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Usefulness of corporate social responsibility disclosures to investors: Effects of sustainability reporting quality and secrecy on earnings forecasts.

Abstract

Even though disclosure of CSR reports is widespread, research on whether and how disclosure affects the capital market does not provide consistent results. This study posits that for CSR disclosure to be useful, companies need to make an effort, and stakeholders should positively perceive the efforts made. Specifically, sustainability reporting quality (SRQ) and secrecy represent internal and external legitimation structures that explain variations in the usefulness of CSR disclosures to investors. While SRQ indicates variations in managerial legitimation on the quality of CSR disclosure, secrecy indicates variations in cultural legitimation on CSR issues. This study argues that SRQ, as a result of managerial considerations, and secrecy, as a result of cultural norms and values, determine the extent to which disclosure of a CSR report is useful to investors. Useful CSR disclosures will result in a decrease in information asymmetry and improved earnings forecast accuracy. Using a sample of 2317 firms, among 54 different countries, that voluntarily issued CSR reports, during the years 2012-2018, the results show that SRQ positively affects earnings forecast accuracy, and that secrecy moderates the SRQ-earnings forecast relation. The results indicate that SRQ and secrecy explain variations in the usefulness of CSR disclosure to investors internationally.

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1. Introduction

Due to increasing environmental and social pressures, shareholders and stakeholders urge companies to become more accountable for the decisions made concerning environmental and social issues. Companies responded to these pressures by voluntarily issuing information on corporate sustainability performance (CSP) in corporate social responsibility (CSR) reports. The issuance of these reports significantly increased globally over the last two decades (KPMG, 2017). However, in contrast to the increase in CSR reports, there is little research on whether and how CSR disclosures affect information asymmetries and could be useful for investors in making investment decisions. This study examines the relation between sustainability reporting quality (SRQ) and secrecy on earnings forecast accuracy of analysts. Insofar, that analysts represent and significantly influence the perceptions, judgements and investment decisions investors make (Dhaliwal et al., 2012; Luo et al., 2015; Surroca et al., 2010). Building on previous literature that showed a significant relation between the issuance of CSR reports and a decrease in information asymmetry (Dhaliwal et al., 2012), this study argues that the extent to which CSR disclosure is useful to investors, depends on two important legitimization structures. The first is sustainability reporting quality (SRQ). Because agency theory suggests that management may behave opportunistically in providing CSR information, this will lead to differences in the quality of CSR reports, affecting the extent to which information asymmetries are decreased. And the second is secrecy, indicating the extent to which stakeholders within a society value, are transparent and concerned with social and environmental issues, but also the extent to which stakeholders are empowered through institutions to pressure companies in CSR behaviour. Secrecy, as proxied by 3 cultural traits that define stakeholders' business ethics, morals, and values, moderate the SRQ-earnings forecast relation as an external legitimization structure. Within transparent countries CSR disclosure will most likely have a greater effect on earnings forecast accuracy than in secretive countries. By addressing an internal and external factor that shape the extent to which CSR disclosure is useful, this study adds to the understanding of management and scholars in understanding the complex nature of CSR. By examining the effect of SRQ and secrecy on earnings forecast accuracy, variations in usefulness of CSR disclosures to investors can be explicated as being decisive for its effect on the capital market (Lev, 1989). The results could partly explain inconsistencies in prior research concerning the effect of CSR on the capital market (Bachoo et al., 2013; Barth et al., 2017; López et al., 2007), by examining legitimization structures that affect the usefulness of CSR reports through internal, managerial legitimization and decision-making, and external legitimization through norms, values and business ethics.

CSR reports contain non-financial information on CSP. Non-financial information, in contrast to financial information, is leading instead of lagging, more future looking instead of historic, like earnings or ROA. Non-financial information is contextual and links operational progress to financial performance, providing information on intangibles that firms rely heavily on for their future success (Flöstrand & Ström, 2006; Orens & Lybaert, 2007). In addition to financial information, non-financial information on CSP could enhance the ability to evaluate and predict future financial performance (López et al., 2007; Rinaldi et al., 2018), because it provides leading and contextual information on intangibles that is not represented in financial disclosures. CSR disclosures could decrease information asymmetries, improve earnings forecasts and be useful to investors (Dhaliwal et al., 2012).

However, because CSR disclosure is voluntary, companies decide whether and how information on CSP is disclosed in their CSR reports. Agency theory suggests that management may behave opportunistically. Signalling theory suggests that companies disclose because they behave socially and environmentally responsible. These companies want to communicate their efforts to the

public and want to show and benefit from their superior CSP (Hahn & Kühnen, 2013). While legitimacy theory suggests that companies disclose because they face stakeholder pressures and legitimacy threats. These firms publish misleading information to avoid increased stakeholder pressures and legitimacy threats due to their inferior CSP (Hahn & Lülfes, 2014). The motive of disclosure and internal decision-making prior to CSR disclosure leads to differences in the information provided and how information is presented. Masking-, not showing-, or disclosing misleading information on CSP will reduce SRQ, because CSP is not fairly represented in all important aspects (Boiral, 2013; Reimsbach & Hahn; 2015). When CSP is not fairly represented in all important aspects, ergo SRQ is low, CSR disclosure, next to financial information in making earnings forecasts, is less useful.

While management legitimizes disclosure-related decisions, stakeholders also legitimize CSR through their business ethics, morals, values, and normative pressures. Therefore, this study also sheds light on the moderating effect of secrecy, consisting of several cultural traits that determine ethics morals and values. Culture fulfils a central role in the capital market (Leuz & Wysocki, 2016; Mihet, 2012), influencing the institutional and economic development at the macro-level and corporate and individual decision-making at the micro-level. Decision-making is influenced by culture (norms and values) and made in an environment which is formed by culture (institutions). Culture defines interests of stakeholders and culture defines the institutions that protect stakeholders' interests. Stakeholder theory (Freeman, 1984) in combination with resource dependence theory (Pfeffer & Salancik, 1978) states that individuals or groups that are involved or particularly interested in the actions, proceedings and outcomes of company decisions, can have a positive or negative influence on the operations of a company. Culture to a great extent defines stakeholders' business ethics, morals, and values. This study argues that secrecy affects the extent to which companies are pressured into CSR and the extent to which CSR issues are perceived relevant for operational performance. Consequently, secrecy affects the usefulness of CSR disclosures to investors. This study argues that secrecy, linked to stakeholder and shareholder oriented governance regimes (Burritt et al., 2010; Gray et al., 1996; Van der Laan Smith et al., 2005), shape the external legitimization structure concerning CSR, and therefore secrecy of the cultural setting could moderate the relation between SRQ and earnings forecast accuracy (Dhaliwal et al., 2012; Williams & Aguilera, 2008).

Previous literature shows the importance of voluntary CSR disclosure to supplement mandatory financial information and decrease information asymmetry (Dal Maso et al., 2016; De Klerk & De Villiers, 2012; Reverte, 2016), and indicates a positive effect of the issuance of a CSR reports on forecast accuracy (Dhaliwal et al. 2012). This study adds to the prior literature by nuancing that the usefulness of CSR reports to investors, is dependent on the quality of disclosure, and the cultural setting in which a company operates. This study aims to contribute to the understanding of the usefulness of CSR disclosures as decreasing information asymmetry, through improved earnings forecasts. More specifically, this study argues that, SRQ indicates the extent to which a CSR report contains useful information for making more accurate earnings forecasts, and that secrecy determines the degree to which CSR issues are relevant for future firm performance, and thus could moderate the usefulness of CSR disclosures. The research question is stated as follows:

'Whether and how does SRQ relate to earnings forecast accuracy?'

Based on a global panel data set of firms followed by Asset4, consisting of 9435 firm year observations based on 2317 firms across 54 different countries during the period 2012-2018, the results indicate that usefulness of CSR disclosure is positively related to SRQ. Furthermore, based on a combination of cultural dimensions found by Hofstede (2010), indicating stakeholder orientation through secrecy (Salter & Niswander, 1995), the results indicate that usefulness of CSR disclosure is less present in secretive cultures than in transparent cultures. The results indicate that the effect of

CSR on the capital market is rather complex, and that one way to explain differences in inconsistent results (Bachoo et al., 2013; Barth et al., 2017; López et al., 2007), is its dependency on SRQ and secrecy. This has implications for management in their considerations on a firms' disclosure of CSR issues. Furthermore, the results indicate that the nature of the information environment is dependent on secrecy, implying that uniform standards are not necessarily beneficial to investors in all countries.

This study contributes to the ongoing research concerning CSR disclosure in several ways. First, in addition to prior literature, this study adds to the understanding of the effect of quality on analyst forecast accuracy. Prior literature examined the effect of the issuance of a CSR report on earnings forecast (Dhaliwal et al., 2012), but did not examine the effect of the report's quality. Second, this study is one of the first to explore cultural setting as moderator in the analysis between sustainability reporting quality and earnings forecast accuracy (Dhaliwal et al., 2012; Flores et al., 2019). Although previous literature links culture to decision making (Mihet, 2012) and acknowledges that stakeholder and shareholder orientation explain differences in the effect of CSR on capital markets (Flores et al., 2019), cross-country cultural differences are still empirically underexplored. This study adds to the understanding of the nature of CSR disclosures in different cultural settings, indicating the importance of place in examining the effect of CSR on investors. Third, this study is examining voluntary disclosure in an international setting. Prior research predominantly uses mandatory sustainability disclosures, which is only present in South Africa (Barth et al., 2017; Zhou et al., 2017, Zhou et al., 2019). This limits the possibilities to generalize findings globally and do a cross-country analysis. This study adds to the understanding of voluntary CSR disclosures in an international setting. And last, by providing insight into substantive and cultural settings that affect usefulness of CSR information to investors, inconsistencies in prior research concerning the effect of CSR on the capital market, could partly be explained as being dependent on these factors (Bachoo et al., 2013; Barth et al., 2017; López et al., 2007).

The remainder of the paper is structured as follows. First, a theoretical background is provided with subsequent a formulation of the hypotheses. Second, the research method is explicated and the dependent-, independent- and control variables are explained. Third, the results of the analysis are discussed. Finally, the paper ends with a conclusion and discussion.

2. Theoretical Framework and Hypotheses

2.1 Theoretical Framework

Environmental and social pressures increasingly induce companies to account for their sustainability performance through the issuance of CSR reports. In addition to the disclosure of mandatory financial information, the issuance of a CSR report provides voluntary information on economic, social, and environmental issues to the capital market. CSR disclosures in addition to financial disclosures are a value-relevant input in making earnings forecasts, insofar that CSR actions can, directly or indirectly, affect firm performance (Bachoo et al., 2013; Barth et al., 2017; Dhaliwal et al., 2012). A high sustainability performance can increase firm reputation and result in higher sales (Lev et al., 2010). Also, CSP may positively affect product evaluation by customers (Brown & Dacin, 1997). In addition, firms with a high sustainability performance and those who invest in social capital are better able to motivate, attract, and keep good personnel (Edmans, 2011; Roberts & Dowling, 2002), while high employee satisfaction may probably lead to better future financial performance (Dhaliwal et al., 2012; Banker and Mashruwala, 2007). Firms with high sustainability performance can also gain benefits in the capital market by a reduced cost of capital (Dhaliwal et al., 2011). Goss and Roberts (2009) show that firms with good CSP are more likely to qualify for less onerous financing. The channels through which firm performance may be affected by CSP are plentiful. Besides that, CSR disclosure in contrast to financial disclosure is more future-oriented instead of historical. Non-financial information is contextual and links operational progress to financial performance, providing information on intangibles that firms rely heavily on for their future success (Flöstrand & Ström, 2006; Orens & Lybaert, 2007). In addition to financial information, non-financial information on CSR provides additional, useful information on future firm performance (López et al., 2007; Rinaldi et al., 2018).

Investors are primarily dependent on firm disclosures to get a picture of firm CSP. However, because there is separation of ownership and control and CSR disclosure is mainly voluntary, agency theory suggests that management could show opportunistic behaviour by disclosing information on CSP that could be classified as deceiving and unreliable (Cho & Patten, 2013; Hahn & Lülfs, 2014; Luo & Tang, 2014). Legitimacy theory argues that this is because some companies face stakeholder pressures and legitimacy threats. These companies have an incentive to mask, not show or disclose misleading CSR information about their company, to avoid or postpone these pressures and threats. Signalling theory on the other hand argues that there are companies that do not face legitimacy threats and disclose truthfully about their CSR issues, mostly trying to signal their superior CSP. The reasons to mask, not show or disclose misleading information on CSR issues, results in differences in quality of CSR reports among firms. When companies mask, not show or disclose misleading information on CSP, not all material aspects of CSP are fairly represented, which decreases SRQ.

In addition to internal considerations that affect SRQ, and consequently the usefulness of disclosure, there are external cultural factors that determine the extent to which stakeholder groups perceive CSR useful and relevant for future company performance. Resource dependence theory suggests that companies are dependent on the resources that originate from its environment (Pfeffer & Salancik, 1978). These resources are critical to firm's operations and ultimately its survival. The groups that have greater influence within the environment, are more likely to have a greater influence on corporate decision-making and operational performance. Stakeholder orientation suggests that shareholder-oriented environments are more concerned with corporate economic responsibilities, whereas stakeholder-oriented environments are more concerned with legal and ethical standards (Maignan, 2002). Stakeholder orientation, who is empowered and what is valued within a cultural environment, is likely contingent on norms, values, risk-taking, decisions-making and institutions (Clement, 1999; Mihet, 2012; Williams & Aguilera, 2008). Culture plays a central role in

all these aspects because cultural foundations shape the institutional and economic development at the macro level, and corporate and individual decision-making and risk-taking at the micro level (Clement, 1999; Mihet, 2012). Institutions and economic development set the boundaries within which companies can operate, by determining laws and rules. Whereas norms and values determine individuals' and corporate decision-making and risk-taking within these institutional and economic boundaries. Cultural settings empower stakeholder groups through norms, values, and institutions, which determines the extent to which these groups can influence an organization's operational behaviour, and the extent to which these groups address value to CSR issues. The relation between disclosure of a firm's CSP and customer satisfaction or purchase intentions is respectively dependent on the power of customers and their moral values (Chen, 2009; Schuler & Cording; 2006). Cultural environments with different stakeholder orientations are featuring different stakeholder groups with different moral values and different institutions to support their values, which will result in differing effects of CSR issues on firm performance. Stakeholder power, shaped by cultural settings, could influence the effect of CSR on a firm's operational performance and consequently financial performance. Recapitulating, cultural setting should be seen as an external corporate governance regime, that is empowered to a greater or lesser extent, serving as a legitimization structure that determines the effect of CSR issues on operational performance (Roe, 2003).

Agency theory, in combination with different motives of disclosure provided by signaling and legitimacy theory, provides support for an internal legitimization structure indicating the extent to which management might behave opportunistically, shaping the extent to which disclosure is useful. While resource dependence theory and stakeholder theory provide support for an external legitimization structure indicating the extent to which stakeholders across countries might value CSR differently, shaping the extent to which disclosure is useful. Which provides us with an overview on how SRQ, as internal managerial legitimization structure, and secrecy, as external stakeholder legitimization structure, could shape the extent to which CSR disclosure is useful to investors. The explicit relations, that lead to 2 hypotheses, are further explicated in the next section.

2.2 Hypotheses

The first hypothesis posits a positive relationship between the quality of CSR disclosures and usefulness for investors. More specifically, it is examined whether SRQ is positively related to earnings forecast accuracy. Disclosure of CSR information provides additional, useful information to the capital market, decreasing information asymmetries and consequently enhancing the ability to evaluate and predict future financial performance (López et al., 2007; Rinaldi et al., 2018). This results in more accurate earnings forecasts, because analysts will be better able to assess current and future firm performance based on non-financial information that complements and substantiates financial information. In turn, better earnings forecasts will better inform the capital market and particularly investors. However, due to opportunistic managerial decision-making, CSP may not be fully represented in all material aspects, which decreases SRQ. Lower SRQ results in less accurate earnings forecasts because the report contains less useful, additional information on future financial performance because CSP is not represented in all material respects. A lower quality deteriorates the interpretation of CSR disclosures in an informed and systemized manner (Lang & Lundholm, 1993; Plumlee, 2003; Zhou, 2017), and will lead to more estimation risk (Bachoo et al., 2013). Concluding, low SRQ will reduce the usefulness of CSR reports to investors. Summarizing the above reasoning, the following hypothesis is formulated:

H1: *Corporate sustainability reporting quality is positively related to earnings forecast accuracy.*

The second hypothesis posits a moderating effect of cultural setting on the relation between SRQ and the usefulness of CSR information to investors. More specifically, it is examined whether

secrecy, as an indicator for cultural setting, has a moderating effect on the SRQ-earnings forecast relation. CSR disclosures provide information on the effect of business operations on social and environmental aspects, generally aspects that affect their multiple stakeholder groups. In a society concerned with CSR issues, stakeholder groups will have more power, possess greater legitimacy, and have their claims viewed with greater urgency (Van der Laan Smith et al., 2005). When a firm operates within a shareholder orientated environment, and impact and empowerment of stakeholder groups is low, CSR issues are less important and have a smaller effect on operational and financial firm performance than in the opposite case. When CSR issues have a lesser effect on business operations, the usefulness of information on these issues is also less present. Effects of CSR issues are perceived less relevant for future performance to investors and will to a lesser extent contribute to making more accurate earnings forecasts.

Stakeholder theory and stakeholder orientation describe the relation between a company and its stakeholders (Gray et al., 1996; Van der Laan Smith et al., 2005). Governance regimes that are classified as stakeholder- or shareholder-based regimes (Ball et al., 2000), are country-specific orientations on shareholders or stakeholders, based and contingent on cultural values (Clement, 1999; Mihet, 2012; Williams & Aguilera, 2008). Hofstede et al. (2010) provide a cultural framework consisting of 6 cultural characteristics, representing people's values at work and in society. A combination of three of these factors, uncertainty avoidance, power distance and individualism, is operationalised as secrecy (Salter & Niswander, 1995), and applied by Hope et al. (2008) and Burritt et al. (2010). Secrecy, as the opposite of transparency, is linked with shareholder-orientation (Burritt et al., 2010; Salter & Niswander, 1995; Hope et al., 2008; Van der Laan Smith et al., 2005). Low secrecy in this respect creates a transparent and social and environmental orientated society, which create settings in which disclosure of CSR issues are valued and more useful in making earnings forecasts than when a society is secretive and not social and environmental oriented.

Individualism is assumed to be negatively related to secrecy. Collectivism is associated with exclusion of secondary stakeholder groups. There is a focus on the collectivistic circle of primary stakeholders, consisting primarily of employees and shareholders. Power distance is assumed to be positively related to secrecy. Based on the notion that power relations are preserved with the primary stakeholders, power relations are not reduced by empowering secondary stakeholders. Uncertainty avoidance is assumed to positively relate to secrecy, because secrecy is helpful in maintaining a secure status quo, instead of making it dependent on external secondary stakeholders (Burritt et al., 2010). This study argues that a non-secretive society is more concerned with social issues, stakeholder groups are more empowered and possess greater legitimacy. In these societies CSR issues are more relevant for businesses and CSR disclosures will be more useful for investors. Secrecy, as closely linked with a shareholder orientation, mitigates the usefulness of CSR disclosures to investors. Summarizing the above reasoning, the following hypothesis is formulated:

H2: SRQ is more positively related to earnings forecast accuracy in less secretive cultures than in more secretive cultures.

Figure 1 provides a graphical overview of the hypothesized relations between SRQ, secrecy and earnings forecast accuracy.

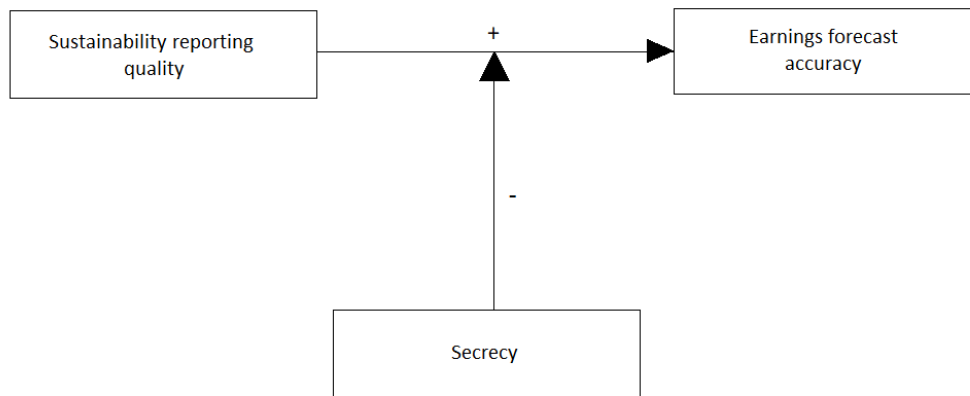


Figure 1: Representation of hypothesized direct and moderating effect – SRQ, secrecy and earnings forecast accuracy.

3. Research Method

3.1 Sample

To test the hypotheses a panel data set was compiled covering a 7-year period (2012-2018), consisting of companies in 54 countries spread over 6 continents that voluntarily disclosed CSR reports. The companies in the sample are included in the Thomson Reuters ASSET4 database and supplemented with data from Hofstede's dimension scores per country and Thomson Reuters I|B|E|S. Hofstede provides data on cultural characteristics among countries, arising from his scientific work on culture within organizations and societies. Data on uncertainty avoidance, power distance and individualism were retrieved from the website (<https://www.hofstede-insights.com>). To measure earnings forecast accuracy, data from Thomson Reuters I|B|E|S was used. Thomson Reuters ASSET4 provided data on SRQ and ThomsonOne DataStream provided mostly financial information included as control variables. For inclusion in the sample, all financial and non-financial information had to be available. After the missing observations were omitted, the remaining unbalanced panel dataset included 9435 firm-year observations for 2317 companies in 54 different countries across the 6 inhabitable continents.

Table 1 provides the summary and descriptive statistics. Panel A provides summary statistics for the variables, panel B shows variable characteristics across countries, and panel C shows the distribution of the sample years across industries.

Table 1

PANEL A: Summary statistics for the variables

VARIABLE	TOTAL SAMPLE					
	N	Mean	Std. Dev.	Min.	Max.	Median
EFA	9,435	-0.0130	0.0217	-0.231	0	-0.00659
SRQ	9,435	0.612	0.220	0	1	0.638
ASSU	9,435	0.809	0.393	0	1	1
SEC	9,435	51.87	51.45	-33	149	49
SRQASSU	9,435	6.11e-09	0.314	-0.515	0.485	0.0760
SRQSEC	9,435	2.18e-08	34.11	-60.28	105.2	-6.068
SIZE	9,435	16.44	1.704	11.14	22.17	16.29
LEV	9,435	116.1	759.7	-25,131	49,185	66.83
MtoB	9,435	2.287	20.92	-1,128	671.2	1.620
ROA	9,435	5.514	7.233	-83.37	128.4	4.640
Industry	9,435	5.202	2.041	1	9	4

PANEL B: Variable characteristics across countries

Country	Observations		Mean			
	N	%	EFA	SRQ	ASSU	SEC
AE	9	0.10	-.0103355	.4184	.4444444	110
AR	21	0.22	-.0144691	.3961857	.3809524	89
AT	62	0.66	-.0185118	.594079	.9516129	26
AU	324	3.43	-.0066891	.5972546	.8117284	-1
BE	65	0.69	-.0161044	.6142246	.8923077	84
BR	257	2.72	-.0236548	.6306626	.7470817	107
CA	334	3.54	-.0198444	.5741383	.5508982	7

CH	190	2.01	-.0090925	.6591884	.6842105	24
CL	72	0.76	-.0120301	.5233236	.6805556	126
CN	146	1.55	-.0106797	.3571973	.8013699	90
CO	52	0.55	-.0158161	.569825	.8461538	134
CZ	3	0.03	-.0101352	.4654333	.6666667	73
DE	371	3.93	-.0140049	.7011453	.8328841	33
DK	82	0.87	-.0166807	.602278	.8292683	-33
ES	226	2.40	-.0107645	.7848376	.9336283	92
FI	144	1.53	-.0138719	.6892229	.8819444	29
FR	616	6.53	-.0130969	.6925141	.9951299	83
GB	730	7.74	-.0080887	.6150679	.909589	-19
GR	48	0.51	-.0467456	.6264208	.6458333	137
HK	220	2.33	-.0142457	.5339659	.8181818	72
HU	21	0.22	-.0120228	.7153857	1	48
ID	101	1.07	-.0127505	.5238861	.5148515	112
IE	18	0.19	-.0128643	.6116222	1	-7
IL	37	0.39	-.0116807	.5681757	.8108108	40
IN	227	2.41	-.0108713	.6456912	.9295154	69
IT	217	2.30	-.0162144	.6864811	.9677419	49
JO	3	0.03	-.0120519	.4515667	0	110
JP	1028	10.90	-.0108339	.56492	.959144	100
KE	4	0.04	-.0073696	.423775	1	111
KR	342	3.62	-.0295189	.6643257	.997076	127
KW	11	0.12	-.0112419	.4830273	.6363636	110
LK	2	0.02	-.0109412	.741	1	69
LU	2	0.02	-.0065185	.4184	1	50
MA	5	0.05	-.0019961	.40248	.2	92
MX	101	1.07	-.0128344	.5757475	.6732673	133
MY	94	1.00	-.0071261	.5223543	.6170213	114
NL	140	1.48	-.0146378	.6986079	.9142857	11
NO	62	0.66	-.0156831	.6892742	.7903226	12
NZ	31	0.33	-.0042378	.4248452	.7741935	-8
OM	3	0.03	-.0072206	.2958	0	110
PE	5	0.05	-.0131768	.50598	.2	135
PH	46	0.49	-.0054819	.5145935	.7391304	106
PL	56	0.59	-.0141177	.4608821	.6428571	101
PT	41	0.43	-.0187415	.7320585	.9512195	140
QA	8	0.08	-.0058335	.2249125	.125	110
RU	107	1.13	-.019599	.4010224	.7663551	149
SA	9	0.10	-.0039713	.4800667	.8888889	110
SE	281	2.98	-.010801	.6249655	.7224199	-11
SG	110	1.17	-.0080809	.5170445	.5090909	62
TH	100	1.06	-.0168868	.664611	.75	108
TR	68	0.72	-.014584	.6498059	.5882353	114
TW	364	3.86	-.0189859	.5655104	.9478022	110

US	1334	14.14	-.0089972	.6736371	.6394303	-5
ZA	485	5.14	-.0116776	.4660379	.6969072	33
Total	9435	100	-.0130209	.6120028	.809327	52

PANEL C: Distribution sample years across industries

INDUSTRY	YEAR						
	2012	2013	2014	2015	2016	2017	2018
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Agriculture, Forestry and Fishing	3 (0.289)	3 (0.270)	3 (0.257)	3 (0.236)	5 (0.359)	8 (0.491)	9 (0.469)
Mining	80 (7.707)	89 (8.011)	95 (8.141)	102 (8.013)	108 (7.753)	114 (6.998)	128 (6.670)
Construction	45 (4.335)	52 (4.680)	54 (4.627)	58 (4.556)	59 (4.235)	70 (4.297)	90 (4.690)
Manufacturing	418 (40.27)	443 (39.87)	463 (39.67)	510 (40.06)	552 (39.63)	648 (39.78)	738 (38.46)
Transportation, Communications, Electric, Gas and Sanitary service	190 (18.30)	194 (17.46)	196 (16.80)	211 (16.58)	237 (17.01)	271 (16.64)	305 (15.89)
Wholesale Trade	14 (1.349)	14 (1.260)	15 (1.285)	16 (1.257)	20 (1.436)	26 (1.596)	36 (1.876)
Retail Trade	48 (4.624)	56 (5.041)	60 (5.141)	59 (4.635)	64 (4.594)	71 (4.359)	94 (4.898)
Finance, Insurance and Real Estate	180 (17.34)	194 (17.46)	210 (17.99)	235 (18.46)	262 (18.81)	315 (19.34)	378 (19.70)
Services	60 (5.780)	66 (5.941)	71 (6.084)	79 (6.206)	86 (6.174)	106 (6.507)	141 (7.348)
Total Observations	1038	1111	1167	1273	1393	1629	1919
Total %	(100)	(100)	(100)	(100)	(100)	(100)	(100)

See table 2 for variable definitions

3.2 Variables

Dependent Variables

To test the hypotheses, earnings forecast accuracy is used as dependent variable to indicate the usefulness of CSR information. Earnings forecast accuracy gives an indication of how great the information asymmetry is between management and stakeholders, and specifically shareholders. When information asymmetry decreases or is low, earnings forecast accuracy will increase and information available or disclosed can be perceived useful. Consistent with Dhaliwal et al., (2012) Hope, (2002) and Lang & Lundholm (1996), earnings forecast accuracy is measured as the negative, absolute difference between the forecasted earnings per share and actual earnings per share, scaled by the stock price at the beginning of the year in order to allow for comparisons across firms.

$$EFA_{i,t} = -|FCEPS_{i,t}^1 - EPS_{i,t}^1| / P_{i,t} \quad (1)$$

Subscript i denotes firm, and subscript t denotes year. 1 indicates that the earnings forecast is made for 1 year ahead. FCEPS is the earnings forecast per share and EPS is the actual earnings per share, both are obtained from the I|B|E|S database to ensure consistency.

Independent Variables

The independent variables that are used are SRQ and secrecy. Thomson Reuters ASSET4 database was used to provide information on SRQ. It provides systematic information on a firm's combined- and individual social, environmental and governance scores. To assess SRQ, the scores on the environmental and social pillar are included, which represents an objective score based on the self-reported information in the environmental and social pillar. Because some industries are more receptive to CSR than others, consistent with Hummel and Schlick (2016) the SRQ indicator is adjusted for lower and upper bounds within the industry (Manning et al., 2018).

$$SRQ_{i,t} = (TotEnvSoc_{i,t} - \min. IndEnvSoc_{i,t}) / (\max. IndEnvSoc_{i,t} - \min. IndEnvSoc_{i,t}) \quad (2)$$

SRQ is measured as the total of the environmental and social score ($TotEnvSoc_{i,t}$) minus the minimum industry score of the total environmental and social pillar ($\min. IndEnvSoc_{i,t}$), divided by the range of the total scores in that industry ($\max. IndEnvSoc_{i,t} - \min. IndEnvSoc_{i,t}$).

Assurance is added to the analysis as another indicator of the quality of CSR reports. Consistent with Braam and Peeters (2018), assurance is measured as a dummy variable. 0 indicating the CSR report is not assured by an independent third party, while 1 indicates that the report is assured by an independent third party. In addition to the singular effect of assurance, the interaction of SRQ and assurance is also included in the analysis. A combination of the two quality indicators could show a more significant effect on earnings forecast accuracy. The interaction term is centered for interpretation purposes.

Consistent with Burritt et al. (2010) and Hope et al. (2008), secrecy (SEC) is measured as the sum of the uncertainty avoidance index and power distance index minus the individualism index. Gray et al. (1988) hypothesized the relation between national culture and secrecy, which was subsequently operationalized by Hope et al. (2008). The operationalization consists of 3 cultural dimensions introduced and measured by Hofstede et al. (2010). Culture only changes slightly over time, so measurement of secrecy across countries, for the sample period (2012-2018) is based on 2015 data of uncertainty avoidance (UAI), power distance (PDI) and individualism (IDV).

$$SEC = UAI + PDI - IDV \quad (3)$$

To account for a moderating effect of secrecy, the $SRQ*SEC$ interaction term is added in the econometric model and used in the analysis. For interpretation purposes the interaction term is centered.

Control Variables

Because the sample consist of repeated measurements at company level, there are several control variables included at the firm- and industry level, and year dummies are added to control for time effects. At the firm level, consistent with previous literature (Braam et al., 2016; Del Maso et al., 2016; Dhaliwal et al., 2012; Flores et al., 2019), the natural log of total assets, leverage ratio, market to book ratio and return on assets are included as controls. To control for effects on the industry level, industry dummies are included to control for sector specific effects. Finally, year dummies are included to control for omitted variables that vary over time but are constant among firms. Table 2 gives an overview of the dependent, independent and control variables that are used in the analysis.

Table 2: Variable definitions

Variable	Definition	Data Source
EFA	Earnings Forecast Accuracy - Is measured by the absolute difference of the one-year earnings forecast and actual earnings in that year.	Thomson Reuters I B E S
SRQ	Sustainability Reporting Quality - Measured on the basis of the environmental and social pillar of the Asset4 database.	Thomson Reuters ASSET4
ASSU	Assurance - Dummy variable which represents whether a firm had their CSR reports assured or not.	Thomson Reuters ASSET4
SEC	Secrecy - Degree to which a society is secretive or transparent. Measured by the total of uncertainty avoidance and power distance, minus individualism	Hofstede's Database on Cultural Dimension scores per country
PDI	Power Distance Index - The extent to which a society accepts and expects that power is distributed unequally.	Hofstede's Database on Cultural Dimension scores per country
IDV	Individualism vs Collectivism - The degree in which a society is grouped or not.	Hofstede's Database on Cultural Dimension scores per country
UAI	Uncertainty Avoidance Index - Associated with a society's tolerance for ambiguity and risk.	Hofstede's Database on Cultural Dimension scores per country
Size	Size - Measured as the natural log of total assets	ThomsonOne DataStream
Lev	Leverage - Measured as the assets to liabilities ratio.	ThomsonOne DataStream
MtoB	Market to Book Value - Measured as the total stock value divided by the book value.	ThomsonOne DataStream
ROA	Return on Assets - Measured as the net income divided by total assets.	ThomsonOne DataStream
Industry	Industry dummies - To control for industry differences.	ThomsonOne DataStream
Year	Year dummies - To control for time effects and omitted variables that vary over time but are constant among firms.	ThomsonOne DataStream

3.3 Research Model

To test the hypotheses a multilevel panel analysis was used, to account for the country level variable SEC. The following econometric model was used, where the direct effect of SRQ and the moderating effect of secrecy explain variations in usefulness of CSR disclosures to investors, through the change in earnings forecast accuracy. The model tests both hypothesis 1 and 2:

$$EFA = \alpha + \beta_1 SRQ_{i,t} + \beta_2 ASSU_{i,t} + \beta_3 SEC_{i,t} + \beta_4 SRQ_{i,t} * ASSU_{i,t} + \beta_5 SRQ_{i,t} * SEC_{i,t} + \beta_6 Size_{i,t} + \beta_7 Lev_{i,t} + \beta_8 MtoB_{i,t} + \beta_9 ROA_{i,t} + \beta_{10} Industry_{i,t} + \beta_{11} Year_{i,t} + \epsilon_{i,t}$$

The assumptions underlying the econometric model were tested for multicollinearity based on the Pearson's correlation, see table 2. The highly correlated variables SRQASSU with SRQ and ASSU and SRQSEC with SEC can be explained by the fact that these interactions are derived from the individual variables. Furthermore, SIZE and SRQ are highly correlated, which can be explained by the fact that bigger companies have greater resources to use in improving CSR and their SRQ.

Table 3: Pearson correlations

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) EFA	1.000									
(2) SRQ	0.034*	1.000								
(3) ASSU	0.001	0.229*	1.000							
(4) SEC	-0.128*	-0.088*	0.125*	1.000						
(5) SRQASSU	0.021*	0.701*	0.797*	0.047*	1.000					
(6) SRQSEC	-0.122*	0.252*	0.194*	0.887*	0.289*	1.000				
(7) SIZE	0.016	0.370*	0.195*	0.037*	0.339*	0.104*	1.000			
(8) LEV	-0.040*	-0.005	0.005	0.008	-0.001	0.009	0.065*	1.000		
(9) MtoB	0.015	-0.017	-0.010	-0.002	-0.019	-0.000	-0.037*	0.653*	1.000	
(10) ROA	0.209*	0.015	-0.028*	-0.067*	-0.011	-0.066*	-0.226*	-0.039*	0.060*	1.000

* shows significance at the 0.05 level
See table 2 for variable definitions.

4. Results

4.1 Main analysis

Table 4 shows the results of the multi-level panel data model used to test hypotheses 1 and 2, which predicted direct effects of quality and moderating effects of secrecy on earnings forecast accuracy. Model 1 includes the variables defined in the econometric model except for the interaction variables, whereas model 2 includes all the variables defined in the econometric model including the interaction variables.

Table 4: Multi-level panel data regression results

Variable	Expected sign	Model 1	Model 2
Firm level:			
SRQ	+	0.00214* (1.86)	0.00134 (0.57)
ASSU	+	0.0000879 (0.15)	-0.00205 (-1.46)
Country level:			
SEC		-0.0000495*** (-2.71)	-0.0000237 (-1.09)
Interactions:			
SRQ*ASSU	+		0.00404* (1.68)
SRQ*SEC	-		-0.0000445** (-2.16)
Controls:			
SIZE		0.000422** (2.50)	0.000359** (2.10)
LEV		-0.00000188*** (-5.10)	-0.00000187*** (-5.09)
MtoB		0.0000469*** (3.52)	0.0000476*** (3.57)
ROA		0.000582*** (18.60)	0.000579*** (18.50)
Industry		Y	Y
Year		Y	Y
Constant		-0.0448*** (-9.79)	-0.0426*** (-8.18)
var(u _{0j})		0.0000325*** (-39.59)	0.0000318*** (-39.50)
var(e _{ij})		0.000410*** (-534.37)	0.000410*** (-534.41)
Observations		9435	9435
Log lik		23350.4	23353.8
Intraclass cor		0.0734	0.0720

***, ** and * indicate statistical significance at the 1% -, 5% -, and 10% level, the two tailed z-values are in parentheses.

Industry and year dummies are left out because of relevance.

See table 2 for variable definitions

Model 1 shows that SRQ is significantly positively related to earnings forecast accuracy, after having controlled for secrecy and various other factors specified in the model. Assurance, as an extra indicator for reporting quality, is not significantly related to earnings forecast accuracy in model 1. Nonetheless, the results provide support for hypothesis 1, indicating that information asymmetries decrease and consequently usefulness of CSR information increases, due to higher SRQ. Furthermore, model 2 shows that the centralized interaction term, $SRQ*SEC$, is significantly negatively related to earnings forecast accuracy. This result provides support for hypothesis 2, indicating that the effect of SRQ on earnings forecast accuracy is dependent on secrecy. The negative coefficient indicates that the relation between SRQ and earnings forecast accuracy is less positive in secretive cultures, while the effect of SRQ on earnings forecast accuracy is more positive in transparent cultures. In model 2 the effect of SRQ on earnings forecast accuracy is not significantly related, nonetheless the interaction variable $SRQ*ASSU$ is significantly positively related to earnings forecast accuracy, indicating that the quality of CSR reports as a combination of SRQ and assurance has a positive effect on the usefulness of CSR information to investors, decreasing information asymmetries.

The results indicate that SRQ and secrecy play a significant role in explaining variation in the extent to which information environments are affected. This indicates that, the effect of the issuance of a CSR report on an improved information environment is dependent on its quality and is moderated by the extent to which the society in which the firm operates is secretive or transparent.

SRQ comprises the conflicting reasons to disclose by looking at the content of the report and its quality, which enables us to grasp these contradictory motives, arising from agency theory. This suggests that, if a company signals or legitimizes its CSP, this is reflected in the quality of the report and consequently is reflected in the information environment. Providing support for the notion that, in the absence of mandatory regulation, management shows opportunistic behaviour leading to differences in information asymmetries among companies, which can be explained by differences in SRQ.

Secrecy on the other hand, does not say much about individual cases, but indicates the attitude, power and concern about CSR issues of the recipients of that information, the stakeholders. Indicating the extent to which the external corporate governance mechanism of stakeholders is socially and environmentally oriented or not. The results provides support for stakeholder theory and resource dependence theory, indicating that the cultural environment in which a firm operates is relevant for operational business, and that some CSR issues are relevant in one environment and less in the other vice-versa. Indicating that secrecy explains variation in the effect of SRQ on the information environment.

Overall, the results confirm the expected direct effect of SRQ and moderating effect of secrecy on earnings forecast accuracy. Indicating that usefulness of CSR disclosure to investors is dependent on the two legitimation structures hypothesised through SRQ and secrecy. Meaning that the extent to which information asymmetries are decreased by CSR disclosure is dependent on SRQ, but that the degree to which information asymmetries are reduced is dependent on cultural legitimation of CSR issues. The results indicate that usefulness of CSR disclosure to investors and consequently an improvement of the information environment is dependent on SRQ and the degree of secrecy.

4.2 Robustness tests

In this section the findings are subjected to several further robustness and specification tests. All of the tests are related to secrecy, because of the importance of the variable in the analysis.

In addition to the main analysis an additional analysis was done on the basis of two subsamples. In response to prior literature, using a stakeholder and shareholder distinction when

controlling for country differences (Dhaliwal et al., 2012; Flores et al., 2019), the model was run separately on two subsamples, based on the distinction between shareholder and stakeholder orientation. The shareholder-oriented sample consists of the Anglo-Saxon capitalist countries, and consist of the USA, Canada, Great-Britain, Ireland, Australia, and New-Zealand. The stakeholder-oriented sample consists of all the other countries in the sample. The results are presented in table 5.

Table 5: *Regression results for shareholder and stakeholder subsamples*

Variable	Expected sign	Shareholder Orientation	Stakeholder Orientation
Firm level:			
SRQ	+	0.00818*** (3.18)	0.000966 (0.25)
ASSU	+	-0.0000294 (-0.02)	-0.00377** (-2.00)
Country level:			
SEC		-0.000521** (-2.53)	0.0000173 (0.58)
Interactions:			
SRQ*ASSU	+	-0.000645 (-0.21)	0.00866** (2.50)
SRQ*SEC	-	0.000593*** (3.72)	-0.0000866*** (-2.66)
Controls:			
SIZE		0.000698*** (3.32)	0.000274 (1.16)
LEV		-0.00000130*** (-4.09)	-0.00000401*** (-5.09)
MtoB		0.0000254** (2.46)	0.000300*** (4.20)
ROA		0.000316*** (8.39)	0.000652*** (14.04)
Industry		Y	Y
Year		Y	Y
Constant		-0.00757 (-0.85)	-0.0466*** (-6.60)
var(u _{0j})		0.0000114*** (-16.54)	0.0000310*** (-35.41)
var(e _{ij})		0.000212*** (-314.53)	0.000486*** (-439.14)
Observations		2771	6664
Log lik		7780.2	15927.8
Intraclass cor		0.0512	0.0599

***, ** and * indicate statistical significance at the 1% -, 5% -, and 10% level, the two tailed z-values are in parentheses.

Industry and year dummies are left out because of relevance.

See table 2 for variable definitions

The results are broadly corresponding with the results from the main analysis. Indicating that secrecy independently from a distinction between stakeholder and shareholder orientation still significantly moderates the SRQ-earnings forecast accuracy relation. Indicating the relevance of the hypothesized moderation of cultural secrecy.

Furthermore, because secrecy is measured as a combination of several cultural dimensions found by Hofstede (2010), resulting in a raw composite measure. To test for the robustness of the variable, an alternative analysis was conducted using 4 ranks of secrecy. The ranks were retrieved by splitting the secrecy measure into four groups based on its quantiles. The results, presented in table 6, are still significant and support the hypotheses.

Table 6: Regression results, using ranks for secrecy

Variable	Expected sign	SEC Quantile
Firm level:		
SRQ	+	0.00277 (1.09)
ASSU	+	-0.00237* (-1.69)
Country level:		
SEC		-0.000553 (-0.51)
Interactions:		
SRQ*ASSU	+	0.00409* (1.70)
SRQ*SEC	-	-0.00353*** (-3.72)
Controls:		
SIZE		0.000277* (1.69)
LEV		-0.00000200*** (-5.35)
MtoB		0.0000525*** (3.88)
ROA		0.000596*** (19.10)
Industry		Y
Year		Y
Constant		-0.0413*** (-7.85)
var(u _{0j})		0.00000403*** (-16.78)
var(e _{ij})		0.000425*** (-533.16)
Observations		9435
Log lik		23233.4
Intraclass cor		0.00941

***, ** and * indicate statistical significance at the 1% -, 5% -, and 10% level, the two tailed z-values are in parentheses.

Industry and year dummies are left out because of relevance.

See table 2 for variable definitions

Lastly, a robustness check was conducted to account for the fact that the results might be driven by countries that account for a large share of all firm-year observations. In order the test for the robustness of the results the model was rerun without the firm-year observations from the countries Japan, the United States of America and Great Britain. These 3 countries account for almost one third of the whole sample. The results, presented in table 7, provide matching results with the main analysis, indicating that the results are not driven by these countries and that the results are robust.

Table 7: Regression results leaving out Japan USA and Great Britain

Variable	Expected sign	Sample without JP, USA, and GB
Firm level:		
SRQ	+	0.00181 (0.53)
ASSU	+	-0.00342* (-1.88)
Country level:		
SEC		-0.0000145 (-0.55)
Interactions:		
SRQ*ASSU	+	0.00572* (1.73)
SRQ*SEC	-	-0.0000603** (-1.99)
Controls:		
SIZE		0.000707*** (2.92)
LEV		-0.00000402*** (-6.17)
MtoB		0.000333*** (4.94)
ROA		0.000555*** (12.82)
Industry		Y
Year		Y
Constant		-0.0527*** (-7.83)
var(u_0j)		0.0000309*** (-35.98)
var(e_ij)		0.000518*** (-424.69)
Observations		6343
Log lik		14956.3
Intraclass cor		0.0563

***, ** and * indicate statistical significance at the 1% -, 5% -, and 10% level, the two tailed z-values are in parentheses.

Industry and year dummies are left out because of relevance.

See table 2 for variable definitions

5. Conclusion and Discussion

Due to inconsistencies in prior literature on the effect of CSR on the capital market, this study explored the relation between CSR disclosure and its usefulness to investors. Because usefulness of a CSR report is not only dependent on the disclosing firm, but also on the receiving stakeholders, it was hypothesized that an internal and external legitimation structure shape the extent to which CSR disclosure is useful to investors. This study finds that quality of CSR disclosures is associated with a decrease in information asymmetry between management and investors, as proxied by earnings forecast accuracy. And that this association is stronger among countries that are more transparent, for which CSR performance likely has a greater impact on financial performance and in which stakeholders value CSR issues to a greater extent, in contrast to countries that are more secretive. The quality of disclosure, and cultural setting play a role in the decision usefulness of CSR disclosure in forecasts and consequently the information environment. This research further uncovers CSR as an intangible asset that is hard to value and has its 'custom-made' effect on society and specifically the capital market across countries.

The results of the research should be considered in light of some limitations. First, the sample only consists of firms in countries in which cultural indicators are known, leaving out countries that are commonly more exceptional, resulting in the issue of a possible selection bias. Furthermore, because this research does not include firms that do not disclose on their CSR, the effect of moderated usefulness of disclosure through secrecy is not completely represented. If it does include a control group further statements can be made on the moderating effect of secrecy. Another limitation is that the companies in this sample are mostly large companies that have resources to invest in CSR and their CSR reports. Which makes the generalizability of the results less valid.

Nonetheless, the findings have important implications for standard-setters and regulators. Usefulness of CSR has been showed to vary considerably among reports and across countries. Where standard-setters and regulators could argue in favour of a mandatory framework to be able to better distinguish between good and bad CSR performing companies. The moderating effect of secrecy indicates that a mandatory framework across countries may not be suitable. Because some countries value CSR to a greater extent and operational performance is affected differently across countries, this makes it less relevant to force these countries into the same mandatory regime.

Our study has helped researchers and practitioners to better understand the legitimation structures that shape usefulness of CSR disclosure. These legitimation structures serve as governance mechanisms that determine the usefulness and relevance of CSR among firms. This has implications for companies, that may consider strategic use of these components in managing their multiple stakeholders. But also, for researchers, this study extends the literature by further revealing the usefulness and relevance of the intangible, CSR asset across countries. Adding to the literature, how institutional and cultural environments affect the usefulness of CSR. Contributing to the discussion about CSR by addressing two legitimation structures that vary the usefulness and consequently the impact of CSR on the capital market. Overall, more research is needed on environmental and social factors that influence the effect of CSR on the capital market, to advance the understanding of conditions that thrive or decay CSR developments.

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