observe that the number of ESG controversies performance (ESGCONTR) observation in 2020 (Appendix 1, Table 4.7) dropped drastically compared to the year 2019 (Appendix 1, Table 4.6). Thus, 2020 will be excluded from the sample. It takes time for a ESG controversies performance data to affect the firm value. This assumption is often made by research within the CSP realm (Aouadi & Marsat, 2018). The independent variables, control variables and the moderating variable within the regression will contain a one-year lag, because it takes time to observe the effect of the independent variables on the dependent variable. Within the research we assume that an effect of ESG controversies performance and stakeholder engagement will need a year to have its effect on firm value. Due to the one-year lag of the data only data of the dependent variable in 2020 is needed. The dependent variable has over 8000 observations in 2020.

The assumptions need to be tested to ensure the usability of the data. Running regressions with data that violates assumptions will reduce or negate the ability to test the hypothesis in a reliable way. The following assumptions will be tested: multicollinearity, heteroscedasticity and autocorrelation. The correlation matrix (Table 5) represents all variables of the sample. Every value represents the correlation between two variables. Between parentheses the level of significance is given in the form of a two-tailed p-value. Above the two-tailed p-value the correlation coefficient is given. Although quite some correlation coefficients are significant only a few do have a large

correlation coefficient. To make sure that the potential correlation doesn't have a severe impact on the final regression the variance inflation factor will be used to give a better insight. The VIF test will be performed on all variables, to exclude the possibility of impermissible multicollinearity within the sample. The fifth column of Table 4.1 represents the individual VIF scores per variable. Some discussion concerning the critical VIF value exists some use 5 and others 10 (Hair, et al., 1995; Ringel, et al., 2015). Within the sample two variables are relatively high, CAPEX (5.48) and RD (4.37). RD does not exceed 5 nor 10, so RD will be used in the as a control variable. CAPEX does exceed 5 as a critical value slightly. Still, in CAPEX will be included in our sample due to the academic opposition on the critical VIF value topic. In addition, it is a rigorous decision to exclude a potential influential variable form an analysis. Thus, after analysing the data on collinearity no convincing evidence to exclude variables from the sample is found.

Testing for heteroscedasticity is done via the Breusch pagan test. Homoscedasticity is needed to be able to interpret the final regression properly, while the standard deviation of the predicted variables do need to be constant over time. If data is heteroscedastic, it indicates that the standard deviations of the variables increase while time passes. Thus, the model becomes increasingly insecure over time. The Breusch pagan test represents a significant value, which signifies that the data is heteroskedastic. The data needs modification to overcome the heteroskedasticity. A common way to overcome heteroskedastic is by making use of robust standard errors while running the regression. The effect of the problematic biased standard errors will be limited. Robust standard errors are commonly used within economic research if large samples of data are used, because it can be hard to reveal the data structures of those large samples. The sample used within this research covers over 8000 economic entities and 6 points in time. Thus, making use of robust standard error would be preferred.

In addition, the autocorrelation assumption will be tested. Autocorrelation represents to what extent the value of a variable x at t is related to the value at $t-1$, $t-2$ etc. This leads to an overestimation of the real number of observations, if some observations are correlated over time. To test for autocorrelation within the model a Wooldridge test for autocorrelation in panel data is carried out. The test is significant ($p < 0.05$). The null hypothesis: 'no first-order autocorrelation' is rejected. Thus, this indicates that the data sample suffers from autocorrelation. The data sample which is used in our analysis has a large N and a small T . Thus, relatively many economic entities over a small time period. In this case making use of robust standard errors is a good way to overcome autocorrelation.

4.2 Test of hypotheses

4.2.1 Hypothesis 1

The first hypothesis tests the direct relation between ESG controversies and firm value.

Current literature does not provide consensus on the existence of a relation between ESG controversies performance and firm value (Kang & Kim, 2013; Krüger, 2014; Nirino et al., 2021; Aouadi & Marsat, 2018). By testing the hypothesis, we want to make clear if a positive relation between ESG controversies performance and firm value exists. The regression results are represented in Table 6.

Table 6				
Hypothesis 1	Model 1 (lnQ)		Model 2 (lnQ)	
L.ESGC	0.000396***	(4.30)	0.000225*	(2.39)
L.CAPEX			-8.81e-12	(-1.34)
L.DIV			-0.00258*	(-2.02)
L.ESG			-0.000549	(-1.87)
L.OI			-5.64e-12	(-1.60)
L.ROA			0.000356***	(13.82)
L.RD			7.69e-11***	(3.95)
L.SRG			-0.000000137	(-0.61)
L.SIZE			-0.139***	(-10.61)
Constant	0.417***	(48.13)	2.751***	(13.00)
Year	Yes		Yes	
N (observations)	29236		25826	
N (firms)	8204		7206	
Within (R^2)	0.0007		0.0330	
Between	0.0040		0.1252	
Overall	0.0020		0.1126	
Prob > F	0.0000		0.0000	
	F (1.8203) = 18.50		F (11.1857) = 58.76	
Coefficients; * p<0.05, ** p<0.01, *** p<0.001; t statistics in parentheses				
Definitions of variables in Table 3				

Table 6 represents two models. The first model contains the effect of ESGC on Tobin's Q (lnQ) without taking control variables into account. A relation without controls appears to exist. A one percent increase in ESGC causes a 0.000396*** (4.30) increase of Tobin's Q. This is in line with the first hypothesis. Adding control variables decreases the positive effect of ESGC on Tobin's Q slightly to 0.000225*, as small as it may seem, the effect is significant. Thus, hypothesis one can be supported, based on the regressions represented in Table 6.

With regard to the control variables a relation between the ESG and firm value appears not to exist. An increase of the ESG score by one percent leads to insignificant decrease of 0.000549 (1.-87) of next year's Tobin's Q. Concerning the control variables, capital expenditure (CAPEX), operating

income (OI) and sales or return growth (SRG) are not significant, with a $p < 0.05$. All other control variables are significant with at least a $p < 0.05$. Dividend yield (DIV) has a negative effect on $\ln Q$ and research and development expenses lead to a higher $\ln Q$ value. These results are in line with previous research (Aouadi & Marsat, 2018). Both regressions have a significant F-test and the overall explanatory power (R^2) of the second model is 12.52%.

4.2.2 Hypothesis 2

The second hypothesis consists out of the first hypothesis plus the stakeholder engagement (ENGAGE) variable and the moderator (ESGC*ENGAGE).

The first model of Table 7 does not contain control variables, however solely takes into account ESGC, ENGAGE and ESGC*ENGAGE. The ESG controversies performance variable still shows a similar positive effect on Tobin's Q as in table 6. The coefficient is 0.0004268* (2.56), thus a one percent increase of ESGC causes Tobin's Q to increase by 0.0004268. The moderator has an insignificant coefficient of -0.0000880 (-0.45) on Tobin's Q. The first model (Table 7) contains 7657 different firms. The explanatory power of the model with 1.9% relatively low. Based on the first model (table 7) the second hypothesis cannot be supported.

By adding the control variables in model 2 (Table 7) the initial effect of ESGC on Tobin's Q becomes insignificant as well, with a coefficient of 0.000197 (1.13). The control variables which are significantly related to Tobin's Q are: DIV, ROA, RD and SIZE. The model contains 7204 firms. Compared to model one the explanatory power increased to 11.32%. Thus, on the basis of model 2 (Table 7) hypothesis one should be rejected.

Table 7				
Hypothesis 2		Model 1 (lnQ)		Model 2 (lnQ)
L.ESGC		0.000426*	(2.56)	0.000197 (1.13)
L.ENGAGE		-0.0365	(-1.80)	-0.0205 (-0.98)
L.ESGC*ENGAGE		-0.0000880	(-0.45)	0.0000329 (0.16)
L.ESG				-0.000342 (-1.11)
L.CAPEX				-8.76e-12 (-1.33)
L.DIV				-0.00257* (-2.03)
L.OI				-5.63e-12 (-1.59)
L.ROA				0.000355*** (13.66)
L.RD				7.66e-11*** (3.95)
L.SRG				-0.000000138 (-0.61)
L.SIZE				-0.139*** (-10.50)
Constant		0.424***	(26.17)	2.744*** (12.78)
Year		Yes		Yes
N (observations)		28053		25788
N (firms)		7657		7204
Within (R ²)		0.0032		0.0336
Between		0.0249		0.1256
Overall		0.0196		0.1132
Prob > F		0.0000		0.0000
		F (3.7656) = 18.41		F (11.1857) = 58.76
Coefficients; * p<0.05, ** p<0.01, *** p<0.001; t statistics in parentheses				
Definitions of variables in Table 3				

The regression performed in Table 7 assumes a one-year lag. Although it may be the case that the effect of the moderator becomes visible after two years. In that case assuming a one-year lag is too short. In order to research an extended interval an additional regression is provided in Table 7.1. Table 7.1 represents a two-year lag on ESGC, ENGAGE and ESGC*ENGAGE variables. The worth mentioning difference is stakeholder engagement (L2.ENGAGE) becoming significant in the first model (Table 7.1). ENGAGE is not significant in Table 7 with a one-year lag. Although, the second model represents an insignificant result on stakeholder engagement, the moderator does not become significant with a two-year lag. Thus, including control variables leads to a disappearance of the initial significant effect of ENGAGE on Tobin's Q.

Table 7.1					
Hypothesis 2		Model 1 (lnQ)		Model 2 (lnQ)	
L2.ESGC		0.000284	(1.57)	0.000242	(1.30)
L2.ENGAGE		-0.0417*	(-2.06)	-0.0248	(-1.19)
L2.ESGC*ENGAGE		-0.000121	(-0.60)	-0.000126	(-0.61)
L.ESG				-0.000567	(-1.61)
L.CAPEX				-6.19e-12	(-0.97)
L.DIV				-0.00199**	(-2.68)
L.OI				-9.16e-12**	(-2.59)
L.ROA				0.00344	(0.09)
L.RD				6.48e-11***	(3.53)
L.SRG				-0.000000363	(-1.52)
L.SIZE				-0.0966***	(-6.64)
Constant		0.424***	(26.17)	2.529***	(-5.90)
Year		Yes		Yes	
N (observations)		22120		20659	
N (groups)		6960		6638	
Within (R^2)		0.0035		0.0182	
Between		0.0218		0.1107	
Overall		0.0169		0.1005	
Prob > F		0.0000		0.0000	
		F (3.6959) = 18.41		F (11.1401) = 23.56	
Coefficients; * p<0.05, ** p<0.01, *** p<0.001; t statistics in parentheses					
Definitions of variables in Table 3					

4.2.3 Hypothesis 3

The third hypothesis is research which is tested in two different methodological ways. The first test of hypothesis three is performed, making use of a three-way interaction term. The second method is a split sample analysis. The methodological implications are explained in the sample and data part (ch. 3.1).

The first regression includes a three-way interaction term as represented in Table 8. The three-way interaction term consists of the variables: ESGC, ENGAGE and ORIENT. Model one of Table 8 represents the main relation stated in hypothesis 3 without control variables. Model two represents the regression including the control variables.

Table 8					
Hypothesis 3		Model 1 (lnQ)		Model 2 (lnQ)	
L.ESGC		0.000426*	(2.56)	0.000111	(0.48)
L.ENGAGE		-0.0365	(-1.80)	-0.0375	(-1.26)
L.ORIENT		-0.103	(0.51)	-0.222	(0.73)
L.ESGC*ENGAGE		-0.0000880	(-0.45)	0.000197	(0.68)
L.ORIENT*ENGAGE		0.0226	(0.49)	0.0323	(0.72)
L.ORIENT*ESGC		0.000251	(0.66)	0.000324	(0.85)
L.ESGC*ENGAGE*ORIENT		-0.000338	(-0.73)	-0.000442	(-1.01)
L.ESG				-0.0000970	(-0.31)
L.CAPEX				8.99e-12	(1.06)
L.DIV				-0.00238*	(-2.06)
L.OI				-1.09e-11**	(-3.09)
L.ROA				0.000364***	(14.54)
L.RD				6.77e-11***	(6.15)
L.SRG				-0.000000154	(-0.64)
L.SIZE				-0.144***	(-11.51)
Constant		0.424***	(26.17)	2.792***	(13.92)
Year		Yes		Yes	
N (observations)		23255		21334	
N (groups)		6218		5835	
Within (R^2)		0.0031		0.0312	
Between		0.0245		0.1536	
Overall		0.0238		0.1428	
Prob > F		0.0000		0.0000	
		F(6.1703) = 9.42		F(14.1549) = 38.95	
Coefficients; * p<0.05, ** p<0.01, *** p<0.001; t statistics in parentheses					
Definitions of variables in Table 3					

ESG controversies performance has a positive effect on Tobin's Q in the first model. An increase of ESGC by one percent lead to an 0.000426 increase of Tobin's Q. The effect is significant however weak. None of the other variables has a significant effect on Tobin's Q. Thus, evidence that stakeholder engagement or stakeholder orientation influences Tobin's Q is not found. The three-way interaction term has an insignificant coefficient of -0.000338. The model contains 6218 individual firms and the overall explanatory power of the model is low with 2.38%.

The second model of Table 8 represents a regression including the control variables. The significant effect of ESG controversies performance on Tobin's Q from model one has disappeared. In addition, the stakeholder engagement and stakeholder orientation variables are not significant. The significant control variables are: DIV, OI, ROA, RD and SIZE. The overall explanatory power of model two is 14.28% and 5835 firms are included in the model.

The country level characteristics of stake- and shareholder orientation are used to make a distinction between samples as elaborated in chapter 3.1. The regressions are represented in Table

8.1. The firms listed in a stakeholder oriented country are part of model one and model two. The firms listed in a shareholder-oriented country are part of the models three and four. The regression itself is similar as those used to test hypothesis 2 (Table 7 and 7.1). The only difference is that two subsamples are tested separately. The first subsample contains all firms which are listed in stakeholder oriented countries. The second subsample contains all firms which are listed in shareholder oriented countries.

Table 8.1		Stakeholder oriented		Shareholder oriented					
Hypothesis 3		Model 1 (lnQ)		Model 2 (lnQ)		Model 3 (lnQ)		Model 4 (lnQ)	
L.ESGC	0.000605* (2.00)	0.000393 (1.30)	0.000354 (1.62)	0.000138 (0.59)					
L.ENGAGE	-0.0249 (-0.74)	0.0000753 (0.00)	-0.0475 (-1.66)	-0.0355 (-1.20)					
L.ESGC*ENGAG	-0.000282 (-0.86)	-0.000216 (-0.66)	0.0000559 (0.20)	0.000159 (0.55)					
L.ESG		-0.000190 (-0.31)		-0.0000250 (-0.07)					
L.CAPEX		-1.26e-9 (-0.53)		9.03e-12 (1.05)					
L.DIV		-0.00193** (-2.96)		-0.0129*** (-6.86)					
L.OI		5.39e-10 (0.45)		-1.16e-11** (-2.99)					
L.ROA		0.000444** (11.12)		0.0637 (1.02)					
L.RD		1.71e-8 (1.29)		6.92e-11*** (6.47)					
L.SRG		-0.00000146*** (-3.68)		1.91e-08 (6.47)					
L.SIZE		-0.187*** (-9.00)		-0.122*** (-7.91)					
Constant	0.387*** (13.13)	3.234*** (10.42)	0.482*** (22.70)	2.537*** (9.92)					
Year	Yes	Yes	Yes	Yes					
N (observations)	7545	6801	15710	14533					
N (groups)	2052	1902	4166	3933					
Within (R^2)	0.0043	0.0524	0.0027	0.0304					
Between	0.0101	0.1143	0.0349	0.1768					
Overall	0.0061	0.0787	0.0286	0.1751					
Prob > F	0.0000 F (3.2051) = 8.53	0.0000 F (11.1901) = 28.34	0.0000 F (11.1901) = 8.43	0.0000 F (11.1059) = 30.21					
Coefficients; * p<0.05, ** p<0.01, *** p<0.001; t statistics in parentheses									
Definitions of variables in Table 3									
The sample of stakeholder oriented countries contains solely countries with a ORIENT value above zero. The sample of shareholder oriented countries contains solely countries with a ORIENT value below zero.									

The first model represents a positive effect of ESGC on $\ln Q$ (Table 8.1). An increase of ESGC of one percent causes $\ln Q$ to increase by 0.000605^* (2.00). The moderator in model one is not significant with a coefficient of -0.000282 (-0.86). Adding the control variables in the second model makes the significance of ESGC disappear. The third and fourth model in which solely shareholder-oriented countries are included does not show a significant effect of ESGC and $\text{ESGC} \times \text{ENGAGE}$ on $\ln Q$ either (Table 9). On the basis of the regression displayed in Table 8.1 the third hypothesis cannot be accepted.

A second split sample will be used to research if a certain level of stakeholder orientation is needed to be able to observe an effect. The first split sample (Table 8.1) does include firms which are listed in countries which have a relatively low stakeholder orientation score for example U.K. 0.47. The second split sample analysis (Table 8.2) only includes firms which are listed in countries which have stakeholder orientation score (STAKE) of at least 1.5 as mentioned at the sample and data part (Chapter 3.1). The same line of reasoning is used for firms which are listed in the shareholder-oriented countries. Those countries need to have a shareholder orientation level (STAKE) of maximum -1.5.

The second split sample is represented in Table 8.2. The first model represents a positive relation between ESG controversies performance (ESGC) and firm value ($\ln Q$). The ESGC coefficient is 0.00242^{**} (2.88). Thus, an increase of the ESGC variable by one percent causes an increase in $\ln Q$ by 0.00242. In addition, the moderator has a significant coefficient of -0.00228^{**} (-2.61). The hypothesis is not supported by the moderating effect, while the hypothesis assumes a positive effect.

The negative moderator effect in model one assumes that stakeholder engagement ($\text{ESGC} \times \text{ENGAGE}$) leads to a decreased impact of ESG controversies performance (ESGC) on the firm value ($\ln Q$) of firms which are listed in stakeholder oriented countries.

The second model (Table 8.2) does still show a positive significant ESGC coefficient of 0.00170^* (2.22) for ESGC. In addition, the moderator stays significant if the control variables are added. The coefficient of the moderator keeps its negative coefficient. Thus, third hypothesis cannot be accepted based on the results represented in the second model (Table 8.2).

Table 8.2		Sample of stakeholder oriented countries		Sample of shareholder oriented countries				
Hypothesis 3	Model 1 (lnQ)		Model 2 (lnQ)		Model 3 (lnQ)		Model 4 (lnQ)	
L.ESGC	0.00242**	(2.88)	0.00170*	(2.22)	0.000400	(1.73)	0.000195	(0.79)
L.ENGAGE	-0.138	(1.52)	0.139	(1.64)	-0.0179	(-0.49)	-0.00690	(-0.18)
L.ESGC*ENGAGE	-0.00228**	(-2.61)	-0.00178*	(-2.23)	-0.0000940	(-0.27)	-0.00000700	(-0.02)
L.ESG			-0.000242	(-0.17)			0.000318	(0.67)
L.CAPEX			-1.37e-10	(-0.05)			9.33e-12	(1.07)
L.DIV			-0.00174****	(-3.86)			-0.0112***	(-4.73)
L.OI			7.2e-10	(0.58)			-1.13e-11**	(-2.94)
L.ROA			0.000510***	(8.41)			0.0448	(0.67)
L.RD			4.34e-08***	(3.63)			6.68e-11***	(6.58)
L.SRG			-0.00000146***	(-3.57)			1.99e-08	(0.40)
L.SIZE			-0.224***	(-6.87)			-0.118***	(-6.99)
Constant	0.293***	(3.54)	3.686***	(7.65)	0.560***	(25.12)	2.441***	(9.17)
Year	Yes		Yes		Yes		Yes	
N (observations)	2563		2338		11801		10767	
N (groups)	709		666		3186		2972	
Within (R^2)	0.0083		0.0664		0.0012		0.0248	
Between	0.0150		0.0828		0.0093		0.1461	
Overall	0.0101		0.0462		0.0087		0.1418	
Prob > F	0.0004		0.0000		0.0459		0.0000	
	F (3.708) = 6.06		F (11.665) = 160.34		F (3.3185) = 2.67		F (11.7784) = 17.99	
Coefficients; * p<0.05, ** p<0.01, *** p<0.001; t statistics in parentheses								
Definitions of variables in Table 3								
The sample of stakeholder oriented countries contains solely countries with a ORIENT value above 1.5. The sample of shareholder oriented countries contains solely countries with a ORIENT value below -1.5.								

4.3 Robustness test

Tobin's Q is the dependent variable which is used to test the hypothesis and is accepted as a firm value measure. However, besides using a purely firm value measure other corporate firm performance measure will be used as the dependent variable in a robustness test. Tobin's Q has characteristic of a market and an accounting based measure. In the robustness test market value (MV) is used as a purely market based measure and return on assets (ROA) as an accounting based measure. These measures are previously used as robustness test in ESG controversies related research (Aouadi & Marsat, 2018). The number of observations on both variables is at least 45.000 (Appendix 2, Table 9.1) A data sample with a period of 2015-2020 is used in the regression analysis. Both variables are obtained from the Eikon data base (Refinitiv, 2021; Appendix 2, Table 9.2).

The results of the robustness test are represented in Table 9. Model one and two use market value as dependent variable and models three and four return on assets. Model one and three test hypothesis one. Models three and four include stakeholder engagement as a moderator, so they test hypothesis two. Table 9 represent no significant effect of ESG controversies performance on MV nor ROA. In addition, the moderator is insignificant for both MV and ROA.

Table 9		Sample of stakeholder oriented countries		Sample of shareholder oriented countries	
Robustness test	Model 1 (MV)	Model 2 (MV)	Model 3 (ROA)	Model 4 (ROA)	
L.ESGC	-15.70 (-0.02)	514.4 (0.60)	0.0000531 (1.34)	0.000132 (1.74)	
L.ENGAGE		224054.9 (1.23)		0.00644 (0.80)	
L.ESGC*ENGAGE		-848.0 (-0.64)		-0.000147 (-1.53)	
L.ESG	-1135.8 (-0.16)	-2998.7 (-0.37)	-0.000847 (-1.36)	-0.000739 (-1.40)	
L.CAPEX	-0.00391** (-2.64)	-0.00391** (-2.65)	-4.16e-12** (-3.23)	-4.10e-12** (-3.23)	
L.DIV	-2780.4 (-1.05)	-2874.9 (-1.05)	0.0000953 (0.16)	0.000112 (0.19)	
L.OI	0.00167 (1.43)	0.00167 (1.43)	2.88e-12*** (4.03)	2.88e-12*** (4.03)	
L.RD	0.00818*** (4.00)	0.00818*** (4.00)	-8.45e-12*** (-3.67)	-8.87e-12*** (-3.77)	
L.SRG	-0.0500 (-0.84)	-0.0497 (-0.80)	0.000000256 (0.86)	0.000000256 (0.86)	
L.SIZE	9906.8 (0.21)	1112.7 (0.02)	-0.0511*** (-3.94)	-0.0508*** (-3.85)	
_cons	1021275.1 (1.46)	1138431.1 (1.49)	0.952*** (4.83)	0.939*** (4.62)	
Year	Yes	Yes	Yes	Yes	
N (obs.)	24905	24870	25941	25903	
N (groups)	6868	6866	7219	7217	
Within (R^2)	0.0606	0.0607	0.0074	0.0076	
Between	0.1900	0.1877	0.0196	0.0196	
Overall	0.1852	0.1832	0.0056	0.0056	
Prob > F	Prob > F = 0.0000	Prob > F = 0.0000	Prob > F = 0.0000	Prob > F = 0.0000	
	F (8.6867) = 9.19	F (10.6865) = 7.57	F (8.1871) = 17.51	F (10.1867) = 14.25	
Coefficients; * p<0.05, ** p<0.01, *** p<0.001; t statistics in parentheses					
Definitions of variables in Table 3.					
The sample of stakeholder oriented countries contains solely countries with a ORIENT value above zero. The sample of shareholder oriented countries contains solely countries with a ORIENT value below zero.					

5. Discussion and conclusion

In this paper three hypothesis are tested. The first hypothesis assumed on a potential positive effect of ESG controversies performance on firm value. The second hypothesis assumed a moderating effect of stakeholder orientation. The third hypothesis considered a country level effect of stakeholder orientation. The hypotheses are tested on the basis of panel data regressions covering the time period of 2015 till 2020.

The first hypothesis can be accepted based on the regression results as displayed in the in chapter 4.2.1, ESG controversies performance seems to have weak positive effect on firm value. The second hypothesis cannot be accepted based on the regression tests performed in chapter 4.2.2. A significant effect of stakeholder engagement on the ESG controversies performance and firm value relation has not been proven. The additional research performed on the second hypothesis, by including a two-year, did not lead to new insights. The third hypothesis added an interaction effect of stakeholder orientation to the second hypothesis. The third hypothesis is research by making use of a three-way moderator and a split sample analysis (ch. 4.2.3). The stakeholder orientation interaction term analysis did not lead to an acceptance of the third hypothesis. The split sample analysis has been performed on the basis of the distinction between stakeholder and shareholder oriented countries as made by Dhaliwal et al. (2012). The data sample of Dhaliwal et al. (2012) makes a distinction between stakeholder and shareholder oriented countries and gives insight into what extend countries are assumed stakeholder or shareholder oriented. The first split sample analysis includes all countries which are assumed to be stakeholder or shareholder oriented in a more or lesser extent. The result did not show a significant effect in of the stakeholder engagement moderator in the stakeholder sample regression nor in the shareholder sample regression. The second split sample regression only included the countries which are assumed to be stakeholder or shareholder oriented to a high degree. The results demonstrated a negative significant effect of stakeholder engagement within the stakeholder orientation sample. Based on the three-way interaction term and the split sample analysis the third hypothesis cannot be accepted.

The two main conclusions can be made based on the regression analysis. Firstly, ESG controversies performance has a positive effect on firm value as demonstrated in the test of hypothesis one. the effect does not stay significant when the two-way and three-way interaction terms are added in the test of the second and third hypotheses. However, in the second split sample analysis the effect of ESG controversies performance on firm value becomes significantly positive again. This could indicate that a certain level of stakeholder orientation is needed for the ESG controversies performance variable to influence firm value. Secondly, stakeholder oriented countries seem to show

a significant negative moderating effect of stakeholder orientation on the ESG controversies performance and firm value relation.

The third hypothesis is not accepted due to the negative moderator coefficient. Thus, if firms are engaging with their stakeholder in a stakeholder oriented country, this causes the effect of ESG controversies performance on firm value to be weakened. With regard to stakeholder and ESG controversies theory, a negative coefficient is counterintuitive. However, the result could be related to trust in firms and the presence of a stakeholder protection. If stakeholders are protected by the country's stakeholder oriented legislation, then a minimum level of stakeholder protection has to be present in firms. However, stakeholder engagement variable used within the regression does not take into account the quality of stakeholder engagement. It may be the case that the additional engagement a firm has with its stakeholder on top of the minimum legal requirements is of bad quality or relate to stakeholder management. Kaptein and Wempe (2002) and Manetti (2011) argue that not all sorts of stakeholder engagement are sincere and some are more based on stakeholder management. This explanation is based on assumptions. However, it is potential line of reasoning based on the results obtained by testing the third hypothesis. Future research should be done to make a substantiated reasoning. Concrete case of this is, researching from what level of stakeholder orientation stakeholder engagement as a moderator of the ESG controversies performance and firm value relation is influenced.

The researched preformed is has limitations with respect to data availability; variable usage; theoretical assumptions and sample characteristics. The shortage of available data is reflected by the fact that many countries do not have a yearly ESG controversies performance score for the period 2015-2020. In addition, usable ESG controversies performance data on large scale before 2015 does not exist. These are well-known problems and will hopefully be solved in the future, due to further development of for example Refinitiv's algorithm.

The stakeholder engagement variable is based on a self-reporting measure. A self-reporting measure is less objective than a measure based on an official reporting standard. The literature review in chapter 2 does not focus on the stakeholder engagement reporting realm, but solely on stakeholder engagement. In the literature review stakeholder orientation is assumed to happen if a firm is assigned a value one. It could be the case that firms report about stakeholder engagement, although stakeholder engagement is not taking place.

A sample which represents firm globally is needed to generalise outcomes on the global level. Within the sample 34% of the firms is listed in the US. Thus, it has to be taken into account that the influence of US listed firms is considerable.

The stakeholder orientation variable relates to the country in which a firm is listed. With this indirectly the assumption is made that a firm is predominately influenced by the orientation of the country in which it is listed. However, it might be the case that a firm is operating abroad to a high degree. Thus, for example manual production abroad is not covered by the labour laws of the country in which it is listed.

The contributions made by this paper mainly relate to the country level distinction between stake- and shareholder orientation. Due to this distinction the ESG controversies performance and stakeholder engagements relation became clear. A consideration for future ESG related research is taking into account possible country differences in stakeholder orientation. In addition, making a distinction between the different pillars of the ESG controversies performance measure is recommended if future data allows it. This recommendation has also been done by previous research (Aouadi & Marsat, 2018). On top of that, extended research can be conducted on the specification of stakeholder engagement, by researching the differences between the stakeholder groups. Phillips et al. (2003) recommended it on the broader level of stakeholder theory.

Concluding, no evidence is found to support relation on global scale between ESG controversies performance and firm value. No evidence is found of a positive moderation effect of stakeholder engagement. However, a split sample of solely firms which are listed in stakeholder oriented countries did make a relation between ESG controversies performance and firm value appear.

6. References

- Agudo-Valiente, J. M., Garcés-Ayerbe, C., & Salvador-Figueras, M. (2015). Corporate social performance and stakeholder dialogue management. *Corporate Social Responsibility and Environmental Management*, 22(1), 13-31.
- Aouadi, A., & Marsat, S. (2018). Do ESG Controversies Matter for Firm Value? Evidence from International Data. *Journal of Business Ethics*, 151, 1027-1047 (2018)
- Arora, P., & Dharwadkar, R. (2011). Corporate governance and corporate social responsibility (CSR): The moderating roles of attainment discrepancy and organization slack. *Corporate Governance*, 19(2), 136–152
- Ayuso, S., Rodríguez, M. Á., García-Castro, R., & Ariño, M. Á. (2011). Does stakeholder engagement promote sustainable innovation orientation? *Industrial Management & Data Systems*.
- Barnett, M. L., & Salomon, R. M. (2012). Does it pay to be really good? Addressing the shape of the relationship between social and financial performance. *Strategic Management Journal*, 33(11), 1304–1320.
- Brainard, W. C., & Tobin, J. (1968). Pitfalls in financial model building. *The American Economic Review*, 58(2), 99–122
- Campbell, J. L. (2007). Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility. *Academy of management Review*, 32(3), 946-967.
- Cheung, Y. L., Tan, W., & Wang, W. (2018). National stakeholder orientation, corporate social responsibility, and bank loan cost. *Journal of Business Ethics*, 150(2), 505-524.
- Dal Maso, L., Liberatore, G., & Mazzi, F. (2017). Value relevance of stakeholder engagement: The influence of national culture. *Corporate Social Responsibility and Environmental Management*, 24(1), 44-56.
- Dhaliwal, D., Radhakrishnan, S., Tsang, A., & Yang, Y. (2012). Nonfinancial Disclosure and Analyst Forecast Accuracy: International Evidence on Corporate Social Responsibility Disclosure. *The Accounting Review*, 87(3), 723-759.
- Doh, J. P., & Guay, T. R. (2006). Corporate social responsibility, public policy, and NGO activism in Europe and the United States: an institutional-stakeholder perspective. *Journal of Management studies*, 43(1), 47-73.
- Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of management Review*, 20(1), 65-91.
- Dorfleitner, G., Kreuzer, C. & Sparrer, C. (2020). ESG controversies and controversial ESG: about silent saints and small sinners, *Journal of Asset Management*, 21, 393-412
- van Duuren, E., Plantinga, A & Scholtens, B. (2016). ESG Integration and the Investment Management Process: Fundamental Investing Reinvented, *Journal of Business Ethics* 138, 525-533
- Fontana, E. (2018). Corporate social responsibility as stakeholder engagement: Firm–NGO collaboration in Sweden. *Corporate Social Responsibility and Environmental Management*, 25(4), 327-338.
- Freeman, E., & Reed, D. (1983) Stockholders and Stakeholders: A New Perspective on Corporate Governance, *California Management Review*, Vol.25, No.3, pp. 88-106

Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment*. Volume 5, Issue 4, P 210-233.

Gillan, S. L., Koch, A., & Starks, L. T. (2021). Firms and social responsibility: A review of ESG and CSR research in corporate finance. *Journal of Corporate Finance*, 101889.

Goodstein, J., & Wicks, A. (2007) Corporate and Stakeholder Responsibility: Making Business Ethics a Two-Way Conversation, Vol. 17, No. 3, 375-398

Hair, J. F. Jr., Anderson, R. E., Tatham, R. L. & Black, W. C. (1995). *Multivariate Data Analysis (3rd ed)*. New York: Macmillan.

Hoang, T. (2018). The role of the integrated reporting in raising awareness of environmental, social and corporate governance (ESG) performance. In *Stakeholders, Governance and Responsibility*. Emerald Publishing Limited.

Husted, B., Milton de Sausa-Filho, J. (2017) *The impact of sustainability governance, country stakeholder orientation, and country risk on environmental, social and governance performance*, Journal of Cleaner Production, Volume 155, Part 2, Pages 93-102.

Jiao, Y., (2010) Stakeholder welfare and firm value, *Journal of Banking & Finance*, Vol. 34, Issue 10, 2549-2561

Kang, J., & Kim, Y. H. (2013). The impact of media on corporate social responsibility. *Social Science Research Network*.

Kaptein, M., & Wempe, J. (2002) The Ethics Report: a Means of Sharing Responsibility, *Business Ethics, the Environment & Responsibility*, Vol. 7, Issue 3, pp. 131-139

Klassen, R., & McLaughlin, C. (1996). The Impact of Environmental Management on Firm Performance, *Management Science*, Vol. 42, No. 8.

Klein, J., & Dawa, N. (2004). Corporate social responsibility and consumers' attributions and brand evaluations in a product-harm crisis, *International Journal of Research in Marketing*, Volume 21, Issue 3, Pages 203-217

Krüger, P. (2014). Corporate goodness and shareholder wealth. *Journal of Financial Economics*, 115(2), 304–329.

Lundgren, T., & Olsson, R. (2009). How bad is bad news? Assessing the effects of environmental incidents on firm value. *American Journal of Finance and Accounting*, 1(4), 376-392.,

Manetti, G. (2011) The quality of stakeholder engagement in sustainability reporting: empirical evidence and critical points, *Corporate Social Responsibility and Environmental management*, Volume 18, Issue 2, pages 110-122.

Mitchell, R., Agle, B., & Wood, D. (1997) Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What Really Counts, *The Academy of Management Review*, Vol. 22, No.4, 853-886.

Nirino, N., Santoro, G., Miglietta, N., & Quaglia, R. (2021). Corporate controversies and company's financial performance: Exploring the moderating role of ESG practices, *Technological Forecasting and Social Change*, Vol. 162.

Oikonomou, I., Brooks, C., & Pavelin, S. (2012). The Impact of Corporate Social Performance on Financial Risk and Utility: A Longitudinal Analysis, *Financial Management*, Vol. 41, Issue 2, p. 483-515.

Refinitiv, (2020). Environmental, Social and Corporate Governance (ESG), *Refinitiv ESG scoring methodology*.

Phillips, R., Freeman, R. E., & Wicks, A. C. (2003). What stakeholder theory is not. *Business ethics quarterly*, 13(4), 479-502.

Refinitiv (2021), 'Data 2015-2020', Eikon, Accessed: 26-04-21 / 28-07-21.

Smith, H. (2003) The shareholders vs. stakeholders debate, *MIT Sloan Management Review*, Vol. 44, No. 4

Nugent, T. (2021). Esg controversy prediction. Retrieved July 30, 2021, from <https://www.refinitiv.com/en/labs/projects/esg-controversy-prediction>

Tokoro, N. (2007) Stakeholders and Corporate Social Responsibility (CSR): A New Perspective on the Structure of Relationship, *Asian Business & Management* 6, 143-162

Williams, A., & Aguilera, R. (2008) Corporate social responsibility in comparative perspective. *Oxford Handbook of Corporate Social Responsibility 2008*, 452-472.

Appendix 1

Table 4.2					
Variable 2015	Obs.	Mean	Std. Dev.	Min	Max
Q	7,490	2.418857	17.55472	-55.0803	1356.972
ESGC	4,197	95.72468	14.73967	1.086957	100
ENGAGE	4,580	.360262	.4801288	0	1
ESGC*ENGAGE	4,172	33.12458	45.76553	0	100
ESG	4,578	42.19118	20.81701	.7	93.76
CAPEX	7,599	4.42e+07	5.68e+08	-1002000	2.55e+10
DIV	7,343	1.989926	2.357119	0	42.25
OI	8,089	6.27e+07	8.26e+08	-3.15e+09	3.10e+10
ROA	7,607	-.2588228	22.88342	-1969.047	3.181186
RD	3,120	1.67e+07	2.67e+08	-7463	1.37e+10
SRG	7,674	37.6316	682.9995	-100	38950.31
SIZE	8,082	1.76e+09	2.12e+10	0	9.05e+11

Table 4.3					
Variable 2016	Obs.	Mean	Std. Dev.	Min	Max
Q	7,700	8.307139	539.1252	-40.4016	47307.66
ESGC	5,740	94.03976	18.07772	.6849315	100
ENGAGE	5,436	.3530169	.4779519	0	1
ESGC*ENGAGE	5,414	31.42893	44.84057	0	100
ESG	5,433	41.83891	20.51468	.19	92.21
CAPEX	7,771	4.18e+07	5.64e+08	-4.80e+08	3.02e+10
DIV	7,596	2.286963	9.709662	0	817.92
OI	8,274	6.83e+07	8.91e+08	-1.53e+09	3.85e+10
ROA	7,990	.0082797	3.577768	-302.8571	3.954379
RD	3,234	1.66e+07	2.69e+08	0	1.41e+10
SRG	7,991	63.05173	1835.413	-100	119886
SIZE	8,265	1.85e+09	2.33e+10	0	1.03e+12

Table 4.4					
Variable 2017	Obs.	Mean	Std. Dev.	Min	Max
Q	7,979	2.399488	9.960606	-16.9078	808.4544
ESGC	6,512	94.49642	17.44252	1.25	100
ENGAGE	6,166	.3780409	.4849372	0	1
ESGC*ENGAGE	6,119	34.23493	45.97227	0	100
ESG	6,161	41.93604	20.5681	.19	94.33
CAPEX	7,970	4.06e+07	6.31e+08	-2.02e+08	3.65e+10
DIV	7,844	2.014833	2.722748	0	125.86
OI	8,381	8.11e+07	1.12e+09	-5.24e+08	5.36e+10
ROA	8,122	.0549332	.4387162	-16.85137	2.727705
RD	3,306	1.80e+07	3.06e+08	-311	1.64e+10
SRG	8,205	175.0312	6248.657	-100	434862.1
SIZE	8,385	1.98e+09	2.55e+10	1	1.12e+12

Table 4.5					
Variable 2018	Obs.	Mean	Std. Dev.	Min	Max
Q	8,201	2.015194	5.590632	-227.3707	286.054
ESGC	7,082	93.79937	18.82477	.5813953	100
ENGAGE	7,039	.4186674	.4933757	0	1
ESGC*ENGAGE	6,543	37.62547	46.93105	0	100
ESG	7,036	42.71953	20.56481	.11	94.25
CAPEX	8,057	4.73e+07	7.55e+08	-6.92e+07	3.98e+10
DIV	8,133	2.163113	4.586365	0	312.46
OI	8,398	8.73e+07	1.24e+09	-3.11e+09	5.89e+10
ROA	8,167	.0670418	.2920837	-15.36603	3.353404
RD	3,336	1.88e+07	3.39e+08	0	1.84e+10
SRG	8,292	208.0738	14117.53	-100	1273900
SIZE	8,406	2.15e+09	2.81e+10	149	1.29e+12

Table 4.6					
Variable 2019	Obs.	Mean	Std. Dev.	Min	Max
Q	8,371	2.142144	2.828442	-86.2083	77.7737
ESGC	6,032	92.61043	20.33441	.4545455	100
ENGAGE	8,051	.4527388	.4977923	0	1
ESGC*ENGAGE	5,927	42.43164	47.66728	0	100
ESG	8,164	43.30059	20.53249	.32	93.99
CAPEX	8,103	5.25e+07	8.34e+08	-2.06e+08	5.09e+10
DIV	8,330	2.692204	20.18367	0	1760.39
OI	8,395	8.05e+07	1.12e+09	-1.42e+09	4.34e+10
ROA	8,223	.0617723	.2633203	-13.67841	4.61049
RD	3,350	2.01e+07	3.71e+08	-1000	2.02e+10
SRG	8,287	45.7362	2054.838	-100	184795.4
SIZE	8,406	2.30e+09	3.06e+10	110	1.41e+12

Table 4.7					
Variable 2020	Obs.	Mean	Std. Dev.	Min	Max
Q	8,360	2.285065	3.031576	-28.6726	66.5075
ESGC	2,832	91.56838	22.51078	.42	100
ENGAGE	2,833	.4352277	.4958743	0	1
ESGC*ENGAGE	988	41.39775	48.01614	0	100
ESG	4,887	42.65937	19.89302	.37	94.38
CAPEX	8,116	5.16e+07	8.17e+08	-4053961	4.12e+10
DIV	8,463	2.644982	20.23561	0	1459.77
OI	8,370	6.25e+07	9.25e+08	-4.59e+09	4.32e+10
ROA	8,231	.0418933	.3478561	-24.76214	1.9197
RD	3,342	1.99e+07	3.85e+08	0	2.11e+10
SRG	8,261	76.13317	4041.911	-100	355942.3
SIZE	8,379	2.50e+09	3.33e+10	1220	1.50e+12

Appendix 2

Table 9.1 Summary 2015-2020						
Variable	Obs.	Mean	Std. Dev.	VIF	Min	Max
ROA	48,340	-.0011633	9.197956	1.11	-1969.047	4.61049
MV	45,179	915708.4	1.33e+07	1.23	0	7.57e+8

Table 9.2		
Variable	Eikon code	Definition Eikon (Refinitiv, 2021)
Market value (MV)	MV	Market value on Datastream is the share price multiplied by the number of ordinary shares in issue. The amount in issue is updated whenever new tranches of stock are issued or after a capital change.
ROA (Return on assets)	WC08326	$(\text{Net Income} - \text{Bottom Line} + ((\text{Interest Expense on Debt} - \text{Interest Capitalized}) * (1 - \text{Tax Rate}))) / \text{Average of Last Year's and Current Year's Total Assets} * 100$