The effect of integrated thinking and integrated reporting on the financial stability of an organization

Abstract

This paper investigates the effect of integrated thinking and integrated reporting on the financial stability of an organization with the moderating effects of the institutional environment and the capital market orientation. The financial stability of an organization is measured by financial liquidity, solvency, efficiency and profitability. The study is performed in the voluntary setting of Europe over the period 2013-2018. The sample consists of 5,757 firm-year observations for 1,093 publicly listed organizations. By performing multilevel analyses, the study finds that integrated thinking is negatively associated with the financial stability of an organization. Further, the institutional environment is positively associated with this relationship. The effect of the capital market orientation on the relationship between integrated thinking and the financial stability of an organization remains ambiguous.

By performing multilevel analyses, with a sub-sample of 2,510 firm-year observations for 504 European publicly listed organizations over the period 2011-2018, the study finds no association between integrated reporting and the financial stability of an organization. Also, the institutional environment has no association with this relationship and the effect of the capital market orientation on this relationship remains ambiguous. However, the measurement of integrated reporting is a limitation of the study.

Keywords: integrated thinking, integrated reporting, financial stability, neo-institutional theory, institutional environment, capital market orientation

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1. Introduction

The recent financial crisis in 2008 and the upcoming financial consequences of the current corona crisis emphasize the importance of a financially stable economy. The International Integrated Reporting Council (IIRC) proposed the adoption of the International Integrated Reporting Framework, that combines both financial and non-financial disclosures. This framework should shift the focus of organizations to integrated thinking and reporting, by referring to the strategy, business model and various forms of capital (IIRC, 2013; Villiers, Venter & Hsiao, 2017). Thereby, the framework changes an organization's way of thinking and reporting. The focus on future value creation is said to lead to better internal decision-making contributing to a more financially stable global economy (IIRC, 2013; Eccles & Krzus, 2010; Eccles & Saltzman, 2011; Krzus, 2011).

According to Eccles and Serafeim (2011), there is urgency to ensure a sustainable society because of recurring global financial crises. Also, organizations respond to increasing institutional pressures for responsible practices and increased transparency (Campbell, 2007; Waddock, 2008). This study investigates the effect of integrated thinking and integrated reporting on the financial stability of an organization. The goal of the study is to give insight in the effects of integrated thinking and integrated reporting as Vitolla, Raimo & Rubino (2019) show that the concept of value creation and the impacts need further investigation.

Integrated reporting, the concise communication about the creation of value over the short, medium and long term, has received an increasing amount of attention since the founding of the IIRC in 2010 (IIRC, 2013; Villiers, Rinaldi & Unerman, 2014). However, the novelty of integrated reporting makes Vitolla et al. (2019) define it as unexplored field. Also, the concept underlying integrated reporting, integrated thinking, has received less attention, remained vague and is underexplored in the current literature (Feng, Cummings & Tweedie, 2017; Oliver, Vesty & Brooks, 2016). Integrated thinking is the active consideration of the creation of value over the short, medium and long term (IIRC, 2013). There are inconsistent definitions and interpretations of integrated thinking. Therefore, there have been problems with the operationalization of integrated reporting. Thus, there is no clear practical guidance for integrated thinking (Feng et al., 2017).

Especially, the relation between integrated thinking and integrated reporting and the financial stability of an organization is unexplored. The underlying idea is that integrated thinking should cause organizations to undertake actions that take the creation of value in the short, medium and long term into account. This long-term focus is reflected in an integrated

report and should enhance the financial stability of an organization. An organization is financially stable if it can maintain the proper direction of changes in the parameters defining financial stability or is able to restore these parameters. Thus, an organization shows financial stability if it maintains financial liquidity, solvency, efficiency (productivity) and profitability (Gorczyńska, Blach, Wieczorek-Kosmala & Dość, 2016).

Previous literature also confirms the view that integrated thinking and integrated reporting could have an effect on the financial stability of organizations (Eccles & Krzus, 2010; Eccles & Saltzman, 2011; Krzus, 2011). Eccles & Krzus (2010) state that a report can significantly change how organizations operate and investors think which shifts the focus from short-term financial goals to a long-term business strategy that commits to a sustainable society. Krzus (2011) adds that reporting reveals how a company views itself and its role in society. This enables stakeholders to evaluate the economic, environmental and social performance of an organization. This should lead to a more effective assessment of the ability of an organization to create value over the long-term, thereby contributing to trustworthy markets.

Eccles & Saltzman (2011) combine the two reasons and stress internal benefits, for instance better internal resource allocation decisions and higher engagement with shareholders and other stakeholders, and external market benefits, most importantly meeting the needs of mainstream investors. Thus, there should be an effect of integrated thinking and integrated reporting on the financial stability of an organization for both internal and external reasons.

Also, the moderating effects of the institutional environment and the capital market orientation will be considered. The extent to which integrated thinking and integrated reporting have an effect on the financial stability of an organization is expected to depend on the law enforcement in a country. This is because the law enforcement has to protect the providers of financial capital against obtaining incorrect information about an organization (La Porta, Lopez-de-Silanes, Shleifer & Vishny, 2000; Burgstahler, Hail & Leuz, 2006). The orientation of the capital market, stakeholder-oriented versus shareholder-oriented, is also expected to influence the extent of the effect of integrated thinking and integrated reporting. The effect of integrated thinking is expected to be stronger in a stakeholder-oriented country and the effect of integrated reporting is expected to be stronger in a shareholder-oriented country. Thus, integrated thinking and reporting is particularly important for organizations themselves, both internal and external stakeholders, regulators and legislators.

Most of the research in integrated reporting focused on a mandatory setting. Despite

that following the International Integrated Reporting Framework is voluntary, organizations listed at the Johannesburg stock exchange have to apply the framework or explain why another reporting framework is adopted (Ahmed Haji & Anifowose, 2016). This paper will investigate the effect in a voluntary disclosure environment and provide guidance to regulators for making organizations financially more stable. Therefore, the sample will consist of European organizations as integrated reporting is not mandatory in Europe yet.

Specifically, a panel data set of European publicly listed organizations will be used as the impact of the long-term focus of listed organizations is likely to be larger compared to non-listed organizations which increases the contribution of the study. Also, publicly listed organizations should engage more in integrated thinking than private organizations because publicly listed organizations are more likely to respond to public equity markets (Burgstahler et al., 2006). The financial data of the organizations will be obtained from Eikon. The data for integrated thinking will be gathered from ASSET4 (Eikon) and the data for integrated reporting data will be collected from the GRI Database. The data for the moderators will be obtained from the World Bank and the classification in Braam & Peeters (2018).

The literature does not contain previous quantitative research on the relation between integrated thinking and integrated reporting, and the financial stability of an organization. Therefore, this research will be an empirical study. Multilevel regression analyses will be used to capture, at the same time, independent variables at the organization and at the country level (Hox, 2002; Dong & Stettler, 2011). Also, multilevel regression analyses enable interactions between these different levels (Hox, 2002), which is particularly useful for the moderators.

The study finds that integrated thinking is negatively associated with the financial stability of an organization. Integrated reporting has no association with the financial stability of an organization. Further, the institutional environment increases the effect of integrated thinking and the effect of the capital market orientation on the relationship between integrated thinking and the financial stability of an organization is ambiguous. Finally, the institutional environment has no association on the relationship between integrated reporting and the financial stability of an organization and the effect of the capital market orientation on this relationship is ambiguous.

The paper contributes on several aspects. First, the paper contributes to the emerging body of knowledge regarding integrated thinking and integrated reporting as well as to the literature of financial stability. In particular, the study provides a link between these two topics in the literature. Second, the paper improves the understanding of the possible effects

of integrated thinking and integrated reporting. Thereby, it also enhances the understanding of the financial stability of organizations. Further, the study increases the understanding of the moderating effects of the institutional environment and the capital market orientation in the literature of, on the one hand, integrated thinking and integrated reporting, and, on the other hand, the financial stability of an organization.

Third, the study contributes to corporate practice as the management of organizations can use this knowledge to choose their accounting practices and regulators can use this knowledge to set the accounting guidelines. Thereby, the financial implications of integrated thinking and integrated reporting can be considered in making these decisions. The disclosure of an integrated report is assumed to benefit organizations in a variety of ways (Barth, Cahan, Chen & Venter, 2017). Practitioners and regulators will become aware of the relevance of changing the way of thinking throughout the entire organization in order to optimize the benefits that can be obtained from integrated reporting. Further, the shift of focus towards the long-term can, fourth, have societal relevance as the results could possibly be useful to prevent a financial crisis.

The remainder of the paper is structured as follows. First, chapter two will provide the theoretical background, literature review and development of hypotheses. Second, chapter three will discuss the sample, operationalization and research models. Third, chapter four will provide the results. Finally, chapter five will conclude and discuss these results including the limitations of the study and possibilities for future research.

2. Theoretical background, literature review and development of hypotheses

2.1 Integrated thinking

The International Integrated Reporting Council (IIRC, 2013) defines integrated thinking as ‘the active consideration by an organization of the relationships between its various operating and functional units and the capital that the organization uses or affects. Integrated thinking leads to integrated decision-making and actions that consider the creation of value over the short, medium and long term’ (p. 2). Therefore, integrated thinking should be embedded throughout an organization. Through integrated thinking, organizational actors may better appreciate and understand the impact of their decisions, behavior and processes on stakeholders and the organization as a whole (Dumay & Dai, 2017).

Integrated thinking considers how an organization responds to the external environment by their business model and strategy. Also, the activities, performance and

outcomes in terms of the capitals (past, present and future) of the organization are taken into account (IIRC, 2013). The capitals are defined as 'stocks of value that are increased, decreased or transformed through the activities and outputs of the organization' (IIRC, 2013, p. 4). The International Integrated Reporting Framework divides the capitals into financial, manufactured, intellectual, human, social and relationship, and natural capital but this categorization is not mandatory (IIRC, 2013).

According to neo-institutional theory, organizations strategically take internally focused actions to achieve structural change and, thereby, meet institutional pressures and gain legitimacy. Normally, internal actions reflect inward-looking practices that involve the real actions an organization undertakes to develop organizational capabilities and meet the expectations of those social actors from which an organization is dependent for critical resources (Hawn & Ioannou, 2016). Integrated thinking, thus considering value creation over the short, medium and long term should help organizations to positively affect the capitals. This focus should lead to better internal resource allocation decisions (Eccles & Saltzman, 2011) and have positive financial implications for the capitals (IIRC, 2013) which increases the financial stability of an organization.

An organization is financially stable if it can maintain the proper direction of changes in financial liquidity, solvency, efficiency (productivity) and profitability or is able to restore these values. This means that a financially stable organization can resist shocks on a permanent basis, at the same time maintain its development path and, as well, perform its economic functions related to the acquisition and allocation of capital in case of internal disruptions and changes in the environment. Thereby, an organization has the capacity to perform their basic functions and acquire and allocate capital in line with their main goals (Gorczyńska et al., 2016).

Also, integrated thinking focuses on managing the strategically important stakeholder relations (Serafeim, 2015). Thereby, integrated thinking leads to a fuller consideration of key stakeholders' legitimate needs and interests in conducting business (IIRC, 2013). Eccles & Saltzman (2011) stress a higher engagement with shareholders and other stakeholders as another internal benefit. Thus, the higher engagement with key stakeholders should have a positive effect on the decisions that these stakeholders make over conducting business with an organization which leads to financial benefits. Therefore, the higher engagement with stakeholders should have a positive effect on the financial stability of an organization. Thus, integrated thinking is expected to lead to financially more stable organizations.

Hypothesis 1: Integrated thinking is positively associated with the financial stability of an organization.

Integrated thinking is the underlying concept of integrated reporting. This means that the concept of integrated thinking is central to the integrated reporting framework (IIRC, 2013; Feng et al., 2017). Despite the fact that integrated thinking is described as a central concept in integrated reporting, it remained an underexplored topic in the literature (Oliver et al., 2016; Feng et al., 2017). Most of the studies that have been performed on integrated thinking are qualitative. These studies clarified that integrated thinking occurs in a different way across organizations. This resulted in practitioners interpreting integrated thinking on their own regarding their own situation. This is due to a lack of clarity surrounding integrated thinking, which is caused by the fact that the IIRC only provided an abstract definition of the concept (Feng et al., 2017). Further, a difficulty in interpreting integrated thinking is the absence of clear precedents in reporting contexts. The vagueness can become problematic since it might cause problems with the operationalization of integrated reporting, which might be addressed by clarifying the inconsistencies surrounding integrated thinking and obtaining a clearer understanding of the concept (Feng et al., 2017).

2.2 Integrated reporting

Integrated reporting is a new way of reporting for organizations and is advocated by the International Integrated Reporting Council (IIRC). The goal of integrated reporting is to support integrated thinking, decision-making and actions that focus on value creation over the short, medium and long term. An integrated report is defined as a 'concise communication about how an organization's strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value over the short, medium and long term' (IIRC, 2013, p. 7). Thereby, the primary purpose of an integrated report is to explain to providers of financial capital how an organization creates this value over time (IIRC, 2013).

To reach the purpose of the integrated report, it contains relevant information, which means both financial and other information. Further, a statement should be included wherein those charged with governance accept responsibility for the report (IIRC, 2013). Also, an integrated report is supposed to include qualitative information and should be more than a summary of existing reports (Villiers et al., 2017). According to the IIRC (2013), an integrated report benefits all stakeholders that are interested in an organization's ability to create value over time. This includes employees, customers, suppliers, business partners, local communities, legislators, regulators and policy-makers. However, the focus of this paper will

be on the providers of financial capital, which is the primary goal of an integrated report (IIRC, 2013).

An integrated report can be used to communicate the effect of integrated thinking on the financial stability of an organization. The integrated report includes eight content elements: organizational overview and external environment; governance; business model; risks and opportunities; strategy and resource allocation; performance; outlook; and general reporting guidance. These content elements are linked to each other and are not mutually exclusive. Further, the content elements are stated in the form of questions (IIRC, 2013). The effect of integrated thinking on the financial stability of an organization is captured by the strategy and resource allocation as the strategy that an organization uses to respond to the external environment. The strategy, in the integrated report, should answer the question: 'Where does the organization want to go and how does it intend to get there?' (IIRC. 2013, p. 27). This means that the strategic objectives over the short, medium and long term; the strategies to achieve those objectives; and the resource allocation plans to implement this strategy are identified (IIRC, 2013).

External financing in public equity markets creates demand for information that is useful for evaluating and monitoring an organization. The providers of financial capital rely heavily on public information, such as financial statements (Burgstahler et al., 2006). Meeting the needs of the providers of financial capital who want ESG information is the most important external market benefit (Eccles & Saltzman, 2011). According to neo-institutional theory, organizations strategically take externally focused actions to gain organizational approval by external audiences, and, thereby, meet institutional pressures and gain legitimacy. Normally, external actions reflect public and highly visible initiatives and patterns of communication to gain legitimacy, mostly by seeking public approval of the organization and their practices by outside audiences. The set of external actions include for instance public claims and reports that publicize actions that an organization has taken (Hawn & Ioannou, 2016).

Thereby, the issuance of a report is to communicate the initiatives of the organization to external audiences (Hawn & Ioannou, 2016), in this case the providers of financial capital. According to Krzus (2011), integrated reporting enables the providers of financial capital to evaluate the economic, environmental and social performance of an organization which should lead to a more effective assessment of the ability of an organization to create value over time. An integrated report is supposed to improve the information quality to the providers of financial capital which leads to a more effective assessment of the ability of an

organization to create value over time and an efficient allocation of capital. This focus on value creation enhances a financially stable economy (Krzus, 2011; IIRC, 2013; Villiers et al., 2017; Barth et al., 2017).

Thus, communicating about how an organization will create value over the short, medium and long term should help organizations make the providers of financial capital aware of the strategy and resource allocation that an organization adopts to create value over the short, medium and long term. The effective assessment of an organization should have a positive effect on the decisions that these providers of financial capital make over allocating financial capital to an organization which leads to an efficient allocation of capital and increases the funds that can be gained. Therefore, integrated reporting is expected to have a positive effect on the financial stability of an organization and lead to financially more stable organizations.

Hypothesis 2: Integrated reporting is positively associated with the financial stability of an organization.

An integrated report should be reliable and complete. This means that it includes all, positive as well as negative, material matters in a balanced way and without material error. Further, key performance indicators are assumed effective to connect quantitative and qualitative information (IIRC, 2013). To enable organizations to prepare an integrated report, the IIRC (2013) established a principles-based framework. In this framework, organizations are supposed to elaborate on value creation along the six different forms of capital.

However, the principles-based approach towards integrated reporting leads to difficulties in determining if, and to what extent an organization follows the guidelines of the framework (Villiers et al., 2017), which could cause problems with the operationalization of integrated reporting. Also, the literature points out that there is a lack of globally accepted standards for the reporting of nonfinancial information. This confirms a variability of approaches and thus evidence of a disconnect between practices and disclosures (Oliver et al., 2016). Further, there are variabilities in the relevance, applicability and adoption of integrated reporting between different jurisdictions. This means that integrated reports are not always comparable (Villiers et al., 2017).

2.3 Institutional environment

The effect of integrated reporting depends on the protection of the providers of financial capital (La Porta et al., 2000; Burgstahler et al., 2006). Also, the effect of integrated thinking depends on the protection of the providers of financial capital. Internal resource

allocation decisions are not expected to be affected by the protection of the providers of financial capital. However, the effect of the higher engagement with key stakeholders, particularly key shareholders, is expected to depend on the protection of the providers of financial capital.

The protection of the providers of financial capital by the legal system is, according to recent research, central to understanding the patterns of corporate finance in different countries (La Porta et al., 2000). Further, prior studies show that institutional differences have an influence on the reporting behaviour of public organizations. Organizations in countries with weak legal enforcement are more likely to abuse discretion afforded by accounting rules (Burgstahler et al., 2006). Thus, the legal enforcement in a country has to protect the providers of financial capital against obtaining wrong information about an organization.

Corporate governance is a set of mechanisms by which the providers of financial capital can be protected. The legal approach to corporate governance states that the protection of the providers of financial capital by the legal system, both laws and the enforcement, is the key mechanism (La Porta et al., 2000; Burgstahler et al., 2006). Normally, providers of financial capital obtain certain rights or powers that are protected through the enforcement of regulations and laws such as disclosure and accounting rules (La Porta et al., 2000). Legal rules, however, remain largely ineffective without proper enforcement (Burgstahler et al., 2006). Variations in law and the enforcement are central to understanding why organizations raise more funds in some countries than in others. External financing would tend to break down in the absence of such effectively enforced rights (La Porta et al., 2000). Thus, the providers of financial capital need to have their rights protected.

Therefore, the institutional environment is expected to moderate on the relationship between integrated thinking and integrated reporting, and the financial stability of an organization. Mostly, providers of financial capital finance organizations because the rights are protected by the law (La Porta et al., 2000; Burgstahler et al., 2006). Also, countries that protect the providers of financial capital well have larger capital markets (La Porta, Lopez-de-Silanes, Shleifer & Vishny, 1997). Thus, the extent to which integrated thinking and integrated reporting have an effect on the financial stability of an organization is expected to depend on the law and law enforcement in a particular country. Integrated reporting is mostly voluntary and lacks clear precedents in reporting contexts (Feng et al., 2017). This means that the protection by the law and law enforcement is even more important in a voluntary setting than in a mandatory setting.

The law enforcement increases the trust that the providers of financial capital have in

an integrated report, as this for instance reduces earnings management by, mostly, publicly traded organizations (Burgstahler et al., 2006). This protects the rights of the providers of financial capital and makes them more willing to finance an organization (La Porta et al., 2000) and pay more for securities (Burgstahler et al., 2006). Thereby, the law and law enforcement in a country increase the effects of integrated thinking and integrated reporting on the financial stability of an organization. Thus, the institutional environment has a positive effect on the financial stability of an organization by influencing the extent of the effects of integrated thinking and integrated reporting which leads to financially more stable organizations.

Hypothesis 3a: The effect of integrated thinking on the financial stability of an organization is stronger in an institutional environment characterized by a strong as compared to a weak protection of the providers of financial capital.

Hypothesis 3b: The effect of integrated reporting on the financial stability of an organization is stronger in an institutional environment characterized by a strong as compared to a weak protection of the providers of financial capital.

2.4 Capital market orientation

The orientation of the capital market, stakeholder-oriented vs. shareholder-oriented, is also expected to influence the extent of the relationship between integrated thinking and integrated reporting, and the financial stability of an organization. In more stakeholder-oriented countries, stakeholders have legitimate interest in the activities of an organization. Therefore, these stakeholders have more influence on the business operations of an organization than stakeholders in more shareholder-oriented countries (Braam & Peeters, 2018; Simnett, Vanstraelen & Chua, 2009). Thus, organizations in stakeholder-oriented countries are more likely to be managed in the interests of all stakeholders who can affect the achievement of the objectives of an organization (Braam & Peeters, 2018). This goes beyond maximizing shareholder wealth (Laplume, Sonpar & Litz, 2008). The demand for timely incorporation of economic income in accounting income is higher in shareholder-oriented countries than in stakeholder-oriented countries (Ball, Kothari & Robin, 2000). Organizations in a shareholder-oriented country are mainly seen as instruments for the creation of shareholder value (Simnett et al., 2009).

According to this theoretical distinction between stakeholder-oriented countries and shareholder-oriented countries, the stakeholder-oriented countries, with the influence on business operations, can be linked to integrated thinking, and the shareholder-oriented

countries, with the focus on shareholder wealth, can be linked to integrated reporting. Stakeholder-oriented countries focus more on the business operations of an organization which strengthens the effect of integrated thinking. Shareholder-oriented countries focus more on shareholder wealth which strengthens the effect of integrated reporting. Especially, public equity markets improve earnings informativeness (Burgstahler et al., 2006). Therefore, providing an integrated report to the providers of financial capital in shareholder-oriented countries leads to an even more effective assessment of an organization and should have a positive effect on the decisions that these providers make over allocating financial capital to an organization. Thus, the effect of integrated thinking is expected to be stronger in a stakeholder-oriented country and the effect of integrated reporting is expected to be stronger in a shareholder-oriented country.

Hypothesis 4a: The effect of integrated thinking on the financial stability of an organization is stronger in stakeholder-oriented countries as compared to shareholder-oriented countries.

Hypothesis 4b: The effect of integrated reporting on the financial stability of an organization is stronger in shareholder-oriented countries as compared to stakeholder-oriented countries.

3. Research method

3.1 Sample

The study will be performed in the voluntary setting of European organizations. Thereby, the effects of integrated thinking and integrated reporting could serve as a recommendation to regulators. Specifically, the unbalanced panel data set will, for four reasons, consist of European publicly listed organizations. First, the impact of the long-term focus of listed organizations is likely to be larger compared to non-listed organizations which increases the chance of finding significant results, particularly for integrated reporting, as public organizations have stronger incentives to provide an integrated report that helps the providers of financial capital assess the economic performance of an organization (Burgstahler et al., 2006). Second, public organizations should engage more in integrated thinking than private organizations because public organizations are more likely to respond to public equity markets (Burgstahler et al., 2006). Third, a sample of public firms is useful as, shown by prior studies, institutional differences influence the reporting behavior of public organizations (Burgstahler et al., 2006), which increases the relevance of the moderator institutional environment. Fourth, integrated thinking and integrated reporting data is not (sufficiently) available for non-publicly listed organizations.

The financial data of the organizations for measuring the financial stability of an organization will be collected from Eikon (Datastream). The data for integrated thinking will be gathered from ASSET4 (Eikon) and the data for integrated reporting will be obtained from the GRI Database. The data for the moderator institutional environment will be gained from the World Bank and the classification in Braam & Peeters (2018) will be followed to differentiate between stakeholder-oriented and shareholder-oriented countries.

Table 1: number of observations across years without integrated reporting

	2013	2014	2015	2016	2017	2018
VARIABLES	N	N	N	N	N	N
CSR Strategy Score	824	849	958	987	1,069	1,070
current ratio	824	827	832	833	831	828
total debt to assets	1,065	1,076	1,084	1,087	1,083	1,079
efficiency ratio	916	945	951	956	919	905
return on assets	1,039	1,059	1,072	1,084	1,079	1,077
institutional environment	1,093	1,093	1,093	1,093	1,093	1,093
capital market orientation	1,093	1,093	1,093	1,093	1,093	1,093
log total assets	1,074	1,082	1,090	1,093	1,091	1,087
basic materials	1,093	1,093	1,093	1,093	1,093	1,093
industrials	1,093	1,093	1,093	1,093	1,093	1,093
cyclical consumer goods & services	1,093	1,093	1,093	1,093	1,093	1,093
non-cyclical consumer goods & services	1,093	1,093	1,093	1,093	1,093	1,093
financials	1,093	1,093	1,093	1,093	1,093	1,093
healthcare	1,093	1,093	1,093	1,093	1,093	1,093
technology	1,093	1,093	1,093	1,093	1,093	1,093
telecommunications services	1,093	1,093	1,093	1,093	1,093	1,093
utilities	1,093	1,093	1,093	1,093	1,093	1,093
Herfindahl index	1,093	1,093	1,093	1,093	1,093	1,093

Table 2: number of observations across years with integrated reporting

	2011	2012	2013	2014	2015	2016	2017	2018
VARIABLES	N	N	N	N	N	N	N	N
integrated reporting	307	321	360	356	351	318	268	229
CSR Strategy Score	421	429	437	448	465	474	497	491
current ratio	386	388	394	394	395	394	392	391
total debt to assets	489	494	495	496	498	499	496	495
efficiency ratio	411	415	426	428	430	430	425	423
return on assets	477	488	488	492	492	498	493	494
institutional environment	504	504	504	504	504	504	504	504
capital market orientation	504	504	504	504	504	504	504	504
log total assets	491	496	501	501	503	504	502	500
basic materials	504	504	504	504	504	504	504	504
industrials	504	504	504	504	504	504	504	504
cyclical consumer goods & services	504	504	504	504	504	504	504	504
non-cyclical consumer goods & services	504	504	504	504	504	504	504	504

financials	504	504	504	504	504	504	504	504
healthcare	504	504	504	504	504	504	504	504
technology	504	504	504	504	504	504	504	504
telecommunications services	504	504	504	504	504	504	504	504
utilities	504	504	504	504	504	504	504	504
Herfindahl index	504	504	504	504	504	504	504	504

Table 1 and 2 show an increasing trend in the number of observations for the measure of integrated thinking, the CSR Strategy Score. This could indicate that, over the years in the samples, data about integrated thinking became more important. The number of observations for integrate reporting, in table 2, show an increasing trend in the number of observations between 2011-2013 and a decreasing trend between 2013-2018. This could indicate that less organizations, over the last few years, self-declare whether a report is integrated or not.

Table 3: number of observations across countries without integrated reporting

	AT	BE	CH	CZ	DE	DK	ES	FI	FR	GB
VARIABLES	N	N	N	N	N	N	N	N	N	N
CSR Strategy Score	82	162	345	27	555	146	272	142	567	1,927
current ratio	48	138	261	18	569	132	222	144	535	1,553
total debt to assets	84	186	363	30	665	161	294	150	635	2,174
efficiency ratio	66	165	300	18	613	132	241	144	590	1,893
return on assets	84	186	360	30	658	160	293	150	634	2,146
institutional environment	90	186	366	30	672	162	294	150	636	2,208
capital market orientation	90	186	366	30	672	162	294	150	636	2,208
log total assets	90	186	363	30	665	162	294	150	636	2,191
basic materials	90	186	366	30	672	162	294	150	636	2,208
industrials	90	186	366	30	672	162	294	150	636	2,208
cyclical consumer goods & services	90	186	366	30	672	162	294	150	636	2,208
non-cyclical consumer goods & services	90	186	366	30	672	162	294	150	636	2,208
financials	90	186	366	30	672	162	294	150	636	2,208
healthcare	90	186	366	30	672	162	294	150	636	2,208
technology	90	186	366	30	672	162	294	150	636	2,208
telecommunications services	90	186	366	30	672	162	294	150	636	2,208
utilities	90	186	366	30	672	162	294	150	636	2,208
Herfindahl index	90	186	366	30	672	162	294	150	636	2,208

	GR	HU	IE	IT	NL	NO	PL	PT	SE	TR
VARIABLES	N	N	N	N	N	N	N	N	N	N
CSR Strategy Score	102	24	58	297	207	131	184	47	323	159
current ratio	84	18	48	237	186	141	131	48	318	144
total debt to assets	107	24	59	339	230	159	203	54	381	176
efficiency ratio	84	18	48	251	201	140	137	43	364	144
return on assets	105	24	58	331	227	158	201	54	378	173
institutional environment	108	24	60	354	234	162	204	54	384	180

capital market orientation	108	24	60	354	234	162	204	54	384	180
log total assets	108	24	60	348	234	159	203	54	381	179
basic materials	108	24	60	354	234	162	204	54	384	180
industrials	108	24	60	354	234	162	204	54	384	180
cyclical consumer goods & services	108	24	60	354	234	162	204	54	384	180
non-cyclical consumer goods & services	108	24	60	354	234	162	204	54	384	180
financials	108	24	60	354	234	162	204	54	384	180
healthcare	108	24	60	354	234	162	204	54	384	180
technology	108	24	60	354	234	162	204	54	384	180
telecommunications services	108	24	60	354	234	162	204	54	384	180
utilities	108	24	60	354	234	162	204	54	384	180
Herfindahl index	108	24	60	354	234	162	204	54	384	180

, where AT = Austria, BE = Belgium, CH = Switzerland, CZ = Czech Republic, DE = Germany, DK = Denmark, ES = Spain, FI = Finland, FR = France, GB = United Kingdom, GR = Greece, HU = Hungary, IE = Ireland, IT = Italy, NL = Netherlands, NO = Norway, PL = Poland, PT = Portugal, SE = Sweden, TR = Turkey.

Table 4: number of observations across countries with integrated reporting

	AT	BE	CH	CZ	DE	DK	ES	FI	FR	GB
VARIABLES	N	N	N	N	N	N	N	N	N	N
integrated reporting	53	74	169	5	321	50	218	139	181	306
CSR Strategy Score	76	105	241	11	455	97	277	176	357	525
current ratio	56	88	184	8	429	96	225	176	303	431
total debt to assets	81	112	248	15	517	104	287	184	375	549
efficiency ratio	64	104	203	8	468	96	231	175	352	489
return on assets	81	111	246	14	512	104	285	183	374	545
institutional environment	88	112	248	16	528	104	288	184	376	560
capital market orientation	88	112	248	16	528	104	288	184	376	560
log total assets	87	112	248	15	517	104	287	184	376	556
basic materials	88	112	248	16	528	104	288	184	376	560
industrials	88	112	248	16	528	104	288	184	376	560
cyclical consumer goods & services	88	112	248	16	528	104	288	184	376	560
non-cyclical consumer goods & services	88	112	248	16	528	104	288	184	376	560
financials	88	112	248	16	528	104	288	184	376	560
healthcare	88	112	248	16	528	104	288	184	376	560
technology	88	112	248	16	528	104	288	184	376	560
telecommunications services	88	112	248	16	528	104	288	184	376	560
utilities	88	112	248	16	528	104	288	184	376	560
Herfindahl index	88	112	248	16	528	104	288	184	376	560

	GR	HU	IE	IT	NL	NO	PL	PT	SE	TR
VARIABLES	N	N	N	N	N	N	N	N	N	N
integrated reporting	85	31	8	182	147	62	87	29	256	107
CSR Strategy Score	96	32	15	285	189	79	148	35	301	162
current ratio	64	24	8	221	160	88	120	32	285	136
total debt to assets	97	32	13	308	202	104	160	40	354	180
efficiency ratio	64	24	8	228	168	88	120	32	331	135
return on assets	96	31	12	299	196	104	160	40	352	177
institutional environment	104	32	16	320	208	104	160	40	360	184
capital market orientation	104	32	16	320	208	104	160	40	360	184
log total assets	104	32	16	312	207	104	160	40	354	183

basic materials	104	32	16	320	208	104	160	40	360	184
industrials	104	32	16	320	208	104	160	40	360	184
cyclical consumer goods & services	104	32	16	320	208	104	160	40	360	184
non-cyclical consumer goods & services	104	32	16	320	208	104	160	40	360	184
financials	104	32	16	320	208	104	160	40	360	184
healthcare	104	32	16	320	208	104	160	40	360	184
technology	104	32	16	320	208	104	160	40	360	184
telecommunications services	104	32	16	320	208	104	160	40	360	184
utilities	104	32	16	320	208	104	160	40	360	184
Herfindahl index	104	32	16	320	208	104	160	40	360	184

, where AT = Austria, BE = Belgium, CH = Switzerland, CZ = Czech Republic, DE = Germany, DK = Denmark, ES = Spain, FI = Finland, FR = France, GB = United Kingdom, GR = Greece, HU = Hungary, IE = Ireland, IT = Italy, NL = Netherlands, NO = Norway, PL = Poland, PT = Portugal, SE = Sweden, TR = Turkey.

Table 3 shows that organizations in Germany, Spain and the United Kingdom are most present in the sample without integrated reporting. Especially, organizations in the United Kingdom account for a major part of the observations in this sample. This will be necessary to differentiate between stakeholder-oriented countries and shareholder-oriented countries. Table 4 shows that organizations in Germany, Spain, the United Kingdom and Sweden are most present in the sample with integrated reporting. Organizations in the United Kingdom account, in this sample, for a smaller part of the observations and organizations in Sweden account for a larger part of the observations as compared to the sample without integrated reporting. This indicates that organizations in the United Kingdom relatively less self-declare and organizations in Sweden relatively more self-declare whether a report is integrated or not.

Table 5: number of observations per industry without integrated reporting

	i0	i1	i2	i3	i4	i5	i6	i7	i8	i9
VARIABLES	N	N	N	N	N	N	N	N	N	N
CSR Strategy Score	371	569	1,035	939	364	1,437	325	300	210	207
current ratio	407	598	1,165	1,058	409	145	389	353	232	219
total debt to assets	407	604	1,174	1,058	409	1,623	395	353	232	219
efficiency ratio	401	598	1,169	1,054	408	770	391	353	228	220
return on assets	404	603	1,169	1,049	403	1,592	394	350	231	215
institutional environment	414	606	1,182	1,062	414	1,674	396	354	234	222
capital market orientation	414	606	1,182	1,062	414	1,674	396	354	234	222
log total assets	407	604	1,174	1,058	409	1,666	395	353	232	219
Herfindahl index	414	606	1,182	1,062	414	1,674	396	354	234	222

, where i0 = energy, i1 = basic materials, i2 = industrials, i3 = cyclical consumer goods & services, i4 = non-cyclical consumer goods & services, i5 = financials, i6 = healthcare, i7 = technology, i8 = telecommunications services, i9 = utilities.

Table 6: number of observations per industry with integrated reporting

	i0	i1	i2	i3	i4	i5	i6	i7	i8	i9
VARIABLES	N	N	N	N	N	N	N	N	N	N
integrated reporting	186	375	487	332	150	532	83	86	138	141
CSR Strategy Score	260	485	670	552	231	837	133	134	179	181
current ratio	270	516	765	596	261	47	150	144	192	193
total debt to assets	270	516	768	598	261	870	150	144	192	193
efficiency ratio	263	516	761	597	260	312	150	144	191	194
return on assets	270	515	763	593	259	849	149	143	191	190
institutional environment	272	520	776	608	264	904	152	144	192	200
capital market orientation	272	520	776	608	264	904	152	144	192	200
log total assets	270	516	768	604	261	900	150	144	192	193
Herfindahl index	272	520	776	608	264	904	152	144	192	200

, where i0 = energy, i1 = basic materials, i2 = industrials, i3 = cyclical consumer goods & services, i4 = non-cyclical consumer goods & services, i5 = financials, i6 = healthcare, i7 = technology, i8 = telecommunications services, i9 = utilities.

Table 5 shows that organizations in the industries industrials, cyclical consumer goods & services and financials are most present in the sample without integrated reporting. Table 6 shows that organizations in the industries basic materials, industrials and financials are most present in the sample with integrated reporting. Thereby, organizations in the industry cyclical consumer goods & services relatively less self-declare and organizations in the industry basic materials relatively more self-declare whether a report is integrated or not.

3.2 Variables

3.2.1 Dependent variable

The dependent variable of the study is financial stability. The financial stability of an organization is based on particular financial parameters referring to the following areas of financial stability: financial liquidity, solvency, efficiency (productivity) and profitability (Gorczyńska et al., 2016). The effect of integrated thinking and integrated reporting will be tested on these parameters separately (Bruynseels & Cardinaels, 2014). Each parameter will be proxied by one of the ratios outlined in Gorczyńska et al. (2016).

Liquidity will be proxied by the current ratio. The current ratio is calculated as current assets divided by current liabilities. Solvency will be proxied by total debt to assets. Total debt to assets is calculated as total debt relative to total assets. Efficiency will be proxied by the efficiency ratio. The efficiency ratio is calculated as cost of goods sold relative to sales. Profitability is proxied by return on assets (ROA). Return on assets is calculated as net profit relative to total assets (Gorczyńska et al., 2016).

Normally, the higher the score for a particular ratio, the better the financial stability of

an organization. However, an increase of total debt to assets and the efficiency ratio have a negative effect on the financial stability of an organization. Thus, a positive relation between, on the one hand, integrated thinking and integrated reporting, and, on the other hand, total debt to assets and the efficiency ratio, will have a negative effect on the financial stability of an organization and vice-versa.

3.2.2 Independent variables

The independent variables of the study are integrated thinking and integrated reporting. The available database (Eikon) provides scores, based on content analysis, relating to the specific content elements and forms of capital. The ESG scores from Refinitv (Eikon) will be used to measure integrated thinking. The scores in this database are designed to transparently and objectively measure the relative ESG performance, commitment and effectiveness of an organization based on publicly-reported data. The model is fully automated, data-driven and transparent, and therefore free from subjectivity and hidden calculations or inputs (Refinitv, 2020a).

In accordance with previous studies (Serafeim, 2015; Venter, Stiglingh, & Smit, 2017), integrated thinking is measured by the CSR Strategy Score from ASSET4. The CSR Strategy Score reflects the practices that an organization undertakes to communicate that it integrates the economic (financial), social and environmental dimensions into its day-to-day decision-making processes (Refinitiv, 2020b). This proxy allows to measure the management commitment to and effectiveness in creating an overarching vision and strategy on integrating financial and extra-financial aspects. The measure looks at four drivers and eight outcomes of the vision and strategy of a companies' board. This will lead to a score between 0 and 100 for integrated thinking (Venter et al., 2017).

Further, there have been problems with the operationalization of integrated reporting because of inconsistent definitions and interpretations (Feng et al., 2017). Previous literature measures integrated reporting by doing content analyses (Garciá-Sánchez, Martínez-Ferrero & Garcia-Benau, 2019; Suttipun & Bomlai, 2019; Wen & Heong, 2017). Some or all of the eight content elements of the International Integrated Reporting Framework or disclosures related to the six capitals in the framework are followed and a dummy is used to measure whether a report is integrated or not (Garciá-Sánchez et al., 2019; Wen & Heong, 2017; Suttipun & Bomlai, 2019).

However, measuring if a report is integrated or not is a difficult task. The principles-based approach leads to difficulties in determining if, and to what extent an organization

follows the guidelines of the framework (Villiers et al., 2017). Also, Suttipun & Bomlai (2019) use content analysis by word count to get less subjective judgment in the analysis (Gamerschlag, Möller & Verbeeten, 2011). Further, content analysis is very time-consuming in the timeframe of this research. This would unavoidably reduce the sample by a huge amount.

Therefore, the GRI Database will be used to proxy whether a report is integrated or not. This database indicates if a report includes both non-financial and financial disclosures, beyond basis economic information. Organizations self-declare whether their report is integrated or not (GRI, 2020). A dummy will be added to the research model with a score of 1 if a report is integrated and 0 otherwise. However, the GRI Database provides differing reports, namely annual and sustainability reports (GRI reports).

3.2.3 Moderators

The moderator institutional environment will be captured by the law and law enforcement in a country (La Porta et al., 2000; Burgstahler et al., 2006). The law in a country will be measured by the Government Effectiveness: Estimate of the World Bank. This estimate measures the quality of public services, the quality of the civil service and the degree of independence of this from political pressures, the quality of policy formulation and implementation, and the credibility of the commitment of a government to such policies (World Bank, 2019; Kaufmann, Kraay & Mastruzzi, 2007). The estimate gives a score for a country on the aggregate indicator in units of a standard normal distribution which means ranging from approximately -2.5 to 2.5 (World Bank, 2019).

The law enforcement in a country will be measured, similar to Braam & Peeters (2018), by the rule of law measure of the World Bank, in particular the Rule of Law: Estimate. This estimate measures the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence (World Bank, 2019; Simnett et al., 2009; Kaufmann et al., 2007). Again, the estimate gives a score for a country on the aggregate indicator in units of a standard normal distribution which means ranging from approximately -2.5 to 2.5 (World Bank, 2019). The score for the institutional environment will be calculated by adding up the scores for the law and law enforcement divided by two, giving equal weight to these measures for the institutional environment (Braam & Peeters, 2018; Waddock & Graves, 1997).

The moderator capital market orientation, stakeholder-oriented country vs.

shareholder-oriented country, will be measured by the classification in Braam & Peeters (2018). According to Ball et al. (2000), stakeholder-oriented countries relate to code law countries and shareholder-oriented countries relate to common law countries. Therefore, a dummy variable will be used for code law and common law countries to differentiate between stakeholder-oriented countries and shareholder-oriented countries which has a value of 1 if an organization is headquartered in a shareholder-oriented country and a value of 0 if an organization is headquartered in a stakeholder-oriented country (Simnett et al., 2009; Braam & Peeters, 2018). European countries excluding the United Kingdom and Ireland are classified as stakeholder-oriented countries and the United Kingdom and Ireland are, thus, classified as shareholder-oriented countries (Braam & Peeters, 2018).

3.2.4 Control variables

In line with previous studies, some control variables will be added to the empirical model. First, the size of an organization will be controlled for by the natural log of total assets (Braam, Uit de Weerd, Hauck & Huijbregts, 2016; Villiers et al., 2017; Manning et al., 2019; Braam & Peeters, 2018). Second, industry will be controlled for by industry codes (TRBC) in the form of dummy variables (Braam et al., 2016; Manning et al., 2017; Villiers et al., 2017; Dhaliwal, Li, Tsang & Yang, 2011), with the industry energy as reference category. Third, market concentration will be controlled for by the Herfindahl index (Garciá-Sánchez et al., 2019; Dhaliwal et al., 2011). The Herfindahl index is calculated, slightly different than Dhaliwal et al. (2011), by summing the squares of the market shares of all organizations in an industry. The market share of an organization is calculated by dividing the sales of an organization in a year by the total sales of all organizations in an industry in that year (Dhaliwal et al., 2011). Fourth, year dummies are added to control for omitted variables that vary over time but are constant between organizations (Braam & Peeters, 2018; Manning et al., 2017; Garciá-Sánchez et al., 2019; Dhaliwal et al., 2011). Finally, country dummies are excluded from the model because including both country dummies and the institutional environment is likely to cause problems regarding multicollinearity.

3.3 Models

The study will be performed by multilevel regression analyses as the panel data set has a hierarchical structure, namely organizational and country level data. This means that the individual observations are normally not completely independent which leads to a higher average correlation between variables measured on organizations from the same country. Thereby, the assumption of independent observations in standard statistical tests is violated

and multilevel analysis techniques are needed to correct the standard errors (Hox, 2002; Dong & Stettler, 2011). Thus, the multilevel regression method allows to capture, at the same time, independent variables at the organization level, integrated thinking and integrated reporting, and at the country level, the institutional environment and the capital market orientation. Also, this method allows for interactions between variables on these different levels (Hox, 2002), which is necessary for hypotheses 3 and 4.

Despite that Braam & Peeters (2018) indicate that publicly listed organizations have resources available to invest in sustainability reporting and third-party assurance, which should be similar for integrated reporting, this paper also expects a reversed effect of the financial stability of an organization on integrated thinking and integrated reporting. Thus, the endogeneity problem because of reverse causality is an issue of the relationship between integrated thinking and integrated reporting, and the financial stability of an organization.

A financially stable company has more resources and should be more engaged with integrated thinking and integrated reporting. In other words, the economic situation of an organization will influence the decision of being engaged with integrated thinking and integrated reporting. Thus, the financial stability of an organization has a reversed effect on integrated thinking and integrated reporting till the point that integrated thinking and integrated reporting is fully integrated into the organization. This means that the multilevel regression analysis needs to be supplemented with other methods to check for the robustness of the results.

Previous research uses several approaches to address endogeneity concerns. A common way to control for endogeneity are lag analysis (Hoitash, Hoitash & Bedard, 2009; Bruynseels & Cardinaels, 2014). This means that lagged values for all the independent variables in the regressions will be used (Hoitash et al., 2009), especially one-year and two-year lagged values (Fich & Shivdasani, 2006), also for the control variables (Krishnan, Wen & Zhao, 2011). Finally, the assumptions underlying the regression model will be tested for multicollinearity by Pearson correlations (Braam & Peeters, 2018; Manning, Braam & Reimsbach, 2019).

Integrated reporting is, because of data availability, a limiting factor regarding sample size. Therefore, the main focus of the regressions will be on integrated thinking. First, the multilevel regression method will be used to test the following linear mixed-effects random coefficient empirical model:

financial stability = β0 + β1 integrated thinking i,t + β2 institutional environment t + β3 capital market orientation t + β4 integrated thinking i,t * capital market orientation t + β5 integrated thinking i,t * institutional environment t + β6 size i,t + β7 industry i + β8 market concentration i,t + β9 year i + ε i,t

Thereafter, the sub-sample with integrated reporting will be used to test the effect of integrated reporting on the financial stability of an organization. Second, the multilevel regression method will be used to test the following linear mixed-effects random coefficient empirical model:

financial stability = β0 + β1 integrated thinking i,t + β2 integrated reporting i,t + β3 institutional environment t + β4 capital market orientation t + β5 integrated reporting i,t * institutional environment t + β6 integrated reporting i,t * capital market orientation t + β7 integrated thinking i,t * institutional environment t + β8 integrated thinking i,t * capital market orientation t + β9 size i,t + β10 industry i + β11 market concentration i,t + β12 year i + ε i,t

Table 7: variable definitions

Variable	**Definition**	**Data source**
Financial liquidity (financial stability)	Financial liquidity is proxied by the current ratio. The current ratio is calculated as current assets divided by current liabilities (Gorczyńska et al., 2016).	Datastream
Solvency (financial stability)	Solvency is proxied by total debt to assets. Total debt to assets is calculated as total debt relative to total assets (Gorczyńska et al., 2016).	Datastream
Efficiency (financial stability)	Efficiency is proxied by the efficiency ratio. The efficiency ratio is calculated as cost of goods sold relative to sales (Gorczyńska et al., 2016).	Datastream
Profitability (financial stability)	Profitability is proxied by return on assets. Return on assets is calculated as net profit relative to total assets (Gorczyńska et al., 2016).	Datastream
Integrated thinking	Integrated thinking is measured by the CSR Strategy Score. The CSR Strategy Score reflects the practices that an organization undertakes to communicate that it integrates the economic (financial), social and environmental dimensions into its day-to-day decision-making processes (Refinitiv, 2020b). The measure looks at four drivers and eight outcomes	ASSET4

	of the vision and strategy of a companies' board. This will lead to a score between 0 and 100 for integrated thinking (Venter et al., 2017).	
Integrated reporting	Integrated reporting is a dummy variable with a score of 1 if a report is integrated and 0 otherwise. Organizations self-declare whether their report is integrated or not (GRI, 2020).	GRI Database
Law (institutional environment)	The law estimates the quality of public services, the quality of the civil service and the degree of independence of this from political pressures, the quality of policy formulation and implementation, and the credibility of the commitment of a government to such policies (World Bank, 2019; Kaufmann et al.,2007). The estimate gives a score for a country on the aggregate indicator in units of a standard normal distribution which means ranging from approximately -2.5 to 2.5 (World Bank, 2019).	World Bank
Law enforcement (institutional environment)	The law enforcement estimates the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence (World Bank, 2019; Simnett et al., 2009; Kaufmann et al., 2007). The estimate gives a score for a country on the aggregate indicator in units of a standard normal distribution which means ranging from approximately -2.5 to 2.5 (World Bank, 2019).	World Bank
Capital market orientation	The capital market orientation is a dummy variable for code law and common law countries to differentiate between stakeholder-oriented countries and shareholder-oriented countries which has a value of 1 if an organization is headquartered in a shareholder-oriented country and a value of 0 if an organization is headquartered in a stakeholder-oriented country (Ball et al., 2000; Simnett et al., 2009; Braam & Peeters, 2018).	Braam & Peeters (2018)
Size	The size of an organization is measured by the natural log of total assets (Braam, Uit de Weerd, Hauck & Huijbregts, 2016; Villiers et al., 2017; Manning et al., 2019; Braam & Peeters, 2018).	Datastream
Industry	Industry are dummy variables based on TRBC industry codes (Braam et al., 2016; Manning et al., 2017; Villiers et al., 2017; Dhaliwal, Li, Tsang & Yang, 2011). The industry energy is used as reference category.	Datastream
Herfindahl index	The Herfindahl index measures market concentration and is calculated by summing the squares of the market shares of all organizations in an industry. The market share of an organization is calculated by dividing the sales of an organization in a year by the total sales of all organizations in an industry in that year (Garciá-Sánchez et al., 2019; Dhaliwal et al., 2011).	Datastream

Year	Year dummies control for omitted variables that vary over time but are constant between organizations (Braam & Peeters, 2018; Manning et al., 2017; Garciá-Sánchez et al., 2019; Dhaliwal et al., 2011).	-

4. Results

4.1 Descriptive statistics

Table 8: summary statistics without integrated reporting

VARIABLES	N	mean	sd	min	max
CSR Strategy Score	5,757	46.72	31.11	0	99.88
current ratio	4,975	1.790	8.149	0.170	566.1
total debt to assets	6,474	24.50	19.34	0	211.5
efficiency ratio	5,592	53.06	41.51	-3.920	2,280
return on assets	6,410	5.847	14.01	-417.7	269.1
institutional environment	6,558	1.478	0.494	-0.157	2.055
capital market orientation	6,558	0.346	0.476	0	1
log total assets	6,517	9.682	0.802	6.190	12.42
basic materials	6,558	0.0924	0.290	0	1
industrials	6,558	0.180	0.384	0	1
cyclical consumer goods & services	6,558	0.162	0.368	0	1
non-cyclical consumer goods & services	6,558	0.0631	0.243	0	1
financials	6,558	0.255	0.436	0	1
healthcare	6,558	0.0604	0.238	0	1
technology	6,558	0.0540	0.226	0	1
telecommunications services	6,558	0.0357	0.186	0	1
utilities	6,558	0.0339	0.181	0	1
Herfindahl index	6,558	0.0466	0.0299	0.0185	0.128

Table 8 shows the summary statistics for the variables in the research model without integrated reporting. The measure for integrated thinking, the CSR Strategy Score, contains 5,757 firm-year observations for 1,093 publicly listed organizations in 20 European countries over the period 2013-2018. The average score on integrated thinking is 46.72 with a large deviation between organizations that do not consider the creation of value over the short, medium and long term and organizations that almost perfectly consider the creation of value over the short, medium and long term. The average score for the current ratio is 1.790 which indicates that the organizations in this sample are financially liquid. The averages for total debt to assets and the efficiency ratio are, respectively, 24.50% and 53.06%. This indicates that these organizations are overall solvent and efficient. The average on return on assets is 5.847%. Thereby, the organizations in this sample are reasonably profitable.

Table 9: summary statistics per country without integrated reporting

	AT	BE	CH	CZ	DE	DK	ES	FI	FR	GB
VARIABLES	mean	mean	mean	mean	mean	mean	Mean	mean	mean	mean
CSR Strategy Score	52.56	39.24	38.29	33.33	46.11	52.76	51.02	50.62	51.77	47.16
current ratio	1.272	2.201	2.151	1.406	1.713	2.120	1.273	1.567	1.329	1.749
total debt to assets	26.64	27.96	21.55	23.72	25.16	20.19	31.80	23.10	28.89	21.45
efficiency ratio	48.77	63.34	46.75	37.43	56.52	49.95	52.04	64.97	55.56	47.51
return on assets	3.022	3.486	3.775	4.253	4.864	8.021	4.647	6.336	4.965	7.719
institutional environment	1.686	1.386	1.966	1.039	1.687	1.904	1.039	1.994	1.430	1.637
capital market orientation	0	0	0	0	0	0	0	0	0	1
log total assets	10.10	9.613	9.771	9.807	9.871	9.515	10.02	9.564	10.10	9.372
basic materials	0.200	0.129	0.0820	0	0.143	0.0370	0.0408	0.240	0.0377	0.0842
industrials	0.133	0.0968	0.197	0	0.196	0.259	0.184	0.280	0.264	0.166
cyclical consumer goods & services	0	0.0323	0.0820	0.200	0.205	0.0741	0.143	0.120	0.217	0.190
non-cyclical consumer goods & services	0	0.0968	0.0492	0	0.0268	0.0741	0.0408	0.0800	0.0660	0.0652
financials	0.467	0.226	0.295	0.400	0.152	0.185	0.245	0.0400	0.170	0.318
healthcare	0	0.161	0.131	0	0.0893	0.296	0.0612	0.0400	0.0472	0.0408
technology	0	0.0645	0.115	0	0.0804	0	0.0408	0.0800	0.0755	0.0489
telecommunications services	0.0667	0.0968	0.0328	0.200	0.0446	0	0.0612	0.0800	0.0283	0.0136
utilities	0.0667	0.0323	0.0164	0.200	0.0446	0.0370	0.102	0.0400	0.0283	0.0163
Herfindahl index	0.0412	0.0557	0.0436	0.0540	0.0465	0.0478	0.0514	0.0447	0.0467	0.0429

	GR	HU	IE	IT	NL	NO	PL	PT	SE	TR
VARIABLES	mean	mean	mean	mean	mean	mean	Mean	mean	mean	mean
CSR Strategy Score	37.97	50	39.29	44.66	56.71	42.85	34.12	50.52	46.78	49.58
current ratio	1.702	1.835	1.567	1.443	1.509	5.810	1.503	1.521	1.542	2.156
total debt to assets	28.72	15.32	23.97	26.70	25.45	27.05	20.70	27.70	26.87	27.70
efficiency ratio	61.48	56.79	66.37	45.15	53.02	50.98	66.09	74.01	59.76	69.64
return on assets	2.944	3.629	6.151	4.114	4.782	2.567	4.532	-5.838	7.850	8.154
institutional environment	0.286	0.513	1.529	0.391	1.856	1.947	0.697	1.159	1.902	0.0235
capital market orientation	0	0	1	0	0	0	0	0	0	0
log total assets	9.681	9.923	9.743	10.12	9.982	9.705	9.684	9.531	9.441	9.888
basic materials	0.0556	0	0.200	0.0169	0.205	0.111	0.0588	0.333	0.0781	0.133
industrials	0.111	0	0.100	0.102	0.154	0.111	0.0588	0	0.313	0.200
cyclical consumer goods & services	0.167	0	0.200	0.220	0.0769	0.0370	0.118	0	0.172	0.167
non-cyclical consumer goods & services	0.0556	0	0.200	0.0508	0.0769	0.111	0.0882	0.222	0.0469	0.100
financials	0.389	0.250	0.200	0.305	0.205	0.111	0.353	0.111	0.219	0.300
healthcare	0	0.250	0.100	0.0678	0.0256	0	0	0	0.0625	0
technology	0	0	0	0.0169	0.128	0	0.0294	0	0.0625	0
telecommunications services	0.0556	0.250	0	0.0339	0.0256	0.0370	0.0588	0.222	0.0313	0.0667
utilities	0.0556	0	0	0.119	0	0	0.118	0	0	0

Herfindahl index	0.0480	0.0812	0.0412	0.0502	0.0501	0.0803	0.0536	0.0620	0.0392	0.0398

, where AT = Austria, BE = Belgium, CH = Switzerland, CZ = Czech Republic, DE = Germany, DK = Denmark, ES = Spain, FI = Finland, FR = France, GB = United Kingdom, GR = Greece, HU = Hungary, IE = Ireland, IT = Italy, NL = Netherlands, NO = Norway, PL = Poland, PT = Portugal, SE = Sweden, TR = Turkey.

Table 9 reports the summary statistics per country for the variables in the research model without integrated reporting. Most importantly, table 9 reports the differences in institutional environment between the countries in the sample. These statistics indicate that Finland has the strongest and Turkey has the weakest protection of the providers of financial capital by the law and law enforcement. Further, Denmark, Czech Republic and Norway clearly perform above average in terms of the institutional environment. Greece, Hungary, Italy and Poland clearly perform below average in terms of the institutional environment.

Table 10: summary statistics per capital market orientation without integrated reporting

	Stakeholder-oriented countries		Shareholder-oriented countries	
VARIABLES	N	mean	N	mean
CSR Strategy Score	3,772	46.61	1,985	46.93
current ratio	3,374	1.812	1,601	1.743
total debt to assets	4,241	26.07	2,233	21.51
efficiency ratio	3,651	55.77	1,941	47.97
return on assets	4,206	4.887	2,204	7.678
institutional environment	4,290	1.396	2,268	1.634
log total assets	4,266	9.840	2,251	9.382
basic materials	4,290	0.0951	2,268	0.0873
industrials	4,290	0.189	2,268	0.164
cyclical consumer goods & services	4,290	0.147	2,268	0.190
non-cyclical consumer goods & services	4,290	0.0601	2,268	0.0688
financials	4,290	0.224	2,268	0.315
healthcare	4,290	0.0699	2,268	0.0423
technology	4,290	0.0573	2,268	0.0476
telecommunications services	4,290	0.0476	2,268	0.0132
utilities	4,290	0.0434	2,268	0.0159
Herfindahl index	4,290	0.0486	2,268	0.0429

Table 10 reports the summary statistics per capital market orientation for the variables in the research model without integrated reporting. There are about twice as much firm-year observations for organizations in stakeholder-oriented countries as compared to shareholder-oriented countries. However, the scores on integrated thinking are nearly the same in both capital market orientations, respectively 46.61 for organizations in stakeholder-oriented countries and 46.93 for organizations in shareholder-oriented countries. The organizations in

stakeholder-oriented countries are slightly more financially liquid but perform worse in terms of solvency, efficiency and profitability as compared to organizations in shareholder-oriented countries. Also, the shareholder-oriented countries have a stronger protection of the providers of financial capital as compared to the stakeholder-oriented countries.

Table 11: summary statistics with integrated reporting

VARIABLES	N	mean	sd	min	max
integrated reporting	2,510	0.200	0.400	0	1
CSR Strategy Score	3,662	61.41	27.42	0	99.66
current ratio	3,134	1.448	0.943	0.180	21.61
total debt to assets	3,962	26.68	16.65	0	133.6
efficiency ratio	3,388	57.21	25.45	-3.920	442.8
return on assets	3,922	5.119	8.422	-70.08	217.8
institutional environment	4,032	1.403	0.576	-0.157	2.095
capital market orientation	4,032	0.143	0.350	0	1
log total assets	3,998	10.02	0.766	7.112	12.42
basic materials	4,032	0.129	0.335	0	1
industrials	4,032	0.192	0.394	0	1
cyclical consumer goods & services	4,032	0.151	0.358	0	1
non-cyclical consumer goods & services	4,032	0.0655	0.247	0	1
financials	4,032	0.224	0.417	0	1
healthcare	4,032	0.0377	0.190	0	1
technology	4,032	0.0357	0.186	0	1
telecommunications services	4,032	0.0476	0.213	0	1
utilities	4,032	0.0496	0.217	0	1
Herfindahl index	4,032	0.0475	0.0315	0.0185	0.132

Table 11 reports the summary statistics for the variables in the research model with integrated reporting. The measure for integrated reporting, the reports in the GRI Database, contains 2,510 firm-year observations for 504 publicly listed organizations in 20 European countries over the period 2011-2018. The average score on integrated reporting is 0.200. Thereby, 20% of the 2,510 reports are by organizations self-declared as integrated report. The average score on integrated thinking is, in this sub-sample, 61.41 with, again, a large deviation between organizations that do not consider the creation of value over the short, medium and long term and organizations that almost perfectly consider the creation of value over the short, medium and long term. The average score for the current ratio is 1.448 which indicates that the organizations in this sub-sample are reasonably financially liquid. The averages for total debt to assets and the efficiency ratio are, respectively, 26.68% and 57.21%. This indicates that these organizations are overall solvent and efficient. The average on return on assets is 5.119%. Thereby, the organizations are reasonably profitable.

Table 12: summary statistics per country with integrated reporting

	AT	BE	CH	CZ	DE	DK	ES	FI	FR	GB
VARIABLES	mean	mean	mean	mean	mean	mean	Mean	mean	mean	mean
integrated reporting	0.132	0.216	0.166	0	0.165	0.120	0.326	0.302	0.127	0.114
CSR Strategy Score	58.22	64.85	60.48	62.88	61.45	69.35	56.67	52.04	61.83	80.40
current ratio	1.106	1.266	1.764	1.136	1.422	1.441	1.108	1.566	1.324	1.626
total debt to assets	28.28	33.07	22.42	16.67	25.18	19.65	33.04	23.10	25.96	25.82
efficiency ratio	48.78	53.98	48.60	46.98	57.41	62.55	58.03	65.13	53.87	53.70
return on assets	3.023	4.592	5.788	3.890	5.008	9.047	3.495	6.540	4.073	5.782
institutional environment	1.693	1.421	1.931	1.025	1.667	1.921	1.055	2.018	1.423	1.632
capital market orientation	0	0	0	0	0	0	0	0	0	1
log total assets	10.15	9.801	10.01	10.09	10.21	9.786	10.26	9.598	10.26	9.954
basic materials	0.182	0.214	0.129	0	0.182	0.0769	0.0278	0.217	0.0213	0.200
industrials	0.182	0.143	0.226	0	0.212	0.385	0.194	0.304	0.234	0.114
cyclical consumer goods & services	0	0.0714	0.0968	0	0.197	0.0769	0.167	0.130	0.277	0.157
non-cyclical consumer goods & services	0	0.143	0.0323	0	0.0152	0.0769	0.0556	0.0435	0.0638	0.0857
financials	0.364	0.214	0.258	0.500	0.182	0.0769	0.222	0.0435	0.213	0.229
healthcare	0	0	0.129	0	0.0455	0.154	0	0.0435	0.0213	0.0571
technology	0	0.0714	0.0968	0	0.0303	0	0.0556	0.0870	0.0851	0
telecommunications services	0.0909	0.143	0.0323	0	0.0606	0	0.0278	0.0870	0.0213	0.0286
utilities	0.0909	0	0	0.500	0.0606	0.0769	0.139	0.0435	0.0213	0.0143
Herfindahl index	0.0466	0.0472	0.0433	0.0504	0.0438	0.0472	0.0531	0.0461	0.0448	0.0498

	GR	HU	IE	IT	NL	NO	PL	PT	SE	TR
VARIABLES	mean	mean	mean	mean	mean	mean	mean	mean	mean	mean
integrated reporting	0.106	0.258	0	0.126	0.429	0.339	0.391	0.207	0.219	0.0187
CSR Strategy Score	50.58	50	60.33	49.72	64.58	65.51	47.40	57.62	58.37	55.90
current ratio	1.252	1.882	1.440	1.298	1.272	1.742	1.396	1.261	1.565	1.627
total debt to assets	32.99	16.65	32.61	31.36	26.76	20.84	19.95	31.53	27.67	30.77
efficiency ratio	67.20	55.84	65.31	45.45	57.25	53.53	69.56	78.03	61.47	73.39
return on assets	2.827	3.775	2.495	3.210	4.630	3.577	4.966	3.829	7.465	6.986
institutional environment	0.329	0.552	1.553	0.397	1.847	1.934	0.700	1.123	1.915	0.0719
capital market orientation	0	0	1	0	0	0	0	0	0	0
log total assets	9.976	9.922	10.22	10.21	10.24	9.979	9.722	9.788	9.605	9.992
basic materials	0.0769	0	0.500	0.0250	0.269	0.231	0.100	0.200	0.111	0.0435
industrials	0.154	0	0	0.150	0.154	0.0769	0.0500	0	0.333	0.217
cyclical consumer goods & services	0.154	0	0	0.200	0.0385	0.0769	0.150	0	0.133	0.174
non-cyclical consumer goods & services	0	0	0	0.0500	0.0769	0.231	0.100	0.200	0.0667	0.130
financials	0.308	0.250	0.500	0.275	0.231	0.154	0.250	0.200	0.222	0.348
healthcare	0	0.250	0	0.0250	0.0385	0	0	0	0.0222	0
technology	0	0	0	0.0250	0.0385	0	0	0	0.0444	0
telecommunications	0.0769	0.250	0	0.0250	0.0385	0.0769	0.0500	0.200	0.0444	0.0435

services										
utilities	0.0769	0	0	0.150	0	0	0.150	0	0	0
Herfindahl index	0.0534	0.0819	0.0309	0.0500	0.0492	0.0567	0.0584	0.0681	0.0385	0.0391

, where AT = Austria, BE = Belgium, CH = Switzerland, CZ = Czech Republic, DE = Germany, DK = Denmark, ES = Spain, FI = Finland, FR = France, GB = United Kingdom, GR = Greece, HU = Hungary, IE = Ireland, IT = Italy, NL = Netherlands, NO = Norway, PL = Poland, PT = Portugal, SE = Sweden, TR = Turkey.

Table 12 reports the summary statistics per country for the variables in the research model with integrated reporting. The differences in institutional environment between the countries remain, in this sub-sample, logically the same as in the sample without integrated reporting. Thus, Finland has the strongest and Turkey has the weakest protection of the providers of financial capital by the law and law enforcement. Denmark, Czech Republic and Norway clearly perform above average in terms of the institutional environment and Greece, Hungary, Italy and Poland clearly perform below average in terms of the institutional environment.

Table 13: summary statistics per capital market orientation with integrated reporting

	Stakeholder-oriented countries		Shareholder-oriented countries	
VARIABLES	N	mean	N	mean
integrated reporting	2,196	0.213	314	0.111
CSR Strategy Score	3,122	58.23	540	79.84
current ratio	2,695	1.420	439	1.623
total debt to assets	3,400	26.79	562	25.98
efficiency ratio	2,891	57.78	497	53.89
return on assets	3,365	5.021	557	5.711
institutional environment	3,456	1.365	576	1.630
log total assets	3,426	10.03	572	9.962
basic materials	3,456	0.116	576	0.208
Industrials	3,456	0.206	576	0.111
cyclical consumer goods & services	3,456	0.150	576	0.153
non-cyclical consumer goods & services	3,456	0.0625	576	0.0833
financials	3,456	0.222	576	0.236
healthcare	3,456	0.0347	576	0.0556
technology	3,456	0.0417	576	0
telecommunications services	3,456	0.0509	576	0.0278
utilities	3,456	0.0556	576	0.0139
Herfindahl index	3,456	0.0472	576	0.0493

Table 13 reports the summary statistics per capital market orientation for the variables in the research model with integrated reporting. There are, in this sub-sample, much more

firm-year observations for organizations in stakeholder-oriented countries as compared to shareholder-oriented countries Also, 21.3% of the reports provided by organizations in stakeholder-oriented countries is self-declared as integrated compared to, surprisingly, only 11.1% of the reports provided by organizations in shareholder-oriented countries. Further, the score on integrated thinking is higher for organizations in shareholder-oriented countries as compared to organizations in stakeholder-oriented countries, respectively 79.84 for organizations in shareholder-oriented countries and 58.23 for organizations in stakeholder-oriented countries. The organizations in stakeholder-oriented countries perform worse in terms of financial liquidity, solvency, efficiency and profitability as compared to organizations in shareholder-oriented countries. Again, the shareholder-oriented countries have a stronger protection of the providers of financial capital as compared to the stakeholder-oriented countries.

Table 14: Pearson correlations without integrated reporting

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) CSR Strategy Score	1.0000								
(2) current ratio	-0.1561*	1.0000							
(3) total debt to assets	0.0792*	-0.0686*	1.0000						
(4) efficiency ratio	0.0675*	-0.1419*	-0.0248	1.0000					
(5) return on assets	-0.0309*	0.0043	-0.0864*	-0.1031*	1.0000				
(6) institutional environment	0.0189	0.0183	-0.0569*	-0.0457*	0.0305*	1.0000			
(7) capital market orientation	0.0049	-0.0039	-0.1120*	-0.0894*	0.0946*	0.2296*	1.0000		
(8) log total assets	0.4144*	-0.0724*	0.0881*	0.0711*	-0.1288*	-0.1475*	-0.2713*	1.0000	
(9) basic materials	0.1389*	0.0148	-0.0207	0.0982*	-0.0095	0.0605*	-0.0128	-0.0318*	1.0000
(10) industrials	0.0284*	-0.0257	0.0453*	0.1289*	0.0055	0.0704*	-0.0307*	-0.0854*	-0.1496*
(11) cyclical consumer goods & services	-0.0275*	-0.0120	-0.0161	0.0411*	0.0608*	-0.0286*	0.0563*	-0.1150*	-0.1403*
(12) non-cyclical consumer goods & services	0.0474*	-0.0159	0.0672*	0.0709*	0.0197	-0.0121	0.0169	-0.0220	-0.0828*
(13) financials	-0.1251*	0.0068	-0.1080*	-0.2618*	-0.0304*	-0.0589*	0.0993*	0.2936*	-0.1868*
(14) healthcare	-0.0810*	0.0302*	-0.0375*	-0.1126*	-0.0260*	0.0553*	-0.0551*	-0.1279*	-0.0809*
(15) technology	-0.0901*	0.0020	-0.0882*	-0.0479*	0.1074*	0.0776*	-0.0205	-0.1649*	-0.0762*
(16) telecommunications services	0.0322*	-0.0197	0.1356*	-0.0525*	-0.0274*	-0.0587*	-0.0880*	0.0242	-0.0614*
(17) utilities	0.1106*	-0.0166	0.0644*	0.0527*	-0.0347*	-0.1144*	-0.0723*	0.1388*	-0.0597*
(18) Herfindahl index	0.0364*	0.0362*	0.0932*	-0.0032	-0.0410*	-0.0310*	-0.0903*	-0.0996*	-0.1142*

Variables	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(10) industrials	1.0000								
(11) cyclical consumer goods & services	-0.2061*	1.0000							
(12) non-cyclical consumer goods & services	-0.1217*	-0.1141*	1.0000						
(13) financials	-0.2745*	-0.2574*	-0.1520*	1.0000					
(14) healthcare	-0.1189*	-0.1114*	-0.0658*	-0.1484*	1.0000				
(15) technology	-0.1120*	-0.1050*	-0.0620*	-0.1398*	-0.0606*	1.0000			
(16) telecommunications services	-0.0902*	-0.0846*	-0.0499*	-0.1126*	-0.0488*	-0.0459*	1.0000		
(17) utilities	-0.0878*	-0.0823*	-0.0486*	-0.1096*	-0.0475*	-0.0447*	-0.0360*	1.0000	
(18) Herfindahl index	-0.4360*	0.0102	0.0372*	-0.4233*	0.2445*	0.2414**	0.3376*	0.1698*	0.0000

* indicates statistical significance at the 5% level.

Table 15: Pearson correlations with integrated reporting

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) integrated reporting	1.0000									
(2) CSR Strategy Score	0.0068	1.0000								
(3) current ratio	-0.0019	-0.0659*	1.0000							
(4) total debt to assets	-0.0622*	0.0457*	-0.2478*	1.0000						
(5) efficiency ratio	-0.0007	-0.0160	0.0325	-0.1763*	1.0000					
(6) return on assets	0.0556*	-0.0087	0.1203*	-0.0924*	-0.1574*	1.0000				
(7) institutional environment	0.0631*	0.1538*	0.0658*	-0.1153*	-0.0423*	0.0711*	1.0000			
(8) capital market orientation	-0.0840*	0.2795*	0.0749*	-0.0170	-0.0541*	0.0286	0.1609*	1.0000		
(9) log total assets	-0.0176	0.2998*	-0.2593*	-0.0018	-0.0785*	-0.1888*	-0.0743*	-0.0304	1.0000	
(10) basic materials	0.0526*	0.1357*	0.1162*	-0.0794*	0.1696*	-0.0061	0.1511*	0.0967*	-0.1382*	1.0000
(11) industrials	0.0111	-0.0532*	-0.0698*	0.0144	0.1685*	0.0102	0.0784*	-0.0842*	-0.1667*	-0.1879*
(12) cyclical consumer goods & services	-0.0691*	-0.1094*	-0.0420*	-0.0556*	-0.0013	0.0823*	-0.0527*	0.0023	-0.1609*	-0.1621*
(13) non-cyclical consumer goods & services	-0.0254	0.0153	-0.0042	0.0319*	0.0597*	0.0802*	-0.0135	0.0295	-0.0746*	-0.1019*
(14) financials	-0.0112	-0.0350*	0.0279	-0.0047	-0.3646*	-0.1534*	-0.0924*	0.0117	0.4590*	-0.2069*
(15) healthcare	0.0577*	0.0179	0.1061*	-0.0595*	-0.1858*	0.1531*	0.0831*	0.0383*	-0.0246	-0.0762*
(16) technology	0.0206	-0.0895*	0.0748*	-0.1003*	-0.0729*	0.0273	0.0595*	-0.0786*	-0.1339*	-0.0741*
(17) telecommunications services	-0.0072	0.0462*	-0.1317*	0.1707*	-0.1297*	0.0273	0.0005	-0.0380*	0.0117	-0.0860*
(18) utilities	-0.0184	0.0463*	-0.0788*	0.0814*	0.0123	-0.0391*	-0.1364*	-0.0672*	0.1007*	-0.0879*
(19) Herfindahl index	0.0008	0.0625*	0.0220	0.0756*	-0.0030	0.0255	-0.0588*	0.0240	-0.0756*	-0.1273*

Variables	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(11) industrials	1.0000								
(12) cyclical consumer goods & services	-0.2057*	1.0000							
(13) non-cyclical consumer goods & services	-0.1292*	-0.1115*	1.0000						
(14) financials	-0.2624*	-0.2265*	-0.1423*	1.0000					
(15) healthcare	-0.0966*	-0.0834*	-0.0524*	-0.1064*	1.0000				
(16) technology	-0.0940*	-0.0811*	-0.0509*	-0.1035*	-0.0381*	1.0000			
(17) telecommunications services	-0.1092*	-0.0942*	-0.0592*	-0.1202*	-0.0443*	-0.0430*	1.0000		
(18) utilities	-0.1115*	-0.0963*	-0.0605*	-0.1228*	-0.0452*	-0.0440*	-0.0511*	1.0000	
(19) Herfindahl index	-0.4404*	-0.0190	0.0471*	-0.3889*	0.1884*	0.2426*	0.3644*	0.2081*	1.0000

* indicates statistical significance at the 5% level.

Table 14 reports the Pearson correlations for the variables included in the research model without integrated reporting. There are no (significant) correlations between variables above 0.6 and, thus, there is no indication of multicollinearity in the regression model for the analyses without integrated reporting. Table 15 reports the Pearson correlations for the variables included in the research model with integrated reporting. There are, again, no (significant) correlations between variables above 0.6 and, thus, there is also no indication of multicollinearity in the regression model for the analyses with integrated reporting. Therefore, variance inflation factors are not performed.

4.2 Test of hypotheses

Table 16: multilevel regressions without integrated reporting

VARIABLES	current ratio	total debt to assets	efficiency ratio	return on assets
CSR Strategy Score	-0.00431**	0.0949***	-0.0867	-0.00992
	(0.00220)	(0.0239)	(0.0638)	(0.0187)
institutional environment	-0.0130	3.154**	-5.061	-0.953
	(0.0994)	(1.369)	(3.372)	(1.046)
capital market orientation	-0.320*	-6.108**	-4.752	4.412**
	(0.172)	(2.588)	(6.315)	(1.958)
CSR Strategy Score * institutional environment	-0.000289	-0.0819***	0.0230	0.0240**
	(0.00141)	(0.0155)	(0.0407)	(0.0122)
CSR Strategy Score * capital market orientation	0.00497***	0.0971***	0.101**	-0.0579***
	(0.00153)	(0.0167)	(0.0411)	(0.0130)
log total assets	-0.362***	1.455***	2.389**	-1.555***
	(0.0393)	(0.413)	(1.120)	(0.323)
basic materials	0.00580	-6.337	6.017	-2.594
	(0.631)	(7.786)	(18.33)	(6.093)
industrials	-0.749	-4.974	7.188	-3.338
	(0.747)	(9.214)	(21.69)	(7.210)
cyclical consumer goods & services	-0.501	-6.899	-1.140	0.189
	(0.550)	(6.790)	(15.98)	(5.313)
non-cyclical consumer goods & services	-0.718	-0.848	3.561	0.0231
	(0.530)	(6.543)	(15.39)	(5.121)
financials	-0.504	-9.872	-28.34	-3.448
	(0.714)	(8.673)	(20.47)	(6.787)
healthcare	0.369	-8.344*	-25.23**	0.612
	(0.366)	(4.537)	(10.66)	(3.550)
technology	-0.370	-10.50**	-14.79	7.130**
	(0.362)	(4.482)	(10.53)	(3.507)
telecommunications services	-0.796***	8.477***	-21.32***	1.130
	(0.217)	(2.721)	(6.375)	(2.128)
utilities	-0.478	-0.266	3.319	-0.373
	(0.381)	(4.719)	(11.10)	(3.697)
Herfindahl index	-3.427	-14.77	54.57	-72.43
	(6.979)	(86.00)	(202.6)	(67.30)
Years: Yes				
Constant	5.947***	14.06	44.54	25.06***
	(0.987)	(11.92)	(28.60)	(9.318)
Observations	4,434	5,718	4,928	5,694
Number of groups	20	20	20	20

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 16 shows the multilevel regression results for the research model without integrated reporting. Contrary to hypothesis 1, the CSR Strategy Score has a significantly negative effect on the current ratio. Also, the results indicate a significant positive effect of the CSR Strategy Score on total debt to assets. Again, this contradicts hypothesis 1. Thus, integrated thinking, considering value creation over the short, medium and long term and the higher engagement with key stakeholders, has a negative effect on the financial stability of an

organization.

The interaction between the CSR Strategy Score and the institutional environment is significantly negative related to total debt to assets. Further, this interaction has a significantly positive effect on return on assets. Thereby, the interaction between the CSR Strategy Score and the institutional environment has a positive effect on the financial stability of an organization. This confirms hypothesis 3a. The interaction between the CSR Strategy Score and the capital market orientation has a significantly positive effect on the current ratio. This contradicts hypothesis 4a. However, this interaction is significantly positive related to total debt to assets and the efficiency ratio and negatively related to return on assets. This provides support for hypothesis 4a. In sum, the results are unclear because of mixed evidence.

Further, the institutional environment has a significantly positive effect on total debt to assets when the effect of the capital market orientation is zero. Thus, the better the law and law enforcement in a particular country, the lower the financial stability of an organization. This could indicate that the protection of the providers of capital brings costs to an organization. The capital market orientation has a negative effect on the current ratio when the effect of the institutional environment is zero, however, only at a 10% significance level. In contrast, the capital market orientation has a significant negative effect on total debt to assets and a significant positive effect on return on assets. Therefore, organizations in shareholder-oriented countries are financially more stable than organizations in stakeholder-oriented countries. Thus, focussing on shareholder wealth leads to financially more stable organizations as compared to the influence on business operations by stakeholders.

Also, the size of an organization, log total assets, is significantly negative related to the current ratio and return on assets and positively related to total debt to assets and the efficiency ratio. Thereby, the size of an organization has a significant negative effect on the financial stability of an organization. Thus, bigger organizations have a lower financial stability as compared to smaller organizations. Finally, organizations in the industries healthcare and technology are financially more stable as compared to organizations in the industry energy. The effect of the industry telecommunications services on the financial stability of an organization is, compared to the industry energy, unclear because of mixed results.

The results of the lagged analysis are provided in table 17 and 18 of the appendices. The effect of integrated thinking on the financial stability of an organization is in all cases similar to the previous results. Only the effect of the CSR Strategy Score on the current ratio becomes less significant, from a 5% significance level to a 10% significance level. These

results provide additional support for the negative association between integrated thinking and the financial stability of an organization and reject hypothesis 1.

Further, the effect of the interaction between the CSR Strategy Score and the institutional environment on the financial stability of an organization is the same in the lagged analyses. This provides additional support for hypothesis 3a. The results for the interaction between the CSR Strategy Score and the capital market orientation are still mixed and become less significant over time. Thus, hypothesis 4a cannot be accepted nor rejected. The effect of the institutional environment on the financial stability of an organization remains negative. Also, the effect of the institutional environment on return on assets becomes negative at a 10% significance level in the two-year lagged analyses. The results for the effect of the capital market orientation on the financial stability of an organization are, except for changes in significance, similar than in the earlier results.

Finally, the effect of the size of an organization is the same, except for some changes in significance. The effects of industries, as compared to the industry energy, become more present in the lagged analyses. However, except for changing significance levels, organizations in the industries healthcare and technology remain financially more stable as compared to organizations in the industry energy. The results for the industry telecommunications services are still mixed.

Table 19: multilevel regressions with integrated reporting

VARIABLES	current ratio	total debt to assets	efficiency ratio	return on assets
integrated reporting	-0.135	2.536	-6.012	0.235
	(0.147)	(2.335)	(3.724)	(1.150)
CSR Strategy Score	-0.00250	0.0757**	0.00573	-0.00650
	(0.00217)	(0.0327)	(0.0544)	(0.0161)
institutional environment	-0.120	0.115	-2.040	0.0651
	(0.112)	(2.440)	(3.701)	(0.815)
capital market orientation	0.212	-9.262	11.87	0.819
	(0.450)	(8.676)	(12.67)	(3.643)
integrated reporting * institutional environment	0.0563	-2.360	2.635	0.500
	(0.0927)	(1.495)	(2.331)	(0.736)
integrated reporting * capital market orientation	0.332**	-0.904	9.880**	-0.238
	(0.167)	(2.868)	(4.163)	(1.414)
CSR Strategy Score * institutional environment	0.00196	-0.0207	-0.0247	0.0115
	(0.00144)	(0.0222)	(0.0357)	(0.0109)
CSR Strategy Score * capital market orientation	-0.00239	0.164**	-0.194	-0.00267
	(0.00487)	(0.0821)	(0.120)	(0.0405)
log total assets	-0.333***	-2.372***	2.429***	-1.059***
	(0.0377)	(0.560)	(0.910)	(0.271)
basic materials	-0.291	-15.93**	-11.36	2.905
	(0.352)	(6.262)	(8.778)	(3.092)
industrials	-0.648	-14.50*	-17.03	4.064

	(0.421)	(7.472)	(10.48)	(3.690)
cyclical consumer goods & services	-0.566*	-14.95***	-18.51**	4.732*
	(0.318)	(5.665)	(7.933)	(2.797)
non-cyclical consumer goods & services	-0.716**	-10.74**	-22.02***	5.843**
	(0.297)	(5.279)	(7.397)	(2.605)
financials	-0.716	-12.93*	-56.32***	2.105
	(0.437)	(7.084)	(9.988)	(3.498)
healthcare	0.123	-12.17***	-41.98***	6.876***
	(0.220)	(3.933)	(5.500)	(1.938)
technology	-0.163	-17.07***	-25.96***	1.006
	(0.185)	(3.317)	(4.626)	(1.634)
telecommunications services	-0.817***	7.763***	-32.65***	2.857**
	(0.142)	(2.566)	(3.567)	(1.265)
utilities	-0.466**	-3.310	-16.13***	2.264
	(0.214)	(3.820)	(5.343)	(1.887)
Herfindahl index	-1.986	-104.7	-118.9	25.15
	(3.849)	(68.26)	(95.83)	(33.71)
Years: Yes				
Constant	5.463***	63.73***	69.28***	10.80**
	(0.652)	(11.13)	(16.41)	(5.311)
Observations	1,869	2,336	1,991	2,323
Number of groups	20	20	20	20

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 19 provides the multilevel regression results for the research model with integrated reporting. These regressions cover a larger period than the analyses without integrated reporting because the data availability for integrated reporting is limited. The effect of integrated reporting on the financial stability of an organization provides mixed and insignificant results. Therefore, the analyses with integrated reporting are not able to provide any effect of communicating about the creation of value over the short, medium and long term on the financial stability of an organization and are insufficient for answering hypothesis 2. The effect of integrated thinking is, in this sub-sample, only significantly positive related to total debt to assets. This, again, confirms that integrated thinking has a negative effect on the financial stability of an organization.

The effect of the interaction between integrated reporting and the institutional environment is unclear because of mixed and insignificant results. Therefore, hypothesis 3b cannot be accepted nor rejected. The interaction between integrated reporting and the capital market orientation provides some significant but, again, mixed results. Thus, hypothesis 4b can, also, not be accepted nor rejected. The interaction between the CSR Strategy Score and the capital market orientation is, again, significant positively related to total debt to assets. However, the main and lagged analyses already provided mixed results for this interaction.

Further, the size of an organization has, in all cases, a significantly negative effect on the financial stability of an organization expect for total debt to assets. Taking all the earlier

results into consideration, there can be assumed that the size of an organization has a negative effect on the financial stability of an organization. Organizations in the industries basic materials, cyclical consumer goods & services, financials, healthcare and technology are financially more stable as compared to organizations in the industry energy. Organizations in the industry industrials are financially more stable as compared to organizations in the industry energy but only at a 10% significance level. The results for the industries non-cyclical consumer goods & services, telecommunications services and utilities are mixed and therefore unclear.

5. Discussion & conclusion

This paper investigates the effect of integrated thinking and integrated reporting on the financial stability of an organization, with the moderating effects of the institutional environment and the capital market orientation, in the voluntary setting of European publicly listed organizations. By performing multilevel regression analyses, the study finds that integrated thinking, considering value creation over the short, medium and long term and the higher engagement with key stakeholders, is, contrary to expectations, negatively associated with the financial stability of an organization. Thus, integrated thinking does not lead to better internal resource allocation decisions and/or the key stakeholders react negatively to the higher engagement.

Alternatively, considering value creation and the higher engagement with key stakeholders could be costly. Thereby, the hypothesized benefits of integrated thinking could be outweighed by the costs of integrated thinking. Also, the costs of considering all the different forms of capital in the framework, instead of only considering financial capital, could decrease the financial stability of an organization and explain the negative association between integrated thinking and the financial stability of an organization. Future research could decompose integrated thinking into considering value creation and the higher engagement with key stakeholders, and into the six different forms of capital, to investigate why integrated thinking decreases the financial stability of an organization.

Further, the study finds no association between integrated reporting and the financial stability of an organization. This indicates that the expected association between the concise communication about the creation of value over the short, medium and long term and the financial stability of an organization does not exist. However, the measurement of integrated reporting is a limitation of the study. First, the measure reduces the sample by a huge amount. Second, the reports provided in the GRI Database consist of both annual and sustainability

(GRI) reports and integrated reports are not always comparable (Villiers et al., 2017). Third, organizations self-declare if a report is integrated or not and the information whether a report is integrated or not is, in a voluntary setting, only available to the extent that organizations voluntary provide reports and include whether these reports are integrated or not. This raises the issue of a self-selection bias (Braam & Peeters, 2018). Thereby, the measure for integrated reporting leads to problems regarding internal validity. Therefore, the lack of finding an association between integrated reporting and the financial stability of an organization could be due to these limitations. Future research could come up with a better measurement for integrated reporting and test the effect of integrated reporting on the financial stability of an organization, with this improved measure, on a larger scale.

According to expectations, the effect of integrated thinking, particularly the higher engagement with key stakeholders, on the financial stability of an organization is stronger in an institutional environment characterized by a strong protection of the providers of financial capital by the law and law enforcement as compared to an institutional environment characterized by a weak protection of the providers of financial capital by the law and law enforcement. The effect of integrated thinking, considering value creation over the short, medium and long term and the higher engagement with key stakeholders, on the financial stability of an organization is not found to be stronger in stakeholder-oriented countries which can influence business operations as compared to shareholder-oriented countries which focus on shareholder wealth because of mixed results.

The effect of integrated reporting, the concise communication about the creation of value over the short, medium and long term, on the financial stability of an organization is not found to be stronger in an institutional environment characterized by a strong protection of the providers of financial capital by the law and law enforcement as compared to an institutional environment characterized by a weak protection of the providers of financial capital by the law and law enforcement because of insignificant and mixed results. Again, the measure for integrated reporting could be the reason for these insignificant results. The effect of integrated reporting on the financial stability of an organization is not found to be stronger in shareholder-oriented countries which focus on shareholder wealth as compared to stakeholder-oriented countries which can influence business operations because of mixed results.

Finally, the study focused, also because of data availability, on large publicly listed organizations. Future research could use a broader sample and include smaller and non-publicly listed organizations to increase the external validity of the results. Also, future

research could benefit from a future mandatory regulation of integrated reporting resulting in improved data reliability, comparability and verifiability (Braam & Peeters, 2018). Overall, more research is needed on both the drivers and consequences of integrated thinking and integrated reporting to increase the understanding of the conditions that facilitate or inhibit the development of sustainable business practices and the creation of sustainable value (Manning et al., 2019).

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Appendices

Table 17: multilevel regressions one-year lagged analyses

VARIABLES	current ratio	total debt to assets	efficiency ratio	return on assets
CSR Strategy Score	-0.00585**	0.114***	-0.0772	-0.0263
	(0.00256)	(0.0279)	(0.0816)	(0.0227)
institutional environment	-0.125	2.942**	-3.780	-1.383
	(0.108)	(1.455)	(3.813)	(1.278)
capital market orientation	-0.238	-5.246**	-4.685	4.898**
	(0.176)	(2.625)	(6.648)	(2.381)
CSR Strategy Score * institutional environment	0.00108	-0.0911***	0.00315	0.0340**
	(0.00164)	(0.0181)	(0.0521)	(0.0147)
CSR Strategy Score * capital market orientation	0.00413**	0.0935***	0.0969*	-0.0610***
	(0.00172)	(0.0192)	(0.0513)	(0.0155)
log total assets	-0.341***	1.172**	3.071**	-1.623***
	(0.0453)	(0.471)	(1.413)	(0.381)
basic materials	0.528	-4.825	6.964	6.287
	(0.539)	(6.679)	(17.22)	(5.392)
industrials	-0.181	-2.799	9.005	7.559
	(0.649)	(8.043)	(20.74)	(6.492)
cyclical consumer goods & services	-0.104	-5.708	-0.131	8.459*
	(0.487)	(6.043)	(15.58)	(4.878)
non-cyclical consumer goods & services	-0.359	0.111	4.068	7.731*
	(0.453)	(5.620)	(14.48)	(4.536)
financials	0.0190	-7.278	-25.94	7.279
	(0.628)	(7.610)	(19.69)	(6.143)
healthcare	0.507	-7.447*	-25.76**	5.509*
	(0.315)	(3.922)	(10.09)	(3.166)
technology	-0.167	-9.359***	-15.40*	12.10***
	(0.279)	(3.489)	(8.969)	(2.817)
telecommunications services	-0.623***	8.804***	-21.02***	3.786*
	(0.219)	(2.759)	(7.081)	(2.227)
utilities	-0.194	0.818	2.252	5.282*
	(0.316)	(3.941)	(10.14)	(3.184)
Herfindahl index	1.727	6.120	68.69	30.79
	(5.932)	(73.42)	(189.5)	(59.26)
Years: Yes				
Constant	5.204***	14.33	35.19	12.89
	(0.909)	(10.84)	(28.84)	(8.789)
Observations	3,445	4,392	3,815	4,376
Number of groups	20	20	20	20

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 18: multilevel regressions two-year lagged analyses

VARIABLES	current ratio	total debt to assets	efficiency ratio	return on assets
CSR Strategy Score	-0.00515*	0.124***	-0.0908	-0.0175
	(0.00301)	(0.0330)	(0.106)	(0.0236)
institutional environment	-0.135	3.116**	-3.811	-1.517*
	(0.127)	(1.590)	(4.603)	(0.818)

capital market orientation	-0.168	-4.145	-3.496	4.992***
	(0.196)	(2.694)	(7.384)	(0.930)
CSR Strategy Score * institutional environment	0.00113	-0.0958***	-0.00179	0.0370**
	(0.00194)	(0.0216)	(0.0677)	(0.0154)
CSR Strategy Score * capital market orientation	0.00275	0.0769***	0.0518	-0.0662***
	(0.00199)	(0.0229)	(0.0662)	(0.0164)
log total assets	-0.330***	0.955*	4.285**	-2.644***
	(0.0537)	(0.555)	(1.840)	(0.386)
basic materials	0.243	-4.598	20.14	7.836
	(0.540)	(6.880)	(19.25)	(4.937)
industrials	-0.596	-2.027	25.25	10.41*
	(0.655)	(8.343)	(23.34)	(5.988)
cyclical consumer goods & services	-0.436	-5.526	12.34	10.97**
	(0.509)	(6.482)	(18.13)	(4.649)
non-cyclical consumer goods & services	-0.650	-0.549	14.79	9.645**
	(0.444)	(5.660)	(15.83)	(4.062)
financials	-0.312	-6.014	-9.009	11.07*
	(0.646)	(7.995)	(22.44)	(5.738)
healthcare	0.183	-7.257*	-19.19*	8.036***
	(0.317)	(4.037)	(11.30)	(2.885)
technology	-0.281	-8.417***	-13.32*	12.76***
	(0.216)	(2.755)	(7.719)	(1.963)
telecommunications services	-0.729***	8.583***	-16.35*	7.543***
	(0.244)	(3.131)	(8.766)	(2.238)
utilities	-0.383	1.452	7.629	6.696***
	(0.316)	(4.028)	(11.27)	(2.884)
Herfindahl index	-2.178	9.590	209.9	53.19
	(5.893)	(75.02)	(209.8)	(53.88)
Years: Yes				
Constant	5.542***	15.44	5.257	19.16**
	(0.953)	(11.45)	(33.51)	(8.092)
Observations	2,589	3,248	2,840	3,231
Number of groups	20	20	20	20

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1