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DOING WELL BY DOING GOOD IN A GLOBALIZED WORLD: THE MODERATING EFFECT OF INTERNATIONALIZATION ON THE RELATIONSHIP BETWEEN CORPORATE SOCIAL RESPONSIBILITY AND FINANCIAL PERFORMANCE

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Thesis presented to Escola de Administração de Empresas de São Paulo of Fundação Getulio Vargas, as a requirement to obtain the title of Master in International Management (MPGI).

Knowledge Field: Internacionalização de Empresas

Adviser: Dr. Cyntia Vilasboas Calixto

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ABSTRACT

The study proposes internationalization as a novel perspective on the relationship between Corporate Social Performance (CSP) and Corporate Financial Performance (CFP), in another attempt to alleviate the inconclusiveness surrounding the existing results of the decade-spanning research on the CSP-CFP relationship. As the topic has not been addressed in a similar fashion so far, the study first establishes the foundation for the subsequent analyses by reviewing the existing literature on the CSP-CFP relationship. The review unravels the various theories and empirical models, with which prior research has approached the topic, shedding light on the sources of the mixed research results. Several approaches contributing to overcoming the inconclusiveness are proposed, of which the effect of internationalization on the CSP-CFP relationship is identified as a research gap worth pursuing in the study.

To answer the question of how internationalization impacts the CSP-CFP relationship, a number of research hypotheses directed at uncovering and exploring the suspected effects of internationalization (INT) on the CSP-CFP relationship are formulated, drawing on additional literature reviews of the adjacent component relationships INT-CSP and INT-CFP. Starting from a general perspective on the basic CSP-CFP relationship, which is taken to confirm the replicability of the prevalent research results with the compiled dataset, the hypotheses are gradually refined to incorporate the quantitative and qualitative dimensions of internationalization and eventually more sophisticated constructs aimed at uncovering factors augmenting the CSP-CFP relationship.

The hypotheses are tested using a large sample of firms from 50 countries spanning 13 years. Qualitative as well as quantitative internationalization are found to be important factors impacting the relationship. When combined with CSP, quantitative internationalization was not found to moderate the CSP-CFP relationship, whereas the home-country governance quality as one important dimension of qualitative internationalization was found to positively moderate it. The combination of CSP, quantitative internationalization and the home-country governance quality in turn was not found to moderate the relationship. Limitations of the study as well as implications for the research on the topic are discussed, highlighting those parts that cannot be addressed with the currently accessible data and thereby opening them up to future research.

Keywords: Corporate Social Performance (CSP); Corporate Financial Performance (CFP); Internationalization

RESUMO

O estudo propõe a internacionalização como uma nova perspectiva sobre a relação entre o Desempenho Social Corporativo (CSP) e o Desempenho Financeiro Corporativo (CFP), em outra tentativa de aliviar a inconclusividade em torno dos resultados existentes de décadas de pesquisa sobre a relação CSP-CFP. Como o tema não tem sido abordado de forma semelhante até o momento, o estudo estabelece, primeiramente, os fundamentos para as análises subsequentes por meio da revisão da literatura existente sobre a relação CSP-CFP. A revisão desvenda as várias teorias e modelos empíricos com os quais as pesquisas anteriores abordaram o tema, esclarecendo as fontes dos resultados das pesquisas mistas. Várias abordagens que contribuem para a superação da inconclusividade são propostas, das quais o efeito da internacionalização sobre a relação CSP-CFP é identificado como uma lacuna de pesquisa que vale a pena buscar no estudo.

Para responder à questão de como a internacionalização impacta a relação entre a CSP e a CFP, são formuladas várias hipóteses de pesquisa direcionadas a descobrir e explorar os efeitos suspeitos da internacionalização (INT) sobre a relação CSP-CFP, com base em revisões adicionais da literatura sobre as relações componentes adjacentes INT-CSP e INT-CFP. Partindo de uma perspectiva geral sobre a relação básica CSP-CFP, tomada para confirmar a replicabilidade dos resultados prevalecentes da pesquisa com o conjunto de dados compilados, as hipóteses são gradualmente refinadas para incorporar as dimensões quantitativas e qualitativas da internacionalização e, eventualmente, construções mais sofisticadas destinadas a descobrir fatores que aumentam a relação CSP-CFP.

As hipóteses são testadas utilizando uma grande amostra de empresas de 50 países, em um período de 13 anos. Tanto a internacionalização qualitativa quanto a quantitativa foram descobertos como fatores influenciadores da relação. Quando combinada com o CSP, a internacionalização quantitativa não modera a relação CSP-CFP, enquanto que a qualidade da governação do país de origem, como uma dimensão importante da internacionalização qualitativa, modera positivamente essa relação. A combinação do CSP, da internacionalização quantitativa e da qualidade da governação do país de origem, por sua vez, não moderou a relação. As limitações do estudo, bem como as implicações para a pesquisa sobre o tema são discutidas, destacando as partes que não podem ser abordadas com os dados atualmente acessíveis e, assim, abrindo-as para pesquisas futuras.

Palavras-chave: Desempenho Social Corporativo (CSP); Desempenho Financeiro Corporativo (CFP); Internacionalização

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LIST OF ABBREVIATIONS

CAGE	Cultural, Administrative, Geographic and Economic
CFP	Corporate Financial Performance
CSP	Corporate Social Performance
CSR	Corporate Social Responsibility
DOI	Degree of Internationalization
ESG	Environmental, Social and Governance
HCGQ	Home-Country Governance Quality
INT	Internationalization
MNC	Multinational Corporation
NBS	National Business System (Whitley, 1997; 1999)
OLS	Ordinary Least Squares
SASB	Sustainability Accounting Standards Board
TBL	Triple Bottom Line

1 INTRODUCTION

In August 2019, nearly 200 CEOs of some of the largest companies in the world, such as Apple, JP Morgan Chase and Walmart, issued a statement, in which they "commit to lead their companies for the benefit of all stakeholders – customers, employees, suppliers, communities and shareholders" (Business Roundtable, 2019, p. 2). Outlining a "modern standard for corporate responsibility", the statement provides a stark contrast to the former versions of the Principles of Corporate Governance, which are periodically issued by the Business Roundtable (2019, p. 2), as each of the former versions since 1997 "endorsed principles of shareholder primacy – that corporations exist principally to serve shareholders". Although the statement is to be understood rather as "a mission statement than a plan of action" (The New York Times, 2019, p. 2), it represents a pivotal point in how the purpose of the corporation is defined by highly influential corporate leaders and conveyed to the public.

Over the last decades, Corporate Social Responsibility (CSR) received ever more attention from companies – the above-mentioned statement represents a new highlight in this trend. By now, CSR has become a mainstream business activity (Bajic & Yurtoglu, 2018), with companies integrating environmental (e.g. reducing emissions), social (e.g. promoting gender equality) and governance (e.g. ensuring the lawfulness of all business dealings) aspects (together referred to as ESG) into their market and non-market strategies (The Economist, 2008). According to Bajic and Yurtoglu (2018, p. 29), companies regularly "go beyond statutory requirements in providing goods and services with a public character and in internalizing the externalities they impose on society". While doing so, companies usually incur a number of costs, as pointed out by the trade-off theory. For example, provisioning a mechanism to filter out harmful substances during a production process results in direct costs for the equipment and its handling, and furthermore in indirect costs, since it lowers the operating efficiency of the production. However, as emphasized by the stakeholder theory, companies investing in CSR can, on the other hand, expect to benefit from their activities through various channels, such as improved brand and reputation, meeting the standards required by customers, attracting potential and retaining existing employees, as well as smoother relationships with regulators (Baron, 2001). Additionally, increased mutual trust and cooperation with stakeholders is also linked to "better stakeholder engagement and reduction in agency and transaction costs" (Bajic & Yurtoglu, 2018, p. 29).

This raises the question, whether companies investing more into CSR than the necessary minimum required by regulation, compromise their financial performance, whether the two approaches can coexist without negatively impacting each other, or whether a widened focus on ESG matters even promotes financial performance.

Despite the ever-growing attention CSR receives, the fundamental question, whether it pays off to be socially responsible remains ambiguous (Margolis, Elfenbein & Walsh, 2009), thereby impeding sound corporate policy formulation (Bajic & Yurtoglu, 2018). Over the last decades, numerous studies have attempted to establish an empirical relationship between Corporate Social Performance (CSP) and Corporate Financial Performance (CFP), the so-called CSP-CFP relationship. However, despite the great research effort, the findings remain widely inconclusive, as evidenced by the below review of the existing body of research.

In another attempt to alleviate the inconclusiveness surrounding the topic, the study at hand seeks to propose a novel perspective on the CSP-CFP relationship. In order to find a research gap worth exploring, possible causes for the inconclusiveness, such as econometric issues concerning the data sample, model misspecifications, variable measurement and the omission of mediating and moderating factors, are reviewed in section 2. The review indicates that country-level differences, e.g. regarding the institutional environment, to which internationally operating companies are exposed, affect the CSP-CFP relationship – however, despite being frequently discussed, they were neglected in the research so far. To further explore these indications, the literature review is extended to adjacent research on the relationships between internationalization and the two components of the CSP-CFP relationship, i.e. CSP and CFP in section 3. In combination with the lack of prior research, the role of internationalization within the CSP-CFP relationship is confirmed as a research gap worth exploring. The study attempts to answer the question of how internationalization impacts the CSP-CFP relationship. To this end, drawing on the literature review, a number of research hypotheses directed at uncovering and exploring the suspected effects of internationalization on the CSP-CFP relationship are formulated. Starting from a general perspective on the basic CSP-CFP relationship, which is taken to confirm the replicability of the prevalent research results with the compiled dataset, the hypotheses are gradually refined to incorporate the quantitative and qualitative dimensions of internationalization and eventually more sophisticated constructs aimed at uncovering factors augmenting the CSP-CFP relationship. In section 4, the large dataset built around the company universe covered by the Thomson Reuters ASSET4 Global database as well as the empirical models specified to test the research hypotheses are described. The results of the empirical analyses are presented and discussed in section 5. The study concludes with section 6, in which it briefly summarizes the research, its limitations and future research opportunities as well as its contributions to the literature,

2 Literature Review and Theoretical Concepts

The CSP-CFP relationship has been researched for almost five decades, with the first prominent studies having been published in the early 1970s (e.g. Bragdon & Marlin,

1972). As CSR gains momentum around the world and throughout various layers of society, companies are required to reconcile the need for corporate financial performance (CFP) on the one hand, and corporate social performance (CSP) on the other hand.

At first, the theories, on which the existing research on the CSP-CFP relationship is based, shall be reviewed. The focus hereby lies on stakeholder theory as the theory, on which most of the studies hypothesizing a positive association between CSP and CFP base their research on. Besides stakeholder theory, the concept of stakeholder management shall be introduced, which is the key to understanding how companies engage in the consideration of the trade-offs entailed in the simultaneous search for CFP and CSP. Studies hypothesizing a negative relationship are usually theoretically underpinned by the theory of the firm in the wider sense and by the trade-off hypothesis and the managerial opportunism hypothesis in the narrower sense. Hence, these theories will be reviewed as well.

The biggest part of the section is devoted to reviewing the existing empirical findings, and to examining the empirical strategies as well as the issues encountered in previous research. As part of this examination, the statistical methods and model specifications employed in the literature are critically assessed. Moreover, the concepts of CFP and CSP are analyzed in detail. Towards the end of this subsection of the literature review, the direction of the cause-effect relationship between CSP and CFP is addressed, together with its most common theoretical arguments.

Eventually, the mechanisms underlying and the conditions affecting the CSP-CFP relationship are reviewed and the comparability of the existing empirical findings is assessed in an attempt to uncover alternative approaches to explain and deal with the inconclusiveness prevalent in the existing literature.

2.1 From Shareholder to Stakeholder Orientation: Theory of the Firm and Stakeholder Theory

With the emergence of economic science in the 18th century, the theory of the firm was established most prominently by Smith (1776) in his classic work The Wealth of Nations and later developed further by authors such as Coase (1937) with his research on transaction costs. The theory of the firm establishes profit maximization as the main goal of the firm, exhibiting a clear shareholder-oriented view of the firm. Jensen (2001) clarifies in this regard that profit maximization means the maximization of the company's market value, which can be equated with the maximization of shareholder wealth.

From the 1980s onwards, stakeholder theory was developed, in which the focus is not lying solely on the company shareholders anymore, but on the broader set of company stakeholders, of which the shareholders are just one subgroup, even though still an

important one. This process of viewing the company within its stakeholder context instead of obliged to its shareholders only, is still ongoing today and far from being completed. As Frooman (1999) and Barnett (2007) point out, the main framework for stakeholder theory is attributed to the work of Freeman (1984), who also gave the most employed definition for the term stakeholder (Coombs & Gilley, 2005): a stakeholder is any individual or group that may affect the achievement of the goals of the organization or that is affected by the process of searching for these objectives. Additionally, stakeholders are groups with a legitimate right regarding the organization. Broader and more restrictive definitions of the term exist as well. A more encompassing one was for example given by Mitchell, Agle and Wood (1997), a more restrictive one for example by Clarkson (1995), who stresses the greater importance of certain stakeholder groups, which are termed primary stakeholders, behind which secondary stakeholders follow. Freeman was also involved in giving the most commonly referenced definition of the stakeholder theory itself, stating that the purpose of the company is to serve as a vehicle to coordinate the interests of the stakeholders (Evan and Freeman, 1993) – a definition, which plasticizes the contrast between the shareholder- and the stakeholder-oriented views of the firm vividly.

There are proponents for each of the two opposing theories, the theory of the firm on the one hand and the stakeholder theory on the other hand. For example, Sundaram and Inkpen (2004) support the shareholder-oriented view taken by the theory of the firm, arguing that all the other stakeholders are protected and benefit from contracts with the company as well as legislation, whereas the shareholders do not enjoy such advantages. Famous economist Friedman (2007, p. 178) goes so far as to say that ”there is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud.” He justifies this uncompromising view – which he limits to businesses run by hired managers, not entrepreneurs – by saying that it is simply not up to the manager to decide about the allocation of resources to CSR initiatives, since they belong to the shareholders. At the same time, it is the government’s responsibility to address social and environmental issues, rendering CSR unnecessary.

On the other hand, for example Campbell (1997) supports the stakeholder-oriented view taken by the stakeholder theory, arguing that companies cannot survive without delivering value to important stakeholders, among which the shareholders are just one group – despite having different rights from the rest of the stakeholders, they should not be the only ones entitled to company benefits. Boaventura, Silva and Bandeira-de-Mello (2012) summarize that the controversy constitutes a broad debate in the academic literature without a consensus in sight (Marcon, Bandeira-de-Mello, & Alberton, 2008).

2.2 The Prevalent Theories and their Implications for the CSP-CFP Relationship

Hypotheses about the CSP-CFP relationship in the literature are broadly based on the stakeholder theory on the one side and on the theory of the firm as well as adjacent theories on the other side. As described above, the two theories suggest diametrically opposed objectives of the firm. As set forth below, they also lead to different hypotheses regarding the associations between CSP and CFP. In the following paragraphs, the possible associations between CSP and CFP are reviewed together with the theories underpinning them.

Arguments for a positive relationship between CSP and CFP are usually founded on stakeholder theory (Bird et al., 2007). Early on, for example Alexander and Buchholz (1982) argued that companies promoting socially responsible behavior attain better financial performance. Cornell and Shapiro (1987) argue in this regard that companies seeking to reduce implicit costs (such as environmental costs) through socially irresponsible activities will incur greater explicit costs, resulting in an overall negative effect. The mechanisms suggesting a positive association between CSP and CFP are usually motivated by stakeholder management, an essential implication of the stakeholder theory.

Freeman (1984) describes stakeholder management as the company's ability to identify its stakeholders and their respective interests as well as their capacity to influence the company; furthermore, the understanding of the processes with which the company can relate to the stakeholders; and finally to derive the activities, which allow for the alignment of stakeholder and company interests.

Companies assume a multitude of obligations towards a diverse set of stakeholders, rendering it difficult to meet each stakeholders' demands to the full extent (Boaventura, Silva & Bandeira-de-Mello, 2012). The negative effects arising from conflicting stakeholder interests may be mitigated by stakeholder management (Harrison & St. John, 1996). Berman et al. (1999) view stakeholder management as part of a company's strategy and show empirically that it is a factor influencing CFP. In this regard, Freeman (1984) details that stakeholder management facilitates the establishment of better relations with stakeholders, to which he in turn ascribes higher financial performance. A number of underlying mechanisms, which translate better stakeholder relations into performance benefits, have been identified. For example, Godfrey (2005) argues that good stakeholder relations create a safety cushion against reputation damages during problematic periods. Greening and Turban (2000) found that companies seen as socially responsible by their stakeholders have an advantage in recruiting qualified employees. Benson and Davidson (2010) summarize that the majority of empirical studies come to conclude a positive association between stakeholder management and financial performance. However, there are also studies

finding a negative association (Meznar, Nigh & Kwok, 1994) or no association (Bird et al., 2007).

Arguments for a negative relationship between CSP and CFP are usually founded on the theory of the firm with its objective to maximize profits, following neoclassical economics (Bird et al., 2007). Early on, for example Aupperle, Carrol and Hatfield (1985) argued that companies promoting socially responsible behavior incur costs that could be either avoided or transferred to stakeholders (such as its employees or customers). Following this line of thought, which is known as the trade-off hypothesis, firms engaging in CSR do not only incur the direct cost of the initiatives, but also exhaust capital and other resources from project opportunities, leading to a lower financial performance and a relative competitive disadvantage compared to firms, which do not engage in CSR initiatives. Another theory suggesting a negative CSP-CFP relationship is the managerial opportunism hypothesis. It states that “when financial performance is strong, managers may attempt to cash in by reducing social expenditure in order to take advantage of the opportunity to increase their own short-term private gains. Conversely, when financial performance weakens, managers may attempt to offset and perhaps appear to justify their disappointing results by engaging in conspicuous social programs” (Preston & O’Bannon, 1997, p. 423).

There are also arguments for a non-existent relationship and a non-linear relationship between CSP and CFP. A non-existent relationship may be either the result of positive and negative effects, which net off, or “an irrelevance with trivial impacts on both costs and revenues compared to other factors that have a more direct impact on the firm's core business activity” (Brooks & Oikonomou, 2018, p. 5). For example, Ullmann (1985) reasons early on that due to the multitude of factors influencing the CSP-CFP relationship as well as measurement issues, a relationship could not be detected even if it existed. This view is detailed by McWilliams and Siegel (2001), who argue that a number of other variables can mediate or moderate the relationship between CSP and CFP, which is why there is no reason to observe any relationship. They showed that the association vanishes when missing relevant variables, such as R&D intensity, are included in the analysis. This topic will be explored in more detail in the review of the existing empirical findings below. Finally, other authors argued for a more complex relationship between CSP and CFP, as suggested by Bowman and Haire (1975). In this regard, Barnett and Salomon (2006) found the relationship to be curvilinear, with high CFP being associated with low as well as high CSP.

Lastly, there are synergetic theories about the CSP-CFP relationship (Preston & O’Bannon, 1997). The positive synergy hypothesis suggests that CSP leads to CFP, which in turn leads to CSP, thereby creating a virtuous circle. The negative synergy hypothesis, suggesting negative cause-effect relationships and hence a vicious circle, exists as well. The synergetic theories are closely linked to the question of causality

direction between CSP and CFP, which was examined by Waddock & Graves (1997). This topic will be explored separately, and in more detail, below.

2.3 Empirical Findings: Trending Positive but Widely Inconclusive Results

After reviewing the theoretical underpinnings of the CSP-CFP relationship, the empirical findings of the vast body of existing literature shall be explored and summarized. First, the evolution of research and its findings are demonstrated in chronological order, after which the focus of the literature review moves to an exploration of the empirical strategies used and the issues encountered.

Since the CSP-CFP relationship became a popular research topic in the 1970s, the theoretical frameworks, the econometric models as well as the data employed in the studies evolved. Boaventura, Silva and Bandeira-de-Mello (2012, p. 232) point out that "the contribution to the theory by empirical studies is made in an incremental manner, given that each study normally focuses on a particular aspect of the theory".

In an early meta-analysis Ullmann (1985) analyzed 13 quantitative as well as qualitative studies, did not detect a clear tendency regarding the relationship, however. He attributed the reasons for this result to the lack of a theoretical foundation, inappropriate definitions of key terms, and deficiencies in the empirical databases available at that time. A decade later, Wood and Jones (1995) analyzed 50 quantitative as well as qualitative studies and found the CSP-CFP relationship to be ambiguous. They blamed the result on what they called stakeholder mismatching in empirical studies, which they describe as the attempt to associate social and financial performance measures that as yet have no theoretical relationship (such as, for example, the level of corporate charitable giving and the return on investment). They conclude that "the empirical CSP literature mismatches variables in terms of which stakeholders are relevant to which kind of measure" (Wood and Jones, 1995, p. 229), for which they blame a lack of integration of CSP studies with stakeholder theory. Soon thereafter, Orlitzky (2001) evaluated 20 quantitative studies in a meta-analysis and found a positive relationship between CSP and CFP. Only two years later, Orlitzky, Schmidt and Rynes (2003) conducted another meta-analysis, in which they evaluated 52 quantitative studies and overall confirmed the positive relationship between CSP and CFP; however, they found CSP to be more closely associated to accounting-based rather than market based measures of CFP and reputation to be more closely related to CFP than the other CSP variables. Moreover, they bring into consideration the large unexplained variance across studies, displaying the need for further research. In the same year, Margolis and Walsh (2003) conducted an even bigger meta-analysis based on 127 studies. They found that 86% (109) of the studies assume a dependency of

CFP on CSP, of which 50% (54) indicate a positive relationship, 6% (7) a negative one, 26% (28) a non-significant one, and 18% (20) no relationship at all.

Boaventura, Silva and Bandeira-de-Mello (2012) note that the lack of theoretical foundation, which was criticized in the early meta-analyses by Ullmann (1985) and Wood and Jones (1995), has apparently been overcome thanks to the theoretical advancements in stakeholder theory, namely the descriptive, instrumental and normative perspectives of stakeholder theory (Donaldson & Preston, 1995), instrumental stakeholder theory (Jones, 1995), the salience of stakeholders (Mitchell, Agle & Wood, 1997) as well as good management theory and slack resource theory (Waddock & Graves, 1997), which will be presented below.

The two large meta-analyses by Orlitzky, Schmidt and Rynes (2003) and Margolis and Walsh (2003) “established a reference that the majority of empirical studies attest a positive relationship between CSP and CFP” (Boaventura, Silva & Bandeira-de-Mello, 2012, p. 236). The predominance of a positive CSP-CFP relationship was reconfirmed a few years later by Beurden and Gössling (2008), who conducted a meta-analysis based on 34 quantitative studies. They point out that the negative or insignificant relationships found before were mostly obtained in earlier studies based on data of earlier decades. In more recent meta-analyses, Margolis, Elfenbein and Walsh (2009) as well as Wang, Dou and Jia (2016) on average found a positive relationship, however, only a small effect size, further substantiating the current state of research and the idea that newer data entails a positive, albeit small effect in the CSP-CFP relationship.

When moving from meta-analyses to individual studies, it becomes obvious that many authors are able to demonstrate a positive CSP-CFP relationship using certain CFP measures and limiting their research to certain geographic areas or sectors. The use of different CFP measures will be discussed in detail below. Regarding the geographic as well as the sector focuses, dozens of studies found positive CSP-CFP relationships for very distinct regional or sectoral analyses. For example, Pan et al. (2014) researched the relationship in the mineral industry in China, whereas Simpson and Kohers (2002) found positive results for the banking industry. The finding that the direction and relevance of the CSP-CFP relationship seems to depend on the geographic areas and sectors analyzed, suggests that it might be worthwhile to explore the geographic and sectoral effects on the relationship further in an encompassing study accounting for geographic as well as sectoral differences.

2.4 Empirical Strategies and Issues Encountered

The fact that the research on the CSP-CFP relationship remained inconclusive over decades – although a slightly positive association (on average, across geographic areas and industry sectors) is seen as the current state of research – caused many

researchers to work towards understanding and explaining the inconclusiveness. Over the course of time, this gave rise to an expanding body of studies focusing on identifying empirical problems in the existing research, such as data issues or econometric issues, understanding the mechanisms underlying the relationship and pursuing theories suggesting that the relationship is mediated or moderated by factors not taken into consideration so far. The following paragraphs review the empirical strategies employed, the issues encountered, and the remedies applied.

2.4.1 Statistical Methods Applied and Pitfalls Identified

Different statistical methods are employed in the studies. Earlier studies assess solely the association between various measures of CSP and CFP using correlation analysis (see for example Aupperle, Carroll & Hatfield, 1985; Spencer & Taylor, 1987; Spicer, 1978). Hence, no causality can be inferred from the results of these studies. Yet, some of these studies do infer causality, a fact that naturally spawned criticism by following researchers within the domain. More recent studies mostly use regression analysis, however, often without a “powerful set of covariates to account for firm-level heterogeneity” (Bajic & Yurtoglu, 2018, p. 31), as explored below.

Most of the studies rely on cross-sectional data (Hillman & Keim, 2001; Waddock & Graves, 1997) or panel data analyzed with cross-sectional methods, such as pooled OLS (Graves & Waddock, 2000; McWilliams & Siegel, 2001), potentially entailing endogeneity issues, such as reverse causation and omitted variable bias (Bajic & Yurtoglu, 2018). Does higher CSP lead to higher CFP, for example because socially responsible behavior is rewarded by consumers? Or does higher CFP lead to higher CSP, because the company can afford to invest more in CSR? In fact, theoretical arguments for both causality directions exist (McWilliams & Siegel, 2000), as further detailed below. Endogeneity within the relationship results in estimation problems, if CSR choices are based on unobservable characteristics correlated with the error term of the regression (Bajic & Yurtoglu, 2018). There are important exceptions of authors circumventing the above-mentioned potential pitfalls, using different approaches, such as group mean regression (Dowell, Hart & Yeung, 2000), a two-step GLS approach (Berman et al., 1999), or panel data (Garcia-Castro, Ariño & Canela, 2010).

2.4.2 Variables Included, Model Misspecifications, Mediation and Moderation Effects

Most of the studies employing regression analysis include either just one (Barnett & Salomon, 2006; Stanwick & Stanwick, 1998) or a few variables in their models to capture firm-level characteristics such as firm size, growth, financial leverage and firm risk (Cheung et al., 2010; Choi & Jung, 2008; King & Lenox, 2002; Makni, Francoeur & Bellanvance, 2009). Some studies argue that the models lack specific covariates and add additional firm-level characteristics. According to McWilliams and Siegel

(2001), one often-found flaw in the econometric models concerns the omission of a variable controlling for the R&D intensity, despite the link between R&D investment and long-run economic performance had already been well-established across the relevant literature. Servaes and Tamayo (2013) give a similar example, arguing that advertising intensity is another factor omitted in prior studies. They find different effects of their covariates on the CSP-CFP relationship, demonstrating that “different aspects of CSR are more likely to matter for specific subsets of firms, highlighting the need to use extensive covariates to minimize the impact of confounders” (Bajic & Yurtoglu, 2018, p. 31).

In order to improve upon existing models, researchers started to control for “a wide range of variables including size, research and development expenditure, and advertising expenses” (Mehrpouya & Chowdhury, 2018, p. 230; Wang, Dou & Jia, 2016). In their meta-study, Boaventura, Silva and Bandeira-de-Mello (2012) analyzed the use of control variables considered in 58 studies on the CSP-CFP relationship. They found company size, industry, financial leverage and R&D intensity to be the most frequently used control variables. Company size was used in 34% of the analyzed studies, measured as the company’s sales, assets or number of employees and usually employed as a logarithmic function of one of these measures. From a theoretical perspective, controlling for company size is important, since “there is evidence that small firms do not explicitly exhibit behavior that expresses social responsibility” (Boaventura, Silva & Bandeira-de-Mello, 2012, p. 239). The company’s industry was controlled for in 14% of the analyzed studies. Since different industries exhibit different exposures to dimensions of CSP, the inclusion of industry seems indispensable. Waddock and Graves (19997) note that the industry does or does not coincide with unsolved problems of a social nature. Financial leverage was used in 14% of the studies analyzed and R&D intensity in 7%. Less frequently employed control variables were, among others, the company life cycle, sales growth, indebtedness, company risk, company age, region, year and competition intensity.

Interestingly, a considerable number of studies, which expanded their set of control variables in response to omitted variable bias concerns, concluded that the CSP-CFP relationship is non-existent. For example, Surroca et al. (2010) stated that taking the mediating effect of a firm’s intangible resources into consideration, there is no direct relationship between CSP and CFP. Williams and Siegel (2000) found the relationship to be neutral as well, after including investment in R&D as a control variable, as touched on above.

Mehrpouya and Chowdhury (2018) point out that researchers have also focused on specific mechanisms underlying the CSP-CFP relationship, which translate a company’s CSP, i.e. its environmental and social behavior, to a certain stakeholder behavior, which in turn leads to a certain level of CFP. These underlying mechanisms

were researched regarding their effect on the behavior of important stakeholders such as “customers (Fosfuri, Giarratana & Roca, 2015), employees (Flammer & Luo, 2017; Turban & Greening, 1997), suppliers (Hillman & Keim, 2001), financial analysts (Cheng, Ioannou & Serafeim, 2014; Luo et al., 2015), regulators (Godfrey, Merrill & Hansen, 2009; Koh, Qian & Wang, 2014), as well as activists and communities (Baron, 2009; Henisz, Dorobantu & Nartey, 2014)” (Mehrpouya & Chowdhury, 2018, p. 231).

Other scholars addressed the inconclusiveness by taking the institutional environment into account. They included national, sectoral, as well as transnational institutional factors, and concluded that they contribute to the CSP-CFP relationship (Campbell, 2007; Dorobantu, Kaul, & Zelner, 2017; Ioannou & Serafeim, 2012). Research on the processes underlying the CSP-CFP relationship (i.e. factors mediating the relationship) and on the conditions affecting the CSP-CFP relationship (i.e. factors moderating the relationship) will be addressed in a more holistic way below (cf. subsection 2.5.1).

2.4.3 The Concept of CFP, its Operationalization and Issues Encountered

The existing body of literature provides several ways to measure CFP (Cochran & Wood, 1984). In their meta-analysis, Orlitzky, Schmidt and Rynes (2003) note that three categories of CFP measures exist – market-based measures, reflecting the degree of satisfaction of the shareholders; accounting-based measures, capturing the company’s internal efficiency; and survey-based measures, providing a subjective estimation of the company’s financial performance (Boaventura, Silva & Bandeira-de-Mello, 2012).

The most commonly used measures of CFP in the literature are return on assets (ROA) (Berman et al., 1999; Choi & Wang, 2009), return on equity (ROE) (Agle, Mitchell, & Sonnenfeld, 1999; Preston & O’Bannon, 1997), sales growth (Fauzi & Idris, 2009; Mahoney, Lagore, & Scazzero, 2008), return on sales (ROS) (Callan & Thomas, 2009; Graves & Waddock, 1999), contribution margin (Hammann, Habisch, & Pechlaner, 2009; Ogden & Watson, 1999), and Tobin’s Q (Choi & Wang, 2009; Rose, 2007). Other measures of CFP less often employed in the literature include market share, risk of the firm, return on capital employed (ROCE), operational profit, cash flow, earnings per share (Boaventura, Silva & Bandeira-de-Mello, 2012).

As can be seen from the listing, most of the most commonly used variables are accounting-based measures, representing short-term performance. The results of this group of studies have been mixed (cf. e.g. Aupperle, Carroll & Hatfield, 1985; McGuire, Sundgren & Schneeweis, 1988; Waddock & Graves, 1997). Whereas Waddock and Graves (1997) found a positive relationship between CSP and CFP of the following year, McGuire, Sundgren and Schneeweis (1988) found CSP to be related rather to past than to future CFP. Aupperle, Carroll and Hatfield (1985), however, did not find a relationship between CSP and CFP.

Market-based measures, representing long-term performance, such as cumulative abnormal return (CAR) or risk-adjusted performance (RAP), are rarely used (Boaventura, Silva & Bandeira-de-Mello, 2012). Interestingly, market-based measures are also used to examine the (very) short-term effects of socially responsible or irresponsible actions on stock market performance, as measured by abnormal returns using the event study methodology (cf. e.g. Clinebell & Clinebell, 1994; Hannon & Milkovich, 1996; Posnikoff, 1997; Teoh, Welch & Wazzan, 1999; Worrell, Davidson, & Sharma, 1991; Wright & Ferris, 1997). Although some authors found that a relationship exists only with regard to the firm value (as a market-based measure of CFP), but not with regard to the firm profitability (as an accounting-based measure of CFP) (cf. Bajic & Yurtoglu, 2015; Wood & Jones, 1995), the group of studies using market-based measures, as a whole, reached mixed results as well. For instance, despite researching companies from the same geographic region, i.e. the same financial market, Wright and Ferris (1997) reported a negative relationship, whereas Posnikoff (1997) found a positive one during the same time period. Teoh, Welch and Wazzan (1999) on the other hand concluded that no CSP-CFP relationship exists.

Although they did not find space in the study at hand, the author wants to voice his concerns about the choice of such accounting-based operationalizations, which are influenced by the companies' individual financing structure and national tax systems. These concerns could have been mitigated by employing operationalizations, which are focusing on the companies' operational performance, such as the EBIT margin. Further elaborating on this line of thought could be an interesting starting point for future research.

2.4.4 The Concept of CSP, its Operationalization and Issues Encountered

The growing attention paid to CSR activities, which are firm actions that "further some social good, beyond the interests of the firm and that which is required by law'" (McWilliams & Siegel, 2001, p. 117), lead CSR reporting to become a "mainstream business practice" (Attig et al., 2016, p. 171). This is evidenced by a survey conducted by KPMG International (2013), pursuant to which "51 % of reporting companies worldwide include information on corporate responsibility and sustainability in their annual financial reports". Moreover, socially responsible investing is gaining ground, as "an increasing number of investors factor firms' CSR activity into their investment decisions" (Sievänen, Rita & Scholten, 2013).

The concept of CSP was originally proposed by Strand (1983). It refers to the way a company responds to social demands (Ullmann, 1985) and is hence closely linked to stakeholder theory (Surroca & Tribó, 2008) – maximizing CSP goes together with coordinating the interests of the company's stakeholders (cf. the popular stakeholder theory definition given by Evan and Freeman (1993), which was presented above). In line with the definition of Wood (1991), CSP is regarded as the outcome of a company's

CSR efforts. Boaventura, Silva and Bandeira-de-Mello (2012, p. 234) stress that the measure of CSP needs to consider “how the demands of the various stakeholders of an organization are met”. In this regard, they raise the underlying questions, which stakeholders should be evaluated and how the fulfillment of their demands should be assessed. They conclude that a lack of standardization regarding these questions poses a limitation to studies dealing with CSP. It is worth noting that whereas stakeholders – as defined by Freeman (1984) – originally referred to individuals or groups, the concept has subsequently been extended to also include the society and the environment (Carroll & Buchholtz, 2000). Boaventura, Silva and Bandeira-de-Mello (2012) exemplify that studies aim to assess the inclusion of interests of various stakeholders, such as employees (Barnett & Salomon, 2006; Moore, 2001); diversity (Chih, Chih, & Chen, 2010; Shropshire & Hillman, 2007); customers (Galema, Plantinga, & Scholtens, 2008; Ruf et al., 2001;); suppliers (Fauzi, Mahoney, & Rahman, 2007; Surroca & Tribó, 2008); the environment (Schnietz & Epstein, 2005; Surroca, Tribó, & Waddock, 2010); and the community (Brammer & Millington, 2008; Goll & Rasheed, 2004). The stakeholder environment, employees, community, customers, suppliers and shareholders are most widely considered in the composition of CSP.

Peloza (2009, p. 1521) analyzed, how CSP was operationalized in prior research on the CSP-CFP relationship and found that a total of 39 unique measures of CSP were used; “most studies (82%) used a single measure, most commonly: pollution control or output (18%); environmental, health, and safety investments (16%); third party audits or awards (12%); the KLD index (9%); and Fortune magazine rankings (9%)”. The analysis reveals the enormous inconsistencies in prior research. “The most popular CSP metric was used in only 18% of the total sample” of studies, and “over 38% of all the CSP metrics identified appeared in only one study”. After assessing the effect of different categories of CSP measures on CFP, Peloza (2009, p. 1522) concludes that “the form of CSP influences its relationship to financial performance, consistent with previous meta-analyses” (Margolis, Elfenbein & Walsh, 2008). In a recent study, Bajic and Yurtoglu (2018, p. 51) find in this regard that the individual components of the CSP measure have different effects on the CSP-CFP relationship. In their analysis, the positive association was “driven by the social subscore of the composite CSP measure”.

Waddock and Graves (1997) express concerns over a wide range of CSP measures used in prior research and stress the need for a measure encompassing multiple dimensions of CSP applicable across a great variety of companies. Although other researchers, such as Dowell, Hart and Yeung (2000) and Margolis, Elfenbein and Walsh (2009) picked up on the topic and voiced similar concerns, it is rarely addressed in other studies.

As part of a more fundamental criticism, Bajic and Yurtoglu (2018) address the topic of construct validity in their research, pointing out that the analysis of construct validity is very limited in earlier studies. Construct validity is the degree to which a test measures what it claims, or purports, to be measuring (Cronbach & Meehl, 1995). Bajic and Yurtoglu (2018, p. 30) criticize that “CSP is a construct that imperfectly measures the latent unobservable aspects of CSR and it is impossible to quantify the gap between the construct and the underlying concept”.

Mehrpouya and Chowdhury (2018, p. 231) point out that several researchers question the “overall conceptual validity of the social-financial performance linkage itself”. For example, Rowley and Berman (2000) argue that the results of the research on the CSP-CFP relationship are “not interpretable, because the theoretical underpinnings explaining the contingencies relevant to the linkage are underdeveloped”. Haigh and Jones (2006) determined “contexts and situations in which the linkage is dysfunctional”. Other scholars refer to the “problems inherent in an economic framing of a firm’s identity and social self” (Driver, 2006), as well as to the “practical dangers of subordinating ethics to economics” (Paine, 2000).

Waddock and Graves (1997) address the measurement problem existing with regard to the CSP concept in older studies, putting forth that little clarity has been reached. The measures used have often been one-dimensional and they have been applied to small company samples. The authors hence stress the need for a multidimensional measure, which is to be applied across larger company samples covering a wide range of industries.

Bajic and Yurtoglu (2018, p. 30) further elaborate on the topic, criticizing the “lack of consistent panel data capturing CSR” (Bajic & Yurtoglu, 2018, p. 30). They argue that many studies focus on single countries and/or industries and use specific CSR constructs that are either not available in other countries (e.g. environmental disclosure), or meaningless for other industries (e.g. hazardous waste reduction). Studies concluding the existence of a certain relationship between the included aspect and financial performance are likely to suffer from omitted variable bias. The reason is that performances across different areas of CSR often correlate – firms performing well in one area (e.g. emissions reduction) are likely to also perform well in another area (e.g. resource reduction). Hence it is unclear, whether the aspect included in the study, or another one, which is correlated but not included in the study (i.e. an omitted one), establishes the relationship. The authors conclude that studies suffering from omitted variable bias potentially give misleading policy recommendations and that broad measures of CSP should be used.

2.4.5 The Question of the Direction of Causality

Coming back to the issue of causality direction briefly introduced above, the respective theories for the two diametrically opposing arguments shall be summarized and existing empirical findings reviewed.

Waddock and Graves (1997) have proposed two theories regarding the causality within the CSP-CFP relationship: good management theory and slack resource theory. Good management theory suggests that CSP drives CFP. Companies with a superior CSP, which enjoy a good reputation among their stakeholders, are more likely to achieve a superior CFP, facilitated through a market mechanism. Slack resource theory, on the other hand, suggests that CFP drives CSP. Companies with a superior CFP have the necessary, i.e. slack, resources to invest in higher CSP.

The combination of the two theories leads to the idea of a virtuous circle (Boaventura, Silva & Bandeira-de-Mello, 2012). The virtuous circle exists in the case of a two-way causal CSP-CFP relationship. In this case, companies with a high CFP would have the resources to invest in CSP, which would reward them with higher returns, which could be reinvested in CSP, and so forth. As briefly introduced above, the opposite idea of a vicious circle exists as well (Allouche & Laroche, 2005), however, it did not receive substantial attention in the CSP-CFP relationship research domain so far.

The majority of researchers follow good management theory in their reasoning as the conceptual assumption, meaning that they assume CSP to drive CFP and consequently employ CSP as the independent and CFP as the dependent variable (67%). The second most followed theory is the slack resource theory (24%), whereas the idea of a two-way causality creating a virtuous circle is the least followed one (9%). The direction of causality remains a conceptual choice of the researcher, however, and not a statistical result found (Boaventura, Silva & Bandeira-de-Mello, 2012).

In a recent meta-analysis, Wang, Dou and Jia (2016, p. 1083) assessed both causality directions against each other and found that “subsequent financial performance is associated with prior social responsibility, while the reverse direction is not supported. This finding supports the instrumental stakeholder theory.” The authors stress that the question of time it takes to unfold the causality in the relationship is not addressed by the theory. Only a small fraction of studies analyzes the CSP-CFP relationship considering the reference year and the previous year. The studies imply that it takes a certain amount of time, before the effect of one variable becomes visible in the other (Callan & Thomas, 2009; Lu & Taylor, 2016; Salama, 2005). Most of the studies assume a simultaneous CSP-CFP relationship, i.e. an immediate reflection of the level of CSP in the level of CFP or vice versa.

Regarding both possible causal directions, it seems reasonable to assume that it takes time for a change in CSP (or CFP) to affect CFP (or CSP), since the underlying

mechanisms and processes take time to unfold. If CSP is assumed to drive CFP, for example, it seems natural that the customers' perception regarding the company and its CSP does not change immediately, leading to e.g. higher sales, but over the course of time. The same reasoning seems applicable to other underlying mechanisms as well, such as the attraction and retention of employees. If, on the other hand, CFP is assumed to drive CSP, for example, even very simple organizational processes such as the allocation of the additional financial resources, i.e. capital budgeting, render the cause-effect relationship unlikely to occur immediately. Therefore, it seems reasonable to introduce a temporal lag in the relationship by delaying the dependent variable in the analysis – especially when rather short-term-oriented measures are used, such as reputation-related CSP measures or accounting-based CFP measures.

Mehrpouya & Chowdhury (2012, p. 237) cover the question of the applicable time horizon of the CFP improvements as well. They argue that "the time horizon of the claimed financial results of the social performance change should be consistent with the firm's business model" and clarify that "most social-financial performance linkage arguments promise long-term superior financial performance for socially responsible firms". Their argument is in line with McWilliams and Siegel (2000), who state that some actions associated with a negative CSP, such as violating the law, can result in short-term image effects, whereas the majority of actions associated with a positive as well as negative CSP are presumed to have long-term effects on the companies' CFP.

2.5 Alternative Approaches to Explain and Deal with the Inconclusiveness

2.5.1 Mechanisms Underlying and Conditions Affecting the CSP-CFP Relationship

Mehrpouya and Chowdhury (2018, p. 229) recently chose another approach in addressing the inconclusiveness prevalent in CSP-CFP research by taking a step back from the identification of issues in prior research and the search for fixes – instead, they propose to create a better understanding of the "mechanisms underlying the business case for firms' socially responsible behavior" first. They develop a conceptual framework of these underlying mechanisms with the aim to better understand the "contextual and institutional conditionalities inherent in the relationship between socially responsible behavior and financial performance". The framework particularly concentrates on two categories of mechanisms underlying the CSP-CFP relationship, derived from stakeholder theory: relational/reputational mechanisms, from a market-based as well as from an institutional perspective, on the one side, and capabilities of the firm as well as of the stakeholders, on the other side. Despite the framework could not be used in the identification of the research topic of the study at hand, it provides

researchers with promising starting points for studies aiming at contributing to a better understanding of the CSP-CFP relationship.

Aguinis and Glavas (2012) sought to address the CSR-related research from a more fundamental perspective as well. They authored a study with the objective to improve the “understanding of underlying processes (i.e., mediating effects) and conditions under which (i.e., moderating effects) CSR leads to specific outcomes”. Along the way, they created a map covering the existing body of research on CSR and its relationships with various outcomes on different levels – whereas most research happened on the organizational level so far, also the individual level (e.g. the top management team) and the institutional level was covered. They categorized the research into (i) predictors of CSR, (ii) outcomes of CSR, (iii) mediators of CSR-outcome relationships and (iv) moderators of CSR-outcome relationships.

Compared to the outcomes, the mediating effects of the CSP-CFP relationship are not extensively researched yet. According to Aguinis and Glavas (2012) as well as several other authors, studying the mediating factors, i.e. the mechanisms underlying the CSP-CFP relationship, is a key component to solving the puzzle of mixed results obtained so far. Surroca, Tribo and Waddock (2010) initially did not find a direct relationship between CSP and CFP in a sample of 599 companies in 28 countries; they eventually could demonstrate that the relationship was mediated by the firms' intangible resources. Sharma (2000), on the other hand, found that managers interpreting CSR as an opportunity mediates the relationship. Drawing on stakeholder theory, Mehrpouya and Chowdhury (2018) focused on two different kinds of mechanisms mediating the CSP-CFP relationship, as outlined above. Svensson et al. (2018, p. 972) studied the interactions between the three Triple Bottom Line (TBL) components, i.e. economic, social and environmental elements. They found TBL’s economic element to have a “direct effect on the environmental element, with the social element mediating this effect”. Galbreath and Shum (2012) hypothesize that reputation and customer satisfaction fully mediate the CSP-CFP relationship. They find CSP to be linked to both reputation and customer satisfaction, whereas the CSP-CFP relationship is mediated by reputation alone, however. They conclude that mediating and moderating variables should be addressed by more scholars in order to reduce ambiguity surrounding the CSP-CFP relationship.

Just like the mediating factors, the moderating effects, i.e. the conditions under which CSP leads to CFP, are also a key instrument in overcoming the inconclusive results. A number of scholars investigated the moderating effect of financial resources, such as financial performance (Brammer & Millington, 2004; Turban & Greening, 1997), slack resources (Bansal, 2003; Waddock & Graves, 1997), and lower debt levels (Graves & Waddock, 1994) and demonstrated that they strengthen the CSP-CFP relationship. Other moderators investigated included firm visibility and relationships

with the public; for instance, Fry, Keim and Meiners (1982) found the degree of public contact to strengthen the CSP-CFP relationship. An indirect effect, i.e. a mediated moderation, was found for firm size (Godfrey, Merril & Hansen, 2009; Waddock & Graves, 1997), as available resources and visibility increase with firm size and strengthen the CSP-CFP relationship (Aguinis & Glavas, 2012). Drawing on stakeholder theory and Hofstede's (2001) framework of national culture, Sun, Yoo & Hayati (2018, p. 83) hypothesize that cultural differences have a moderating effect on the CSP-CFP relationship. Using the cultural dimension indulgence versus restraint, they demonstrate that "CSP has a positive effect on CFP" and that "CSP has a weaker effect on CFP in firms located in indulgent countries, thereby substantiating the idea of the moderating effect of cultural differences on the CSP-CFP relationship.

Drawing on their multi-level literature review introduced previously (cf. subsection 2.5.1 above), Aguinis and Glavas (2012) uncovered that two variables focusing on the geographic context, and factors that go hand in hand with it, were researched within the group of studies dealing with moderators of the CSP-CFP relationship – "the country where the firm is located (e.g., Arya & Zhang, 2009), and the extent of international diversification (e.g., Strike, Gao, & Bansal, 2006)" (Aguinis & Glavas, 2012, p. 951). Arya and Zhang (2009) investigated the effect of CSR announcements regarding the companies' alignment with recently instituted social regulations, i.e. an institutional reform, in South Africa, on stock prices. They demonstrated a positive effect on shareholder returns; therefore, it can be concluded that institutional reforms, or more generally "country contextual variables that influence CSR", as Aguinis and Glavas (2012, p. 939) put it, can have a moderating effect on the CSP-CFP relationship.

Strike, Gao and Bansal (2006) pick up on the controversy about whether multinational corporations (MNCs) act socially irresponsible to maximize profit or whether there is a positive relationship between the degree of internationalization and CSP. Proponents of the first view argue that MNCs "exploit the lax social and environmental standards in foreign countries" (Strike, Gao & Bansal, 2006, p. 850; Low & Yeats, 1992; Lucas, Wheeler & Hettige, 1992). Proponents of the second view, on the other hand, argue that MNCs "transfer best practices across geographical boundaries, improving social justice" (Strike, Gao & Bansal, 2006, p. 850; Bansal & Roth, 2000; Christmann, 2004). Strike, Gao and Bansal (2006) found that the degree of internationalization has a positive effect on CSP, and at the same time, that CFP has a negative effect on social irresponsibility, consistent with the results of Waddock and Graves (1997). Hence, it can be concluded that the degree of internationalization has a moderating effect on the CFP-CSP relationship. As the authors followed the slack resource theory with regard to the direction of causality, hypothesizing CFP to affect CSP, the approach of their study is not entirely congruent with the approach of the thesis at hand, but the two do exhibit a high degree of similarity. Therefore, the study will be taken up again in the

subsection specifically addressing the moderating effect of internationalization on the CSP-CFP relationship (cf. 3.1.4 below).

2.5.2 Incomparability of Existing Empirical Findings

Several authors attribute the inconclusiveness of the existing empirical findings to the large size as well as the wide breadth of the body of literature on the CSP-CFP relationship (Brooks & Oikonomou, 2018). Griffin and Mahon (1997) observed the diversity and variability of the characteristics of the studies available at their time and concluded that the majority of the empirical findings are not comparable with each other. Malik (2015) recently confirmed these observations. The studies in the existing body of literature on the CSP-CFP relationship are characterized by: (i) different definitions and operationalizations of CSP and CFP; (ii) theoretical frameworks, which underpin the research hypotheses and which sometimes are opposing each other; (iii) dataset differences regarding the CSP dimensions, the CFP measurement types as well as the industry, country and timeframe in focus; and (iv) different econometric methodologies applied.

These differences in essential characteristics of the research on the CSP-CFP relationship suggest that the existing theories and empirical strategies should be unified. The author hence proposes that future research should – aside from the incremental advances proposed by the scholars presented above – also focus on: (i) a more fundamental understanding of the CSP-CFP relationship, including the theories underpinning it and the underlying mechanisms translating one into the other (cf. subsection 2.5.1 above); (ii) the establishment of best practices regarding the empirical strategies employed, including the statistical methods applied, the model specifications and the conceptualization and operationalization of CSP and CFP; and (iii) exploring the impacts on the CSP-CFP relationship caused by the sector, country and timeframe differences. The last suggestion will partly be addressed in the paper at hand, since the effect of country-level differences will be analyzed. Sector differences could be accounted for by using cross-sectoral data and a composite CSP score, whose dimensions are factoring in the materiality criterion. The materiality criterion reveals, whether a CSR issue is “likely to affect the financial condition or operating performance of companies within an industry” (Sustainability Accounting Standards Board (SASB), 2019). The materiality of CSR issues is identified for every sector and industry by the Sustainability Accounting Standards Board (SASB) and summarized in the materiality map. Therefore, SASB (2019) identifies 26 CSR-related “business issues, or General Issue Categories, which encompass a range of Disclosure Topics and their associated Accounting Metrics that vary by industry” (SASB, 2019) (cf. Khan, Serafeim and Yoon (2015) for an analysis employing CSR materiality). The variability in the existing results of the CSP-CFP relationship research stemming from different study timeframes could

be accounted for by rerunning the analyses using the previously used databases in combination with the state of research empirical methods.

3 Research Gap Investigation and Hypotheses Deduction

3.1 The Omitted Moderating Effect of Internationalization on the CSP-CFP Relationship

The thesis at hand argues that a possible moderating effect of internationalization (INT), as well as effects that go hand in hand with internationalization, on the CSP-CFP relationship was largely omitted in the research so far. Several studies concluded that the research on mediating and moderating factors of the CSP-CFP relationship needs to be expanded in order to alleviate the current inconclusiveness of research results, as reviewed extensively above (cf. subsections 2.4.2 & 2.5.1). Some articles blamed the inconclusiveness of results at least partly on geographic or country-level differences between the numerous studies, thereby suggesting that the CSP-CFP relationship is impacted, i.e. moderated, by such differences (cf. the following subsection 3.1.1). Moreover, extensive research exists on the relationships between internationalization (and related factors) and the two single components of the CSP-CFP relationship, i.e. on the INT-CSP relationship and on the INT-CFP relationship; hence it seems reasonable to also assume an effect of INT on the CSP-CFP relationship as a whole (cf. the following subsections 3.1.2 & 3.1.3). Still, and rather surprisingly, only very few articles dealt with the effect of internationalization (or related factors, such as country-level differences), on the CSP-CFP relationship itself (cf. the following subsection 3.1.4). After reviewing this adjacent literature over the course of the following subsections, the remainder of the thesis at hand seeks to fill this gap in the literature and explore the moderating effect of INT on the CSP-CFP relationship.

3.1.1 Internationalization as a Source of Inconclusiveness of the Existing Research

One of the conclusions reached during the literature review of the CSP-CFP relationship was that the direction and relevance of the CSP-CFP relationship seems to depend on the geographic areas and sectors analyzed, suggesting that it might be worthwhile to explore the geographic and sectoral effects on the relationship further in an encompassing study accounting for geographic as well as sectoral differences (cf. subsection 2.3 above). The notion of the importance of country-level characteristics is strengthened by Bajic and Yurtoglu (2018), who raise the question, which role country differences play in their analysis, suggesting that country-level differences exist and are worthwhile to analyze more thoroughly.

Since companies are exposed to differences in country-level characteristics when they internationalize, for instance through regulatory environments or cultural aspects, it is reasonable to assume that the internationalization of a company impacts its CSP-CFP relationship, and hence, that internationalization moderates the CSP-CFP relationship in general. Internationalization in this context has a quantitative and a qualitative dimension. The quantitative dimension refers to the scale of a company's business activity taking place outside the home country (e.g. number of foreign countries; share of foreign sales; share of foreign assets; etc.). The qualitative dimension, on the other hand, refers to the heterogeneity of the business environment of the host countries compared to the home country (e.g. CAGE distance, capturing the heterogeneity between countries in cultural, administrative, geographic and economic terms (Ghemawat, 2011); institutional differences as identified by the comparison of national business systems (NBS) (Whitley, 1997; 1999); etc.). The concept and operationalization of internationalization will be explored in more detail below (cf. subsection 3.1.5).

As outlined above, another reason to assume a moderating effect of INT on the CSP-CFP relationship lies in the empirical evidence of studies focusing on the INT-CSP and INT-CFP relationships. For both relationships, researchers found a positive effect of INT, as evidenced in the following subsections (cf. 3.1.2 & 3.1.3). Figure 1 illustrates the existing and suspected effects in the relationships between CSP, CFP and INT and represents the starting point for the following analyses.

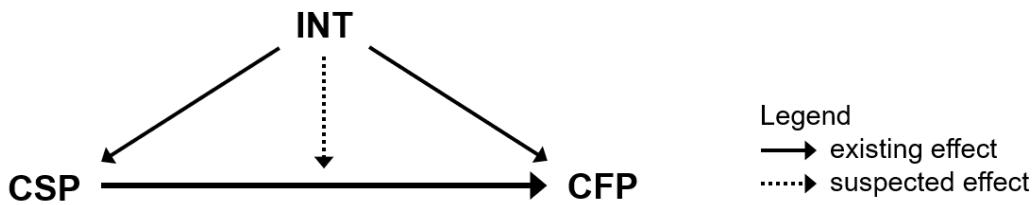

Figure 1: Relationship diagram of existing and suspected effects between CSP, CFP and INT (own representation)

3.1.2 The Relationship between INT and CSP

As introduced in the preceding subsection (cf. 3.1.1 above), internationalization has a quantitative and a qualitative dimension. Since these dimensions vary across a diverse set of companies, it is assumed that they impact CSP differently. Therefore, the following literature review maintains this distinction; the front paragraphs deal with the qualitative dimension of internationalization, whereas the rear ones focus on the quantitative dimension.

Cai, Pan and Statman (2016, p. 591) compared the effects of firm and country characteristics to answer the question, why levels of CSP differ so much across firms from different countries. Drawing on a dataset consisting of more than 2600 companies

from 36 countries, they “find that firm characteristics explain very little of the variations in CSP ratings. In contrast, variations in country factors such as stages of economic development, culture, and institutions account for a significant proportion of variations in CSP ratings across countries. In particular, we find that CSP ratings are high in countries with high income-per-capita, strong civil liberties and political rights, and cultures oriented toward harmony and autonomy”.

Ioannou and Serafeim (2012) demonstrated the impact of home-country institutions on CSP, with a small part of the analysis devoted to host-country institutions, whereas Rathert (2016) showed the impact of host-country institutions on CSP. Ioannou and Serafeim (2012) based their approach on the concept of national business systems (NBS) developed by Whitley (1997; 1999), which summarizes political, financial and labor institutions as well as the cultural system as critical for corporate behavior. Drawing on a sample of 930 to 2330 firms from 42 countries over seven years, they found “that the political system, followed by the labor and education system, and the cultural system are the most important NBS categories of institutions that impact CSP”, whereas “the financial system appears to have a relatively less significant impact” (Ioannou & Serafeim, 2012, p. 834). To specifically address the issue of MNCs, the authors identify the companies’ “operations across countries in terms of the level of sales, and empirically estimate the impact of home (incorporated) and host nation-level institutional factors concurrently” (however, with a drastically reduced dataset due to a very limited availability of geographic segment information). Since MNCs operate in more than one country, (typically in two to three host countries besides their home country), the authors calculate the host-country institutional variables as the “weighted average of the values in all host countries that the corporation operated in weighted by the fraction of overall sales”. The results of the concurrent analysis of home- and host-country institution effects “confirm the importance of home-country institutions, even after we explicitly control for the impact of host-country institutions” (Ioannou & Serafeim, 2012, p. 856).

Rathert (2016, p. 875) drew on data from 540 Western European MNCs and host-country-specific information based on the locations of foreign subsidiaries and conceptualized “CSR as a set of legitimation strategies that MNEs adopt in response to different forms of normative and coercive stakeholder influence, each with distinct implications of how legitimacy can be obtained”. He argued that “some host countries lead MNEs to distance themselves from institutional environments that are deemed normatively questionable, corrupt, or dangerous in the eyes of stakeholders” and found that “such host countries create issue salience, associated with the adoption of standards-based CSR”. He also argued that some “host countries institutionalize stakeholder power and enable stakeholders to take part in the governance of the firm” and found that MNCs are more likely to “respond with rights-based private governance” to such host-country environments. Rathert (2016) concluded that “specific types of

CSR adoption are driven by the institutional features of MNE host countries, rather than home countries", from which can be inferred that host-country institutions impact CSP.

These set of studies focusing on the effect of the home- or host-country institutional environment on CSP, i.e. the qualitative dimension of internationalization, allow the conclusion to be drawn that the degree of internationalization moderates this relationship, since the CSR activities of highly internationalized companies are more exposed to host-country institutions and the impact of home-country institutions gains weight (cf. country of origin effect, e.g. Elango & Sethi, 2007). Therefore, the effect of the degree of internationalization (DOI), i.e. the quantitative dimension of internationalization, on CSP is reviewed next.

Attig et al. (2016, p. 172) underpin the preceding claim theoretically, by viewing internationalization as a strategy directed at building a competitive advantage (Nachum & Zaheer, 2005), with the purpose to create value through "enhanced economies of scale and scope" (Kogut, 1985), "growth opportunities" (Porter, 1990), and "diversification benefits" (Geringer, Beamish & DaCosta, 1989), as well as "access to new resources, production capabilities, and knowledge" (Hitt, Hoskisson & Kim, 1997)". However, there are also several hindrances opposing these benefits, such as the "liability of foreignness" (Zaheer, 1995) and a "potentially hostile international environment" (Zahra & Garvis, 2000), but also "increased pressure from an expanded set of stakeholders". These pressures arise from a larger and – in cultural, political, institutional, and economic regards – more diverse stakeholder environment (Attig et al., 2016), in which the company is exposed to demands, expectations and constraints from "foreign customers (interested in products and services' characteristics), governments and regulators (via taxation and regulatory compliance), foreign suppliers, employees (concerned about work ethics, work conditions, recognition and retention), environmentalists, communities" (Attig et al. 2016, p. 173) as well as investors, creditors and non-government organizations, among other parties (Detomasi, 2007). Hence, MNCs are induced to increase their CSR efforts in order to "demonstrate their responsiveness to a wide range of stakeholders" (Brammer, Pavelin & Porter, 2009, p. 575) and "pursue safe strategic decisions" (Kang, 2013, p. 97). According to Attig et al. (2016) a strategic response can be increased investments into CSR, for example in order to "reduce the negative environmental impact of their operations and increase employee satisfaction". Sanders and Carpenter (1998, p. 158) further state that, aside from having to "cope with the high levels of complexity that derive from heterogeneous cultural, institutional, and competitive environments", increasing internationalization also entails the need for firms to "coordinate and integrate their geographically dispersed resources". Attig et al. (2016) add that MNCs are exposed to "expanded media and analyst coverage", increasing their visibility and possibly inducing them to increase their CSR efforts to manage, or simply protect, their

reputation. Kang (2013) argues, furthermore, that MNCs may increase their CSR investments in order to harvest greater economies of scope from them, compared to geographically focused companies. Attig et al. (2016) summarize the juxtaposition of arguments, proposing that internationalization is positively related to CSP. They note, however, that the heightened pressure resulting from an “increased diversity and range of stakeholder demands” might lead internationally diversified MNCs to favor countries with comparatively low CSR in location decisions.

Although research on the INT-CSP relationship is rather limited, when compared to the massive body of literature existing on the INT-CFP relationship, it is nevertheless mostly conclusive. Whereas some studies do not find a significant relationship, most of them conclude a positive relationship between INT and CSP. Simerly and Li (2000) are among those finding a non-existent relationship in their analysis of US firms. Interestingly, they find that the prior degree of INT positively affects CSP, however, and conclude that firms create “strategies to cope with social issues”, whose development and implementation takes time (Simerly and Li, 2000). Brammer, Pavelin and Porter (2006) find a significant contemporaneous positive relationship in their analysis of UK firms, however, not a general one, but one that is limited to certain types of CSP and to certain geographical areas. They interpret the results as “evidence that firms shape their social performance strategies to their geographical profile”.

Strike, Gao and Bansal (2006) pick up on the above-mentioned motivations for behaving both responsible and irresponsible when internationalizing to host-countries and find support for their dual hypothesis. Their results show that the degree of internationalization is associated with both, socially responsible and socially irresponsible behavior. The fact that socially responsible and socially irresponsible behaviors offset each other in a composite CSP score, could explain why some studies do not find a significant INT-CSP relationship, and it could imply that the relationship might actually be stronger than previously assumed. Kang (2012) finds that international diversification, as well as unrelated diversification – as opposed to related diversification – is positively related to CSP, suggesting a more general positive effect of diversity on CSP. Attig et al. (2016) find strong evidence for a positive relationship between the degree of internationalization and CSP for a variety of internationalization and CSP measures, using a sample of more than 3000 companies from the US, representing over 16500 firm-year observations, spanning 20 years over the 1991-2010 period. Furthermore, the authors integrate the qualitative and quantitative dimensions of internationalization and find that MNCs with operations in host countries “with well-functioning political and legal institutions have better CSR ratings” (Attig et al. 2016, p. 171).

3.1.3 The Relationship between INT and CFP

In contrast to the INT-CSP relationship, a large body of literature exists dealing with the INT-CFP relationship. Due to volume constraints of the thesis at hand, the review of the INT-CFP relationship is kept short. As already pointed out in the preceding subsection (cf. 3.1.3 above), there are various typical benefits (such as enhanced economies of scale and scope; Kogut, 1985) companies are seeking to gain as they internationalize, but also typical hindrances (such as liability of foreignness; Zaheer, 1995).

Although there are disparate arguments and findings for the shape and sign of the association, the state of research suggests a positive relationship between INT and CFP. Marano et al. (2016) recently conducted a very comprehensive meta-analysis on the topic, in which they propose that the relationship is moderated by (formal and informal) home-country institutions, which have not been adequately considered so far. Hence, they separately account for "firm-, industry-, home country-, and host country-level factors driving the I-P relationship across 32 countries between 1972 and 2012", drawing on more than 350 primary studies, the largest sample of primary studies used in a meta-analysis of the topic to date (Marano et al., 2016, p. 1075). With their new approach, they find a positive linear, albeit overall small effect of INT on CFP. Interestingly, the effect varies greatly across home countries, thereby underpinning the proposed country of origin effect.

3.1.4 The Moderating Effect of INT on the CSP-CFP Relationship

As outlined above, despite the substantial evidence found regarding the effect INT can have in adjacent research topics, only a negligibly small proportion of the research dealt with the effect of INT on the CSP-CFP relationship. It seems surprising, that the effect of internationalization processes and country-level differences on the CSP-CFP relationship has found almost no consideration in the research so far. Adjacent research, as reviewed above (cf. subsections 3.1.1, 3.1.2 and 3.1.3) as well as individual company examples, even though just in the form of anecdotal evidence, suggest, however, that researching the potential effect of internationalization processes and country-level differences on the CSP-CFP relationship is worthwhile.

A recent study conducted by Wang, Dou and Jia (2016), one of the very few connecting internationalization to the CSP-CFP relationship, analyzed the effect the home country has on the relationship. They generally demonstrated a positive relationship between CSP and CFP, addressed the direction of causality by showing that prior CSP leads to CFP, whereas the opposite does not hold, and found that the relationship is "stronger for firms from advanced economies than for firms from developing economies", i.e. that the CSP-CFP relationship is moderated by home-country characteristics (Wang, Dou & Jia, 2016, p. 1106). A moderating effect of home-country characteristics – as part of

the qualitative dimension of internationalization – on the CSP-CFP relationship was also found by Sun, Yoo and Hayati (2018, p. 83), who, drawing on stakeholder theory and Hofstede's (2001) framework of national culture, hypothesize that cultural differences have a moderating effect on the CSP-CFP relationship. Using the cultural dimension indulgence versus restraint, they demonstrate that CSP positively affects CFP and that the effect is weaker for firms located in indulgent countries and stronger for firms located in restrained countries.

Besides studies focusing on such national institutional factors, there are also studies attending to sectoral and transnational institutional factors contributing to the CSP-CFP relationship. Campbell (2007, p. 946) argues that the relationship "is mediated by several institutional conditions: public and private regulation, the presence of nongovernmental and other independent organizations that monitor corporate behavior, institutionalized norms regarding appropriate corporate behavior, associative behavior among corporations themselves, and organized dialogues among corporations and their stakeholders". Dorobantu, Kaul and Zelner (2017) argue that companies operating in weak institutional environments encounter high transaction costs, against which they propose various strategies including financial performance implications.

Scherer and Palazzo (2009) examine the behavior of MNCs on the global playing field, paying particular attention to areas in which states are weak. The regulatory vacuums existing in such areas are regularly exploited and abused by MNCs behaving socially irresponsible in return for profit maximization. The authors name several high-profile cases, among them the diamond company De Beers being "accused of profiting from the legal vacuum in African civil wars" (Scherer & Palazzo, 2009, p. 16; Roberts, 2007), and retail giant Walmart being accused of tolerating child labor and slave labor in its supply chain (Beaver, 2005). The ongoing process of globalization weakens governance mechanisms and thus their ability to prevent such socially irresponsible behavior. However, according to Beck (2000) and Mathews (1997), the dwindling influence of national governments on MNCs is partly offset by the growing influence of the civil society, predominantly in the form of NGOs. The internet allows activists to scrutinize the business practices of MNCs (Spar & La Mure, 2003), which are forced to become more and more transparent (Klein, Smith & John, 2004), subject to growing societal demands (Walsh, Weber & Margolis, 2003) and in need for legitimacy (Palazzo & Scherer, 2006). In response to the rising pressure, MNCs intensify their CSR engagement and enter into domains under government responsibility (Walsh, Weber & Margolis, 2003), such as human rights initiatives (e.g. oil and gas company British Petroleum) or public health issues, such as anti-AIDS campaigns (Margolis & Walsh, 2003). MNCs have also "begun to engage in initiatives of self-regulation in order to fill the described vacuum of global governance" (Scherer & Palazzo, 2009, p. 17)

and assume “a politically enlarged responsibility” (Scherer, Palazzo & Baumann, 2006).

The extensive and in-depth literature review has revealed that the suspected moderating effect of INT on the CSP-CFP relationship has only been researched to a very limited extent so far, and that within this scarcely addressed topic, only the qualitative dimension of INT, i.e. the heterogeneity of the business environment of the host countries compared to the home country, was considered. The quantitative dimension of INT, i.e. the scale of a company’s business activity taking place outside the home country, was neglected to this point; it was used in connection with the CSP-CFP relationship in only two studies, authored by Strike, Gao and Bansal (2006) and Kang (2012). As both studies were interested in explaining the variation in CSP, however, the authors based the analyses on the less common, and less evidenced, slack resource theory (cf. subsection 2.4.5 above), according to which CFP leads to CSP, which is why they included CFP as an independent variable in their models. Both studies found INT to have a positive effect on CSP, whereas the effect of CFP on CSP was positive in the research of Strike, Gao and Bansal (2006) and insignificant in most of the models estimated by Kang (2012). Although the approach of the studies is not entirely congruent with the approach of the thesis at hand, they do exhibit a high degree of similarity and encourage further research.

3.1.5 The Concept of INT, its Operationalization and Issues Encountered

Firms internationalize in order to take advantage of market opportunities and imperfections abroad, and to reap the benefits of internalization, i.e. of assuming control of operations abroad, with the ultimate goal to create value (Rugman, 1979). International internalization creates value for a company if the gains of operating foreign subsidiaries are greater than the associated costs (Saudagaran, 2002). Internationalization provides companies with opportunities to generate additional value through the shared use of learning effects across subsidiaries and geographies (Fladmoe-Lindquist & Tallman, 1994; Kogut, 1985). Other motivations, potential benefits, costs and uncertainties of internationalization, particularly those in connection with CSP and CFP, were already discussed in the respective subsections above (cf. 3.1.2 & 3.1.3) and will thus not be repeated here.

The degree of internationalization is often conceived as a measure of the “number of different markets in which a firm operates and their importance to the firm” (Hitt, Hoskisson & Kim, 1997, p. 767), with markets sometimes being congruent with countries, and sometimes referring to areas crossing country borders (e.g. Strike, Gao & Bansal, 2006). The above definition emphasizes the quantitative dimension of internationalization, neglects its qualitative dimension, however. The quantitative dimension refers to the scale of a company’s business activity taking place outside the home country. It can be further divided into two subcategories, the depth of

internationalization and the breadth (also referred to as scope) of internationalization (Thomas & Eden, 2004). The depth of internationalization captures the extent to which the company operates outside the home country (Thomas & Eden, 2004). The most common depth measures are the ratios foreign sales to total sales (Tallman & Li, 1996), capturing the dependency on foreign sales markets, and foreign assets to total assets (Gomes & Ramaswamy, 1999), capturing the dependency on foreign resource markets. Less common measures include the ratios foreign employees to total employees (Brock & Yaffe, 2008) and exports to total sales (Lu & Beamish, 2001). The breadth (or scope) of internationalization captures the span (or dispersion) of a company's foreign operations (Thomas & Eden, 2004). It is usually measured as the number of countries (Delios & Beamish, 1999) or, more generally, regions (Kim, Hoskisson, & Wan, 2004), and can be detailed by measuring the dispersion across countries (Goerzen & Beamish, 2003) or regions (Hitt, Hoskisson & Kim, 1997), respectively. Measurement categories besides the depth and breadth encompass the companies' foreign subsidiaries, measured as the number of foreign subsidiaries and the ratio of foreign subsidiaries to total subsidiaries (Gomez-Mejia & Palich, 1997; Vermeulen & Barkema, 2002); the use of an internationalization dummy, solely distinguishing between any and no foreign business activity (Chakrabarti, Vidal, & Mitchell, 2011); and composite measures, combining different measures of the quantitative dimension of internationalization into a single score (Sanders & Carpenter, 1998).

The qualitative dimension, on the other hand, refers to the heterogeneity of the business environment of the host countries compared to the home country. It focuses on the effects arising from companies partly transferring their policies, practices and processes, all of which were shaped by the cultural and institutional background of their home country, to the host countries (so-called country-of-origin effect; for instance, Elango and Sethi (2007) found that home-country characteristics influence the INT-CFP relationship, e.g. small economies with an extensive trade volume were found to be associated with a positive impact on the INT-CFP relationship). On the same note, it also focuses on the effect of host-country policies, practices and processes, which were shaped by different cultural and institutional backgrounds, on the companies (for instance, Salomon and Wu (2012) found that MNCs imitate the practices of host-country firms in order to overcome disadvantages resulting from their foreignness (so-called liability of foreignness), a strategy which is called local isomorphism, and which they found to increase with increasing cultural, economic and regulatory institutional distances between the home and host country). And consequently, it focuses on the effect arising from the extent to which such policies, practices and processes are different between the home and the host countries (often referred to as distances between the home and host countries).

The extent of these differences (or distances) is measured by concepts such as the CAGE distance framework, which captures the heterogeneity between countries in cultural, administrative, geographic and economic terms (Ghemawat, 2011) or the national business systems (NBSs), which capture the dissimilarities between countries along different institutional dimensions, such as the political, financial and labor institutions as well as the cultural system (Whitley, 1997; 1999).

As indicated in the previous subsection (cf. 3.1.4 above), the studies on the CSP-CFP relationship, and in large parts also the studies on the adjacent INT-CSP and INT-CFP relationships, did not make much use of the different nuances of internationalization measurement, and neither did they attempt to integrate the quantitative and the qualitative dimensions of internationalization. With regard to the CSP-CFP relationship, almost only measures of the qualitative dimension of internationalization have been employed, and among those, the analysis of home-country effects made for the biggest share of studies (as reviewed in subsection 3.1.2 above). For instance, Ioannou and Serafeim (2012) explored the effect of differences between NBSs in their study and found that they significantly impact CSP. Less holistic approaches sought to explore the effects of differences in single country characteristics, as in the study of Sun et al. (2018), in which the cultural dimension indulgence vs restraint is found to moderate the CSP-CFP relationship (as reviewed in subsections 2.5.1 and 3.1.4 above). It needs to be stressed again that most of the studies did not use cross-country samples and hence did not need to take (home) country-level differences into account. Other studies used dummy variables to operationalize internationalization, partly to add country fixed effects to their models, partly to distinguish between a certain home country and others (for instance, Lu and Taylor (2016) included a home country dummy variable to differentiate between the US and all other countries), or simply to distinguish between MNCs and domestic companies. Yet other studies simply used by-country analyses, in which the analysis was conducted for each home country separately.

The studies by Kang (2012) and Strike, Gao and Bansal (2006) were the only ones found during the literature review, which employed quantitative internationalization measures in connection with the CSP-CFP relationship (even though it needs to be noted that the approach of their studies is not entirely congruent with the approach of the thesis at hand, as explained in subsection 3.1.4 above). Kang (2012) used the most common quantitative internationalization measure foreign sales to total sales. Strike, Gao and Bansal (2006) chose a more sophisticated approach, creating a composite measure of internationalization obtained by applying principle components factor analysis on three internationalization measures: foreign sales to total sales and number of foreign subsidiaries as depth measures, and number of foreign countries as a dispersion measure.

3.2 Research Hypotheses Deduction

Drawing on the extensive literature review of the CSP-CFP relationship as well as the additional literature reviews of the INT-CSP and INT-CFP relationships, the research hypotheses are deduced in this section. Along the course of the literature review, the CSP-CFP relationship was found to have a trending positive, but widely inconclusive relationship. In the ensuing review of possible causes for the inconclusiveness, econometric issues concerning the data sample, model misspecifications, variable measurement and the omission of mediating and moderating factors were discussed, among others. Indications were found that country-level differences, e.g. regarding the institutional environment, to which internationally operating companies are exposed, affect the CSP-CFP relationship – however, despite being frequently discussed, they were neglected in the research so far.

To further explore these indications, the review of the CSP-CFP relationship was followed by a review of possible effects arising in connection with the degree of internationalization in general, also extending the review to adjacent research on the INT-CSP and INT-CFP relationships. The importance of internationalization for the two components of the CSP-CFP relationship, i.e. CSP and CFP separately, in combination with the lack of prior research, confirmed that the moderating effect of internationalization on the CSP-CFP relationship is a research gap worth exploring.

Drawing on the extensive theoretical foundations and empirical evidence reviewed, the following examples illustrate the proposition that INT moderates the CSP-CFP relationship. The idea is that the more internationalized companies are, the better they understand the need for global CSR as a business driver, resulting from the combination of diverse pressures from the international stakeholder environment.

The local stakeholders pressure companies to adopt CSR practices in order to become a legitimate business actor at the local level. From the perspective of the local markets, the more compliant companies are with the local CSR expectations, the more likely they are seen as reputable actors in the local business systems, and the less likely they are to suffer from trust issues related to their foreignness, i.e. from the so-called liability of foreignness. This allows them to operate with fewer risks, such as government interference, consumer boycotts, or labor strikes, and to reap the benefits of their expansion, such as addressing untapped markets or saving sourcing or production costs. From the perspective of the MNCs, the more business activity they organize abroad, the greater is the exposure to the potential benefits and risks of the companies' international business, and hence, its importance to the companies' financial performance and overall success. Hence, the companies are incentivized to ensure smooth operations through compliance with the local stakeholders' CSR expectations.

In contrast, companies with a low international dispersion of business activity, have to deal mainly with home-country stakeholder expectations regarding CSR issues. They are not able to reap the potential internationalization benefits, but they are also not handicapped by the liability of foreignness, they do not have to overcome trust issues and neither are they pressured by the expectations of a diverse stakeholder environment, resulting in a lower complexity of CSR management. Drawing on the extensive theoretical foundations and empirical evidence found in the review of previous studies, the examples illustrate, why the degree of internationalization is assumed to be a key driver of the relationship between corporate social responsibility and financial performance.

Before the research hypotheses are formulated in the following subsections, it shall be pointed out that the geographic segment data obtainable for the analyzed company sample exhibits a high degree of inconsistency. Hence, analyses based on the geographic segment information, such as analyses of host-country effects, effects resulting from the breadth of internationalization or effects resulting from the distances between home and host countries, are rendered impossible in a dataset of the size, as it is employed in the thesis at hand. Consequently, it is refrained from formulating research hypotheses regarding such effects. As concluded in the literature review (cf. subsection 3.1 above), analyses of host-country effects, effects resulting from the breadth of internationalization or effects resulting from the distances between home and host countries would provide for an interesting opportunity for future research on the CSP-CFP relationship, which should be seized as soon as the quality of the geographic segment data increases.

3.2.1 Research Hypotheses 1.1–1.2: The Basic CSP-CFP Relationship

In order to create a benchmark for the results of the following analyses and to test, whether the widespread research results can be reproduced using the recent dataset at hand, the first research hypothesis H1.1 concerns the basic relationship between CSP and CFP. Drawing on the state of research, CSP is expected to have a weak positive effect on CFP.

H1.1 CSP has a weak positive effect on CFP.

Taking into account the controversy regarding the direction of causality as well as the assumption that the level of CSP is not immediately reflected in the level of CFP, since the underlying mechanisms and processes take time to unfold – both of which topics were reviewed in subsection 2.4.5 above – the second research hypothesis H1.2 expects the CSP-CFP relationship to become stronger, when implementing a temporal lag between CSP as the independent and CFP as the dependent variable.

H1.2 Prior CSP has a stronger effect on CFP than concurrent CSP.

3.2.2 Research Hypotheses 2.1–2.3: Internationalization and its Moderating Effect

Drawing on the proposition that qualitative and particularly quantitative internationalization have been underrepresented factors in the existing research, the second set of hypotheses states that qualitative and quantitative internationalization are important confounding factors, which need to be considered in estimation models on the CSP-CFP relationship. Regarding the quantitative dimension, building upon the review of the INT-CFP relationship, the degree of internationalization (DOI) is expected to have a positive effect on CFP.

H2.1 The home country plays an important role in the CSP-CFP relationship, i.e. it accounts for a significant amount of variation in CFP.

H2.2 The degree of internationalization plays an important role in the CSP-CFP relationship, i.e. it accounts for a significant amount of variation in CFP. The degree of internationalization is expected to have a positive effect on CFP.

Drawing on the proposition that internationalization moderates the CSP-CFP relationship, which is supported by the reviews of the INT-CSP and INT-CFP relationships, the interaction of the DOI and CSP is expected to strengthen the CSP-CFP relationship.

H2.3 The degree of internationalization moderates the CSP-CFP relationship, i.e. the interaction of CSP and DOI strengthens the positive effect of CSP on CFP.

The proposed moderating effect of this hypothesis is visualized schematically in Figure 2 below.

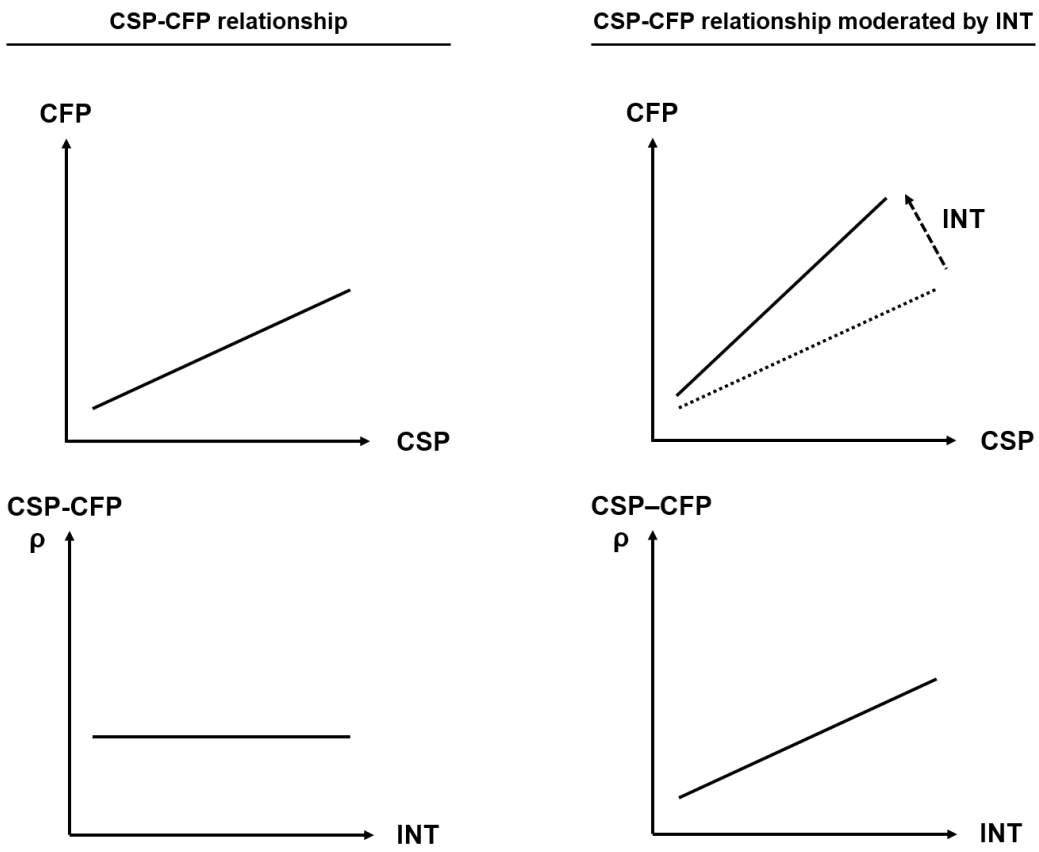

Figure 2: Schematic representation of the moderating effect of INT on the CSP-CFP relationship proposed by research hypothesis H2.3
(own representation)

3.2.3 Research Hypotheses 3.1–3.3: The Home Country Effect Explicated: Governance Quality

In order to explore the qualitative internationalization effects of home-country characteristics on the CSP-CFP relationship more thoroughly, i.e. to explicate the country fixed effects, the impact of country governance quality on the relationship is tested as a more sophisticated indicator of the home-country effect. Drawing on the literature suggesting that home-country institutions affect the CSP-CFP relationship, as reviewed in several subsections above (cf. 2.4.2, 2.5.1, 3.1.2, 3.1.3, 3.1.4 & 3.1.5), the thesis proposes that the governance quality of the home country (HCGQ) positively impacts the CSP-CFP relationship. “Governance consists of the traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them” (The World Bank Group, 2019). The Worldwide Governance Indicators (WGI), which are published by The World Bank Group (2019), indicate governance quality along the six governance dimensions Voice and Accountability; Political Stability and Absence of Violence; Government Effectiveness; Regulatory Quality;

Rule of Law; and Control of Corruption. The WGI will be described in more detail in subsection 4.2.4 below.

Hence, governance quality is understood as an indicator of the prevalent attitude towards socially desirable behaviors, such as accountability, lawfulness, justice and ethics, among others, emanating from the institutional into the business sphere, and thus as a proxy for foundational country-level differences important to the attitude of corporations towards CSR behavior grounded in their country of origin. The proposition is in line with prior research, such as the finding of Wang, Dou and Jia (2016, p. 1083), that the CSP-CFP relationship is “stronger for firms from advanced economies than for firms from developing economies”, which they attribute to mature institutional systems and efficient market mechanisms; besides the attitude towards socially desirable behaviors described above, the named governance components can be seen as building blocks of such well-functioning institutional systems and market mechanisms. Hence, the thesis proposes governance quality to be an important confounding factor in the CSP-CFP relationship, which has a positive effect on CFP. Following the above reasoning, the thesis proposes furthermore that the interaction of the HCGQ and CSP is expected to strengthen the CSP-CFP relationship.

H3.1 The home-country governance quality plays an important role in the CSP-CFP relationship, i.e. it accounts for a significant amount of variation in CFP. The home-country governance quality is expected to have a positive effect on CFP.

H3.2 The home-country governance quality moderates the CSP-CFP relationship, i.e. the interaction of CSP and HCGQ strengthens the positive effect of CSP on CFP.

Moreover, the thesis proposes that the positive effect of home-country governance quality on the CSP-CFP relationship becomes stronger, the more internationalized the companies from the respective home country are. The higher the governance standards, to which companies are exposed in their home countries, the better they will be prepared to fill institutional voids in their host countries (cf. subsection 3.1.4 above), enabling them to use their CSP as a driver of CFP.

H3.3 The home-country governance quality and the degree of internationalization together moderate the CSP-CFP relationship, i.e. the interaction of CSP, DOI and HCGQ strengthens the positive effect of CSP on CFP.

4 Data Sample, Variables and Model Specifications

4.1 Company Sample and Data Collection

The company sample was obtained from the ASSET4 ESG database, which is available via Thomson Reuters Datastream. The ASSET4 Global company universe, which comprises a total of 6393 companies from 50 countries, was selected as the company sample.

The meta data for the companies included in the ASSET4 Global company universe, as well as the CFP data, the quantitative internationalization data and the control variable data, were obtained from the databases Datastream and Worldscope. The databases were accessed via Thomson Reuters Datastream as well. The qualitative internationalization data was obtained from other publicly available sources. The various data sources are indicated in Table 1.

The CSP data for the companies included in the ASSET 4 Global company universe had to be obtained from a different source, since the ASSET4 ESG database on Thomson Reuters Datastream is currently undergoing substantial changes. The database is in the process of being substituted by a new database product, Thomson Reuters ESG Scores (Refinitiv, 2019). Due to these changes, the data available in the ASSET4 ESG database is limited to the overall ESG score, whereas the component scores for E, S and G are not available anymore. Since this level of granularity is desirable for the research presented in the thesis at hand, the author turned to the software Thomson Reuters Eikon (which was transferred to the newly formed financial markets data and analytics company Refinitiv in 2018), through which the recently launched database Thomson Reuters ESG Scores is available.

However, drawing not only on different databases, but also on databases accessible via different data platform software products (Thomson Reuters Datastream and Thomson Reuters Eikon, aside from other publicly available sources), entailed the necessity to carefully inspect each variable with regard to the fiscal year end date of the observed companies and match it into the newly created dataset over the observed period.

The data for the sample comprising 6393 companies was obtained for the 13-year period from 2007-2019, resulting in 83109 firm-year observations. Several adjustments to the dataset had to be made, which diminish the number of valid observations; the adjustments to the various variables are described in the following subsections.

4.2 Variables

Throughout the following subsections, the variables used in the study are described. Where necessary, the adjustments made to the variables are justified and explained.

4.2.1 Variable Overview

The following Table 1 gives an overview of the variables used in the study at hand. It contains short descriptions of the variables and discloses the source, from which the respective data was obtained. The variables will then be described in more detail in the following subsections 4.2.2–4.2.8.

Category	Number	Name	Description	Database / Source
CFP	1-2	ROA & ROA_ADJ	return on assets (in %) & return on assets (in %) adjusted	Worldscope / TR Datastream
	3-4	ROE & ROE_ADJ	return on equity (in %) & return on equity (in %) adjusted	Worldscope / TR Datastream
	5-6	STOCK_RETURN & STOCK_RETURN_ADJ	total investment return incl. dividends (in %) & total investment return incl. dividends (in %) adjusted	Worldscope / TR Datastream
CSP	7	ESG_FY_END_DATE	ESG score record date	Thomson Reuters ESG Scores / TR Eikon
	8	ESG_COMP	ESG overall score (percentile rank)	Thomson Reuters ESG Scores / TR Eikon
	9	ESG_E	ESG pillar score Environmental (percentile rank)	Thomson Reuters ESG Scores / TR Eikon
	10	ESG_S	ESG pillar score Social (percentile rank)	Thomson Reuters ESG Scores / TR Eikon
	11	ESG_G	ESG pillar score Governance (percentile rank)	Thomson Reuters ESG Scores / TR Eikon
	12-16	…_L1_RC	variables 7-11 lagged by 1 year	(own recoding)
	17-21	…_L2_RC	variables 7-11 lagged by 2 years	(own recoding)
	22-26	…_L3_RC	variables 7-11 lagged by 3 years	(own recoding)
	27-31	…_L4_RC	variables 7-11 lagged by 4 years	(own recoding)
	32-36	…_L5_RC	variables 7-11 lagged by 5 years	(own recoding)
INT	37	GQ_COMP_RC	country-level Governance overall score (percentile rank)	(own recoding)
	38	GQ_CC	country-level Governance dimension score Control of Corruption (percentile rank)	The World Bank Group (2019)
	39	GQ_GE	country-level Governance dimension score Government Effectiveness (percentile rank)	The World Bank Group (2019)
	40	GQ_PV	country-level Governance dimension score Political Stability and Absence of Violence/Terrorism (percentile rank)	The World Bank Group (2019)
	41	GQ_RQ	country-level Governance dimension score Rule of Law (percentile rank)	The World Bank Group (2019)
	42	GQ_RL	country-level Governance dimension score Regulatory Quality (percentile rank)	The World Bank Group (2019)
	43	GQ_VA	country-level Governance dimension score Voice and Accountability (percentile rank)	The World Bank Group (2019)
	44-45	FS_TS & FS_TS_ADJ	foreign sales / total sales (in %) & foreign sales / total sales (in %) adjusted	Worldscope / TR Datastream
	46-47	FA_TA & FA_TA_ADJ	foreign assets / total assets (in %) & foreign assets / total assets (in %) adjusted	Worldscope / TR Datastream
	48	GEO_SEG_01_D	region description of the geographic segment 1	Worldscope / TR Datastream
	49	GEO_SEG_01_S	net sales of the geographic segment 1	Worldscope / TR Datastream
	50	GEO_SEG_01_A	total assets of the geographic segment 1	Worldscope / TR Datastream
	51-53	…_02_...	variables 48-50 for the grographic segment 2	Worldscope / TR Datastream
	54-56	…_03_...	variables 48-50 for the grographic segment 3	Worldscope / TR Datastream
	57-59	…_04_...	variables 48-50 for the grographic segment 4	Worldscope / TR Datastream
	60-62	…_05_...	variables 48-50 for the grographic segment 5	Worldscope / TR Datastream
	63-65	…_06_...	variables 48-50 for the grographic segment 6	Worldscope / TR Datastream
	66-68	…_07_...	variables 48-50 for the grographic segment 7	Worldscope / TR Datastream
	69-71	…_08_...	variables 48-50 for the grographic segment 8	Worldscope / TR Datastream
	72-74	…_09_...	variables 48-50 for the grographic segment 9	Worldscope / TR Datastream
	75-77	…_10_...	variables 48-50 for the grographic segment 10	Worldscope / TR Datastream
	78-79	DV_MNC_RC & DV_DOM_RC	dummy variable identifying MNCs vs domestic companies	(own recoding)
Country controls	80	COUNTRY_CODE_ISO	2-digit ISO country code	Datastream / TR Datastream
	81	COUNTRY_DESCR	country name	Datastream / TR Datastream
	82-131	COUNTRY NAME	dummy variables for the 50 countries of variable 81	(own recoding)
Industry controls	132-133	ICB_INDUSTRY_CODE & ICB_INDUSTRY_NAME	industry (tier 1) code & name following the Industry Classification Benchmark (ICB)	Datastream / TR Datastream
	134-135	ICB_SUPRSECTR_CODE & ICB_SUPRSECTR_NAME	supersector (tier 2) code & name following the Industry Classification Benchmark (ICB)	Datastream / TR Datastream
	136-137	ICB_SECTOR_CODE & ICB_SECTOR_NAME	sector (tier 3) code & name following the Industry Classification Benchmark (ICB)	Datastream / TR Datastream
	138-139	ICB_SUBSECTOR_CODE & ICB_SUBSECTOR_NAME	subsector (tier 4) code & name following the Industry Classification Benchmark (ICB)	Datastream / TR Datastream
	140-180	SECTOR NAME	dummy variables for the 41 sectors of variables 136-137	(own recoding)
Year controls	181	FY_END_DATE	fiscal year end date	Worldscope / TR Datastream
	182	FY_RC	calendar years containing the respective fiscal year end dates	(own recoding)
	183-195	YEARS	dummy variables for the 13 calendar years of variable 182	(own recoding)
Company controls	196	NET_SALES	net sales (in local currency)	Worldscope / TR Datastream
	197	TOTAL_ASSETS	total assets (in local currency)	Worldscope / TR Datastream
	198-199	EMPL & EMPL_ADJ	number of employees & number of employees adjusted	Worldscope / TR Datastream
	200-201	RD_TS & RD_TS_ADJ	R&D expense ratio (in %) & R&D expense ratio (in %) adjusted	Worldscope / TR Datastream
	202-203	MKTG & MKTG_TS_RC	marketing expenses (in local currency) & marketing expense ratio (in %)	Thomson Reuters ASSET4 / TR Datastream
	204-205	TD_TA & TD_TA_ADJ	assets-to-equity ratio & assets-to-equity ratio adjusted	Worldscope / TR Datastream
	206-207	TD_CE & TD_CE_ADJ	debt-to-equity ratio & debt-to-equity ratio adjusted	Worldscope / TR Datastream
	208	FOUND_DATE	date of foundation	Worldscope / TR Datastream
	209	FOUND_YEAR_RC	year of foundation	(own recoding)
	210	CO_AGE_RC	company age	(own recoding)

Table 1: Variable overview
(own representation)

4.2.2 CFP VARIABLES

This subsection contains detailed descriptions of the corporate financial performance variables used in the study. After reviewing the operationalization of CFP as well as potential issues in-depth as part of the literature review, *ROA*, *ROE* and *STOCK_RETURN* shall be used as the measures of CFP. Since some authors (cf. Bajic & Yurtoglu, 2015; Wood & Jones, 1995) found that a relationship exists only with regard to the firm value (as a market-based measure of CFP), whereas others argued that it exists only with regard to the firm profitability (as an accounting-based measure of CFP), both perspectives will be employed in this study.

Employing the measures seen as the research standard allows for the comparability of the results of the study with prior research. However, although they did not find space in the study at hand, the author wants to voice his concerns about these commonly chosen operationalizations, which are influenced by the companies' individual financing structure and national tax systems and hence might result in distorted results, if not accounted for properly. These concerns could have been mitigated by employing operationalizations, which are focusing on the companies' operational performance, such as the EBIT margin. Further elaborating on this line of thought could be an interesting starting point for future research.

Variables 1-2: *ROA* and *ROA_ADJ* The variable *ROA* contains the return on assets expressed in percentages. It is generally calculated as (net income + tax shield effect) / (average of last and current fiscal year's total assets); the calculation for some types of financial institutions differs slightly, however.

While reviewing measures of central tendency and dispersion as well as the frequency distribution of the variable as part of the preparatory measures, it has been noticed that the variable contains a number of severe outliers, as evidenced by the below descriptive statistics (cf. left part of Table 2), the histogram (cf. left part of Figure 3) and the box-and-whisker plot (cf. left part of Figure 4).

In order to prevent distorting the results of the subsequent analyses, it was decided to exclude the outliers, which were presumably caused by data entry errors, from the variable. The Tukey method, which regards values outside the whiskers as outliers, was used to identify the values to be excluded. The method is named after the inventor of the box-and-whisker plot (Tukey, 1977), with the length of the whiskers being between 1,5 x interquartile range (IQR) and 3 x IQR, extending outward from the upper and lower quartile. Values between Q1 – / Q3 + 1,5 x IQR and Q1 – / Q3 + 3 x IQR are seen as mild outliers, whereas values beyond Q1 – / Q3 + 3 x IQR are seen as extreme outliers. However, which values should be considered outliers, whether they are mild or extreme, always depends on the individual variable reviewed.

In the case of the variable *ROA*, which is measured in percentages of total assets, the very high and very low values identified must be regarded as data entry errors, as profits or losses exceeding the total assets many times over seem unlikely. Following the above-outlined Tukey method for the elimination of outliers, extreme values beyond Q1 – / Q3 + 3 x IQR were eliminated from the variable.

The newly created variable *ROA_ADJ* contains the data adjusted in the described way; descriptive statistics (cf. right part of Table 2), the histogram (cf. right part of Figure 3) and the box-and-whisker plot (cf. right part of Figure 4) are provided below. A total of 3663 observations was excluded in the adjustment procedure, reducing the number of valid observations from 69439 (83,6%) to 65776 (79,1%).

		ROA	ROA_ADJ
N	Valid	69439	65776
	Missing	13670	17333
Mean		-4,42	5,62
Median		4,78	4,95
Std. Deviation		2052,04	6,96
Minimum		-540639,17	-21,13
Maximum		1283,83	31,56
Percentiles	25	1,44	1,80
	50	4,78	4,95
	75	8,97	8,97

Table 2: Descriptive statistics of the variables ROA and ROA_ADJ (own representation)

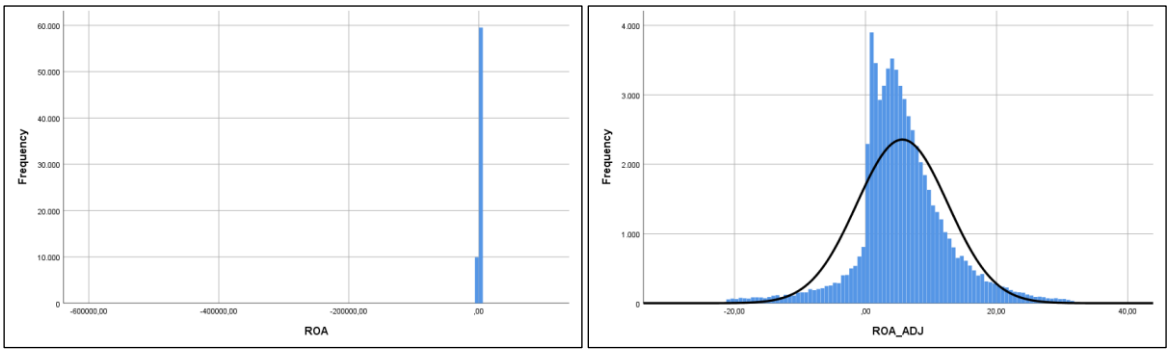

Figure 3: Histograms of the variables ROA and ROA_ADJ (own representation)

Figure 4: Box-and-whisker plots of the variables ROA and ROA_ADJ (own representation)

Variables 3-4: *ROE* and *ROE_ADJ* The variable *ROE* contains the return on equity expressed in percentages. It is generally calculated as (net income – preferred dividend requirements) / (average of last and current fiscal year's common equity).

While reviewing measures of central tendency and dispersion as well as the frequency distribution of the variable as part of the preparatory measures, it has been noticed that the variable contains a number of severe outliers, as evidenced by the below descriptive statistics (cf. left part of Table 3), the histogram (cf. left part of Figure 5) and the box-and-whisker plot (cf. left part of Figure 6).

In the case of the variable *ROE*, which is measured in percentages of common equity, the very high and very low values identified must be regarded as data entry errors, as profits or losses exceeding the common equity many times over seem unlikely. Following the above-outlined Tukey method for the elimination of outliers, extreme values beyond Q1 – / Q3 + 3 x IQR were eliminated from the variable.

The newly created variable *ROE_ADJ* contains the data adjusted in the described way; descriptive statistics (cf. right part of Table 3), the histogram (cf. right part of Figure 5) and the box-and-whisker plot (cf. right part of Figure 6) are provided below. A total of 4433 observations was excluded in the adjustment procedure, reducing the number of valid observations from 68032 (81,9%) to 63599 (76,5%).

		ROE	ROE_ADJ
N	Valid	68032	63599
	Missing	15077	19510
Mean		5,06	11,31
Median		10,59	10,83
Std. Deviation		466,15	13,89
Minimum		-65333,33	-38,90
Maximum		31800,00	61,41
Percentiles	25	4,09	4,93
	50	10,59	10,83
	75	18,43	18,09

Table 3: Descriptive statistics of the variables ROE and ROE_ADJ (own representation)

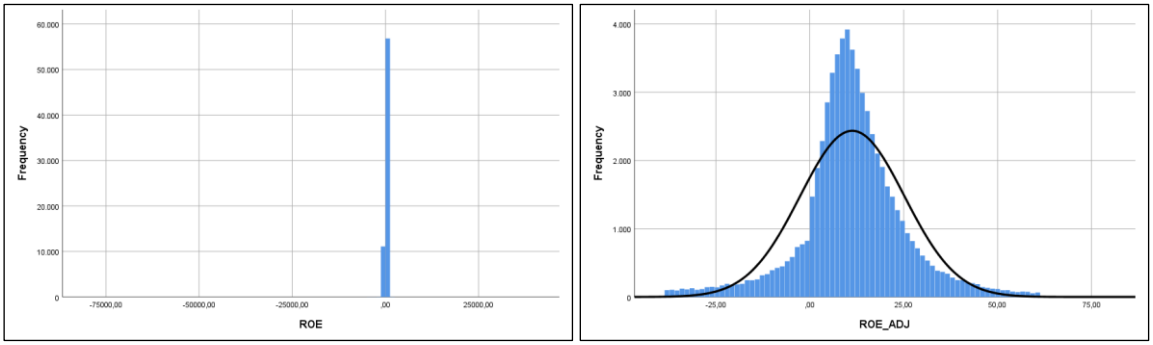

Figure 5: Histograms of the variables ROE and ROE_ADJ
(own representation)

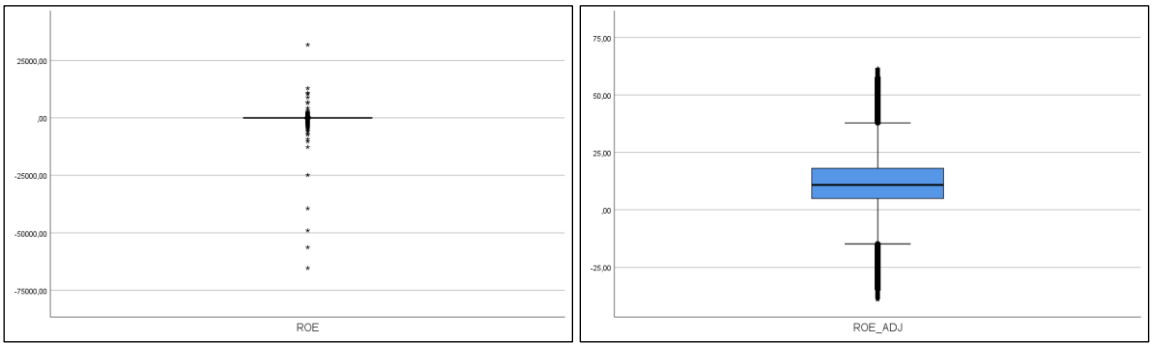

Figure 6: Box-and-whisker plots of the variables ROE and ROE_ADJ
(own representation)

Variables 5-6: *STOCK_RETURN* and *STOCK_RETURN_ADJ* The variable *STOCK_RETURN* contains the total return from an investment in the companies' stock including dividend payments, in percentages. It is calculated as (market price per share + dividends per share – last year's market price) / last year's market price.

While reviewing measures of central tendency and dispersion as well as the frequency distribution of the variable as part of the preparatory measures, it has been noticed that the variable contains a number of severe outliers, as evidenced by the below descriptive statistics (cf. left part of Table 4), the histogram (cf. left part of Figure 7) and the box-and-whisker plot (cf. left part of Figure 8).

In the case of the variable *STOCK_RETURN*, which is measured in percentages of last year's market price, the very high values identified must be regarded as data entry errors, as yearly investment returns amounting to hundreds of times last year's investment seem unlikely, particularly for such large and mature corporations, as the ones that constitute the dataset of this study. Following the above-outlined Tukey method for the elimination of outliers, extreme values beyond Q1 – / Q3 + 3 x IQR were eliminated from the variable.

The newly created variable *STOCK_RETURN_ADJ* contains the data adjusted in the described way; descriptive statistics (cf. right part of Table 4), the histogram (cf. right part of Figure 7) and the box-and-whisker plot (cf. right part of Figure 8) are provided

below. A total of 1218 observations was excluded in the adjustment procedure, reducing the number of valid observations from 66259 (79,7%) to 65041 (78,3%).

		STOCK_RETURN	STOCK_RETURN_ADJ
N	Valid	66259	65041
	Missing	16850	18068
Mean		83,89	9,69
Median		7,47	6,72
Std. Deviation		16476,17	40,93
Minimum		-99,99	-99,99
Maximum		4239900,00	173,46
Percentiles	25	-14,97	-15,53
	50	7,47	6,72
	75	32,14	30,27

Table 4: Descriptive statistics of the variables STOCK_RETURN and STOCK_RETURN_ADJ (own representation)

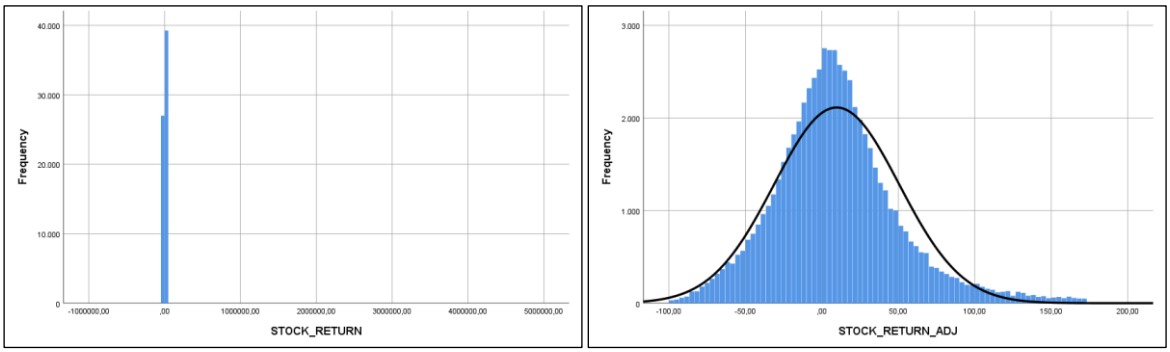

Figure 7: Histograms of the variables STOCK_RETURN and STOCK_RETURN_ADJ (own representation)

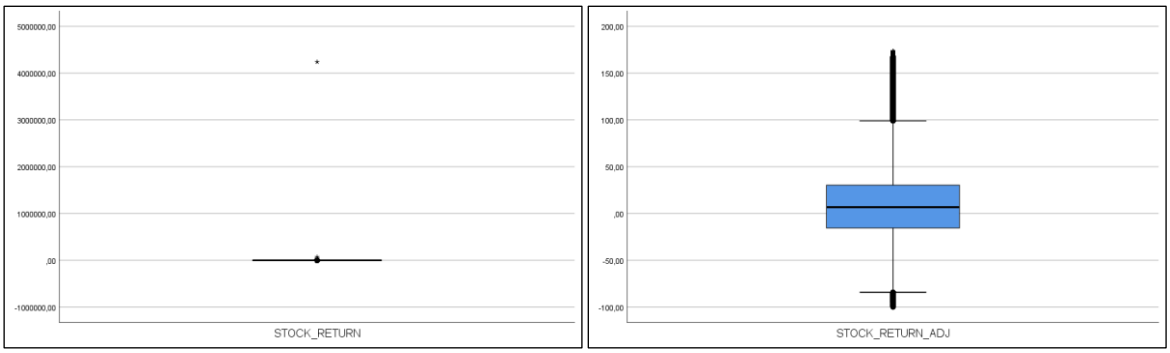

Figure 8: Box-and-whisker plots of the variables STOCK_RETURN and STOCK_RETURN_ADJ (own representation)

4.2.3 CSP VARIABLES

This subsection contains detailed descriptions of the corporate social performance variables used in the study.

Variables 7-36: (a) ESG_*FY_END_DATE*, ESG_*FY_END_DATE_L1_RC*, ESG_*FY_END_DATE_L2_RC*, …, ESG_*FY_END_DATE_L5_RC*, (b) *ESG_COMP*, *ESG_COMP_L1_RC*, *ESG_COMP_L2_RC*, …, *ESG_COMP_L5_RC*, (c) *ESG_E*,

ESG_E_L1_RC*, *ESG_E_L2_RC*, …, *ESG_E_L5_RC*, (d) *ESG_S, ESG_S_L1_RC*, *ESG_S_L2_RC*, …, *ESG_S_L5_RC*, and (e) *ESG_G, ESG_G_L1_RC*, *ESG_G_L2_RC*, …, *ESG_G_L5_RC The variable *ESG_FY_END_DATE* contains the fiscal year end date of the observed companies, with which consistency in the matching process of data from different sources could be achieved. The variable *ESG_COMP* contains the overall ESG score of the observed companies, whereas the variables *ESG_E*, *ESG_S* and *ESG_G* contain the scores for the environmental, social and governance pillars. The other variables from sets (a), (b), (c), (d) and (e) are lagged behind by 1 to 5 fiscal years.

The foundation for the ESG scores is built by more than 400 company-level ESG measures, which are collected from company public disclosures. Out of these, a subset of 178 measures is selected "based on considerations around comparability, data availability and industry relevance" (Refinitiv, 2019, p. 6). These measures are grouped into 10 categories, which build the basis for the environmental, social and governance pillars, and eventually for the overall ESG score. Therefore, the 10 categories are "weighted proportionately to the count of measures within each category" (Refinitiv, 2019, p. 6). The categories as well as the weights, with which they enter the three ESG pillars and the overall score are displayed in Figure 9 below. The category scores are calculated using the "percentile rank scoring methodology" (Refinitiv, 2019, p. 10), in which the companies are first sorted from the highest to the lowest performance in the respective category, after which their percentile rank is determined with a dedicated formula. In effect, the ESG pillar scores and the ESG overall score are percentile rank scores, ranging from 0–100%, as well.

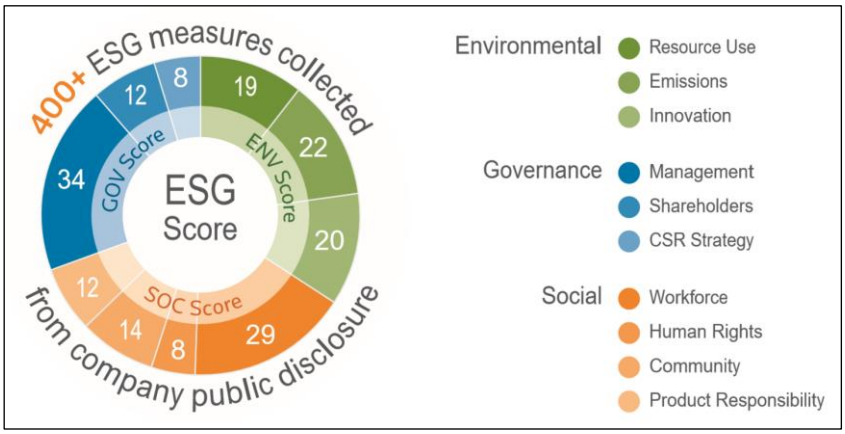

Figure 9: ESG score composition
(Refinitiv, 2019, p. 6)

In order to get a better understanding of what is captured by the 10 categories, which build the basis for the three ESG pillars and eventually the overall pillar score (as visualized in the above Figure 9), the following Table 5 exhibits the definitions of the category scores. During the review of the concept and operationalization of CSP (cf. subsection 2.4.4), the request of influential researchers of the field to employ

multidimensional CSP measures, which are applicable across large company samples covering a wide range of industries, were discussed (cf. Waddock & Graves, 1997; Dowell, Hart & Yeung; 2000; Margolis, Elfenbein & Walsh, 2009). As shown through the composition of the ESG scores obtained from the database Thomson Reuters ESG Scores, the study at hand satisfies the outlined request and therefore avoids one of the major sources of inconclusiveness of the CSP-CFP relationship identified during the literature review.

Overall ESG Score	←	ESG Pillar Scores	←	ESG Category Scores	Definition
Overall ESG Score	←	Environmental	←	Resource Use	The Resource Use Score reflects a company's performance and capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management.
				Emissions Reduction	The Emission Reduction Score measures a company's commitment and effectiveness towards reducing environmental emissions in the production and operational processes.
				Innovation	The Innovation Score reflects a company's capacity to reduce the environmental costs and burdens for its customers, thereby creating new market opportunities through new environmental technologies and processes or eco-designed products.
		Social	←	Workforce	The Workforce Score measures a company's effectiveness towards job satisfaction, a healthy and safe workplace, maintaining diversity and equal opportunities and development opportunities for its workforce.
				Human Rights	The Human Rights Score measures a company's effectiveness towards respecting the fundamental human rights conventions.
				Community	The Community Score measures the company's commitment towards being a good citizen, protecting public health and respecting business ethics.
				Product Responsibility	The Product Responsibility Score reflects a company's capacity to produce quality goods and services integrating the customer's health and safety, integrity and data privacy.
		Governance	←	Management	The Management Score measures a company's commitment and effectiveness towards following best practice corporate governance principles.
				Shareholders	The Shareholders Score measures a company's effectiveness towards equal treatment of shareholders and the use of anti-takeover devices.
				CSR Strategy	The CSR Strategy Score reflects a company's practices to communicate that it integrates the economic (financial), social and environmental dimensions into its day-to-day decision-making processes.

Table 5: ESG category scores definitions
(own representation; definitions from Refinitiv, 2019, p. 16)

The following Table 6 provides descriptive statistics for the four ESG score variables. While reviewing the central tendency and dispersion of the variable as part of the preparatory measures, it has been noticed that the variable has essentially no data for the year 2019 observations. The below cross table shows the number of values by year (cf. Table 7), in which the variable *ESG_FY_END_DATE* indicates the availability of ESG data across the years indicated by the variable *FY_RC*, which will be described below. The result implies that no statements referring to the year 2019 can be made regarding this variable.

		ESG_COMP	ESG_E	ESG_S	ESG_G
N	Valid	43250	43250	43250	43250
	Missing	39859	39859	39859	39859
Mean		50,27	50,37	50,35	50,07
Median		49,41	49,00	50,04	49,98
Std. Deviation		18,07	23,18	21,66	21,34
Minimum		4,33	2,79	2,29	,84
Maximum		97,89	99,66	99,10	99,52
Percentiles	25	35,86	30,26	33,53	33,00
	50	49,41	49,00	50,04	49,98
	75	64,45	69,49	67,03	67,17

Table 6: Descriptive statistics of the variables ESC_COMP, ESG_E, ESG_S and ESG_G (own representation)

FY_RC	ESG_FY_END_DATE					
	N Valid	Percentage	N Missing	Percentage	N Total	Percentage
2007	1865	29,2%	4528	70,8%	6393	100,0%
2008	2295	35,9%	4098	64,1%	6393	100,0%
2009	2650	41,5%	3743	58,5%	6393	100,0%
2010	3214	50,3%	3179	49,7%	6393	100,0%
2011	3400	53,2%	2993	46,8%	6393	100,0%
2012	3531	55,2%	2862	44,8%	6393	100,0%
2013	3692	57,8%	2701	42,2%	6393	100,0%
2014	3880	60,7%	2513	39,3%	6393	100,0%
2015	4756	74,4%	1637	25,6%	6393	100,0%
2016	5671	88,7%	722	11,3%	6393	100,0%
2017	6135	96,0%	258	4,0%	6393	100,0%
2018	2160	33,8%	4233	66,2%	6393	100,0%
2019	1	0,0%	6392	100,0%	6393	100,0%
Total	**43250**	**52,0%**	**39859**	**48,0%**	**83109**	**100,0%**

Table 7: Cross table of ESG_FY_END_DATE by FY_RC (own representation)

As the ESG scores are hypothesized to vary considerably across different sectors, the median ESG scores across all sectors represented in the company sample are analyzed. The results are displayed in the following Table 8. As was to be expected, given the percentile rank scoring methodology underlying the three ESG pillars, the median of the sector medians lies close to 50 for all the four ESG scores. The sector medians of the composite ESG score range from 24,0 to 67,9. The sectors with the highest median composite ESG score are Tobacco (67,9), Fixed_Line_Telecommunications (62,3), and Life_Insurance (57,6), whereas General_Retailers (44,6), Equity_Investment_Instruments (43,1) and Nonequity_Investment_Instruments (24,0) score lowest, as illustrated in the below Table 9. Considering all four ESG scores, it stands out that the sectors Tobacco and Fixed_Line_Telecommunications consistently score highest, whereas the sectors Real_Estate_Investment_and_Services, Equity_Investment_Instruments and Nonequity_Investment_Instruments consistently score lowest, suggesting that the scores of the ESG pillars are closely associated. Another fact standing out is that the lowest scoring sectors all belong to the financial industry. The analysis of the sector medians supports the notion that ESG scores vary considerably across sectors.

ICB_INDUSTRY_CODE	ICB_INDUSTRY_NAME	←	ICB_SUPRSECTR_CODE	ICB_SUPRSECTR_NAME	←	ICB_SECTOR_CODE	ICB_SECTOR_NAME	ESG_COMP	ESG_E	ESG_S	ESG_G
								Median	Median	Median	Median
1	Oil_and_Gas	←	500	Oil_and_Gas	←	530	Oil_and_Gas_Producers	52,61	51,71	52,10	51,70
						570	Oil_Equipment_and_Services	48,10	43,33	48,45	51,60
						580	Alternative_Energy	52,67	60,67	54,05	44,47
1000	Basic_Materials	←	1300	Chemicals	←	1350	Chemicals	53,48	54,91	53,48	54,21
			1700	Basic_Resources	←	1730	Forestry_and_Paper	53,88	56,73	51,81	56,86
						1750	Industrial_Metals_and_Mining	54,66	57,52	55,41	46,28
						1770	Mining	46,10	44,60	46,95	47,64
2000	Industrials	←	2300	Construction_and_Materials	←	2350	Construction_and_Materials	51,51	52,90	49,59	48,92
			2700	Industrial_Goods_and_Services	←	2710	Aerospace_and_Defense	51,48	53,92	52,26	51,47
						2720	General_Industrials	50,52	50,10	51,43	50,17
						2730	Electronic_and_Electrical_Equipment	51,18	51,73	49,30	52,08
						2750	Industrial_Engineering	49,89	53,57	49,86	47,13
						2770	Industrial_Transportation	49,52	49,42	51,14	46,41
						2790	Support_Services	47,98	45,38	48,05	50,82
3000	Consumer_Goods	←	3300	Automobiles_and_Parts	←	3350	Automobiles_and_Parts	50,69	53,18	49,13	46,72
			3500	Food_and_Beverage	←	3530	Beverages	51,03	50,60	50,91	50,43
						3570	Food_Producers	46,70	46,70	45,64	47,90
			3700	Personal_and_Household_Goods	←	3720	Household_Goods_and_Home_Construction	52,81	53,12	52,26	48,84
						3740	Leisure_Goods	51,12	50,74	51,87	50,81
						3760	Personal_Goods	55,01	57,53	55,93	50,51
						3780	Tobacco	67,90	65,04	64,72	63,81
4000	Health_Care	←	4500	Health_Care	←	4530	Health_Care_Equipment_and_Services	49,89	47,80	51,58	51,10
						4570	Pharmaceuticals_and_Biotechnology	46,80	47,02	48,35	50,00
5000	Consumer_Services	←	5300	Retail	←	5330	Food_and_Drug_Retailers	53,96	54,76	54,79	48,91
						5370	General_Retailers	44,59	41,94	46,45	49,01
			5500	Media	←	5550	Media	48,11	46,79	49,47	48,37
			5700	Travel_and_Leisure	←	5750	Travel_and_Leisure	48,88	48,73	51,40	45,58
6000	Telecommunications	←	6500	Telecommunications	←	6530	Fixed_Line_Telecommunications	62,33	66,86	61,15	58,54
						6570	Mobile_Telecommunications	53,18	45,96	50,12	57,93
7000	Utilities	←	7500	Utilities	←	7530	Electricity	51,45	51,87	50,30	52,64
						7570	Gas__Water_and_Multiutilities	56,29	57,89	55,43	54,93
8000	Financials	←	8300	Banks	←	8350	Banks	48,45	46,85	49,75	51,68
			8500	Insurance	←	8530	Nonlife_Insurance	48,21	45,53	47,99	54,38
						8570	Life_Insurance	57,57	58,68	55,39	55,25
			8600	Real_Estate	←	8630	Real_Estate_Investment_and_Services	44,78	48,36	45,50	42,35
						8670	Real_Estate_Investment_Trusts	46,01	41,78	47,54	47,87
			8700	Financial_Services	←	8770	Financial_Services	44,86	40,80	47,30	47,62
						8980	Equity_Investment_Instruments	43,13	47,06	44,87	32,26
						8990	Nonequity_Investment_Instruments	23,97	25,01	36,60	26,72
9000	Technology	←	9500	Technology	←	9530	Software_and_Computer_Services	44,88	42,32	48,65	46,56
						9570	Technology_Hardware_and_Equipment	55,49	55,00	53,86	58,25
						Median of sector medians		**50,69**	**50,60**	**50,30**	**50,17**
						Minimum of sector medians		**23,97**	**25,01**	**36,60**	**26,72**
						Maximum of sector medians		**67,90**	**66,86**	**64,72**	**63,81**

Table 8: Median ESG scores by sectors
(own representation)

Sector rank	ESG_COMP	ESG_E	ESG_S	ESG_G
	Median	Median	Median	Median
Highest	Tobacco	Fixed_Line_Telecommunications	Tobacco	Tobacco
2nd highest	Fixed_Line_Telecommunications	Tobacco	Fixed_Line_Telecommunications	Fixed_Line_Telecommunications
3rd highest	Life_Insurance	Alternative_Energy	Personal_Goods	Technology_Hardware_and_Equipment
3rd lowest	General_Retailers	Real_Estate_Investment_Trusts	Real_Estate_Investment_and_Services	Real_Estate_Investment_and_Services
2nd lowest	Equity_Investment_Instruments	Financial_Services	Equity_Investment_Instruments	Equity_Investment_Instruments
Lowest	Nonequity_Investment_Instruments	Nonequity_Investment_Instruments	Nonequity_Investment_Instruments	Nonequity_Investment_Instruments

Table 9: Sectors with the highest and lowest median ESG scores (own representation)

4.2.4 INT VARIABLES

This subsection contains detailed descriptions of the internationalization variables used in the study.

Variables 37-43: *GQ_COMP_RC, GQ_CC, GQ_GE, GQ_PV, GQ_RQ, GQ_RL and GQ_VA* The variables *GQ_CC, GQ_GE, GQ_PV, GQ_RQ, GQ_RL and GQ_VA* represent the six dimensions of country-level governance, as defined by the World Governance Indicators (WGI) project of The World Bank Group (2019). The variable *GQ_COMP_RC* represents a composite score of the six dimensions, as described below. Together, the variables are used as indicators of a country's governance quality; as detailed above, the governance quality of the home country (HCGQ) is hypothesized to positively moderate the CSP-CFP relationship (cf. subsection 3.2.3).

Data for the six governance dimension variables *GQ_CC*, *GQ_GE*, *GQ_PV*, *GQ_RQ*, *GQ_RL* and *GQ_VA* is only available up to 2017 so far. Hence, it will not be possible to analyze the hypothesized effects regarding the governance quality for the years 2018 and 2019. The six dimensions as well as the composite score of governance quality are described in more detail over the following paragraphs.

The variable *GQ_CC* represents a country's Control of Corruption and "captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests" (The World Bank Group, 2019).

The variable *GQ_GE* represents a country's Government Effectiveness and "captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies" (The World Bank Group, 2019).

The variable *GQ_PV* represents a country's Political Stability and Absence of Violence/Terrorism and "measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism" (The World Bank Group, 2019).

The variable *GQ_RQ* represents a country's Regulatory Quality and "captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development" (The World Bank Group, 2019).

The variable *GQ_RL* represents a country's Rule of Law and "captures perceptions of 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" (The World Bank Group, 2019).

The variable *GQ_VA* represents a country's Voice and Accountability and "captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media" (The World Bank Group, 2019).

The six governance dimension variables *GQ_CC, GQ_GE, GQ_PV, GQ_RQ, GQ_RL and GQ_VA* are measured in percentile ranks, indicating a "country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to highest rank. Percentile ranks have been adjusted to correct for changes over time in the composition of the countries covered by the WGI" (The World Bank Group, 2019).

The variable *GQ_COMP_RC* represents a composite score of the six dimensions of a country's governance quality. It was calculated as the average of the six dimensions. Hence, the original value range from 0–100% is somewhat shortened on both sides, the interpretation of the values relative to the values of the other countries remains, however.

The following table presents descriptive statistics for the seven variables. Particularly the high medians for the six governance dimension variables stand out. Due to the percentile rank scoring methodology, the median across all countries covered by the WGI project amounts to 50 by definition. The large positive deviation of the country medians in the dataset employed in the study implies that the companies included in the sample are headquartered in countries with a comparatively high governance quality.

		GQ_COMP_RC	GQ_CC	GQ_GE	GQ_PV	GQ_RQ	GQ_RL	GQ_VA
N	Valid	70323	70323	70323	70323	70323	70323	70323
	Missing	12786	12786	12786	12786	12786	12786	12786
Mean		80,16	82,90	86,56	63,99	84,96	84,50	78,03
Median		84,72	89,57	91,00	65,71	91,35	91,35	84,24
Std. Deviation		16,00	17,48	12,87	18,96	15,75	17,00	21,48
Minimum		18,65	11,00	20,19	,47	12,50	16,75	4,69
Maximum		98,79	100,00	100,00	100,00	100,00	100,00	100,00
Percentiles	25	84,15	85,71	88,63	59,05	84,13	87,79	75,96
	50	84,72	89,57	91,00	65,71	91,35	91,35	84,24
	75	87,88	92,42	93,20	77,40	94,23	92,89	90,15

Table 10: Descriptive statistics of the governance quality variables (own representation)

The following cross table displays the average values of the governance quality composite score and its six dimensions across the observed period of the countries covered in the dataset (cf. Table 11). The countries with the highest composite score are NEW_ZEALAND (97,7), SWITZERLAND (96,9) and FINLAND (97,6), whereas EGYPT (27,8), the RUSSIAN_FEDERATION (26,8) and PAKISTAN (20,5) score lowest, as illustrated in the below Table 12.

		GQ_COMP_RC Mean	GQ_CC Mean	GQ_GE Mean	GQ_PV Mean	GQ_RQ Mean	GQ_RL Mean	GQ_VA Mean
COUNTRY_DESCR	ARGENTINA	42,30	41,33	50,78	46,84	24,06	31,51	59,28
	AUSTRALIA	92,67	94,95	94,03	80,22	97,30	95,06	94,48
	AUSTRIA	93,37	91,61	93,34	91,61	92,08	96,97	94,62
	BAHRAIN	51,26	62,26	68,14	22,67	73,24	65,13	16,09
	BELGIUM	87,23	91,28	90,48	71,03	87,72	89,00	93,85
	BRAZIL	51,18	52,41	49,28	38,98	52,80	50,80	62,81
	CANADA	94,34	95,51	95,64	88,18	95,68	95,80	95,21
	CHILE	82,36	88,76	84,26	61,25	91,28	87,26	81,36
	CHINA	37,06	41,16	61,28	28,57	45,99	39,79	5,56
	CZECH_REPUBLIC	79,19	67,12	78,87	84,11	83,40	82,12	79,52
	DENMARK	95,57	99,56	98,56	81,62	96,90	98,83	97,94
	EGYPT	27,75	30,21	32,23	14,23	34,04	40,33	15,48
	FINLAND	97,64	98,83	98,60	94,90	97,20	99,44	96,86
	FRANCE	83,75	89,77	89,07	60,00	84,75	89,69	89,23
	GERMANY	90,17	93,64	92,81	73,95	93,77	92,78	94,08
	GREECE	62,64	56,77	67,81	43,46	69,42	66,49	71,90
	HONG_KONG	87,81	93,25	96,52	82,62	99,31	92,00	63,14
	HUNGARY	71,40	66,07	71,86	69,62	78,83	71,96	70,03
	INDIA	43,74	41,27	53,74	13,30	39,27	54,38	60,50
	INDONESIA	39,18	33,04	48,33	23,79	44,36	35,60	49,95
	IRELAND	91,05	92,04	89,37	82,93	95,39	93,53	93,05
	ISRAEL	68,85	78,19	87,23	13,16	85,75	79,79	68,98
	ITALY	68,03	61,46	67,01	60,57	76,04	63,64	79,47
	JAPAN	86,34	90,49	91,68	82,38	84,71	88,84	79,96
	KUWAIT	51,76	57,34	53,55	53,48	53,60	62,88	29,71
	MALAYSIA	60,10	61,27	79,88	49,87	70,45	65,60	33,51
	MEXICO	44,67	36,54	60,38	22,59	63,05	35,06	50,42
	MOROCCO	42,51	47,27	50,45	31,03	48,88	49,32	28,09
	NETHERLANDS	94,39	96,25	95,90	82,66	97,04	96,84	97,66
	NEW_ZEALAND	97,74	99,56	96,55	95,89	98,69	98,14	97,60
	NORWAY	96,76	97,55	97,91	93,50	92,49	99,18	99,91
	OMAN	58,63	65,74	62,88	70,16	68,69	65,98	18,32
	PAKISTAN	20,51	18,05	26,86	1,30	28,77	22,25	25,84
	PHILIPPINES	39,91	33,05	56,46	11,73	50,86	38,88	48,47
	POLAND	74,77	71,99	71,54	76,99	78,64	71,04	78,44
	PORTUGAL	81,02	81,49	82,53	75,64	77,54	83,34	85,56
	QATAR	67,72	81,12	75,58	84,70	71,27	75,44	18,23
	RUSSIAN_FEDERATION	26,84	15,33	44,15	18,18	38,56	23,75	21,08
	SINGAPORE	87,87	97,35	99,87	94,98	98,95	93,47	42,60
	SOUTH_AFRICA	59,71	59,42	66,33	43,21	63,66	58,31	67,35
	SOUTH_KOREA	73,51	70,12	83,04	57,07	79,61	81,83	69,38
	SPAIN	75,37	77,78	81,61	45,22	81,15	83,32	83,16
	SWEDEN	96,52	98,47	97,51	88,28	96,68	99,09	99,09
	SWITZERLAND	96,89	96,91	98,57	95,41	95,34	96,68	98,42
	TAIWAN	79,10	75,65	85,10	73,89	84,61	81,51	73,82
	THAILAND	43,15	43,06	63,67	13,47	58,78	50,75	29,20
	TURKEY	48,25	57,04	62,74	13,47	61,82	54,61	39,83
	UNITED_ARAB_EMIRATES	66,98	82,49	84,05	72,90	72,82	68,47	21,17
	UNITED_KINGDOM	87,81	93,08	92,20	59,41	96,39	93,55	92,22
	UNITED_STATES	84,93	88,64	91,25	63,20	90,20	91,43	84,86

Table 11: Governance quality by country
(own representation)

Country rank	GQ_COMP_RC	GQ_CC	GQ_GE	GQ_PV	GQ_RQ	GQ_RL	GQ_VA
	Mean	Mean	Mean	Mean	Mean	Mean	Mean
Highest	NEW_ZEALAND	NEW_ZEALAND	SINGAPORE	NEW_ZEALAND	HONG_KONG	FINLAND	NORWAY
2nd highest	FINLAND	DENMARK	FINLAND	SWITZERLAND	SINGAPORE	NORWAY	SWEDEN
3rd highest	SWITZERLAND	FINLAND	SWITZERLAND	SINGAPORE	NEW_ZEALAND	SWEDEN	SWITZERLAND
3rd lowest	EGYPT	EGYPT	RUSSIAN_FEDERATION	ISRAEL	EGYPT	ARGENTINA	BAHRAIN
2nd lowest	RUSSIAN_FEDERATION	PAKISTAN	EGYPT	PHILIPPINES	PAKISTAN	RUSSIAN_FEDERATION	EGYPT
Lowest	PAKISTAN	RUSSIAN_FEDERATION	PAKISTAN	PAKISTAN	ARGENTINA	PAKISTAN	CHINA

Table 12: Countries with the highest and lowest governance quality scores (own representation)

Variables 44-47: *FS_TS*, *FS_TS_ADJ*, *FA_TA* and *FA_TA_ADJ* The variable *FS_TS* contains the ratio of foreign sales to total sales of the observed companies, expressed in percentages. As can be seen from the following descriptive statistics (cf. left part of Table 13), histogram (cf. left part of Figure 10) and box-and-whisker plot (cf. left part of Figure 11), the variable contains values, which cannot exist on a scale limited to 0–100% and which were likely caused by data entry errors. Accordingly, a new variable *FS_TS_ADJ* was created, in which these values were excluded from the data. The descriptive statistics (cf. right part of Table 13), histogram (cf. right part of Figure 10) and box-and-whisker plot (cf. right part of Figure 11) of the newly created variable, incorporating the adjustments, are provided below. A total of 324 observations was excluded in the adjustment procedure, reducing the number of valid observations from 61155 (73,6%) to 60831 (73,2%).

		FS_TS	FS_TS_ADJ
N	Valid	61155	60831
	Missing	21954	22278
Mean		30,01	28,90
Median		15,12	14,86
Std. Deviation		94,19	32,83
Minimum		-161,15	,00
Maximum		15583,09	100,00
Percentiles	25	,00	,00
	50	15,12	14,86
	75	54,36	53,79

Table 13: Descriptive statistics of the variables FS_TS and FS_TS_ADJ (own representation)

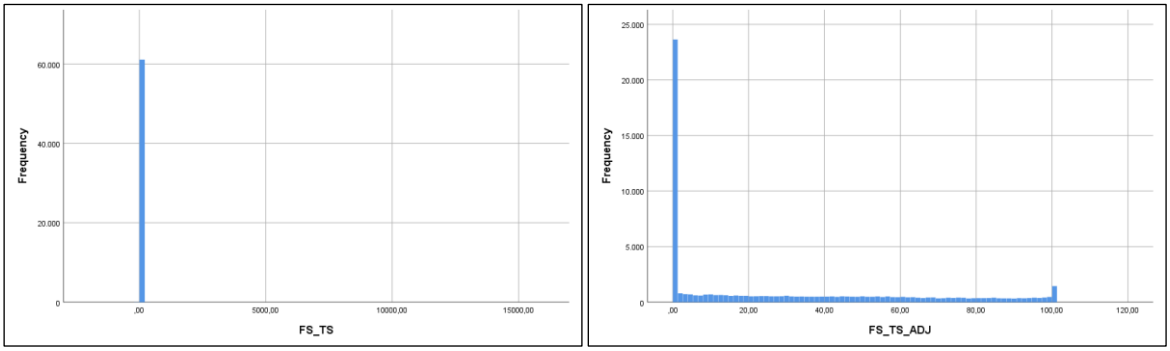

Figure 10: Histograms of the variables FS_TS and FS_TS_ADJ (own representation)

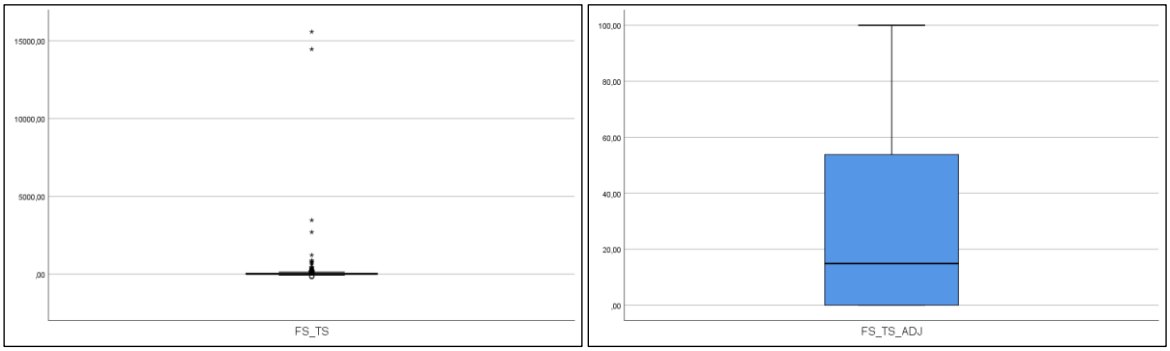

Figure 11: Box-and-whisker plots of the variables FS_TS and FS_TS_ADJ (own representation)

The variable *FA_TA* contains the ratio of foreign assets to total assets of the observed companies, expressed in percentages. As can be seen from the following descriptive statistics (cf. left part of Table 14), histogram (cf. left part of Figure 12) and box-and-whisker plot (cf. left part of Figure 13), the variable contains values, which cannot exist on a scale limited to 0–100% and which were likely caused by data entry errors. Accordingly, a new variable *FA_TA_ADJ* was created, in which these values were excluded from the data. The descriptive statistics (cf. right part of Table 14), histogram (cf. right part of Figure 12) and box-and-whisker plot (cf. right part of Figure 13) of the newly created variable, incorporating the adjustments, are provided below. A total of 223 observations was excluded in the adjustment procedure, reducing the number of valid observations from 52756 (63,5%) to 52533 (63,2%).

		FA_TA	FA_TA_ADJ
N	Valid	52756	52533
	Missing	30353	30576
Mean		14,46	14,01
Median		1,16	1,10
Std. Deviation		24,74	22,72
Minimum		-120,69	,00
Maximum		1479,69	100,00
Percentiles	25	,00	,00
	50	1,16	1,10
	75	19,75	19,33

Table 14: Descriptive statistics of the variables FA_TA and FA_TA_ADJ (own representation)

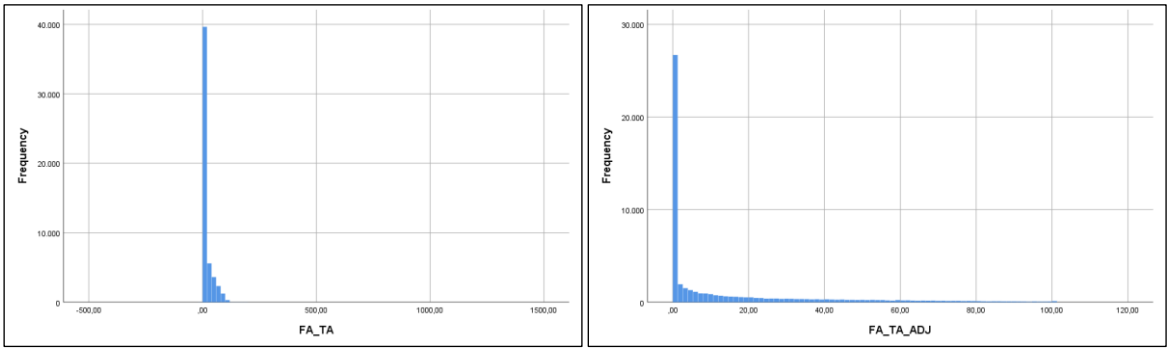

Figure 12: Histograms of the variables FA_TA and FA_TA_ADJ (own representation)

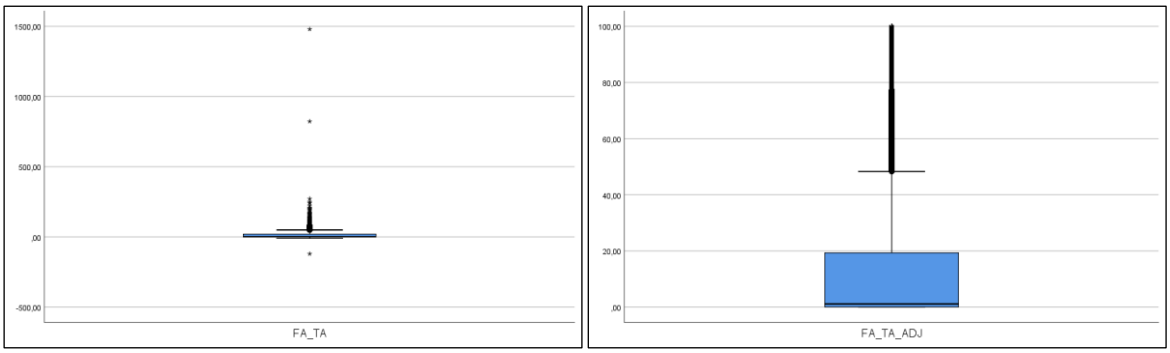

Figure 13: Box-and-whisker plots of the variables FA_TA and FA_TA_ADJ (own representation)

Variables 48-79: (a) *GEO_SEG_01_D*, *GEO_SEG_02_D*, …, *GEO_SEG_10_D*, (b) *GEO_SEG_01_S*, *GEO_SEG_02_S*, …, *GEO_SEG_10_S*, and (c) *GEO_SEG_01_A*, *GEO_SEG_02_A*, …, *GEO_SEG_10_A*, as well as variables *DV_MNC_RC* and *DV_DOM_RC* The variable set (a) *GEO_SEG_01_D, GEO_SEG_02_D, …, GEO_SEG_10_D* contains descriptions for up to 10 geographic regions, in which the observed companies are operating. The variable set (b) *GEO_SEG_01_S*, *GEO_SEG_02_S*, …, *GEO_SEG_10_S* contains the net sales corresponding to the described geographic regions. The variable set (c) *GEO_SEG_01_A*, *GEO_SEG_02_A*, …, *GEO_SEG_10_A* contains the total assets

corresponding to the described geographic regions. Unfortunately, the review of the geographic segment variables revealed that the recorded data exhibits a high degree of inconsistency. Hence, further analyses based on the geographic segment information, such as analyses of host-country effects, effects resulting from the breadth of internationalization or effects resulting from the distances between home and host countries, are rendered impossible in a dataset of the size, as it is employed in the thesis at hand. As soon as the quality of the geographic segment data increases, analyses of host-country effects, effects resulting from the breadth of internationalization or effects resulting from the distances between home and host countries would provide for an interesting opportunity for future research on the CSP-CFP relationship, as concluded in the literature review (cf. subsection 3.1 above).

The geographic segment variables could be used, however, to create the dummy variables *DV_MNC_RC* and *DV_DOM_RC*, which indicate whether the observed companies are multinational companies (i.e. companies with sales or assets in more than one geographic segment) or domestic companies (i.e. companies with sales or assets in only one geographic segment). The following cross table exhibits the number of MNCs and domestic companies by year (cf. Table 15). It shows that, on average over the observed period, 47,5% of the companies are MNCs, whereas 31,4% are domestic companies, with the remaining 21,1% being missing values. Assuming a random distribution of missing values over MNCs and domestic companies, 60,2% of the observed companies are MNCs, whereas the remaining 39,8% are domestic companies. Both the number of MNCs and domestic companies is stable over the past years.

FY_RC	DV_MNC_RC = 1		DV_DOM_RC = 1		Missing		Total	
	N	Percentage	N	Percentage	N	Percentage	N	Percentage
2007	2632	41,2%	1551	24,3%	2210	34,6%	6393	100,0%
2008	2785	43,6%	1626	25,4%	1982	31,0%	6393	100,0%
2009	2906	45,5%	1701	26,6%	1786	27,9%	6393	100,0%
2010	3073	48,1%	1778	27,8%	1542	24,1%	6393	100,0%
2011	3235	50,6%	1875	29,3%	1283	20,1%	6393	100,0%
2012	3402	53,2%	2046	32,0%	945	14,8%	6393	100,0%
2013	3486	54,5%	2392	37,4%	515	8,1%	6393	100,0%
2014	3564	55,7%	2560	40,0%	269	4,2%	6393	100,0%
2015	3557	55,6%	2599	40,7%	237	3,7%	6393	100,0%
2016	3547	55,5%	2658	41,6%	188	2,9%	6393	100,0%
2017	3556	55,6%	2679	41,9%	158	2,5%	6393	100,0%
2018	3577	56,0%	2598	40,6%	218	3,4%	6393	100,0%
2019	144	2,3%	71	1,1%	6178	96,6%	6393	100,0%
Total	**39464**	**47,5%**	**26134**	**31,4%**	**17511**	**21,1%**	**83109**	**100,0%**

Table 15: Number of MNCs and domestic companies by year (own representation)

The right part of the cross table below shows the distribution of MNCs and domestic companies by country (cf. Table 16), exemplary for the year 2017, which is the year with the lowest number of missing values and the data-richest year for the created dataset in general. It shows that, on average in 2017, 55,6% of the companies are MNCs, whereas 41,9% are domestic companies, with the remaining 2,5% being missing values. Assuming a random distribution of missing values over MNCs and

domestic companies, 57,0% of the observed companies are MNCs, whereas the remaining 43,0% are domestic companies. Under this assumption, the countries with the highest share of MNCs are FINLAND (100,0%), IRELAND (91,7%) and SPAIN (89,6%), whereas the countries with the highest share of domestic companies are the PHILIPPINES (100,0%), EGYPT (87,5%) and BAHRAIN (85,7%).

4.2.5 Country Controls

This subsection contains detailed descriptions of the country control variables used in the study.

Variables 80-131: *COUNTRY_CODE_ISO, COUNTRY_DESCR* and associated dummy variables The variable *COUNTRY_CODE_ISO* contains the 2-digit ISO country code of the home country of the observed companies. It is used to match the data of the six governance dimension variables *GQ_CC*, *GQ_GE*, *GQ_PV*, *GQ_RQ*, *GQ_RL* and *GQ_VA* (described below) with the observed companies. The variable *COUNTRY_DESCR* contains the name of the home country of the observed companies. It was used to create dummy variables for its 50 countries.

The left part of the following Table 16 gives an overview of the distribution of the sample companies by country. The frequencies were measured on the basis of unique company observations; hence the total equals the number of unique companies in the data sample and amounts to 6393. By far the largest number of companies in the sample is from the United States; hence, when using the country dummy variables in the analyses, the United States will be chosen as the reference category.

COUNTRY _CODE_ISO	COUNTRY_DESCR	Total		→	DV_MNC_RC @2017		DV_DOM_RC @2017		Missing @2017		Total @2017	
		N	Percent		N	Percent	N	Percent	N	Percent	N	Percent
AR	ARGENTINA	32	0,5%	→	9	28,1%	20	62,5%	3	9,4%	32	100,0%
AU	AUSTRALIA	377	5,9%	→	149	39,5%	193	51,2%	35	9,3%	377	100,0%
AT	AUSTRIA	16	0,3%	→	12	75,0%	3	18,8%	1	6,3%	16	100,0%
BH	BAHRAIN	7	0,1%	→	1	14,3%	6	85,7%	0	0,0%	7	100,0%
BE	BELGIUM	32	0,5%	→	20	62,5%	9	28,1%	3	9,4%	32	100,0%
BR	BRAZIL	93	1,5%	→	32	34,4%	58	62,4%	3	3,2%	93	100,0%
CA	CANADA	312	4,9%	→	182	58,3%	114	36,5%	16	5,1%	312	100,0%
CL	CHILE	42	0,7%	→	24	57,1%	18	42,9%	0	0,0%	42	100,0%
CN	CHINA	278	4,3%	→	173	62,2%	99	35,6%	6	2,2%	278	100,0%
CZ	CZECH_REPUBLIC	5	0,1%	→	2	40,0%	3	60,0%	0	0,0%	5	100,0%
DK	DENMARK	28	0,4%	→	23	82,1%	5	17,9%	0	0,0%	28	100,0%
EG	EGYPT	10	0,2%	→	1	10,0%	7	70,0%	2	20,0%	10	100,0%
FI	FINLAND	25	0,4%	→	24	96,0%	0	0,0%	1	4,0%	25	100,0%
FR	FRANCE	116	1,8%	→	86	74,1%	25	21,6%	5	4,3%	116	100,0%
DE	GERMANY	121	1,9%	→	98	81,0%	21	17,4%	2	1,7%	121	100,0%
GR	GREECE	19	0,3%	→	13	68,4%	5	26,3%	1	5,3%	19	100,0%
HK	HONG_KONG	199	3,1%	→	110	55,3%	83	41,7%	6	3,0%	199	100,0%
HU	HUNGARY	4	0,1%	→	3	75,0%	1	25,0%	0	0,0%	4	100,0%
IN	INDIA	102	1,6%	→	69	67,6%	32	31,4%	1	1,0%	102	100,0%
ID	INDONESIA	40	0,6%	→	18	45,0%	21	52,5%	1	2,5%	40	100,0%
IE	IRELAND	12	0,2%	→	11	91,7%	1	8,3%	0	0,0%	12	100,0%
IL	ISRAEL	17	0,3%	→	12	70,6%	5	29,4%	0	0,0%	17	100,0%
IT	ITALY	63	1,0%	→	35	55,6%	26	41,3%	2	3,2%	63	100,0%
JP	JAPAN	434	6,8%	→	275	63,4%	157	36,2%	2	0,5%	434	100,0%
KW	KUWAIT	11	0,2%	→	5	45,5%	6	54,5%	0	0,0%	11	100,0%
MY	MALAYSIA	56	0,9%	→	42	75,0%	14	25,0%	0	0,0%	56	100,0%
MX	MEXICO	43	0,7%	→	27	62,8%	13	30,2%	3	7,0%	43	100,0%
MA	MOROCCO	3	0,0%	→	1	33,3%	2	66,7%	0	0,0%	3	100,0%
NL	NETHERLANDS	43	0,7%	→	36	83,7%	6	14,0%	1	2,3%	43	100,0%
NZ	NEW_ZEALAND	58	0,9%	→	26	44,8%	30	51,7%	2	3,4%	58	100,0%
NO	NORWAY	33	0,5%	→	23	69,7%	10	30,3%	0	0,0%	33	100,0%
OM	OMAN	10	0,2%	→	3	30,0%	7	70,0%	0	0,0%	10	100,0%
PK	PAKISTAN	5	0,1%	→	0	0,0%	5	100,0%	0	0,0%	5	100,0%
PH	PHILIPPINES	25	0,4%	→	8	32,0%	17	68,0%	0	0,0%	25	100,0%
PL	POLAND	34	0,5%	→	18	52,9%	16	47,1%	0	0,0%	34	100,0%
PT	PORTUGAL	9	0,1%	→	5	55,6%	4	44,4%	0	0,0%	9	100,0%
QA	QATAR	14	0,2%	→	2	14,3%	11	78,6%	1	7,1%	14	100,0%
RU	RUSSIAN_FEDERATION	31	0,5%	→	20	64,5%	11	35,5%	0	0,0%	31	100,0%
SG	SINGAPORE	46	0,7%	→	39	84,8%	7	15,2%	0	0,0%	46	100,0%
ZA	SOUTH_AFRICA	128	2,0%	→	81	63,3%	37	28,9%	10	7,8%	128	100,0%
KR	SOUTH_KOREA	122	1,9%	→	95	77,9%	27	22,1%	0	0,0%	122	100,0%
ES	SPAIN	51	0,8%	→	43	84,3%	5	9,8%	3	5,9%	51	100,0%
SE	SWEDEN	68	1,1%	→	52	76,5%	14	20,6%	2	2,9%	68	100,0%
CH	SWITZERLAND	62	1,0%	→	49	79,0%	13	21,0%	0	0,0%	62	100,0%
TW	TAIWAN	139	2,2%	→	114	82,0%	24	17,3%	1	0,7%	139	100,0%
TH	THAILAND	39	0,6%	→	20	51,3%	19	48,7%	0	0,0%	39	100,0%
TR	TURKEY	30	0,5%	→	9	30,0%	20	66,7%	1	3,3%	30	100,0%
AE	UNITED_ARAB_EMIRATES	15	0,2%	→	7	46,7%	8	53,3%	0	0,0%	15	100,0%
GB	UNITED_KINGDOM	388	6,1%	→	232	59,8%	149	38,4%	7	1,8%	388	100,0%
US	UNITED_STATES	2546	39,8%	→	1217	47,8%	1292	50,7%	37	1,5%	2546	100,0%
	Missing	**0**	**0,0%**									
	Total	**6393**	**100,0%**	→	**3556**	**55,6%**	**2679**	**41,9%**	**158**	**2,5%**	**6393**	**100,0%**

Table 16: Frequency table of the variables COUNTRY_CODE_ISO and COUNTRY_DESCR (left part) and cross table of the distribution of the variables DV_MNC_RC and DV_DOM_RC by COUNTRY_DESCR for FY_RC = 2017 (right part)
(own representation)

4.2.6 Industry Controls

This subsection contains detailed descriptions of the industry control variables used in the study.

Variables 132-180: (a) *ICB_INDUSTRY_CODE, ICB_INDUSTRY_NAME*, (b) *ICB_SUPRSECTR_CODE, ICB_SUPRSECTR_NAME*, (c) *ICB_SECTOR_CODE, ICB_SECTOR_NAME*, (d) *ICB_SUBSECTOR_CODE, ICB_SUBSECTOR_NAME*, and associated dummy variables The variables *ICB_INDUSTRY_NAME*, *ICB_SUPRSECTR_NAME*, *ICB_SECTOR_NAME* and *ICB_SUBSECTOR_NAME* contain sectoral information on the observed companies on different granularity levels, following the Industry Classification Benchmark (ICB) compiled by FTSE Russel (2019a; 2019b). The ICB has a four-tier structure and allocates companies into 11 industries, 20 supersectors, 45 sectors and 173 subsectors. The variables *ICB_INDUSTRY_CODE*, *ICB_SUPRSECTR_CODE*, *ICB_SECTOR_CODE* and *ICB_SUBSECTOR_CODE* contain the ICB codes corresponding to the above-mentioned variables.

After reviewing the frequency tables for the four different granularity levels, the ICB sector level, which allocates companies to 41 out of a total of 45 sectors, was chosen for the following analyses. It ensures a comparatively high level of distinction between the categories, while still avoiding the issue of having too few observations within the categories. Consequently, the variable *ICB_SECTOR_NAME* was used to create dummy variables for its 41 categories.

The following combined frequency tables give an overview of the distribution of the sample companies by industry, supersectors and sectors (cf. Table 17). The frequencies were measured on the basis of unique company observations; hence the total equals the number of unique companies in the data sample and amounts to 6393. Regarding the sectors, the largest number of companies in the sample are banks; hence, when using the sector dummy variables in the analyses, banks will be chosen as the reference category. The frequency table of the ICB subsector level (cf. Table 36) are displayed in appendix A.

ICB_INDUSTRY_CODE	ICB_INDUSTRY_NAME	Frequency	Percent	←	ICB_SUPRSECTR_CODE	ICB_SUPRSECTR_NAME	Frequency	Percent	←	ICB_SECTOR_CODE	ICB_SECTOR_NAME	Frequency	Percent
1	Oil_and_Gas	355	5,6%	←	500	Oil_and_Gas	355	5,6%	←	530	Oil_and_Gas_Producers	220	3,4%
										570	Oil_Equipment_and_Services	109	1,7%
										580	Alternative_Energy	26	0,4%
1000	Basic_Materials	538	8,4%	←	1300	Chemicals	168	2,6%	←	1350	Chemicals	168	2,6%
					1700	Basic_Resources	370	5,8%	←	1730	Forestry_and_Paper	33	0,5%
										1750	Industrial_Metals_and_Mining	134	2,1%
										1770	Mining	203	3,2%
2000	Industrials	1141	17,8%	←	2300	Construction_and_Materials	222	3,5%	←	2350	Construction_and_Materials	222	3,5%
					2700	Industrial_Goods_and_Services	919	14,4%	←	2710	Aerospace_and_Defense	59	0,9%
										2720	General_Industrials	96	1,5%
										2730	Electronic_and_Electrical_Equipment	171	2,7%
										2750	Industrial_Engineering	199	3,1%
										2770	Industrial_Transportation	176	2,8%
										2790	Support_Services	218	3,4%
3000	Consumer_Goods	650	10,2%	←	3300	Automobiles_and_Parts	132	2,1%	←	3350	Automobiles_and_Parts	132	2,1%
					3500	Food_and_Beverage	234	3,7%	←	3530	Beverages	63	1,0%
										3570	Food_Producers	171	2,7%
					3700	Personal_and_Household_Goods	284	4,4%	←	3720	Household_Goods_and_Home_Construction	104	1,6%
										3740	Leisure_Goods	63	1,0%
										3760	Personal_Goods	102	1,6%
										3780	Tobacco	15	0,2%
4000	Health_Care	570	8,9%	←	4500	Health_Care	570	8,9%	←	4530	Health_Care_Equipment_and_Services	204	3,2%
										4570	Pharmaceuticals_and_Biotechnology	366	5,7%
5000	Consumer_Services	776	12,1%	←	5300	Retail	368	5,8%	←	5330	Food_and_Drug_Retailers	78	1,2%
										5370	General_Retailers	290	4,5%
					5500	Media	159	2,5%	←	5550	Media	159	2,5%
					5700	Travel_and_Leisure	249	3,9%	←	5750	Travel_and_Leisure	249	3,9%
6000	Telecommunications	135	2,1%	←	6500	Telecommunications	135	2,1%	←	6530	Fixed_Line_Telecommunications	56	0,9%
										6570	Mobile_Telecommunications	79	1,2%
7000	Utilities	238	3,7%	←	7500	Utilities	238	3,7%	←	7530	Electricity	154	2,4%
										7570	Gas__Water_and_Multiutilities	84	1,3%
8000	Financials	1505	23,5%	←	8300	Banks	475	7,4%	←	8350	Banks	475	7,4%
					8500	Insurance	183	2,9%	←	8530	Nonlife_Insurance	113	1,8%
										8570	Life_Insurance	70	1,1%
					8600	Real_Estate	482	7,5%	←	8630	Real_Estate_Investment_and_Services	187	2,9%
										8670	Real_Estate_Investment_Trusts	295	4,6%
					8700	Financial_Services	365	5,7%	←	8770	Financial_Services	305	4,8%
										8980	Equity_Investment_Instruments	56	0,9%
										8990	Nonequity_Investment_Instruments	4	0,1%
9000	Technology	484	7,6%	←	9500	Technology	484	7,6%	←	9530	Software_and_Computer_Services	269	4,2%
										9570	Technology_Hardware_and_Equipment	215	3,4%
Missing		**1**	**0,0%**	←	**Missing**		**1**	**0,0%**	←	**Missing**		**1**	**0,0%**
Total		**6393**	**100,0%**	←	**Total**		**6393**	**100,0%**	←	**Total**		**6393**	**100,0%**

Table 17: Combined frequency tables of the variables ICB_INDUSTRY_CODE and ICB_INDUSTRY_NAME; ICB_SUPRSECTR_CODE and ICB_SUPRSECTR_NAME; and ICB_SECTOR_CODE and ICB_SECTOR_NAME (own representation)

4.2.7 Year Controls

This subsection contains detailed descriptions of the year control variables used in the study.

Variables 181-195: *FY_END_DATE*, *FY_RC* and associated dummy variables The variable *FY_END_DATE* contains the fiscal year end date of the observed companies. It was used to precisely match the data of the other variables to the companies contained in the dataset over the observed period of years. After this matching process, the variable *FY_RC* was created, which allocates the observations into categories equaling the calendar years 2007-2019. It was used to create dummy variables for its 13 years.

The following frequency table (cf. Table 18) of the values of the variable *FY_RC* shows that each year contains a total of 6'393 observations, which exactly matches the number of unique companies in the dataset. When using the year dummy variables in the analyses, the earliest year, i.e. 2007, will be chosen as the reference category.

FY_RC	N	Percent
2007	6393	7,7%
2008	6393	7,7%
2009	6393	7,7%
2010	6393	7,7%
2011	6393	7,7%
2012	6393	7,7%
2013	6393	7,7%
2014	6393	7,7%
2015	6393	7,7%
2016	6393	7,7%
2017	6393	7,7%
2018	6393	7,7%
2019	6393	7,7%
Missing	**0**	**0,0%**
Total	**83109**	**100,0%**

Table 18: Frequency table of the variable FY_RC
(own representation)

4.2.8 Company Controls

This subsection contains detailed descriptions of the company control variables used in the study.

Variables 196-199: *NET_SALES*, *TOTAL_ASSETS, EMPL* and *EMPL_ADJ* The variable *NET_SALES* contains the total net sales of the observed companies, which is generally calculated as gross sales less discounts, returns and allowances. The variable *TOTAL_ASSETS* contains the total assets of the observed companies, which are generally calculated as the sum of total current assets, long term receivables, investment in unconsolidated subsidiaries, other investments, net property plant and equipment and other assets. The calculation of both variables differs slightly for some types of financial institutions, however. The variable EMPL represents the number of employees of the observed companies, including both full- and part-time employees.

During the preliminary review of the variables *NET_SALES* and *TOTAL_ASSETS*, it has been noticed that the data was recorded in local currencies; due to this inconsistency, they cannot be used in the subsequent cross-country analyses without distorting the results. Hence, it was decided to use the number of employees, represented by the variable EMPL, to control for company size, instead. Despite net sales and total assets being more commonly used in the literature on the CSP-CFP relationship to control for company size, the use of the number of employees solves the problem arising from data recording inconsistencies in a cross-country research setting.

While reviewing measures of central tendency and dispersion of the variable EMPL as part of the preparatory measures, it has been noticed that the variable contains a few very high values. Table 19 below gives an overview of the variable's descriptive statistics. A subsequent spot check has shown that these values belong to some of the largest companies worldwide, such as US multinational retail corporation Walmart or Taiwanese multinational electronics contract manufacturing company Hon Hai Precision Industry, trading as Foxconn, and hence are correct. However, it was also noticed that the variable contains a number of observations equal to 0; these are considered data entry errors and hence removed from the variable. The newly created variable *EMPL_ADJ* reflects the adjusted data. A total of 477 observations were excluded in the adjustment procedure, reducing the number of valid observations from 60454 (72,7%) to 59977 (72,2%).

		EMPL	EMPL_ADJ
N	Valid	60454	59977
	Missing	22655	23132
Mean		20515,32	20678,48
Median		5111,00	5209,00
Std. Deviation		57313,80	57511,94
Minimum		,00	1,00
Maximum		2300000,00	2300000,00
Percentiles	25	1217,00	1282,00
	50	5111,00	5209,00
	75	16800,00	17000,00

Table 19: Descriptive statistics of the variables EMPL (own representation)

The following cross table displays the first, second and third quartile number of employees by sector (cf. Table 20) and clarifies the affiliations of sectors to supersectors and to industries, ultimately. Figure 14 visualizes the distribution of the number of employees within the different sectors, by plotting the first quartile (i.e. the lower end of the bar), the third quartile (i.e. the upper end of the bar) and the median (i.e. the dot within the borders of the bar) number of employees for all the sectors next to each other. The analysis is conducted in order to detect possible concentrations of small or large firms within certain sectors. As illustrated by Figure 14, particularly high

numbers of employees can be found within Food_and_Drug_Retailers, Automobiles_and_Parts and Tobacco, whereas particularly low numbers of employees can be found within Nonequity_Investment_Instruments, Equity_Investment_Instruments and Real_Estate_Investment_Trusts. The results of the analysis illustrate the shortcoming of using the number of employees to control for company size. The mentioned sectors with very low numbers of employees are typical examples of capital-intensive / labor-efficient investment businesses. As the inclusion of the net sales and the total assets into a combined measure of company size is not feasible due to the above-described data consistency issue, the subsequent analyses will have to rely on the number of employees. However, the possible shortcomings of the use of EMPL_ADJ will be taken into consideration throughout the subsequent analyses.

ICB_INDUSTRY_CODE	ICB_INDUSTRY_NAME	←	ICB_SUPRSECTR_CODE	ICB_SUPRSECTR_NAME	←	ICB_SECTOR_CODE	ICB_SECTOR_NAME	EMPL_ADJ		
								Percentile 25	Median	Percentile 75
1	Oil_and_Gas	←	500	Oil_and_Gas	←	530	Oil_and_Gas_Producers	202	1146	6330
						570	Oil_Equipment_and_Services	2015	4526	9000
						580	Alternative_Energy	429	2059	6510
1000	Basic_Materials	←	1300	Chemicals	←	1350	Chemicals	2398	5721	13635
			1700	Basic_Resources	←	1730	Forestry_and_Paper	2955	7199	16824
						1750	Industrial_Metals_and_Mining	2400	8896	23523
						1770	Mining	571	2603	8681
2000	Industrials	←	2300	Construction_and_Materials	←	2350	Construction_and_Materials	3603	8202	20347
			2700	Industrial_Goods_and_Services	←	2710	Aerospace_and_Defense	4600	10776	37000
						2720	General_Industrials	6200	15424	35211
						2730	Electronic_and_Electrical_Equipment	3310	8796	21439
						2750	Industrial_Engineering	3395	7580	18000
						2770	Industrial_Transportation	1317	4729	14108
						2790	Support_Services	2565	6014	23921
3000	Consumer_Goods	←	3300	Automobiles_and_Parts	←	3350	Automobiles_and_Parts	7250	19100	64000
			3500	Food_and_Beverage	←	3530	Beverages	3319	9200	30051
						3570	Food_Producers	3077	9251	22879
			3700	Personal_and_Household_Goods	←	3720	Household_Goods_and_Home_Construction	1590	4908	13500
						3740	Leisure_Goods	1700	5209	10260
						3760	Personal_Goods	3993	8274	25000
						3780	Tobacco	5070	26000	44485
4000	Health_Care	←	4500	Health_Care	←	4530	Health_Care_Equipment_and_Services	1100	4900	14761
						4570	Pharmaceuticals_and_Biotechnology	100	542	6059
5000	Consumer_Services	←	5300	Retail	←	5330	Food_and_Drug_Retailers	6178	22131	89000
						5370	General_Retailers	3604	9800	27396
			5500	Media	←	5550	Media	1895	4500	10900
			5700	Travel_and_Leisure	←	5750	Travel_and_Leisure	4693	13292	30506
6000	Telecommunications	←	6500	Telecommunications	←	6530	Fixed_Line_Telecommunications	4401	18776	37524
						6570	Mobile_Telecommunications	2240	7589	24598
7000	Utilities	←	7500	Utilities	←	7530	Electricity	1701	6355	14960
						7570	Gas__Water_and_Multiutilities	1598	4902	12733
8000	Financials	←	8300	Banks	←	8350	Banks	914	3920	18287
			8500	Insurance	←	8530	Nonlife_Insurance	1367	5204	17510
						8570	Life_Insurance	2026	9777	26543
			8600	Real_Estate	←	8630	Real_Estate_Investment_and_Services	366	2090	7991
						8670	Real_Estate_Investment_Trusts	68	285	840
			8700	Financial_Services	←	8770	Financial_Services	582	2265	7100
						8980	Equity_Investment_Instruments	7	22	790
						8990	Nonequity_Investment_Instruments	2	2	920
9000	Technology	←	9500	Technology	←	9530	Software_and_Computer_Services	884	2500	8681
						9570	Technology_Hardware_and_Equipment	1403	4732	18286

Table 20: Distribution of EMPL_ADJ (1st, 2nd and 3rd quartile) within ICB_SECTOR_NAME (own representation)

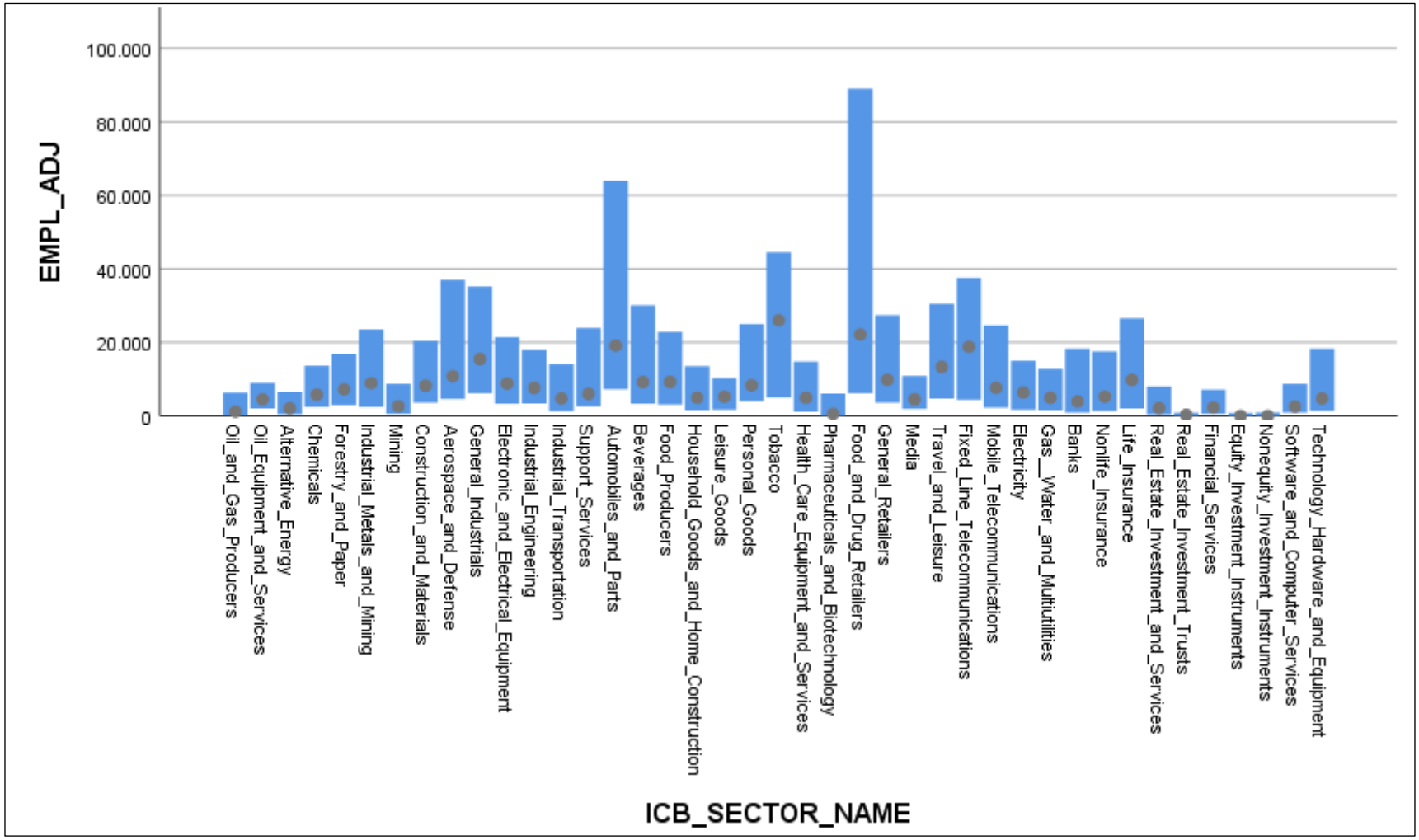

Figure 14: Distribution of EMPL_ADJ (1st, 2nd and 3rd quartile) within ICB_SECTOR_NAME (own representation)

Variables 200-201: *RD_TS* and *RD_TS_ADJ* The variable *RD_TS* represents the R&D expense ratio of the observed companies in percentages. As found out during the literature review, it serves as an important control variable when estimating the effect of CSP on CFP. It is calculated as R&D expenses / total net sales.

While reviewing measures of central tendency and dispersion as well as the frequency distribution of the variable as part of the preparatory measures, it has been noticed that the variable contains a number of severe outliers, as evidenced by the below descriptive statistics (cf. left part of Table 21), histogram (cf. left part of Figure 15) and box-and-whisker plot (cf. left part of Figure 16).

On the one side, values below zero were identified; these values represent negative R&D spending, i.e. the companies would in effect receive more money for R&D than it would expense. While this is possible from a theoretical point of view, e.g. through the receipt of research grants, a resulting negative cost item for such cases seems unlikely from an accounting perspective. Hence, negative values within *RD_TS* were regarded as data entry errors and excluded from the dataset. On the other side, as the variable is measured in percentages of total net sales, the very high values identified must be regarded as data entry errors as well. Following the above-outlined Tukey method for the elimination of outliers, extreme values beyond Q3 + 3 x IQR were eliminated.

The newly created variable *RD_TS_ADJ* contains the data adjusted in the described way; descriptive statistics (cf. right part of Table 8), the histogram (cf. right part of Figure 5) and the box-and-whisker plot (cf. right part of Figure 6) are provided below. A total of 2020 observations were excluded in the adjustment procedure, reducing the number of valid observations from 28749 (34,6%) to 26729 (32,2%).

		RD_TS	RD_TS_ADJ
N	Valid	28749	26729
	Missing	54360	56380
Mean		294,89	4,21
Median		2,10	1,74
Std. Deviation		12000,70	5,84
Minimum		-1,57	,00
Maximum		1299100,00	28,15
Percentiles	25	,35	,29
	50	2,10	1,74
	75	7,30	5,35

Table 21: Descriptive statistics of the variables RD_TS and RD_TS_ADJ (own representation)

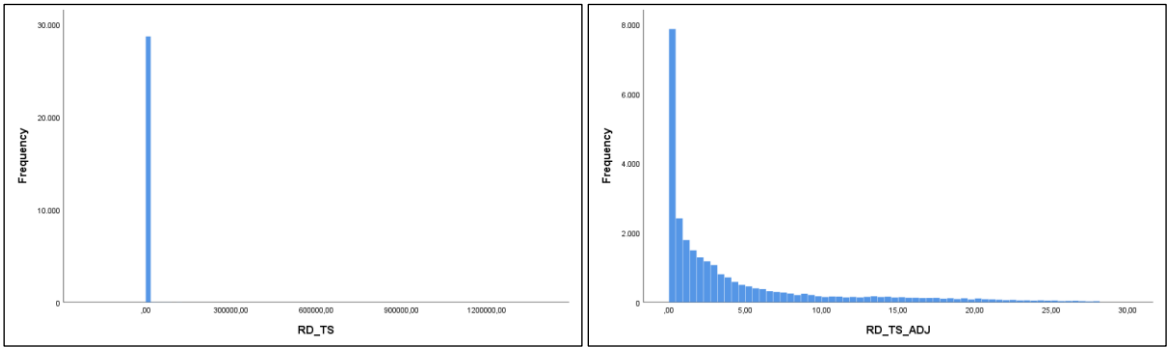

Figure 15: Histograms of the variables RD_TS and RD_TS_ADJ (own representation)

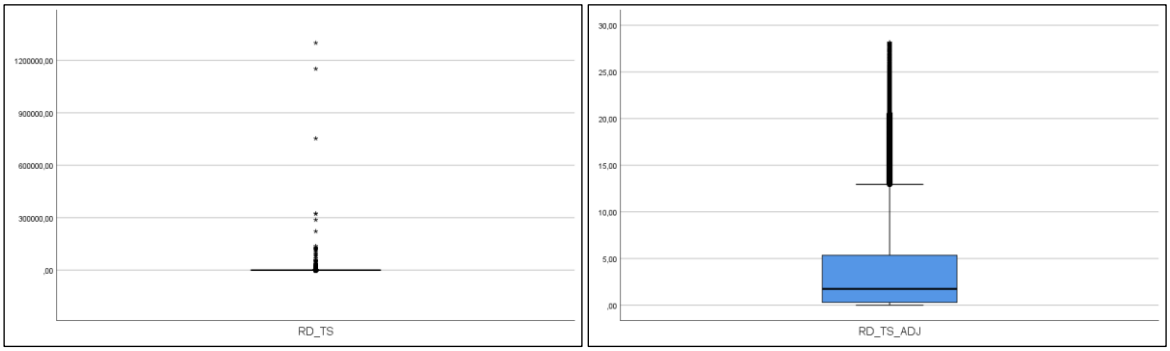

Figure 16: Box-and-whisker plots of the variables RD_TS and RD_TS_ADJ (own representation)

Variables 202-203: MKTG and *MKTG_TS_RC* The variable *MKTG* represents the marketing expenses of the observed companies. It is used to create the variable *MKTG_TS_RC*, which represents the marketing expense ratio of the observed companies, expressed in percentages. It is calculated by dividing the variable MKTG through the variable NET_SALES and multiplying by 100.

During the preliminary review of the variable *MKTG_TS_RC*, it has been noticed that a large number of the values resulting from the calculation of the data must be erroneous; these values are far too high, which is supposedly caused by data inconsistencies, as the variables were obtained from different databases. Hence, it was decided to exclude the variable from the subsequent analyses.

Variables 204-205: *TD_TA* and *TD_TA_ADJ* The variable *TD_TA* represents the debt-to-assets ratio for the observed companies, expressed in percentages. It works as a measure of financial leverage, and was used by prior research to control for company risk (e.g. López, Garcia & Rodriguez, 2007). It is calculated as Total Debt / Total Assets, where Total Debt is calculated as Long-Term Debt + Short-Term Debt & Current Portion of Long-Term Debt and Total Assets represent the sum of total current assets, long term receivables, investment in unconsolidated subsidiaries, other investments, net property plant and equipment and other assets. The calculation for some types of financial institutions differs slightly, however.

While reviewing measures of central tendency and dispersion as well as the frequency distribution of the variable as part of the preparatory measures, it has been noticed that the variable contains a number of severe outliers, as evidenced by the below descriptive statistics (cf. left part of Table 22), the histogram (cf. left part of Figure 17) and the box-and-whisker plot (cf. left part of Figure 18).

On the one side, values below zero were identified; these values would represent cases of negative total debt, which is not possible. Hence, negative values within *TD_TA* were regarded as data entry errors and excluded from the dataset. On the other side, as the variable is measured in percentages of total assets, values above 100 imply, that the total debt exceeds the total assets; in this case, the companies' equity would drop below zero, which is not impossible, but usually does not happen to such large and mature corporations, as the ones that constitute the dataset of this study. Hence, values above 100 were regarded as data entry errors as well and excluded from the dataset.

The newly created variable *TD_TA_ADJ* contains the data adjusted in the described way; descriptive statistics (cf. right part of Table 22), the histogram (cf. right part of Figure 17) and the box-and-whisker plot (cf. right part of Figure 18) are provided below. A total of 473 observations was excluded in the adjustment procedure, reducing the number of valid observations from 71174 (85,6%) to 70701 (85,1%).

		TD_TA	TD_TA_ADJ
N	Valid	71174	70701
	Missing	11935	12408
Mean		25,78	24,00
Median		21,81	21,61
Std. Deviation		113,38	19,67
Minimum		,00	,00
Maximum		22035,32	100,00
Percentiles	25	7,11	7,02
	50	21,81	21,61
	75	36,59	36,20

Table 22: Descriptive statistics of the variables TD_TA and TD_TA_ADJ (own representation)

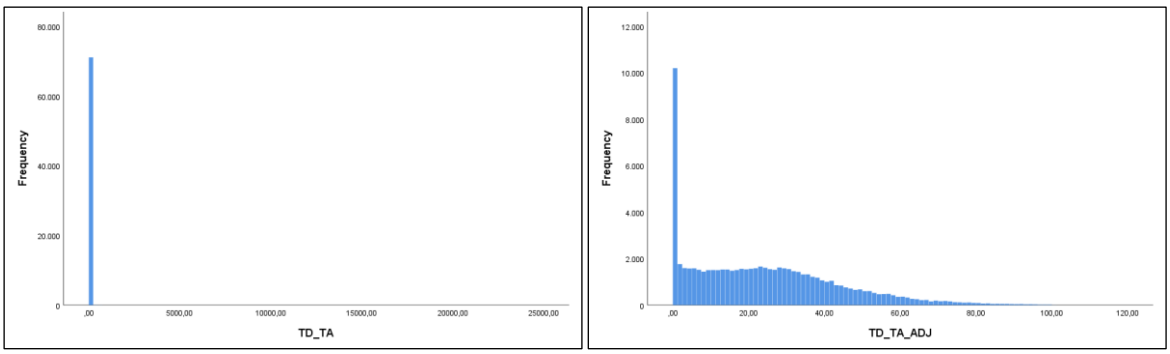

Figure 17: Histograms of the variables TD_TA and TD_TA_ADJ (own representation)

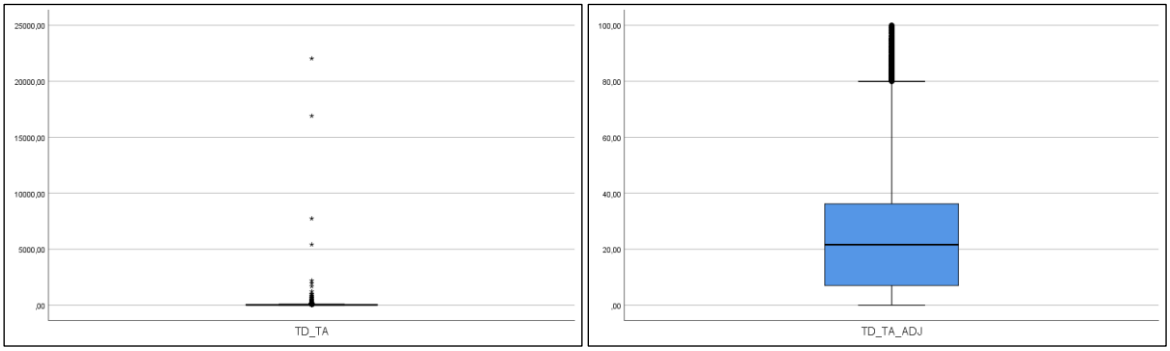

Figure 18: Box-and-whisker plots of the variables TD_TA and TD_TA_ADJ (own representation)

Variables 206-207: *TD_CE* and *TD_CE_ADJ* The variable *TD_CE* represents the debt-to-equity ratio for the observed companies, expressed in percentages. It works as a measure of financial leverage, and was used by prior research to control for company risk (e.g. López, Garcia & Rodriguez, 2007). It is calculated as Total Debt / Common Equity, where Total Debt is calculated as Long-Term Debt + Short-Term Debt & Current Portion of Long-Term Debt.

While reviewing measures of central tendency and dispersion as well as the frequency distribution of the variable as part of the preparatory measures, it has been noticed that the variable contains a number of severe outliers, as evidenced by the below descriptive statistics (cf. left part of Table 23), the histogram (cf. left part of Figure 19) and the box-and-whisker plot (cf. left part of Figure 20).

On the one side, values below zero were identified; these values would represent cases of negative total debt, which is not possible. Hence, negative values within *TD_CE* were regarded as data entry errors and excluded from the dataset. On the other side, as the variable is measured in percentages of common equity, the very high values identified must be regarded as data entry errors as well. Following the above-outlined Tukey method for the elimination of outliers, extreme values beyond Q3 + 3 x IQR were eliminated.

The newly created variable *TD_CE_ADJ* contains the data adjusted in the described way; descriptive statistics (cf. right part of Table 23), the histogram (cf. right part of Figure 19) and the box-and-whisker plot (cf. right part of Figure 20) are provided below. A total of 5296 observations was excluded in the adjustment procedure, reducing the number of valid observations from 71595 (86,1%) to 66299 (79,8%).

		TD_CE	TD_CE_ADJ
N	Valid	71595	66299
	Missing	11514	16810
Mean		102,52	75,54
Median		51,82	50,37
Std. Deviation		4399,21	82,90
Minimum		-727032,50	,00
Maximum		665620,83	423,32
Percentiles	25	12,74	14,24
	50	51,82	50,37
	75	115,41	104,88

Table 23: Descriptive statistics of the variables TD_CE and TD_CE_ADJ (own representation)

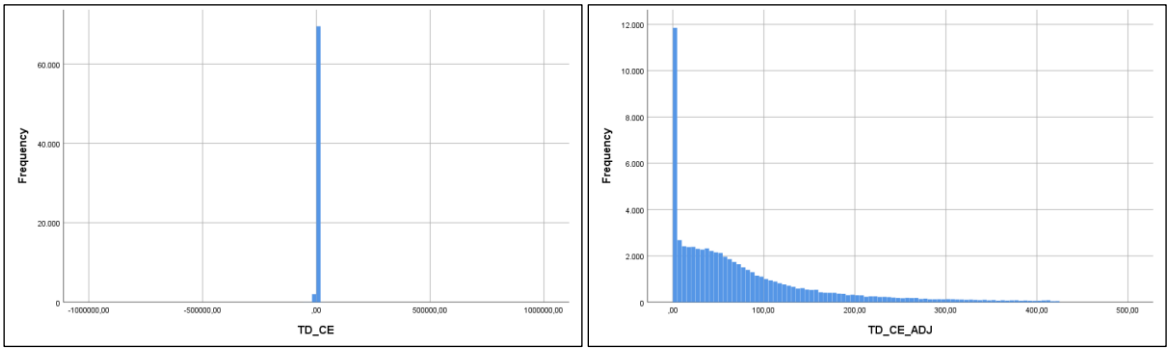

Figure 19: Histograms of the variables TD_CE and TD_CE_ADJ (own representation)

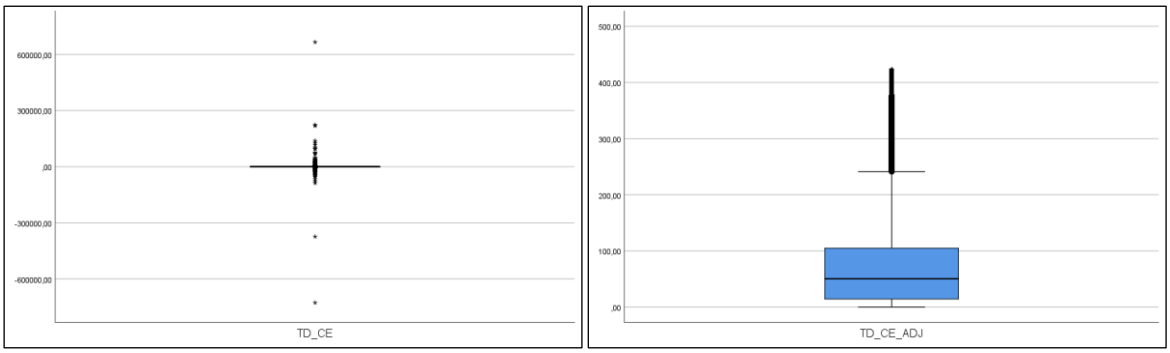

Figure 20: Box-and-whisker plots of the variables TD_CE and TD_CE_ADJ (own representation)

Variables 208-210: *FOUND_DATE*, *FOUND_YEAR_RC* and *CO_AGE_RC* The variable *FOUND_DATE* represents the date of foundation of the observed companies. It was used to extract the year of foundation, which was coded into the newly created variable *FOUND_YEAR_RC*. This variable in turn was used to calculate the current age of the observed companies in years, which was coded into the newly created variable *CO_AGE_RC*. Company age, just as company size, is seen as a proxy for company visibility. The effect of visibility on the CSP-CFP relationship has been studied by several authors (cf. subsections 2.5.1 and 3.1.2). For instance, Brammer, Pavelin and Porter (2009) as well as Attig et al. (2016) argue that large and older firms

have a higher visibility, which enlarges their exposure to stakeholder pressures to behave in a socially responsible manner. Young and Makhija (2014) found support for the argument that high economic vulnerability and visibility go hand in hand with firms' need for societal goodwill, which causes them to seek legitimacy through increased CSR efforts. The summary statistics of the variable *CO_AGE_RC* are provided in the following Table 24.

CO_AGE_RC		
N	Valid	35009
	Missing	48100
Mean		62,52
Median		49,00
Std. Deviation		46,57
Minimum		4,00
Maximum		547,00
Percentiles	25	27,00
	50	49,00
	75	88,00

Table 24: Descriptive statistics of the variable CO_AGE_RC (own representation)

4.3 Model Specifications

In the following paragraphs, the models to test the hypotheses formulated in subsection 3.2 are specified. Adapting the approach of Ioannou and Serafeim (2012), for all specifications, the coefficients are estimated using the ordinary least squares (OLS) methodology with country, industry and year fixed effects.

4.3.1 Models 1.1–1.2: The Basic CSP-CFP Relationship

To test the research hypothesis H1.1, which reads '*CSP has a weak positive effect on CFP.*', variations of the following model M1.1 are tested:

$$CFP = \alpha + \beta_1 \times CSP + \beta_2 \times country\ controls + \beta_3 \times industry\ controls + \beta_4 \times year\ controls + \beta_5 \times company\ controls + \varepsilon \quad \text{(M1.1)}$$

where CFP is one of several proxies for financial performance, CSP is one of several proxies for corporate social performance, country controls are country dummy variables to create country fixed effects, industry controls are industry dummy variables to create industry fixed effects, year controls are year dummy variables to create year fixed effects and company controls is a vector of company-level control variables; all the variable categories and individual variables are listed in Table 1 and described in detail in the above subsections 4.2.2–4.2.8.

To test the research hypothesis H1.2, which reads '*Prior CSP has a stronger effect on CFP than concurrent CSP.*', variations of the following model M1.2 are tested:

$$CFP = \alpha + \beta_1 \times CSP_{prior} + \beta_2 \times country\ controls + \beta_3 \times industry\ controls + \beta_4 \times year\ controls + \beta_5 \times company\ controls + \varepsilon \quad \text{(M1.2)}$$

where CSP_{prior} is one of several proxies for corporate social performance lagged by 1–5 years; the other components are the same as in the preceding model M1.1, with their descriptions being provided in the preceding paragraph.

4.3.2 Models 2.1–2.3: Internationalization and its Moderating Effect

To test the research hypothesis H2.1, which reads '*The home country plays an important role in the CSP-CFP relationship, i.e. it accounts for a significant amount of variation in CFP.*', variations of the above-described model M1.1 – which was already used to test the research hypothesis H1.1 – are tested.

To test the research hypothesis H2.2, which reads '*The degree of internationalization plays an important role in the CSP-CFP relationship, i.e. it accounts for a significant amount of variation in CFP. The degree of internationalization is expected to have a positive effect on CFP.*', variations of the following model M2.2 are tested:

$$CFP = \alpha + \beta_1 \times CSP + \beta_2 \times DOI + \beta_3 \times country\ controls + \beta_4 \times industry\ controls + \beta_5 \times year\ controls + \beta_6 \times company\ controls + \varepsilon \quad \text{(M2.2)}$$

where DOI is one of several proxies for the degree of internationalization; the other components are the same as in model M1.1, with their descriptions being provided in the corresponding paragraph.

To test the research hypothesis H2.3, which reads '*The degree of internationalization moderates the CSP-CFP relationship, i.e. the interaction of CSP and DOI strengthens the positive effect of CSP on CFP.*', variations of the following model are tested:

$$CFP = \alpha + \beta_1 \times CSP + \beta_2 \times DOI + \beta_3 \times CSP \times DOI + \beta_4 \times country\ controls + \beta_5 \times industry\ controls + \beta_6 \times year\ controls + \beta_7 \times company\ controls + \varepsilon \quad \text{(M2.3)}$$

where CSP x DOI is the interaction term for corporate social performance and the degree of internationalization; the other components are the same as in model M2.2, with their descriptions being provided in the corresponding paragraph.

4.3.3 Models 3.1–3.3: The Home Country Effect Explicated: Governance Quality

To test the research hypothesis H3.1, which reads '*The home-country governance quality plays an important role in the CSP-CFP relationship, i.e. it accounts for a significant amount of variation in CFP. The home-country governance quality is expected to have a positive effect on CFP.*', variations of the following model M3.1 are tested:

$$CFP = \alpha + \beta_1 \times CSP + \beta_2 \times DOI + \beta_3 \times HCGQ + \beta_4 \times country\ controls + \beta_5 \times industry\ controls + \beta_6 \times year\ controls + \beta_7 \times company\ controls + \varepsilon \quad \text{(M3.1)}$$

where HCGQ is one of several proxies for home-country governance quality; the other components are the same as in model M2.3, with their descriptions being provided in the corresponding paragraph.

To test the research hypothesis H3.2, which reads '*The home-country governance quality moderates the CSP-CFP relationship, i.e. the interaction of CSP and HCGQ strengthens the positive effect of CSP on CFP.*', variations of the following model M3.2 are tested:

$$CFP = \alpha + \beta_1 \times CSP + \beta_2 \times DOI + \beta_3 \times HCGQ + \beta_4 \times CSP \times HCGQ + \beta_5 \times country\ controls + \beta_6 \times industry\ controls + \beta_7 \times year\ controls + \beta_8 \times company\ controls + \varepsilon \quad \text{(M3.2)}$$

where CSP x HCGQ is the interaction term for corporate social performance and home-country governance quality; the other components are the same as in model M3.1, with their descriptions being provided in the corresponding paragraph.

To test the research hypothesis H3.3, which reads '*The home-country governance quality and the degree of internationalization together moderate the CSP-CFP relationship, i.e. the interaction of CSP, DOI and GOVQ strengthens the positive effect of CSP on CFP.*', variations of the following model M3.3 are tested:

$$CFP = \alpha + \beta_1 \times CSP + \beta_2 \times DOI + \beta_3 \times HCGQ + \beta_4 \times CSP \times DOI \times HCGQ + \beta_5 \times country\ controls + \beta_6 \times industry\ controls + \beta_7 \times year\ controls + \beta_8 \times company\ controls + \varepsilon \quad \text{(M3.3)}$$

where CSP x DOI x HCGQ is the interaction term for corporate social performance, degree of internationalization and home-country governance quality; the other components are the same as in model M3.2, with their descriptions being provided in the corresponding paragraph.

5 Discussion of Empirical Results

5.1 Results and Discussion of the Models 1.1–1.2

5.1.1 Model 1.1

Since the literature revealed that the results of prior studies varied with regard to the operationalizations used for CFP and CSP, three different variables for CFP and four different variables for CSP were used in the analysis, resulting in a total of 12 variations of model M1.1. For instance, Bajic and Yurtoglu (2018, p. 51) found that the individual components of the CSP measure have different effects on the CSP-CFP relationship.

In their analysis, the positive association was “driven by the social subscore of the composite CSP measure”.

Table 25 reports a summary of the estimation results of these model variations. Variations (1)–(3) show the results for the regressions of *ROA_ADJ*, *ROE_ADJ* and *STOCK_RETURN_ADJ* on *ESG_COMP*, variations (4)–(6) for the regressions of the three CFP variables on *ESG_E*, variations (7)–(9) for the regressions of the three CFP variables on *ESG_S* and variations (10)–(12) for the regressions of the three CFP variables on *ESG_G*; the control variables are the same throughout all of the 12 regression models. Different compositions of control variables were tested, for instance the inclusion of *TD_CE_ADJ* was compared to *TD_TA_ADJ*; the presented models reflect the selected specification, with superior explanatory power and coefficient significance. The complete regression output for variation (1), which is the variation with the highest explanatory power and the highest coefficient significances, can be reviewed in appendix B, exemplary for all 12 variations of model M1.1.

Instead of the typical unstandardized regression coefficients, standardized regression coefficients are presented in order to be able to make statements about the effect sizes of the various independent variables on the respective dependent variable, despite the variables’ variety of units of measurement. To obtain standardized coefficients, the commonly used unstandardized coefficients are standardized so that the variances of dependent and independent variables are equal to one. Accordingly, standardized coefficients indicate, by how many standard deviations a dependent variable changes per standard deviation increase in the independent variable.

It must be noted, however, that the interpretation of standardized coefficients as a measure of relative strength is prone to certain pitfalls. For example, an increase of one standard deviation in one independent variable is only equivalent to an increase of one standard deviation in another independent variable, if the two variables are similarly distributed. As identified throughout the variable description in subsection 4.2, the independent variables’ distributions do not always resemble one another very closely.

ROA_ADJ is found to be positively associated to the overall ESG score *ESG_COMP* as well as to all the ESG pillar scores *ESG_E*, *ESG_S* and *ESG_G*. Among the different ESG scores, the overall score as well as the social pillar score have a considerably stronger effect than the environmental and the governance pillar score. *ROE_ADJ* is found to be positively associated to all four ESG scores as well, with the overall ESG score *ESG_COMP* having the strongest effect. Interestingly, the association of the respective ESG scores and *ROE_ADJ* is considerably stronger compared to *ROA_ADJ*. In summary, a positive relationship is found when using the two accounting-based measures of CFP; compared to some of the other explanatory

variables, the effect size is rather small, putting the results in line with the prevailing view on the CSP-CFP relationship in the literature.

In line with expectations, the debt-to-assets ratio (*TD_TA_ADJ*), the model's measure of financial leverage, employed to control for company risk, is negatively associated to CFP. In almost all models, in which the coefficient of the size measure *EMPL_ADJ* is statistically significant on the 5% level, it is negative. The company age measure *CO_AGE_RC*, which is employed in existing research with similar theoretical reasoning, does not have any statistically significant coefficients on the 5% level. The coefficients for the R&D intensity *RD_TS_ADJ* are negative as well.

Surprisingly, *STOCK_RETURN_ADJ*, the market-based measure of CFP used in the study, is not found to be associated to any of the ESG scores when applying the traditionally required 5% level of statistical significance.

In conclusion, the findings support the research hypothesis H1.1, which reads '*CSP has a weak positive effect on CFP.*' for accounting-based measures of CFP.

This weak-positive relationship matches the research results prevalent in the existing body of literature. The reproducibility of these results with the dataset at hand confirms it as a solid basis for the following analyses, which build upon each other.

Interestingly, the variations in the results that were found by existing studies using different operationalizations of CFP and CSP were confirmed by the test results of model M1.1 as well – whereas the weak-positive relationship could be found for the two accounting-based measures of CFP, it could not be found for the market-based measure. A similar observation could be made for the different CSP component measures, also in line with the reviewed literature.

	(1)		(2)		(3)		(4)		(5)		(6)	
	ROA_ADJ		**ROE_ADJ**		**STOCK_RETURN_ADJ**		**ROA_ADJ**		**ROE_ADJ**		**STOCK_RETURN_ADJ**	
Observations	9248		8930		9313		9248		8930		9313	
Adjusted R^2	0,240		0,179		0,208		0,239		0,178		0,208	
Durbin-Watson	1,998		1,987		1,889		1,998		1,987		1,889	
p-value (F statistic)	0,000		0,000		0,000		0,000		0,000		0,000	
Highest VIF	2,262		2,240		2,281		2,259		2,238		2,277	
	Stand. Coeff.	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**
Constant		0,0%		0,0%		0,0%		0,0%		0,0%		0,0%
ESG_COMP	0,042	0,0%	0,079	0,0%	-0,010	36,1%						
ESG_E							0,036	0,1%	0,075	0,0%	0,001	91,6%
ESG_S												
ESG_G												
Country Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
Year Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
EMPL_ADJ	-0,025	1,3%	0,009	40,9%	-0,008	43,6%	-0,023	2,3%	0,012	27,2%	-0,011	29,5%
RD_TS_ADJ	-0,073	0,0%	-0,097	0,0%	-0,018	17,6%	-0,074	0,0%	-0,099	0,0%	-0,019	15,0%
TD_TA_ADJ	-0,278	0,0%	-0,128	0,0%	-0,097	0,0%	-0,277	0,0%	-0,126	0,0%	-0,098	0,0%
CO_AGE_RC	-0,019	7,8%	-0,003	79,2%	-0,019	8,9%	-0,018	10,4%	-0,001	90,3%	-0,020	6,4%

	(7)		(8)		(9)		(10)		(11)		(12)	
	ROA_ADJ		**ROE_ADJ**		**STOCK_RETURN_ADJ**		**ROA_ADJ**		**ROE_ADJ**		**STOCK_RETURN_ADJ**	
Observations	9248		8930		9313		9248		8930		9313	
Adjusted R^2	0,240		0,178		0,208		0,239		0,175		0,208	
Durbin-Watson	1,999		1,988		1,889		1,999		1,988		1,888	
p-value (F statistic)	0,000		0,000		0,000		0,000		0,000		0,000	
Highest VIF	2,265		2,242		2,283		2,251		2,231		2,260	
	Stand. Coeff.	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**
Constant		0,0%		0,0%		0,0%		0,0%		0,0%		0,0%
ESG_COMP												
ESG_E												
ESG_S	0,045	0,0%	0,071	0,0%	-0,007	53,9%						
ESG_G							0,019	4,4%	0,042	0,0%	-0,017	7,7%
Country Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
Year Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
EMPL_ADJ	-0,025	1,3%	0,012	26,6%	-0,009	38,6%	-0,017	8,0%	0,023	3,2%	-0,008	42,3%
RD_TS_ADJ	-0,073	0,0%	-0,095	0,0%	-0,018	16,6%	-0,069	0,0%	-0,089	0,0%	-0,019	15,6%
TD_TA_ADJ	-0,278	0,0%	-0,127	0,0%	-0,097	0,0%	-0,275	0,0%	-0,122	0,0%	-0,097	0,0%
CO_AGE_RC	-0,019	7,9%	-0,001	94,6%	-0,019	8,0%	-0,014	18,1%	0,005	65,8%	-0,019	8,8%

Table 25: Regression results of the 12 variations of model M1.1 (own representation)

5.1.2 MODEL 1.2

As the analysis of model M1.1 revealed that the coefficient of the overall ESG score *ESG_COMP* has the strongest effect on the respective CFP measures on average, while being equally significant as the three ESG pillar scores, only *ESG_COMP* is used in the analysis of model M1.2 in order to limit the number of variations and hence be able to simplify the reporting and interpretation of the results. As the effect of lagged CSP on CFP was tested for lags of 1–5 years, i.e. the CSP measure *ESG_COMP* was lagged by 1–5 years, using the five newly created variables *ESG_COMP_L1_RC* through *ESG_COMP_L5_RC*, and for the previously used three measures of CFP *ROA_ADJ*, *ROE_ADJ* and *STOCK_RETURN_ADJ*, a total of 18 variations of model M1.2 are estimated. The complete regression output for variation (4), which is the variation with the highest explanatory power and high coefficient significances, can be reviewed in appendix C, exemplary for all 16 variations of model M1.2.

Table 26 reports a summary of the estimation results of these model variations. Variations (1)–(6) show the results for the regressions of *ROA_ADJ* on the lagged versions of *ESG_COMP*, variations (7)–(12) the ones of *ROE_ADJ* and variations (13)–(18) the ones of *STOCK_RETURN_ADJ*; the control variables are the same throughout all of the 18 regression models. As explained throughout the discussion of the results of model M1.1, standardized coefficients are used in the interpretations.

Regarding the regressions of *ROA_ADJ* on the lagged versions of *ESG_COMP*, lagging *ESG_COMP* by 2 years increases the positive effect on *ROA_ADJ*, whereas lagging the variable by only 1 year or by more than 3 years leads to a diminishing positive effect. Regarding the regression of *ROE_ADJ*, the positive effect of *ESG_COMP* diminishes over all 5 lagged variable versions. The regressions of *STOCK_RETURN_ADJ* did not result in any statistically significant coefficients of the lagged versions of *ESG_COMP* on the 5% level, confirming the result reported for model M1.1 above. The core results presented in this paragraph are visualized in Figure 21.

Although the research hypothesis H1.2, which reads '*Prior CSP has a stronger effect on CFP than concurrent CSP.*', finds support in the results of the regression of *ROA_ADJ* on *ESG_COMP* lagged by 2 years, large parts of the results of the variations of model M1.2 contradict the hypothesis.

Hence, these results are only to a small extent in line with the expectations developed in subsection 2.4.5 of the literature review, which were, among others, based on the findings of the meta-study conducted by Wang, Dou and Jia (2016). On the other hand, they support the approach employed by most of the existing research, which relied on a simultaneous CSP-CFP relationship, i.e. an immediate reflection of the level of CSP in the level of CFP or vice versa, in its models.

	(1)		(2)		(3)		(4)		(5)		(6)	
	ROA_ADJ		**ROA_ADJ**		**ROA_ADJ**		**ROA_ADJ**		**ROA_ADJ**		**ROA_ADJ**	
Observations	9248		8709		7612		6559		5615		4752	
Adjusted R^2	0,240		0,234		0,249		0,259		0,252		0,254	
Durbin-Watson	1,998		2,013		2,002		1,978		1,971		1,964	
p-value (F statistic)	0,000		0,000		0,000		0,000		0,000		0,000	
Highest VIF	2,262		2,087		2,117		2,171		2,289		2,364	
	Stand. Coeff.	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**
Constant		0,0%		0,0%		0,0%		0,0%		0,0%		0,0%
ESG_COMP	0,042	0,0%										
ESG_COMP_L1_RC			0,040	0,0%								
ESG_COMP_L2_RC					0,043	0,0%						
ESG_COMP_L3_RC							0,035	0,4%				
ESG_COMP_L4_RC									0,036	0,8%		
ESG_COMP_L5_RC											0,027	7,0%
Country Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
Year Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
EMPL_ADJ	-0,025	1,3%	-0,021	4,4%	-0,020	8,2%	-0,024	4,8%	-0,027	4,9%	-0,033	2,9%
RD_TS_ADJ	-0,073	0,0%	-0,079	0,0%	-0,080	0,0%	-0,057	0,0%	-0,050	0,3%	-0,048	1,0%
TD_TA_ADJ	-0,278	0,0%	-0,274	0,0%	-0,268	0,0%	-0,267	0,0%	-0,257	0,0%	-0,248	0,0%
CO_AGE_RC	-0,019	7,8%	-0,021	6,5%	-0,019	10,1%	-0,023	6,8%	-0,028	4,1%	-0,033	2,8%

	(7)		(8)		(9)		(10)		(11)		(12)	
	ROE_ADJ		**ROE_ADJ**		**ROE_ADJ**		**ROE_ADJ**		**ROE_ADJ**		**ROE_ADJ**	
Observations	8930		8396		7333		6325		5414		4585	
Adjusted R^2	0,179		0,169		0,183		0,192		0,188		0,191	
Durbin-Watson	1,987		2,013		2,004		1,999		2,001		1,999	
p-value (F statistic)	0,000		0,000		0,000		0,000		0,000		0,000	
Highest VIF	2,240		2,096		2,125		2,241		2,364		2,445	
	Stand. Coeff.	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**
Constant		0,0%		0,0%		0,0%		0,0%		0,0%		0,0%
ESG_COMP	0,079	0,0%										
ESG_COMP_L1_RC			0,068	0,0%								
ESG_COMP_L2_RC					0,068	0,0%						
ESG_COMP_L3_RC							0,059	0,0%				
ESG_COMP_L4_RC									0,062	0,0%		
ESG_COMP_L5_RC											0,058	0,0%
Country Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
Year Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
EMPL_ADJ	0,009	40,9%	0,017	12,2%	0,023	5,3%	0,024	6,0%	0,028	4,9%	0,028	8,5%
RD_TS_ADJ	-0,097	0,0%	-0,101	0,0%	-0,101	0,0%	-0,090	0,0%	-0,083	0,0%	-0,081	0,0%
TD_TA_ADJ	-0,128	0,0%	-0,120	0,0%	-0,115	0,0%	-0,100	0,0%	-0,098	0,0%	-0,086	0,0%
CO_AGE_RC	-0,003	79,2%	-0,013	26,2%	-0,018	15,6%	-0,019	16,1%	-0,029	4,5%	-0,037	2,0%

	(13)		(14)		(15)		(16)		(17)		(18)	
	STOCK_RETURN_ADJ		**STOCK_RETURN_ADJ**		**STOCK_RETURN_ADJ**		**STOCK_RETURN_ADJ**		**STOCK_RETURN_ADJ**		**STOCK_RETURN_ADJ**	
Observations	9313		8775		7666		6619		5670		4800	
Adjusted R^2	0,208		0,215		0,129		0,156		0,137		0,108	
Durbin-Watson	1,889		1,881		1,879		1,933		1,920		1,908	
p-value (F statistic)	0,000		0,000		0,000		0,000		0,000		0,000	
Highest VIF	2,281		2,093		2,113		2,182		2,299		2,379	
	Stand. Coeff.	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**
Constant		0,0%		0,1%		4,1%		13,3%		0,0%		0,0%
ESG_COMP	-0,010	36,1%										
ESG_COMP_L1_RC			-0,010	35,3%								
ESG_COMP_L2_RC					0,007	58,5%						
ESG_COMP_L3_RC							0,004	76,1%				
ESG_COMP_L4_RC									0,011	44,2%		
ESG_COMP_L5_RC											0,013	43,4%
Country Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
Year Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
EMPL_ADJ	-0,008	43,6%	-0,002	85,6%	-0,011	37,6%	-0,008	53,6%	-0,002	86,8%	-0,005	76,0%
RD_TS_ADJ	-0,018	17,6%	-0,010	47,4%	-0,018	25,5%	-0,002	92,4%	-0,009	61,6%	-0,015	45,6%
TD_TA_ADJ	-0,097	0,0%	-0,101	0,0%	-0,096	0,0%	-0,080	0,0%	-0,103	0,0%	-0,107	0,0%
CO_AGE_RC	-0,019	8,9%	-0,007	51,9%	-0,004	74,0%	-0,015	27,0%	-0,026	7,6%	-0,027	9,6%

Table 26: Regression results of the 18 variations of model M1.2 (own representation)

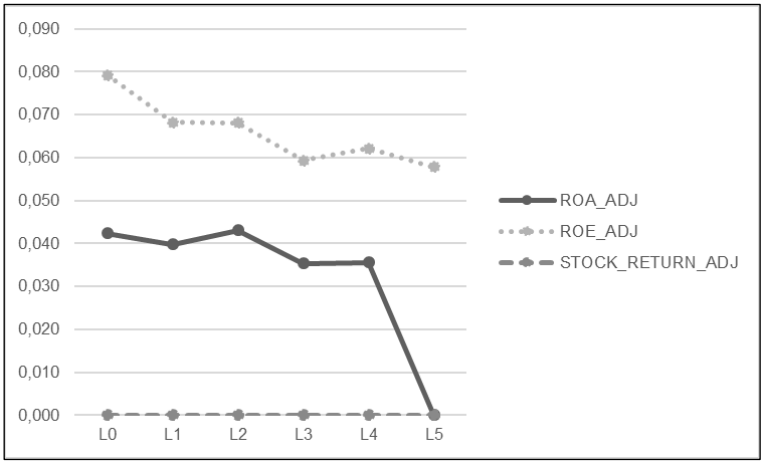

Figure 21: Regression standardized coefficients of the lagged versions of ESG_COMP in the 18 variations of model M1.2
(own representation)

5.2 Results and Discussion of the Models 2.1–2.3

5.2.1 Model 2.1

Looking at the results of model M1.1, such as at the exemplary regression output provided in appendix B, many statistically significant and practically relevant country dummy variable coefficients can be found, indicating the difference the association with a certain country makes on the CFP compared to the reference country, the UNITED_STATES.

In order to substantiate this observation and to test the research hypothesis H2.1, which reads '*The home country plays an important role in the CSP-CFP relationship, i.e. it accounts for a significant amount of variation in CFP.*', a partial F-test, i.e. a test of the joint significance of the country dummy variables, is run.

Model M1.1 serves as the complete model, whereas the country dummy variables are removed in the reduced model. Regarding the choice of measures for CFP and CSP, *ROA_ADJ* and *ESG_COMP* are selected in line with the reasoning provided in the previous subsection 5.1. The ANOVA for the reduced and the complete model is presented in Table 28. The resulting F statistic amounts to 37,594, whereas the critical value according to the F table for the 5% significance level lies below 1,5. Hence, the null hypothesis, stating that none of the country dummy variables' coefficients is different from zero, can be rejected, implying that they reduce the unexplained variation in the dependent variable. The large increase in the adjusted R^2 from 0,125 to 0,240, resulting from the inclusion of the country dummy variables (cf. Table 27), illustrates how much the country information adds to the explanatory power of the model. The complete regression output for the reduced and complete model M2.1 is provided in appendix D.

In conclusion, the findings support the research hypothesis H2.1.

As put forth in the literature review, the possible effects of country-level differences on the CSP-CFP relationship are underrepresented in prior research, despite several authors inferred that they are worthwhile researching (cf. subsection 3.1.4). The finding of the thesis at hand, that the home country moderates the CSP-CFP relationship, hence supports this claim and it is in line with the few authors who have already included country-level differences in their research on the relationship (cf. e.g. Wang, Dou and Jia (2016), who showed that the economic development state of the home country moderates the CSP-CFP relationship; Sun, Yoo and Hayati (2018), who demonstrated that cultural country-level differences have an effect on the relationship; or Campbell (2007), who argued that the relationship is mediated by institutional conditions, such as e.g. regulation or the presence of NGOs). Country-level differences will be explored in more depth in the discussion of the results of the models M3.1-M3.3.

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,360[a]	,130	,125	5,67322	
2	,497[b]	,247	,240	5,28743	1,998

a. Predictors: (Constant), CO_AGE_RC, @2014, Media, Gas__Water_and_Multiutilities, Nonlife_Insurance, Forestry_and_Paper, Fixed_Line_Telecommunications, Financial_Services, Oil_Equipment_and_Services, Equity_Investment_Instruments, Alternative_Energy, Real_Estate_Investment_Trusts, Support_Services, Real_Estate_Investment_and_Services, Mining, Tobacco, Aerospace_and_Defense, Leisure_Goods, Mobile_Telecommunications, @2018, Industrial_Transportation, Travel_and_Leisure, Personal_Goods, Food_and_Drug_Retailers, Oil_and_Gas_Producers, Electricity, @2008, Beverages, General_Retailers, Household_Goods_and_Home_Construction, Health_Care_Equipment_and_Services, General_Industrials, @2009, Industrial_Metals_and_Mining, Food_Producers, @2013, Pharmaceuticals_and_Biotechnology, @2012, EMPL_ADJ, Electronic_and_Electrical_Equipment, @2015, Construction_and_Materials, @2010, Software_and_Computer_Services, ESG_COMP, TD_TA_ADJ, Automobiles_and_Parts, @2016, Chemicals, @2011, RD_TS_ADJ, Technology_Hardware_and_Equipment, @2017

b. Predictors: (Constant), CO_AGE_RC, @2014, Media, Gas__Water_and_Multiutilities, Nonlife_Insurance, Forestry_and_Paper, Fixed_Line_Telecommunications, Financial_Services, Oil_Equipment_and_Services, Equity_Investment_Instruments, Alternative_Energy, Real_Estate_Investment_Trusts, Support_Services, Real_Estate_Investment_and_Services, Mining, Tobacco, Aerospace_and_Defense, Leisure_Goods, Mobile_Telecommunications, @2018, Industrial_Transportation, Travel_and_Leisure, Personal_Goods, Food_and_Drug_Retailers, Oil_and_Gas_Producers, Electricity, @2008, Beverages, General_Retailers, Household_Goods_and_Home_Construction, Health_Care_Equipment_and_Services, General_Industrials, @2009, Industrial_Metals_and_Mining, Food_Producers, @2013, Pharmaceuticals_and_Biotechnology, @2012, EMPL_ADJ, Electronic_and_Electrical_Equipment, @2015, Construction_and_Materials, @2010, Software_and_Computer_Services, ESG_COMP, TD_TA_ADJ, Automobiles_and_Parts, @2016, Chemicals, @2011, RD_TS_ADJ, Technology_Hardware_and_Equipment, @2017, MALAYSIA, CZECH_REPUBLIC, RUSSIAN_FEDERATION, PORTUGAL, THAILAND, CHILE, MEXICO, NEW_ZEALAND, HUNGARY, POLAND, ISRAEL, INDONESIA, NETHERLANDS, AUSTRIA, SOUTH_AFRICA, BELGIUM, GREECE, PHILIPPINES, INDIA, SWITZERLAND, AUSTRALIA, BRAZIL, NORWAY, HONG_KONG, FINLAND, TURKEY, ITALY, DENMARK, SOUTH_KOREA, FRANCE, GERMANY, SWEDEN, CANADA, CHINA, UNITED_KINGDOM, SPAIN, TAIWAN, JAPAN

c. Dependent Variable: ROA_ADJ

Table 27: Model summary of the reduced and complete regression model M2.1 (own representation)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	44166,235	53	833,325	25,891	,000[b]
	Residual	295912,453	9194	32,185		
	Total	340078,688	9247			
2	Regression	84104,986	91	924,231	33,059	,000[c]
	Residual	255973,702	9156	27,957		
	Total	340078,688	9247			

a. Dependent Variable: ROA_ADJ

b. Predictors: (Constant), CO_AGE_RC, @2014, Media, Gas__Water_and_Multiutilities, Nonlife_Insurance, Forestry_and_Paper, Fixed_Line_Telecommunications, Financial_Services, Oil_Equipment_and_Services, Equity_Investment_Instruments, Alternative_Energy, Real_Estate_Investment_Trusts, Support_Services, Real_Estate_Investment_and_Services, Mining, Tobacco, Aerospace_and_Defense, Leisure_Goods, Mobile_Telecommunications, @2018, Industrial_Transportation, Travel_and_Leisure, Personal_Goods, Food_and_Drug_Retailers, Oil_and_Gas_Producers, Electricity, @2008, Beverages, General_Retailers, Household_Goods_and_Home_Construction, Health_Care_Equipment_and_Services, General_Industrials, @2009, Industrial_Metals_and_Mining, Food_Producers, @2013, Pharmaceuticals_and_Biotechnology, @2012, EMPL_ADJ, Electronic_and_Electrical_Equipment, @2015, Construction_and_Materials, @2010, Software_and_Computer_Services, ESG_COMP, TD_TA_ADJ, Automobiles_and_Parts, @2016, Chemicals, @2011, RD_TS_ADJ, Technology_Hardware_and_Equipment, @2017

c. Predictors: (Constant), CO_AGE_RC, @2014, Media, Gas__Water_and_Multiutilities, Nonlife_Insurance, Forestry_and_Paper, Fixed_Line_Telecommunications, Financial_Services, Oil_Equipment_and_Services, Equity_Investment_Instruments, Alternative_Energy, Real_Estate_Investment_Trusts, Support_Services, Real_Estate_Investment_and_Services, Mining, Tobacco, Aerospace_and_Defense, Leisure_Goods, Mobile_Telecommunications, @2018, Industrial_Transportation, Travel_and_Leisure, Personal_Goods, Food_and_Drug_Retailers, Oil_and_Gas_Producers, Electricity, @2008, Beverages, General_Retailers, Household_Goods_and_Home_Construction, Health_Care_Equipment_and_Services, General_Industrials, @2009, Industrial_Metals_and_Mining, Food_Producers, @2013, Pharmaceuticals_and_Biotechnology, @2012, EMPL_ADJ, Electronic_and_Electrical_Equipment, @2015, Construction_and_Materials, @2010, Software_and_Computer_Services, ESG_COMP, TD_TA_ADJ, Automobiles_and_Parts, @2016, Chemicals, @2011, RD_TS_ADJ, Technology_Hardware_and_Equipment, @2017, MALAYSIA, CZECH_REPUBLIC, RUSSIAN_FEDERATION, PORTUGAL, THAILAND, CHILE, MEXICO, NEW_ZEALAND, HUNGARY, POLAND, ISRAEL, INDONESIA, NETHERLANDS, AUSTRIA, SOUTH_AFRICA, BELGIUM, GREECE, PHILIPPINES, INDIA, SWITZERLAND, AUSTRALIA, BRAZIL, NORWAY, HONG_KONG, FINLAND, TURKEY, ITALY, DENMARK, SOUTH_KOREA, FRANCE, GERMANY, SWEDEN, CANADA, CHINA, UNITED_KINGDOM, SPAIN, TAIWAN, JAPAN

Table 28: ANOVA of the reduced and complete regression model M2.1 (own representation)

5.2.2 Model 2.2

As in the analysis of the previous model M1.2, *ROA_ADJ*, *ROE_ADJ* and *STOCK_RETURN_ADJ* will be used as CFP measures, while *ESG_COMP* will be used as the CSP measure in model M2.2. As the effect of the degree of internationalization is tested using the foreign sales share *FS_TS_ADJ* and the foreign assets share *FA_TA_ADJ*, a total of 6 variations of model M2.2 are estimated. The complete regression output for variation (1), which is the variation with the highest

explanatory power and high coefficient significances, can be reviewed in appendix E, exemplary for all 6 variations of model M2.2.

Table 29 reports the summary of the estimation results of these model variations. Variations (1)–(3) show the results for the regressions of the three CFP measures *ROA_ADJ*, *ROE_ADJ* and *STOCK_RETURN_ADJ* on the overall ESG score *ESG_COMP* and the foreign sales share *FS_TS_ADJ*, while variations (4)–(6) show the ones on *ESG_COMP* and the foreign assets share *FA_TA_ADJ*; the control variables are the same throughout all of the 6 regression models. As explained throughout the discussion of the results of model M1.1, standardized coefficients are used in the interpretations.

Regarding the regressions on the foreign sales share *FS_TS_ADJ*, i.e. model variations (1)–(3), only the ones of *ROA_ADJ* and *ROE_ADJ* yield statistically significant coefficients on the 5% level, whereas the one of *STOCK_RETURN_ADJ* does not indicate any statistically significant coefficients for *ESG_COMP* and *FS_TS_ADJ*. In the regression of *ROA_ADJ* (variation (1)), both the overall ESG score *ESG_COMP* and the foreign sales share *FS_TS_ADJ* have a positive effect, with the effect size of *ESG_COMP* being smaller compared to the benchmark model M1.1. In the regression of *ROE_ADJ* (variation (2)), both the overall ESG score *ESG_COMP* and the foreign sales share *FS_TS_ADJ* have a positive effect, with the effect size of *ESG_COMP* being a bit smaller compared to the benchmark model M1.1, and the effect size of *FS_TS_ADJ* being more than double the one obtained in variation (1).

Regarding the regressions on the foreign assets share *FA_TA_ADJ*, i.e. model variations (4)–(6), no statistically significant coefficients on the 5% level are obtained, implying that, in contrast to the foreign sales share, the foreign assets share does not have a statistically significant effect on any of the three tested CFP measures.

	(1)		(2)		(3)		(4)		(5)		(6)	
	ROA_ADJ		ROE_ADJ		STOCK_RETURN _ADJ		ROA_ADJ		ROE_ADJ		STOCK_RETURN _ADJ	
Observations	8747		8436		8817		7292		7048		7346	
Adjusted R^2	0,240		0,180		0,205		0,236		0,178		0,205	
Durbin-Watson	2,003		1,990		1,888		2,013		2,001		1,912	
p-value (F statistic)	0,000		0,000		0,000		0,000		0,000		0,000	
Highest VIF	2,411		2,387		2,426		2,357		2,337		2,367	
	Stand. Coeff.	p-value	Stand. Coeff.	p-value	Stand. Coeff.	p-value	Stand. Coeff.	p-value	Stand. Coeff.	p-value	Stand. Coeff.	p-value
Constant		0,0%		0,0%		0,0%		0,0%		0,0%		0,0%
ESG_COMP	0,030	0,5%	0,071	0,0%	-0,016	15,3%	0,044	0,0%	0,079	0,0%	-0,018	14,2%
FS_TS_ADJ	0,090	0,0%	0,055	0,0%	0,012	38,3%						
FA_TA_ADJ							0,013	31,0%	-0,008	56,6%	-0,018	15,7%
Country Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
Year Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
EMPL_ADJ	-0,027	0,9%	0,010	36,6%	-0,007	51,3%	-0,029	1,0%	0,006	62,0%	-0,008	49,2%
RD_TS_ADJ	-0,101	0,0%	-0,114	0,0%	-0,029	4,2%	-0,080	0,0%	-0,088	0,0%	-0,015	33,9%
TD_TA_ADJ	-0,276	0,0%	-0,129	0,0%	-0,099	0,0%	-0,263	0,0%	-0,118	0,0%	-0,082	0,0%
CO_AGE_RC	-0,028	1,1%	-0,010	40,6%	-0,021	6,4%	-0,033	0,8%	-0,009	49,4%	-0,022	8,5%

Table 29: Regression results of the 6 variations of model M2.2
(own representation)

In order to substantiate this observation and to test the research hypothesis H2.2, which reads '*The degree of internationalization plays an important role in the CSP-*

CFP relationship, i.e. it accounts for a significant amount of variation in CFP. The degree of internationalization is expected to have a positive effect on CFP.', a partial F-test is run.

Model M2.2 variation (1) serves as the complete model, as it is the variation with the highest explanatory power and high coefficient significances, whereas the foreign sales share *FS_TS_ADJ* is removed in the reduced model, making it equal to variation (1) of the benchmark model M1.1. The ANOVA for the reduced and the complete model is presented in Table 31. The resulting F statistic amounts to 46,079, whereas the critical value according to the F table for the 5% significance level lies below 3,9. Hence, the null hypothesis, stating that the foreign sales share's coefficient is zero, can be rejected, implying that it reduces the unexplained variation in the dependent variable. The increase in the adjusted R^2 from 0,236 to 0,240 resulting from the inclusion of the foreign sales share (cf. Table 30), illustrates that the foreign sales share slightly adds to the explanatory power of the model. The complete regression output for the reduced and complete variation (1) of model M2.2 is provided in appendix F.

In conclusion, the findings support the research hypothesis H2.2, when using the foreign sales share as the measure of the degree of internationalization.

As put forth in the literature review, the effect of the (quantitative) degree of internationalization has been almost entirely neglected in the research on the CSP-CFP relationship to this point. So far it was used in only two studies, authored by Strike, Gao and Bansal (2006) and Kang (2012). As both studies were interested in explaining the variation in CSP, however, the authors based the analyses on the less common, and less evidenced, slack resource theory (cf. subsection 2.4.5 above), according to which CFP leads to CSP, which is why they included CFP as an independent variable in their models. The finding of the study at hand, that the degree of internationalization (operationalized as the foreign sales share) positively moderates the CSP-CFP relationship, is hence considered a novel research result, which is not to be compared with the above-mentioned studies. The finding supports a central idea of this thesis, which was concluded after the second-level literature review, and which suggests that highly internationalized companies with good CSP are on average more successful in financial terms than companies not belonging to this particular group (cf. bigger effect size, as expressed by the standardized regression coefficients, compared to the benchmark model M1.1).

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,494[a]	,244	,236	5,31312	
2	,498[b]	,248	,240	5,29934	2,003

a. Predictors: (Constant), CO_AGE_RC, @2014, NORWAY, THAILAND, RUSSIAN_FEDERATION, PHILIPPINES, CHILE, NEW_ZEALAND, INDIA, CZECH_REPUBLIC, ISRAEL, MALAYSIA, TURKEY, Nonlife_Insurance, PORTUGAL, SOUTH_AFRICA, NETHERLANDS, GREECE, HUNGARY, Gas__Water_and_Multiutilities, BRAZIL, AUSTRIA, INDONESIA, Real_Estate_Investment_and_Services, MEXICO, Equity_Investment_Instruments, POLAND, Alternative_Energy, Real_Estate_Investment_Trusts, FINLAND, DENMARK, AUSTRALIA, BELGIUM, ITALY, Tobacco, Mining, Support_Services, Media, SWITZERLAND, @2018, Leisure_Goods, Industrial_Transportation, Food_and_Drug_Retailers, @2008, Household_Goods_and_Home_Construction, Personal_Goods, General_Retailers, Mobile_Telecommunications, SOUTH_KOREA, @2009, Forestry_and_Paper, Travel_and_Leisure, Aerospace_and_Defense, Financial_Services, Oil_Equipment_and_Services, General_Industrials, Fixed_Line_Telecommunications, HONG_KONG, @2012, Beverages, FRANCE, CHINA, Electronic_and_Electrical_Equipment, GERMANY, @2010, Food_Producers, Electricity, Construction_and_Materials, SWEDEN, TAIWAN, CANADA, @2013, Industrial_Metals_and_Mining, Automobiles_and_Parts, UNITED_KINGDOM, Health_Care_Equipment_and_Services, Oil_and_Gas_Producers, @2015, EMPL_ADJ, Pharmaceuticals_and_Biotechnology, SPAIN, TD_TA_ADJ, Software_and_Computer_Services, @2016, ESG_COMP, Chemicals, @2011, RD_TS_ADJ, JAPAN, Technology_Hardware_and_Equipment, @2017

b. Predictors: (Constant), CO_AGE_RC, @2014, NORWAY, THAILAND, RUSSIAN_FEDERATION, PHILIPPINES, CHILE, NEW_ZEALAND, INDIA, CZECH_REPUBLIC, ISRAEL, MALAYSIA, TURKEY, Nonlife_Insurance, PORTUGAL, SOUTH_AFRICA, NETHERLANDS, GREECE, HUNGARY, Gas__Water_and_Multiutilities, BRAZIL, AUSTRIA, INDONESIA, Real_Estate_Investment_and_Services, MEXICO, Equity_Investment_Instruments, POLAND, Alternative_Energy, Real_Estate_Investment_Trusts, FINLAND, DENMARK, AUSTRALIA, BELGIUM, ITALY, Tobacco, Mining, Support_Services, Media, SWITZERLAND, @2018, Leisure_Goods, Industrial_Transportation, Food_and_Drug_Retailers, @2008, Household_Goods_and_Home_Construction, Personal_Goods, General_Retailers, Mobile_Telecommunications, SOUTH_KOREA, @2009, Forestry_and_Paper, Travel_and_Leisure, Aerospace_and_Defense, Financial_Services, Oil_Equipment_and_Services, General_Industrials, Fixed_Line_Telecommunications, HONG_KONG, @2012, Beverages, FRANCE, CHINA, Electronic_and_Electrical_Equipment, GERMANY, @2010, Food_Producers, Electricity, Construction_and_Materials, SWEDEN, TAIWAN, CANADA, @2013, Industrial_Metals_and_Mining, Automobiles_and_Parts, UNITED_KINGDOM, Health_Care_Equipment_and_Services, Oil_and_Gas_Producers, @2015, EMPL_ADJ, Pharmaceuticals_and_Biotechnology, SPAIN, TD_TA_ADJ, Software_and_Computer_Services, @2016, ESG_COMP, Chemicals, @2011, RD_TS_ADJ, JAPAN, Technology_Hardware_and_Equipment, @2017, FS_TS_ADJ

c. Dependent Variable: ROA_ADJ

Table 30: Model summary of the reduced and complete regression model M2.2 variation (1) (own representation)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	78754,663	91	865,436	30,657	,000[b]
	Residual	244324,515	8655	28,229		
	Total	323079,178	8746			
2	Regression	80048,701	92	870,095	30,983	,000[c]
	Residual	243030,478	8654	28,083		
	Total	323079,178	8746			

a. Dependent Variable: ROA_ADJ

b. Predictors: (Constant), CO_AGE_RC, @2014, NORWAY, THAILAND, RUSSIAN_FEDERATION, PHILIPPINES, CHILE, NEW_ZEALAND, INDIA, CZECH_REPUBLIC, ISRAEL, MALAYSIA, TURKEY, Nonlife_Insurance, PORTUGAL, SOUTH_AFRICA, NETHERLANDS, GREECE, HUNGARY, Gas__Water_and_Multiutilities, BRAZIL, AUSTRIA, INDONESIA, Real_Estate_Investment_and_Services, MEXICO, Equity_Investment_Instruments, POLAND, Alternative_Energy, Real_Estate_Investment_Trusts, FINLAND, DENMARK, AUSTRALIA, BELGIUM, ITALY, Tobacco, Mining, Support_Services, Media, SWITZERLAND, @2018, Leisure_Goods, Industrial_Transportation, Food_and_Drug_Retailers, @2008, Household_Goods_and_Home_Construction, Personal_Goods, General_Retailers, Mobile_Telecommunications, SOUTH_KOREA, @2009, Forestry_and_Paper, Travel_and_Leisure, Aerospace_and_Defense, Financial_Services, Oil_Equipment_and_Services, General_Industrials, Fixed_Line_Telecommunications, HONG_KONG, @2012, Beverages, FRANCE, CHINA, Electronic_and_Electrical_Equipment, GERMANY, @2010, Food_Producers, Electricity, Construction_and_Materials, SWEDEN, TAIWAN, CANADA, @2013, Industrial_Metals_and_Mining, Automobiles_and_Parts, UNITED_KINGDOM, Health_Care_Equipment_and_Services, Oil_and_Gas_Producers, @2015, EMPL_ADJ, Pharmaceuticals_and_Biotechnology, SPAIN, TD_TA_ADJ, Software_and_Computer_Services, @2016, ESG_COMP, Chemicals, @2011, RD_TS_ADJ, JAPAN, Technology_Hardware_and_Equipment, @2017

c. Predictors: (Constant), CO_AGE_RC, @2014, NORWAY, THAILAND, RUSSIAN_FEDERATION, PHILIPPINES, CHILE, NEW_ZEALAND, INDIA, CZECH_REPUBLIC, ISRAEL, MALAYSIA, TURKEY, Nonlife_Insurance, PORTUGAL, SOUTH_AFRICA, NETHERLANDS, GREECE, HUNGARY, Gas__Water_and_Multiutilities, BRAZIL, AUSTRIA, INDONESIA, Real_Estate_Investment_and_Services, MEXICO, Equity_Investment_Instruments, POLAND, Alternative_Energy, Real_Estate_Investment_Trusts, FINLAND, DENMARK, AUSTRALIA, BELGIUM, ITALY, Tobacco, Mining, Support_Services, Media, SWITZERLAND, @2018, Leisure_Goods, Industrial_Transportation, Food_and_Drug_Retailers, @2008, Household_Goods_and_Home_Construction, Personal_Goods, General_Retailers, Mobile_Telecommunications, SOUTH_KOREA, @2009, Forestry_and_Paper, Travel_and_Leisure, Aerospace_and_Defense, Financial_Services, Oil_Equipment_and_Services, General_Industrials, Fixed_Line_Telecommunications, HONG_KONG, @2012, Beverages, FRANCE, CHINA, Electronic_and_Electrical_Equipment, GERMANY, @2010, Food_Producers, Electricity, Construction_and_Materials, SWEDEN, TAIWAN, CANADA, @2013, Industrial_Metals_and_Mining, Automobiles_and_Parts, UNITED_KINGDOM, Health_Care_Equipment_and_Services, Oil_and_Gas_Producers, @2015, EMPL_ADJ, Pharmaceuticals_and_Biotechnology, SPAIN, TD_TA_ADJ, Software_and_Computer_Services, @2016, ESG_COMP, Chemicals, @2011, RD_TS_ADJ, JAPAN, Technology_Hardware_and_Equipment, @2017, FS_TS_ADJ

Table 31: ANOVA of the reduced and complete regression model M2.2 variation (1) (own representation)

5.2.3 Model 2.3

As in the analysis of the previous models, *ROA_ADJ*, *ROE_ADJ* and *STOCK_RETURN_ADJ* will be used as measures of CFP, *ESG_COMP* as the CSP measure and *FS_TS_ADJ* as the DOI measure, resulting in the estimation of a total of 3 variations of model M2.3. In order to avoid multicollinearity issues resulting from the simultaneous inclusion of *ESG_COMP*, *FS_TS_ADJ* and the interaction term of the

two *ESG_COMP_x_FS_TS_ADJ*, centered versions of the two variables are created by subtracting the variables' means from their values. The centered versions are denoted *ESG_COMP_CENT* and *FS_TS_ADJ_CENT* and the resulting interaction term is denoted *ESG_COMP_CENT_x_FS_TS_ADJ_CENT*. The complete regression output for variation (1), which is the variation with the highest explanatory power and high coefficient significances, can be reviewed in appendix G, exemplary for all 3 variations of model M2.3.

Table 32 reports the summary of the estimation results of these model variations. As explained throughout the discussion of the results of model M1.1, standardized coefficients are used in the interpretations. For all three measures of CFP, the regression produces statistically insignificant coefficients on the 5% level of the interaction term *ESG_COMP_CENT_x_FS_TS_ADJ_CENT*; hence, the null hypothesis, stating that the coefficient of the interaction term is different from zero, cannot be rejected.

In conclusion, the research hypothesis H2.3, which reads '*The degree of internationalization moderates the CSP-CFP relationship, i.e. the interaction of CSP and DOI strengthens the positive effect of CSP on CFP.*', is not supported by the results of the analysis.

As noted in the discussion of the results of Model M2.2 above, the effect of the (quantitative) degree of internationalization has so far been neglected in studies on the CSP-CFP relationship, which propose CFP as the explained variable. The finding of the study at hand, that – contrary to expectations – the interaction of CSP and DOI does not augment the positive effect of CSP on CFP is hence considered a novel research result, which is not to be compared with the above-mentioned studies. Given that the effect size on CFP, as expressed by the (statistically significant) standardized regression coefficients, is on the same level as it is for model M2.2, the results of model M2.3 provide confirmation for the previously discussed finding of model M2.2.

	(1)		(2)		(3)	
	ROA_ADJ		ROE_ADJ		STOCK_RETURN _ADJ	
Observations	8747		8436		8817	
Adjusted R^2	0,240		0,180		0,205	
Durbin-Watson	2,003		1,989		1,889	
p-value (F statistic)	0,000		0,000		0,000	
Highest VIF	2,413		2,389		2,428	
	Stand. Coeff.	p-value	Stand. Coeff.	p-value	Stand. Coeff.	p-value
Constant		0,0%		0,0%		0,0%
ESG_COMP_CENT	0,034	0,4%	0,068	0,0%	-0,014	23,8%
FS_TS_ADJ_CENT	0,091	0,0%	0,054	0,0%	0,012	36,6%
ESG_COMP_CENT_x_FS_TS_ADJ_CENT	-0,009	45,3%	0,007	56,1%	-0,003	77,8%
Country Fixed Effects	Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes	
Year Fixed Effects	Yes		Yes		Yes	
EMPL_ADJ	-0,027	0,9%	0,010	37,1%	-0,007	51,6%
RD_TS_ADJ	-0,101	0,0%	-0,114	0,0%	-0,029	4,2%
TD_TA_ADJ	-0,276	0,0%	-0,129	0,0%	-0,099	0,0%
CO_AGE_RC	-0,028	1,3%	-0,010	38,9%	-0,021	6,8%

Table 32: Regression results of the 3 variations of model M2.3 (own representation)

5.3 Results and Discussion of the Models 3.1–3.3

5.3.1 Model 3.1

As in the analysis of the previous models, *ROA_ADJ*, *ROE_ADJ* and *STOCK_RETURN_ADJ* will be used as measures of CFP, while *ESG_COMP* will be used as the CSP measure and *FS_TS_ADJ* as the DOI measure in model M3.1. As the effect of the home-country governance quality is tested using the newly created overall governance quality score *GQ_COMP_RC*, a total of 3 variations of model M3.1 are estimated. In order to avoid multicollinearity issues resulting from the simultaneous inclusion of a governance quality variable and the country dummy variables, the country dummy variables are removed from models M3.1–M3.3 for the sake of the analysis of research hypotheses H3.1–H3.3. Exchanging the country dummy variables with one of the governance quality scores is accompanied by a considerable drop in the explanatory power of the model, as evidenced by the adjusted R^2 in Table 33; however, the extent of multicollinearity caused by the simultaneous inclusion of the country dummy variables and one of the governance quality scores cannot be tolerated, as it severely impairs the accuracy of the respective coefficient estimates. The complete regression output for variation (2), which is the variation with the highest coefficient significance, can be reviewed in appendix H, exemplary for all 3 variations of model M3.1.

Table 33 reports the summary of the estimation results of these model variations. As explained throughout the discussion of the results of model M1.1, standardized coefficients are used in the interpretations.

Regarding the regressions of *ROA_ADJ* (variation (1)) and *ROE_ADJ* (variation (2)), the overall governance quality score *GQ_COMP_RC* has a statistically significant

effect (on the 5% level); however, the effect is estimated to be negative, implying that a higher home-country governance quality is associated with a lower financial performance. Regarding the regression of *STOCK_RETURN_ADJ* (variation (3)), the overall governance quality score *GQ_COMP_RC* does not have a statistically significant effect on the 5% level, implying that home-country governance quality has no effect on financial performance.

In conclusion, the research hypothesis H3.1, which reads '*The home-country governance quality plays an important role in the CSP-CFP relationship, i.e. it accounts for a significant amount of variation in CFP. The home-country governance quality is expected to have a positive effect on CFP.*', is partly supported and partly invalidated by the results. On the one hand, the inclusion of the overall home-country governance quality yields a statistically significant coefficient on the 5% level (for regressions of *ROA_ADJ* and *ROE_ADJ*) and adds to the explanatory power of the model. On the other hand, contrary to expectations, the estimated coefficient is negative.

A possible effect of the home-country governance quality on the CSP-CFP relationship was investigated in order to explore the qualitative internationalization effects of home-country characteristics on the CSP-CFP relationship more thoroughly. Based on the literature suggesting that home-country institutions affect the CSP-CFP relationship, as reviewed in several subsections above (cf. 2.4.2, 2.5.1, 3.1.2, 3.1.3, 3.1.4 & 3.1.5), governance quality was chosen as a more sophisticated indicator of the home-country effect, i.e. to explicate the country fixed effects. Regarding the existence of an effect of the home-country governance quality on the CSP-CFP relationship, the result of the analysis is in line with the literature, as statistically significant coefficients were obtained and the explanatory power of the model was increased.

As outlined in subsection 3.2.3, the thesis at hand conceives governance quality as a proxy for foundational country-level differences important to the attitude of corporations towards CSR behavior grounded in their country of origin. Since governance quality is seen as an indicator of the prevalent attitude towards socially desirable behaviors, such as accountability, lawfulness, justice and ethics, among others, emanating from the institutional into the business sphere, a positive effect of HCQG on the CSP-CFP relationship was expected. Hence, the result of the analysis is not in line with the expectations, suggesting that companies from countries with a high institutional governance quality are on average less successful in financial terms. A possible explanation, which would have to be thoroughly investigated first, however, could be that certain governance pillars, such as the regulatory environment, have disproportionately large effects on corporations and are not necessarily improving the ease of doing business, as e.g. in the case of higher regulatory hurdles compared to foreign competitors.

	(1)		(2)		(3)	
	ROA_ADJ		ROE_ADJ		STOCK_RETURN _ADJ	
Observations	8389		8084		8444	
Adjusted R^2	0,149		0,094		0,199	
Durbin-Watson	1,964		1,954		1,892	
p-value (F statistic)	0,000		0,000		0,000	
Highest VIF	2,378		2,354		2,392	
	Stand. Coeff.	p-value	Stand. Coeff.	p-value	Stand. Coeff.	p-value
Constant		0,0%		0,0%		0,0%
ESG_COMP	0,005	64,4%	0,052	0,0%	-0,022	4,3%
FS_TS_ADJ	0,160	0,0%	0,142	0,0%	0,026	2,7%
GQ_COMP_RC	-0,110	0,0%	-0,094	0,0%	-0,009	39,2%
Country Fixed Effects	Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes	
Year Fixed Effects	Yes		Yes		Yes	
EMPL_ADJ	-0,048	0,0%	-0,007	53,0%	-0,012	24,6%
RD_TS_ADJ	-0,074	0,0%	-0,086	0,0%	-0,002	89,4%
TD_TA_ADJ	-0,247	0,0%	-0,120	0,0%	-0,088	0,0%
CO_AGE_RC	-0,028	1,5%	-0,004	72,1%	-0,003	80,2%

Table 33: Regression results of the 3 variations of model M3.1 (own representation)

5.3.2 MODEL 3.2

As in the analysis of the previous models, *ROA_ADJ*, *ROE_ADJ* and *STOCK_RETURN_ADJ* will be used as measures of CFP, *ESG_COMP* as the CSP measure, *FS_TS_ADJ* as the DOI measure and *GQ_COMP_RC* as the HCGQ measure, resulting in the estimation of a total of 3 variations of model M3.2. In order to avoid multicollinearity issues resulting from the simultaneous inclusion of *ESG_COMP*, *GQ_COMP_RC* and the interaction term of the two *ESG_COMP_x_GQ_COMP_RC*, centered versions of the two variables are created by subtracting the variables' means from their values. The centered versions are denoted *ESG_COMP_CENT* and *GQ_COMP_RC_CENT* and the resulting interaction term is denoted *ESG_COMP_CENT_x_GQ_COMP_RC_CENT*. The complete regression output for variation (2), which is the variation with the highest coefficient significances, can be reviewed in appendix I, exemplary for all 3 variations of model M3.2.

Table 34 reports the summary of the estimation results of these model variations. As explained throughout the discussion of the results of model M1.1, standardized coefficients are used in the interpretations.

In the regressions of *ROA_ADJ* (variation (1)), the coefficients of the overall ESG score *ESG_COMP_CENT* and the interaction term *ESG_COMP_CENT_x_GQ_COMP_RC_CENT* are statistically insignificant on the 5% level, i.e. they cannot be regarded different from zero. In the regression of *STOCK_RETURN_ADJ* (variation (3)), the same coefficients and additionally the one of the overall governance quality score *GQ_COMP_RC_CENT* are statistically insignificant on the 5% level.

However, the regression of *ROE_ADJ* (variation (2)) yielded statistically significant coefficients for all four of the dependent (non-control) variables. The coefficient of the interaction term of the overall ESG score and the overall governance quality score is not only statistically significant, but also has a positive and practically relevant effect size, when compared to the other coefficients in the model. Hence, it can be concluded, that the home-country governance quality moderates the CSP-CFP relationship, when CFP operationalized using the return on equity.

In conclusion, the research hypothesis H3.2, which reads '*The home-country governance quality moderates the CSP-CFP relationship, i.e. the interaction of CSP and HCGQ strengthens the positive effect of CSP on CFP.*', is mostly supported by the results. On the one hand, using the return on assets or the stock return as the measure of CFP, no statistically significant effect was found. On the other hand, using the return on equity as the measure of CFP, yielded the expected results and fully supports the hypothesis. In short, one out of three regression analyses fully supports the hypothesis, while the other two at least do not contradict it.

Drawing on the basis given by the above-analyzed model M3.1 as well as the conception that the components of governance quality are the building blocks of well-functioning institutional systems and market mechanisms, which according to Wang, Dou and Jia (2016) are the drivers behind the observation that the CSP-CFP relationship is stronger for firms from advanced economies than for firms from developing economies, as outlined in subsection 3.2.3, the effect of the interaction of CSP and HCGQ on the CSP-CFP relationship was investigated. In line with the expectations, which were formed based on the above conception of the literature, the interaction of CSP and HCQG were found to strengthen the positive effect of CSP on CFP (operationalized as the return on equity).

	(1)		(2)		(3)	
	ROA_ADJ		**ROE_ADJ**		**STOCK_RETURN _ADJ**	
Observations	8389		8084		8444	
Adjusted R^2	0,149		0,095		0,199	
Durbin-Watson	1,966		1,956		1,892	
p-value (F statistic)	0,000		0,000		0,000	
Highest VIF	2,378		2,354		2,392	
	Stand. Coeff.	**p-value**	**Stand. Coeff.**	**p-value**	**Stand. Coeff.**	**p-value**
Constant		0,0%		0,0%		0,0%
ESG_COMP_CENT	-0,001	90,5%	0,039	0,2%	-0,021	7,2%
FS_TS_ADJ	0,160	0,0%	0,140	0,0%	0,026	2,6%
GQ_COMP_RC_CENT	-0,110	0,0%	-0,094	0,0%	-0,009	39,4%
ESG_COMP_CENT_x_GQ_COMP_RC_CENT	0,021	5,7%	0,042	0,0%	-0,005	64,6%
Country Fixed Effects	Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes	
Year Fixed Effects	Yes		Yes		Yes	
EMPL_ADJ	-0,048	0,0%	-0,008	47,8%	-0,012	25,0%
RD_TS_ADJ	-0,074	0,0%	-0,087	0,0%	-0,002	90,1%
TD_TA_ADJ	-0,247	0,0%	-0,120	0,0%	-0,088	0,0%
CO_AGE_RC	-0,028	1,4%	-0,005	67,6%	-0,003	80,9%

Table 34: Regression results of the 3 variations of model M3.2 (own representation)

5.3.3 MODEL 3.3

As in the analysis of the previous models, *ROA_ADJ*, *ROE_ADJ* and *STOCK_RETURN_ADJ* will be used as measures of CFP, *ESG_COMP* as the CSP measure, *FS_TS_ADJ* as the DOI measure and *GQ_COMP_RC* as the HCGQ measure, resulting in the estimation of a total of 3 variations of model M3.3. In order to avoid multicollinearity issues resulting from the simultaneous inclusion of *ESG_COMP*, *FS_TS_ADJ*, *GQ_COMP_RC* and the interaction term of the three *ESG_COMP_x_FS_TS_ADJ_x_GQ_COMP_RC*, centered versions of the three variables are created by subtracting the variables' means from their values. The centered versions are denoted *ESG_COMP_CENT*, *FS_TS_ADJ_CENT* and *GQ_COMP_RC_CENT,* and the resulting interaction term is denoted *ESG_COMP_CENT_x_FS_TS_ADJ_CENT_x_GQ_COMP_RC_CENT*. The complete regression output for variation (2), which is the variation with the highest coefficient significances, can be reviewed in appendix J, exemplary for all 3 variations of model M3.3.

Table 35 reports the summary of the estimation results of these model variations. As explained throughout the discussion of the results of model M1.1, standardized coefficients are used in the interpretations.

The regressions of all three available CFP operationalizations yield statistically insignificant coefficients of the interaction term *ESG_COMP_CENT_x_FS_TS_ADJ_CENT_x_GQ_COMP_RC_CENT* on the 5% level, i.e. they cannot be regarded different from zero.

In conclusion, the research hypothesis H3.3, which reads '*The home-country governance quality and the degree of internationalization together moderate the CSP-CFP relationship, i.e. the interaction of CSP, DOI and HCGQ strengthens the positive effect of CSP on CFP.*', is not supported by the results, as the coefficients of the interaction term were statistically insignificant on the 5% level for the regression analyses of all three CFP measures.

Contrary to the expectations, this result suggests that highly internationalized companies with good CSP and a high institutional governance quality background in their home countries are on average as successful in financial terms as companies not belonging to this particular group.

	(1)		(2)		(3)	
	ROA_ADJ		ROE_ADJ		STOCK_RETURN _ADJ	
Observations	8389		8084		8444	
Adjusted R^2	0,149		0,094		0,199	
Durbin-Watson	1,964		1,954		1,892	
p-value (F statistic)	0,000		0,000		0,000	
Highest VIF	2,379		2,355		2,394	
	Stand. Coeff.	p-value	Stand. Coeff.	p-value	Stand. Coeff.	p-value
Constant		0,0%		0,0%		0,0%
ESG_COMP_CENT	0,009	43,5%	0,054	0,0%	-0,023	4,6%
FS_TS_ADJ_CENT	0,162	0,0%	0,143	0,0%	0,025	3,0%
GQ_COMP_RC_CENT	-0,107	0,0%	-0,092	0,0%	-0,010	38,0%
ESG_COMP_CENT_x_FS_TS_ADJ_CENT_x_GQ_COMP_RC_CENT	-0,013	24,7%	-0,008	51,9%	0,002	84,8%
Country Fixed Effects	Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes	
Year Fixed Effects	Yes		Yes		Yes	
EMPL_ADJ	-0,047	0,0%	-0,007	54,0%	-0,012	24,5%
RD_TS_ADJ	-0,074	0,0%	-0,086	0,0%	-0,002	89,4%
TD_TA_ADJ	-0,248	0,0%	-0,120	0,0%	-0,088	0,0%
CO_AGE_RC	-0,027	1,9%	-0,004	75,3%	-0,003	79,2%

Table 35: Regression results of the 3 variations of model M3.3 (own representation)

6 CONCLUSION

6.1 SUMMARY OF THE STUDY

The research motivation for the thesis at hand was to propose a novel perspective on the CSP-CFP relationship in order to alleviate the inconclusiveness surrounding the existing research results. As the topic has not been addressed in a similar fashion so far, the study first establishes the foundation for the subsequent analyses by reviewing the existing literature on the CSP-CFP relationship, shedding light on the inconclusiveness of the research results surrounding it, and proposing and exploring possible approaches contributing to overcoming the inconclusiveness (cf. section 2).

Along the course of the literature review, the CSP-CFP relationship was found to have a trending positive, but widely inconclusive relationship. In the ensuing review of possible causes for the inconclusiveness, econometric issues concerning the data sample, model misspecifications, variable measurement and the omission of mediating and moderating factors were discussed, among others. Indications were found that country-level differences, e.g. regarding the institutional environment, to which internationally operating companies are exposed, affect the CSP-CFP relationship – however, despite being frequently discussed, they were neglected in the research so far.

To explore the identified research gap, the review of the CSP-CFP relationship was followed by a review of possible effects arising in connection with the degree of internationalization in general, also extending the review to adjacent research on the INT-CSP and INT-CFP relationships. The importance of internationalization for the two components of the CSP-CFP relationship, i.e. CSP and CFP separately, in combination with the lack of prior research, confirmed that the role of internationalization within the CSP-CFP relationship is a research gap worth exploring (cf. section 3).

The investigation of the internationalization perspective on the CSP-CFP relationship yielded three research categories, for which a total of eight individual research hypotheses were deduced. The first research category concerns the basic CSP-CFP relationship, as it is widely used in the literature. In order to create a benchmark for the results of the following analyses and to test, whether the widespread research results can be reproduced using the recent dataset at hand, the two research hypotheses concerned the slightly positive effect that CSP has on CFP and the causality direction and time lag between CSP and CFP. Whereas the effect of CSP on CFP could be confirmed to be positive and rather small in size, hence supporting the hypothesis H1.1 – at least for the used accounting-based measures of CFP – large parts of the results contradicted the hypothesis H1.2, indicating that concurrent CSP has a stronger effect on CFP instead (cf. subsection 5.1).

The second research category concerns the quantitative and qualitative dimensions of internationalization and their impact on the CSP-CFP relationship. Both the qualitative and quantitative dimension of INT were found to play important roles in the CSP-CFP relationship, thereby supporting the hypotheses H2.1 and H2.2. However, the proposed augmented moderating effect on the CSP-CFP relationship resulting from the combination of the degree of internationalization and CSP could not be substantiated, which is why the hypothesis H2.3 is not supported by the results (cf. subsection 5.2).

The third research category concerns the explication of the home-country effect within the qualitative dimension of internationalization through the use of home-country governance quality as an indicator of the institutional environment in the companies' home country. Replacing simple country dummies with the HCGQ added to the explanatory power of the model and produced a significant regression coefficient, as expected through hypothesis H3.1, indicating that HCGQ plays an important role in the CSP-CFP relationship; however, contrary to expectations, the estimated coefficient was negative, implying that a higher home-country governance quality actually impairs financial performance. The augmented moderating effect on the CSP-CFP relationship resulting from the combination of the HCGQ and CSP, as proposed by hypothesis H3.2, could be substantiated using the return on equity measure of CFP, indicating that companies with good CSP and a high governance quality background are on average more successful in financial terms. Eventually, the augmented moderating effect of a combination of the HCGQ, the degree of internationalization and CSP proposed by hypothesis H3.3 could not be observed, indicating that highly internationalized companies with good CSP and a high governance quality background are on average as successful in financial terms as companies not belonging to this particular group (cf. subsection 5.3).

Summing up the results of the various analyses, the study found the expected basic CSP-CFP relationship, and it found qualitative as well as quantitative internationalization to be important factors impacting the relationship. Whereas quantitative internationalization was not found to moderate the CSP-CFP relationship, the home-country governance quality as one dimension of qualitative internationalization was found to positively moderate it. The combination of quantitative internationalization and the HCGQ in turn was not found to moderate the relationship.

6.2 Limitations and Future Research Opportunities

Along the course of the development of the study at hand, several limitations and starting points for future research on the topic were uncovered. They shall be briefly discussed in the following paragraphs.

Towards the end of the literature review (cf. subsection 2.5.2), it was concluded that the existing research on the CSP-CFP relationship varies in terms of essential characteristics, such as (i) different definitions and operationalizations of CSP and CFP; (ii) different theoretical frameworks, which underpin the research hypotheses and which sometimes oppose each other; (iii) dataset differences regarding the CSP dimensions, the CFP measurement types as well as the industry, country and timeframe in focus; and (iv) different econometric methodologies applied. The author proposes that the existing theories and empirical strategies should be unified and that future research should – aside from the incremental advances proposed by the scholars, as presented above – also focus on: (i) a more fundamental understanding of the CSP-CFP relationship, including the theories underpinning it and the underlying mechanisms translating one into the other (cf. subsection 2.5.1 above); (ii) the establishment of best practices regarding the empirical strategies employed, including the statistical methods applied, the model specifications and the conceptualization and operationalization of CSP and CFP; and (iii) exploring the impacts on the CSP-CFP relationship caused by the sector, country and timeframe differences. The last suggestion was one of the factors addressed in the paper at hand, since the effect of country-level differences was analyzed, as put forth and explained above.

The severest limitation is that the lack of consistent geographic segment data restricted the type of analyses, which could be performed in the study. One result of the literature review was that internationalization should ideally have been operationalized holistically, i.e. capturing both dimensions of internationalization, the quantitative and the qualitative dimension, to the full extent. The quantitative dimension was at least partly assessable with the available data, as the depth of internationalization (cf. subsection 3.1.5) could be employed in the analyses using the ratios of foreign sales to total sales and of foreign assets to total assets; the breadth of internationalization (cf. subsection 3.1.5) could not be employed in the analyses however, since the

dispersion of the companies' foreign operations, as for instance measured by the number of countries or regions, could not be captured with the available data. The lack of consistent data regarding the companies' countries or regions of operation also denies the employment of important parts of the qualitative dimension of internationalization (cf. subsection 3.1.5) in the analyses. Hence, only home-country effects could be analyzed, whereas it was not possible to extend the analyses to host-country effects and to effects resulting from the differences between home and host countries. Such effects were addressed from a theoretical perspective in subsection 3.1.5 and could have been implemented using the CAGE distance framework (based on Ghemawat (2011) and modelled after the approach of Campbell, Eden and Miller (2012)) or the concept of national business systems (based on Whitley (1997) and modelled after the approach of Ioannou and Serafeim (2012)). Since the concept of internationalization could not be captured as planned, the results obtained in this study are only valid for the way in which internationalization could actually be employed, i.e. the depth of internationalization and the home-country effect. As soon as the data quality is improved and consistent geographic segment data becomes available for such a large dataset as the one employed in this study, it would be a promising future research opportunity to rerun the described analyses.

Several less severe limitations were identified, two of which shall be briefly mentioned. One concerns the random sampling of the observed companies. It cannot be ensured that the ASSET4 Global company universe represents a random sample, as it is constituted by the aggregation of numerous stock market indices. As the inclusion of stock market indices into the ASSET4 Global company universe does not follow a transparent procedure and the inclusion of companies into stock market indices in general is subject to diverse criteria, it is questionable, whether the results of this study are generalizable beyond the companies in the dataset. Given the large number of 6393 companies from 50 countries, this is seen as a minor issue, however. As mentioned before, another limitation concerns the operationalization of CFP. In order to ensure the comparability of results to prior research, it was decided to employ those CFP measures seen as the research standard. However, although they did not find space in the study at hand, the author wants to voice his concerns about the choice of operationalizations, which are influenced by the companies' individual financing structure and national tax systems and hence might result in distorted results, if not accounted for properly. These concerns could be mitigated by employing operationalizations focusing on the companies' operational performance, such as the EBIT margin. Further elaborating on this line of thought and on the differences arising from the choice of CFP operationalizations could be an interesting starting point for future research.

6.3 Research Contribution and Managerial Implications

The study contributes to the academic body of literature in several ways. It provides an extensive state-of-the-art review of the existing literature on the CSP-CFP relationship, places it in the relevant theoretical context and critically reflects upon its research approaches. With internationalization, it develops a novel perspective on the decade-spanning research topic in another attempt to address the inconclusiveness still surrounding the CSP-CFP relationship. By extending the literature review to the adjacent INT-CSP and INT-CFP relationships, it integrates the previously separate research areas. Drawing on the integrated theoretical foundation, the internationalization perspective is framed in a holistic manner. The study's analyses are based on a large dataset, covering companies from a wide range of countries and industries and employing a multidimensional CSP measure, as requested by influential scholars of the research domain, such as Waddock and Graves (1997). Whereas its research hypotheses and subsequent analyses cover large parts of the theoretically derived effect relationship, it identifies those parts that cannot be addressed with the currently accessible data, elaborates on them and thereby opens them up to future research.

Regarding the managerial implications of the findings of the study at hand, two perspectives are considered. From a general CSP-CFP perspective, i.e. without focusing on internationalization, the fact that the weak positive effect of CSP on CFP was confirmed using a large, up-to-date dataset covering companies from a wide range of countries and industries, suggests that the financial performance can be improved by increasing the CSR performance; hence the recommendation to decision makers is to actively look for CSR investment opportunities in order to maximize both, Corporate Social and Corporate Financial Performance. Regarding the internationalization perspective, the finding that the degree of internationalization (operationalized as the foreign sales share) positively moderates the CSP-CFP relationship, supports a central idea of this thesis, which suggests that highly internationalized companies with good CSP are on average more successful in financial terms than companies not belonging to this particular group. The result implies that both internationalization and CSR investment decisions can on average be taken separately from each other, without one compromising the other. The augmented moderating effect on the CSP-CFP relationship resulting from the combination of the HCGQ and CSP, as proposed by hypothesis H3.2, could be substantiated using the return on equity measure of CFP, indicating that companies with good CSP and a high governance quality background are on average more successful in financial terms. The result implies that companies from high governance quality home countries are able to generate additional financial performance from investing in CSR.

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APPENDICES

A FREQUENCY TABLE OF THE ICB SUBSECTOR LEVEL

ICB_SUBSECTOR_CODE	ICB_SUBSECTOR_NAME	Frequency	Percent
533	Exploration & Production	172	2,7%
537	Integrated Oil & Gas	48	0,8%
573	Oil Equipment & Services	91	1,4%
577	Pipelines	18	0,3%
583	Renewable Energy Equipment	20	0,3%
587	Alternative Fuels	6	0,1%
1353	Commodity Chemicals	50	0,8%
1357	Specialty Chemicals	118	1,8%
1733	Forestry	7	0,1%
1737	Paper	26	0,4%
1753	Aluminum	10	0,2%
1755	Nonferrous Metals	47	0,7%
1757	Iron & Steel	77	1,2%
1771	Coal	32	0,5%
1773	Diamonds & Gemstones	6	0,1%
1775	General Mining	70	1,1%
1777	Gold Mining	75	1,2%
1779	Platinum & Precious Metals	20	0,3%
2353	Building Materials & Fixtures	125	2,0%
2357	Heavy Construction	97	1,5%
2713	Aerospace	34	0,5%
2717	Defense	25	0,4%
2723	Containers & Packaging	34	0,5%
2727	Diversified Industrials	62	1,0%
2733	Electrical Components & Equipment	104	1,6%
2737	Electronic Equipment	67	1,0%
2753	Commercial Vehicles & Trucks	78	1,2%
2757	Industrial Machinery	121	1,9%
2771	Delivery Services	15	0,2%
2773	Marine Transportation	45	0,7%
2775	Railroads	11	0,2%
2777	Transportation Services	86	1,3%
2779	Trucking	19	0,3%
2791	Business Support Services	109	1,7%
2793	Business Training & Employment Agencies	22	0,3%
2795	Financial Administration	38	0,6%
2797	Industrial Suppliers	30	0,5%
2799	Waste & Disposal Services	19	0,3%
3353	Automobiles	42	0,7%
3355	Auto Parts	76	1,2%
3357	Tires	14	0,2%
3533	Brewers	18	0,3%
3535	Distillers & Vintners	19	0,3%
3537	Soft Drinks	26	0,4%
3573	Farming, Fishing and Plantations	33	0,5%
3577	Food Products	138	2,2%
3722	Durable Household Products	26	0,4%
3724	Nondurable Household Products	15	0,2%
3726	Furnishings	26	0,4%
3728	Home Construction	37	0,6%
3743	Consumer Electronics	11	0,2%
3745	Recreational Products	31	0,5%
3747	Toys	21	0,3%
3763	Clothing & Accessories	52	0,8%
3765	Footwear	17	0,3%
3767	Personal Products	33	0,5%
3785	Tobacco	15	0,2%
4533	Health Care Providers	83	1,3%

4535	Medical Equipment	74	1,2%
4537	Medical Supplies	47	0,7%
4573	Biotechnology	204	3,2%
4577	Pharmaceuticals	162	2,5%
5333	Drug Retailers	16	0,3%
5337	Food Retailers & Wholesalers	62	1,0%
5371	Apparel Retailers	50	0,8%
5373	Broadline Retailers	65	1,0%
5375	Home Improvement Retailers	19	0,3%
5377	Specialized Consumer Services	66	1,0%
5379	Specialty Retailers	90	1,4%
5553	Broadcasting & Entertainment	80	1,3%
5555	Media Agencies	36	0,6%
5557	Publishing	43	0,7%
5751	Airlines	42	0,7%
5752	Gambling	48	0,8%
5753	Hotels	22	0,3%
5755	Recreational Services	30	0,5%
5757	Restaurants & Bars	58	0,9%
5759	Travel & Tourism	49	0,8%
6535	Fixed Line Telecommunications	56	0,9%
6575	Mobile Telecommunications	79	1,2%
7535	Conventional Electricity	118	1,8%
7537	Alternative Electricity	36	0,6%
7573	Gas Distribution	31	0,5%
7575	Multiutilities	28	0,4%
7577	Water	25	0,4%
8355	Banks	475	7,4%
8532	Full Line Insurance	29	0,5%
8534	Insurance Brokers	7	0,1%
8536	Property & Casualty Insurance	61	1,0%
8538	Reinsurance	16	0,3%
8575	Life Insurance	70	1,1%
8633	Real Estate Holding & Development	165	2,6%
8637	Real Estate Services	22	0,3%
8671	Industrial & Office REITs	73	1,1%
8672	Retail REITs	61	1,0%
8673	Residential REITs	28	0,4%
8674	Diversified REITs	34	0,5%
8675	Specialty REITs	56	0,9%
8676	Mortgage REITs	27	0,4%
8677	Hotel & Lodging REITs	16	0,3%
8771	Asset Managers	64	1,0%
8773	Consumer Finance	42	0,7%
8775	Specialty Finance	85	1,3%
8777	Investment Services	92	1,4%
8779	Mortgage Finance	22	0,3%
8985	Equity Investment Instruments	56	0,9%
8995	Nonequity Investment Instruments	4	0,1%
9533	Computer Services	86	1,3%
9535	Internet	41	0,6%
9537	Software	142	2,2%
9572	Computer Hardware	56	0,9%
9574	Electronic Office Equipment	8	0,1%
9576	Semiconductors	99	1,5%
9578	Telecommunications Equipment	52	0,8%
Missing		**1**	**0,0%**
Total		**6393**	**100,0%**

Table 36: Frequency table of the variables ICB_SUBSECTOR_CODE and ICB_SUBSECTOR_NAME (own representation)

B REGRESSION OUTPUT OF MODEL M1.1 VARIATION (1)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,497[a]	,247	,240	5,28743	1,998

a. Predictors: (Constant), CO_AGE_RC, @2014, NORWAY, RUSSIAN_FEDERATION, PHILIPPINES, CHILE, INDIA, CZECH_REPUBLIC, THAILAND, MALAYSIA, NEW_ZEALAND, TURKEY, Nonlife_Insurance, ISRAEL, PORTUGAL, Gas__Water_and_Multiutilities, NETHERLANDS, SOUTH_AFRICA, HUNGARY, GREECE, BRAZIL, AUSTRIA, INDONESIA, MEXICO, Equity_Investment_Instruments, Alternative_Energy, Real_Estate_Investment_Trusts, FINLAND, POLAND, Real_Estate_Investment_and_Services, DENMARK, AUSTRALIA, BELGIUM, ITALY, Mining, Support_Services, Tobacco, Media, SWITZERLAND, @2018, Leisure_Goods, Food_and_Drug_Retailers, Household_Goods_and_Home_Construction, @2008, Industrial_Transportation, HONG_KONG, Mobile_Telecommunications, Aerospace_and_Defense, @2009, Forestry_and_Paper, EMPL_ADJ, Travel_and_Leisure, SOUTH_KOREA, Financial_Services, Personal_Goods, Oil_Equipment_and_Services, General_Industrials, @2012, Fixed_Line_Telecommunications, Electronic_and_Electrical_Equipment, Beverages, FRANCE, Food_Producers, @2013, General_Retailers, SWEDEN, Electricity, TAIWAN, GERMANY, Construction_and_Materials, CANADA, Industrial_Metals_and_Mining, @2015, CHINA, Pharmaceuticals_and_Biotechnology, UNITED_KINGDOM, Health_Care_Equipment_and_Services, @2016, Oil_and_Gas_Producers, SPAIN, Software_and_Computer_Services, @2010, TD_TA_ADJ, Automobiles_and_Parts, ESG_COMP, Chemicals, @2017, RD_TS_ADJ, JAPAN, Technology_Hardware_and_Equipment, @2011

b. Dependent Variable: ROA_ADJ

Table 37: Model summary of regression model M1.1 variation (1) (own representation)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	84104,986	91	924,231	33,059	,000[b]
	Residual	255973,702	9156	27,957		
	Total	340078,688	9247			

a. Dependent Variable: ROA_ADJ

b. Predictors: (Constant), CO_AGE_RC, @2014, NORWAY, RUSSIAN_FEDERATION, PHILIPPINES, CHILE, INDIA, CZECH_REPUBLIC, THAILAND, MALAYSIA, NEW_ZEALAND, TURKEY, Nonlife_Insurance, ISRAEL, PORTUGAL, Gas__Water_and_Multiutilities, NETHERLANDS, SOUTH_AFRICA, HUNGARY, GREECE, BRAZIL, AUSTRIA, INDONESIA, MEXICO, Equity_Investment_Instruments, Alternative_Energy, Real_Estate_Investment_Trusts, FINLAND, POLAND, Real_Estate_Investment_and_Services, DENMARK, AUSTRALIA, BELGIUM, ITALY, Mining, Support_Services, Tobacco, Media, SWITZERLAND, @2018, Leisure_Goods, Food_and_Drug_Retailers, Household_Goods_and_Home_Construction, @2008, Industrial_Transportation, HONG_KONG, Mobile_Telecommunications, Aerospace_and_Defense, @2009, Forestry_and_Paper, EMPL_ADJ, Travel_and_Leisure, SOUTH_KOREA, Financial_Services, Personal_Goods, Oil_Equipment_and_Services, General_Industrials, @2012, Fixed_Line_Telecommunications, Electronic_and_Electrical_Equipment, Beverages, FRANCE, Food_Producers, @2013, General_Retailers, SWEDEN, Electricity, TAIWAN, GERMANY, Construction_and_Materials, CANADA, Industrial_Metals_and_Mining, @2015, CHINA, Pharmaceuticals_and_Biotechnology, UNITED_KINGDOM, Health_Care_Equipment_and_Services, @2016, Oil_and_Gas_Producers, SPAIN, Software_and_Computer_Services, @2010, TD_TA_ADJ, Automobiles_and_Parts, ESG_COMP, Chemicals, @2017, RD_TS_ADJ, JAPAN, Technology_Hardware_and_Equipment, @2011

Table 38: ANOVA of regression model M1.1 variation (1) (own representation)

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	11,935	,366		32,567	,000		
	ESG_COMP	,014	,003	,042	4,053	,000	,752	1,330
	AUSTRALIA	,680	,605	,011	1,125	,260	,930	1,076
	AUSTRIA	-1,813	,831	-,020	-2,182	,029	,947	1,056
	BELGIUM	-3,583	,700	-,048	-5,119	,000	,941	1,062
	BRAZIL	,382	,690	,005	,553	,580	,924	1,083
	CANADA	-1,238	,482	-,025	-2,569	,010	,861	1,161
	CHILE	-2,878	3,078	-,009	-,935	,350	,984	1,016
	CHINA	-1,681	,452	-,037	-3,721	,000	,826	1,211
	CZECH_REPUBLIC	-4,687	5,306	-,008	-,883	,377	,993	1,007
	DENMARK	2,808	,598	,045	4,699	,000	,908	1,101
	FINLAND	-,960	,481	-,019	-1,996	,046	,890	1,124
	FRANCE	-2,936	,323	-,091	-9,081	,000	,817	1,224
	GERMANY	-2,720	,274	-,102	-9,912	,000	,773	1,293
	GREECE	-,927	1,353	-,006	-,685	,493	,956	1,046
	HONG_KONG	-,628	,615	-,010	-1,022	,307	,910	1,098
	HUNGARY	-3,379	1,892	-,016	-1,786	,074	,977	1,023
	INDIA	2,677	,782	,032	3,425	,001	,939	1,065
	INDONESIA	6,037	,840	,067	7,191	,000	,949	1,054
	ISRAEL	-1,867	,926	-,019	-2,016	,044	,962	1,040
	ITALY	-2,848	,575	-,047	-4,957	,000	,901	1,110
	JAPAN	-4,420	,163	-,347	-27,175	,000	,503	1,988
	MALAYSIA	-6,600	5,304	-,011	-1,244	,213	,994	1,006
	MEXICO	-,228	1,262	-,002	-,181	,856	,976	1,024
	NETHERLANDS	-1,879	,564	-,031	-3,334	,001	,936	1,069
	NEW_ZEALAND	-3,148	1,784	-,016	-1,765	,078	,977	1,024
	NORWAY	-2,163	,691	-,030	-3,128	,002	,920	1,087
	PHILIPPINES	4,662	1,275	,034	3,657	,000	,957	1,045
	POLAND	1,392	1,621	,008	,859	,391	,969	1,032
	PORTUGAL	-2,306	3,071	-,007	-,751	,453	,989	1,011
	RUSSIAN_FEDERATION	3,534	3,754	,009	,941	,347	,992	1,008
	SOUTH_AFRICA	-1,196	,696	-,016	-1,719	,086	,937	1,067
	SOUTH_KOREA	-1,944	,356	-,055	-5,467	,000	,826	1,211
	SPAIN	-,192	,657	-,003	-,293	,770	,826	1,211
	SWEDEN	,482	,417	,011	1,155	,248	,859	1,164
	SWITZERLAND	-,120	,385	-,003	-,312	,755	,874	1,144
	TAIWAN	-1,581	,361	-,046	-4,374	,000	,747	1,339
	THAILAND	,056	3,765	,000	,015	,988	,986	1,014
	TURKEY	2,363	,592	,038	3,993	,000	,906	1,104
	UNITED_KINGDOM	1,027	,276	,038	3,717	,000	,767	1,304
	Oil_and_Gas_Producers	-2,013	,433	-,050	-4,645	,000	,703	1,423
	Oil_Equipment_and_Services	-1,596	,529	-,030	-3,018	,003	,824	1,213
	Alternative_Energy	-3,806	1,103	-,034	-3,452	,001	,854	1,171
	Chemicals	1,025	,279	,045	3,671	,000	,553	1,807
	Forestry_and_Paper	-1,857	,728	-,024	-2,552	,011	,900	1,111
	Industrial_Metals_and_Mining	-1,343	,337	-,045	-3,980	,000	,654	1,529
	Mining	-2,828	,896	-,030	-3,157	,002	,897	1,115
	Construction_and_Materials	-,947	,302	-,036	-3,137	,002	,626	1,599
	Aerospace_and_Defense	-2,189	,415	-,055	-5,278	,000	,744	1,345

Aerospace_and_Defense	-2,189	,415	-,055	-5,278	,000	,744	1,345
General_Industrials	-,390	,416	-,010	-,938	,349	,779	1,284
Electronic_and_Electrical_Equipment	,191	,304	,007	,629	,530	,587	1,703
Industrial_Transportation	-,578	,671	-,008	-,861	,390	,893	1,120
Support_Services	-,498	,446	-,011	-1,116	,264	,818	1,222
Automobiles_and_Parts	,859	,296	,035	2,900	,004	,579	1,727
Beverages	,170	,518	,003	,328	,743	,826	1,211
Food_Producers	,121	,342	,004	,353	,724	,677	1,476
Household_Goods_and_Home_Construction	,889	,387	,024	2,299	,022	,762	1,313
Leisure_Goods	-,439	,414	-,011	-1,060	,289	,776	1,289
Personal_Goods	2,342	,379	,065	6,177	,000	,744	1,343
Tobacco	8,410	,792	,101	10,622	,000	,915	1,093
Health_Care_Equipment_and_Services	1,757	,355	,055	4,944	,000	,655	1,526
Pharmaceuticals_and_Biotechnology	1,973	,345	,073	5,721	,000	,509	1,966
Food_and_Drug_Retailers	-1,125	,670	-,016	-1,679	,093	,885	1,131
General_Retailers	-,132	,421	-,003	-,314	,754	,716	1,396
Media	-,546	,467	-,012	-1,170	,242	,822	1,217
Travel_and_Leisure	1,211	,517	,023	2,344	,019	,823	1,215
Fixed_Line_Telecommunications	1,072	,576	,019	1,860	,063	,818	1,222
Mobile_Telecommunications	,747	,622	,012	1,202	,229	,869	1,150
Electricity	,479	,439	,012	1,090	,276	,699	1,430
Gas__Water_and_Multiutilities	-,937	,527	-,018	-1,777	,076	,822	1,217
Nonlife_Insurance	-2,998	2,172	-,013	-1,380	,168	,988	1,012
Real_Estate_Investment_and_Services	2,742	1,023	,025	2,681	,007	,957	1,045
Real_Estate_Investment_Trusts	-1,164	1,138	-,010	-1,023	,306	,941	1,063
Financial_Services	-2,253	,623	-,035	-3,615	,000	,855	1,170
Equity_Investment_Instruments	-1,576	1,709	-,009	-,923	,356	,959	1,043
Software_and_Computer_Services	,840	,337	,031	2,488	,013	,543	1,843
Technology_Hardware_and_Equipment	,261	,307	,011	,848	,396	,468	2,135
@2008	-1,266	,293	-,055	-4,319	,000	,516	1,940
@2009	-3,508	,288	-,157	-12,196	,000	,494	2,025
@2010	-1,579	,279	-,077	-5,666	,000	,448	2,231
@2011	-1,416	,278	-,069	-5,097	,000	,443	2,258
@2012	-2,328	,281	-,111	-8,281	,000	,455	2,199
@2013	-2,588	,287	-,119	-9,033	,000	,476	2,100
@2014	-2,187	,287	-,100	-7,616	,000	,480	2,082
@2015	-2,752	,281	-,132	-9,784	,000	,455	2,198
@2016	-2,652	,280	-,128	-9,478	,000	,448	2,233
@2017	-2,316	,280	-,113	-8,282	,000	,442	2,262
@2018	-1,513	,353	-,048	-4,284	,000	,646	1,548
EMPL_ADJ	-1,924E-6	,000	-,025	-2,492	,013	,787	1,271
RD_TS_ADJ	-,088	,016	-,073	-5,610	,000	,480	2,085
TD_TA_ADJ	-,105	,004	-,278	-26,730	,000	,762	1,312
CO_AGE_RC	-,003	,001	-,019	-1,763	,078	,699	1,431

a. Dependent Variable: ROA_ADJ

Table 39: Coefficients of regression model M1.1 variation (1)
(own representation)

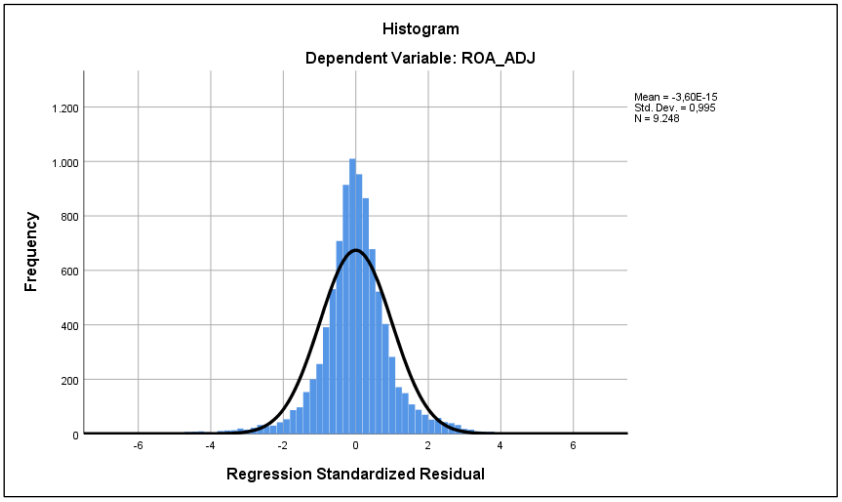

Figure 22: Distribution of regression standardized residuals of model M1.1 variation (1)
(own representation)

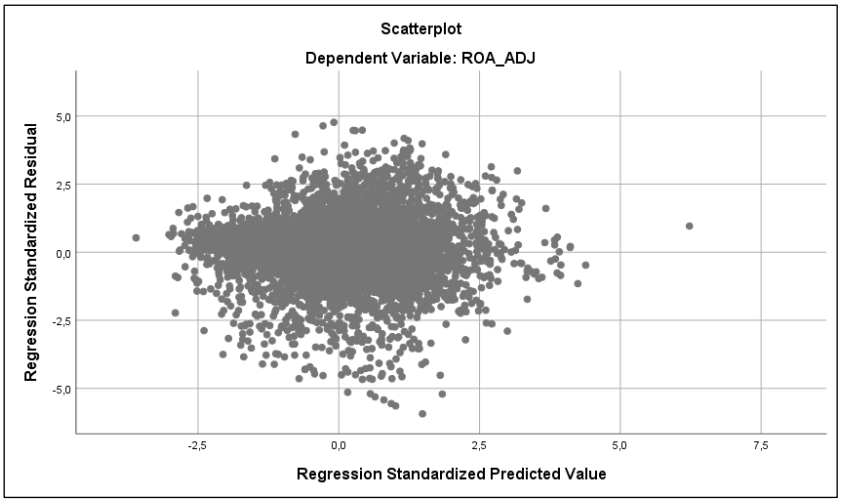

Figure 23: Standardized residual by standardized predicted value scatterplot of model M1.1 variation (1)
(own representation)

C REGRESSION OUTPUT OF MODEL M1.2 VARIATION (4)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,518[a]	,269	,259	4,91284	1,978

a. Predictors: (Constant), CO_AGE_RC, @2016, Forestry_and_Paper, RUSSIAN_FEDERATION, Fixed_Line_Telecommunications, NORWAY, PHILIPPINES, Nonlife_Insurance, INDIA, CZECH_REPUBLIC, SOUTH_AFRICA, NEW_ZEALAND, CHILE, Gas__Water_and_Multiutilities, ISRAEL, AUSTRIA, HUNGARY, GREECE, Alternative_Energy, Mining, POLAND, Real_Estate_Investment_Trusts, MEXICO, BRAZIL, NETHERLANDS, Equity_Investment_Instruments, Real_Estate_Investment_and_Services, DENMARK, INDONESIA, Support_Services, @2019, BELGIUM, Financial_Services, PORTUGAL, Tobacco, SWITZERLAND, Industrial_Transportation, Leisure_Goods, Media, AUSTRALIA, Food_and_Drug_Retailers, Household_Goods_and_Home_Construction, HONG_KONG, @2014, Aerospace_and_Defense, TAIWAN, General_Retailers, FINLAND, Mobile_Telecommunications, SOUTH_KOREA, Oil_Equipment_and_Services, TURKEY, Automobiles_and_Parts, Travel_and_Leisure, @2010, General_Industrials, GERMANY, Food_Producers, FRANCE, Personal_Goods, Beverages, ITALY, @2017, CHINA, SWEDEN, Electronic_and_Electrical_Equipment, CANADA, Construction_and_Materials, @2011, Industrial_Metals_and_Mining, UNITED_KINGDOM, Health_Care_Equipment_and_Services, TD_TA_ADJ, Pharmaceuticals_and_Biotechnology, ESG_COMP_L3_RC, @2013, Software_and_Computer_Services, SPAIN, Oil_and_Gas_Producers, EMPL_ADJ, Electricity, @2012, Technology_Hardware_and_Equipment, @2015, Chemicals, RD_TS_ADJ, JAPAN

b. Dependent Variable: ROA_ADJ

Table 40: Model summary of regression model M1.2 variation (4) (own representation)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	57400,447	87	659,775	27,336	,000[b]
	Residual	156183,899	6471	24,136		
	Total	213584,346	6558			

a. Dependent Variable: ROA_ADJ

b. Predictors: (Constant), CO_AGE_RC, @2016, Forestry_and_Paper, RUSSIAN_FEDERATION, Fixed_Line_Telecommunications, NORWAY, PHILIPPINES, Nonlife_Insurance, INDIA, CZECH_REPUBLIC, SOUTH_AFRICA, NEW_ZEALAND, CHILE, Gas__Water_and_Multiutilities, ISRAEL, AUSTRIA, HUNGARY, GREECE, Alternative_Energy, Mining, POLAND, Real_Estate_Investment_Trusts, MEXICO, BRAZIL, NETHERLANDS, Equity_Investment_Instruments, Real_Estate_Investment_and_Services, DENMARK, INDONESIA, Support_Services, @2019, BELGIUM, Financial_Services, PORTUGAL, Tobacco, SWITZERLAND, Industrial_Transportation, Leisure_Goods, Media, AUSTRALIA, Food_and_Drug_Retailers, Household_Goods_and_Home_Construction, HONG_KONG, @2014, Aerospace_and_Defense, TAIWAN, General_Retailers, FINLAND, Mobile_Telecommunications, SOUTH_KOREA, Oil_Equipment_and_Services, TURKEY, Automobiles_and_Parts, Travel_and_Leisure, @2010, General_Industrials, GERMANY, Food_Producers, FRANCE, Personal_Goods, Beverages, ITALY, @2017, CHINA, SWEDEN, Electronic_and_Electrical_Equipment, CANADA, Construction_and_Materials, @2011, Industrial_Metals_and_Mining, UNITED_KINGDOM, Health_Care_Equipment_and_Services, TD_TA_ADJ, Pharmaceuticals_and_Biotechnology, ESG_COMP_L3_RC, @2013, Software_and_Computer_Services, SPAIN, Oil_and_Gas_Producers, EMPL_ADJ, Electricity, @2012, Technology_Hardware_and_Equipment, @2015, Chemicals, RD_TS_ADJ, JAPAN

Table 41: ANOVA of regression model M1.2 variation (4) (own representation)

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	10,951	,391		27,975	,000		
	ESG_COMP_L3_RC	,011	,004	,035	2,867	,004	,743	1,345
	AUSTRALIA	-1,040	,736	-,016	-1,414	,157	,917	1,090
	AUSTRIA	-2,767	,819	-,037	-3,381	,001	,929	1,076
	BELGIUM	-4,480	,746	-,066	-6,005	,000	,929	1,076
	BRAZIL	-1,392	,710	-,022	-1,962	,050	,895	1,117
	CANADA	-2,200	,545	-,046	-4,038	,000	,869	1,151
	CHILE	-3,720	2,874	-,014	-1,294	,196	,974	1,026
	CHINA	-3,122	,493	-,076	-6,337	,000	,780	1,282
	CZECH_REPUBLIC	-6,031	3,505	-,018	-1,721	,085	,983	1,018
	DENMARK	1,469	,668	,025	2,198	,028	,894	1,118
	FINLAND	-1,795	,514	-,040	-3,496	,000	,878	1,139
	FRANCE	-3,871	,343	-,135	-11,285	,000	,789	1,267
	GERMANY	-3,899	,295	-,163	-13,212	,000	,741	1,349
	GREECE	-1,372	1,464	-,010	-,937	,349	,940	1,064
	HONG_KONG	-2,615	,697	-,042	-3,754	,000	,896	1,117
	HUNGARY	-5,763	2,031	-,031	-2,837	,005	,976	1,025
	INDIA	1,870	,851	,024	2,197	,028	,931	1,074
	INDONESIA	1,938	,926	,023	2,092	,036	,942	1,061
	ISRAEL	-3,014	,907	-,036	-3,322	,001	,950	1,052
	ITALY	-4,141	,624	-,075	-6,639	,000	,883	1,132
	JAPAN	-4,983	,184	-,424	-27,060	,000	,461	2,171
	MEXICO	-,892	1,572	-,006	-,568	,570	,978	1,022
	NETHERLANDS	-2,513	,591	-,047	-4,254	,000	,921	1,086
	NEW_ZEALAND	-5,454	3,507	-,017	-1,555	,120	,982	1,019
	NORWAY	-3,417	,769	-,049	-4,445	,000	,914	1,094
	PHILIPPINES	1,225	1,515	,009	,809	,418	,958	1,044
	POLAND	-3,258	2,221	-,016	-1,467	,143	,979	1,022
	PORTUGAL	-2,691	2,480	-,012	-1,085	,278	,981	1,019
	RUSSIAN_FEDERATION	3,662	3,492	,011	1,048	,294	,990	1,010
	SOUTH_AFRICA	-3,032	,869	-,038	-3,488	,000	,945	1,058
	SOUTH_KOREA	-3,672	,435	-,098	-8,440	,000	,832	1,202
	SPAIN	-1,312	,692	-,023	-1,897	,058	,784	1,275
	SWEDEN	-,791	,466	-,020	-1,699	,089	,848	1,179
	SWITZERLAND	-,926	,406	-,026	-2,281	,023	,846	1,182
	TAIWAN	-2,602	,593	-,050	-4,387	,000	,879	1,137
	TURKEY	1,892	,661	,032	2,862	,004	,885	1,130
	UNITED_KINGDOM	,362	,298	,015	1,216	,224	,742	1,347
	Oil_and_Gas_Producers	-2,288	,470	-,063	-4,870	,000	,676	1,479
	Oil_Equipment_and_Services	-4,135	,575	-,085	-7,186	,000	,812	1,231
	Alternative_Energy	-3,838	1,352	-,033	-2,838	,005	,827	1,209
	Chemicals	1,308	,305	,062	4,290	,000	,547	1,829
	Forestry_and_Paper	-,885	,788	-,013	-1,123	,262	,909	1,100
	Industrial_Metals_and_Mining	-1,658	,363	-,061	-4,560	,000	,634	1,577
	Mining	-1,990	1,073	-,021	-1,856	,064	,915	1,092
	Construction_and_Materials	-,689	,336	-,027	-2,049	,040	,631	1,585

Aerospace_and_Defense	-2,228	,451	-,061	-4,941	,000	,733	1,364
General_Industrials	-,549	,462	-,014	-1,189	,234	,777	1,287
Electronic_and_Electrical_Equipment	,576	,339	,023	1,696	,090	,606	1,650
Industrial_Transportation	-2,046	,742	-,031	-2,758	,006	,902	1,109
Support_Services	,326	,510	,007	,640	,522	,828	1,207
Automobiles_and_Parts	1,360	,325	,059	4,187	,000	,571	1,750
Beverages	,207	,549	,004	,376	,707	,815	1,228
Food_Producers	,206	,369	,007	,560	,576	,669	1,495
Household_Goods_and_Home_Construction	1,355	,429	,038	3,160	,002	,766	1,305
Leisure_Goods	-,291	,451	-,008	-,646	,518	,771	1,297
Personal_Goods	2,165	,417	,064	5,194	,000	,742	1,349
Tobacco	9,056	,849	,119	10,670	,000	,911	1,098
Health_Care_Equipment_and_Services	2,070	,398	,068	5,206	,000	,665	1,503
Pharmaceuticals_and_Biotechnology	1,878	,376	,076	4,994	,000	,494	2,025
Food_and_Drug_Retailers	-1,237	,768	-,018	-1,610	,107	,895	1,117
General_Retailers	,229	,502	,006	,455	,649	,763	1,311
Media	-,650	,511	-,015	-1,273	,203	,818	1,223
Travel_and_Leisure	1,824	,570	,038	3,202	,001	,820	1,220
Fixed_Line_Telecommunications	,816	,625	,016	1,305	,192	,800	1,249
Mobile_Telecommunications	1,380	,700	,022	1,971	,049	,871	1,148
Electricity	,128	,475	,004	,270	,787	,651	1,537
Gas__Water_and_Multiutilities	-,845	,587	-,018	-1,490	,136	,811	1,233
Nonlife_Insurance	-2,821	2,851	-,011	-,990	,322	,990	1,010
Real_Estate_Investment_and_Services	2,951	1,153	,028	2,558	,011	,958	1,044
Real_Estate_Investment_Trusts	-1,608	1,352	-,013	-1,190	,234	,946	1,058
Financial_Services	-2,057	,698	-,034	-2,950	,003	,848	1,179
Equity_Investment_Instruments	-,875	1,902	-,005	-,460	,645	,954	1,048
Software_and_Computer_Services	,659	,374	,025	1,763	,078	,552	1,811
Technology_Hardware_and_Equipment	,342	,345	,015	,991	,322	,503	1,989
@2010	-,568	,266	-,029	-2,136	,033	,598	1,672
@2011	-,138	,258	-,007	-,534	,593	,579	1,728
@2012	-,740	,255	-,041	-2,905	,004	,576	1,736
@2013	-1,082	,253	-,060	-4,272	,000	,569	1,757
@2014	-,650	,253	-,036	-2,567	,010	,574	1,742
@2015	-1,200	,253	-,067	-4,749	,000	,569	1,756
@2016	-,791	,254	-,043	-3,113	,002	,585	1,709
@2017	-,446	,254	-,024	-1,756	,079	,586	1,708
@2019	-1,336	,810	-,018	-1,648	,099	,948	1,055
EMPL_ADJ	-1,805E-6	,000	-,024	-1,981	,048	,756	1,323
RD_TS_ADJ	-,065	,018	-,057	-3,647	,000	,464	2,154
TD_TA_ADJ	-,096	,004	-,267	-21,613	,000	,742	1,347
CO_AGE_RC	-,003	,002	-,023	-1,824	,068	,708	1,412

a. Dependent Variable: ROA_ADJ

Table 42: Coefficients of regression model M1.2 variation (4)
(own representation)

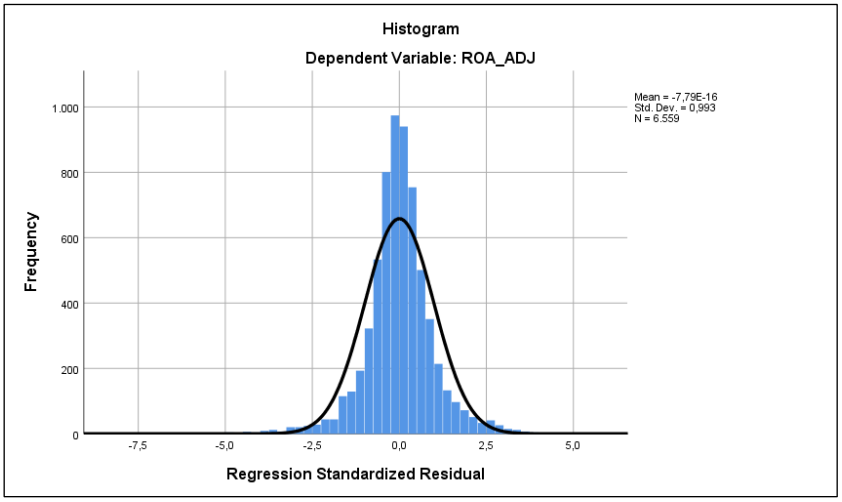

Figure 24: Distribution of regression standardized residuals of model M1.2 variation (4)
(own representation)

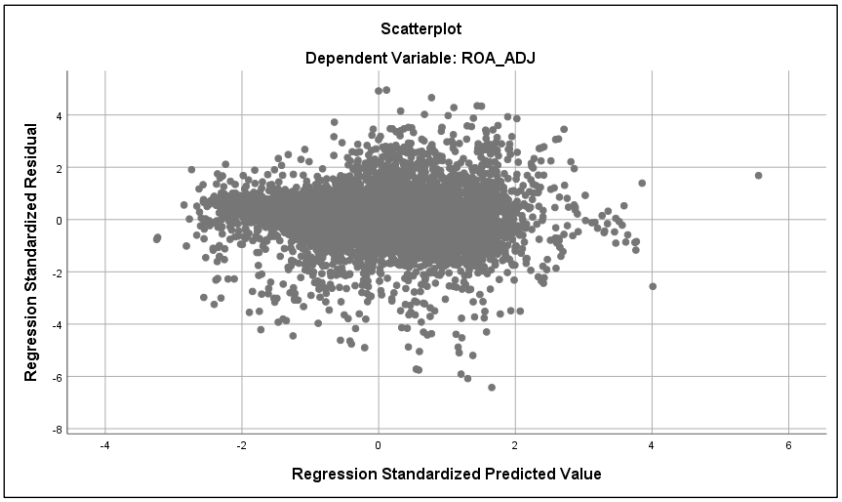

Figure 25: Standardized residual by standardized predicted value scatterplot of model M1.2 variation (4)
(own representation)

D REGRESSION OUTPUT OF THE REDUCED AND COMPLETE MODEL M2.1

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,360[a]	,130	,125	5,67322	
2	,497[b]	,247	,240	5,28743	1,998

a. Predictors: (Constant), CO_AGE_RC, @2014, Media, Gas__Water_and_Multiutilities, Nonlife_Insurance, Forestry_and_Paper, Fixed_Line_Telecommunications, Financial_Services, Oil_Equipment_and_Services, Equity_Investment_Instruments, Alternative_Energy, Real_Estate_Investment_Trusts, Support_Services, Real_Estate_Investment_and_Services, Mining, Tobacco, Aerospace_and_Defense, Leisure_Goods, Mobile_Telecommunications, @2018, Industrial_Transportation, Travel_and_Leisure, Personal_Goods, Food_and_Drug_Retailers, Oil_and_Gas_Producers, Electricity, @2008, Beverages, General_Retailers, Household_Goods_and_Home_Construction, Health_Care_Equipment_and_Services, General_Industrials, @2009, Industrial_Metals_and_Mining, Food_Producers, @2013, Pharmaceuticals_and_Biotechnology, @2012, EMPL_ADJ, Electronic_and_Electrical_Equipment, @2015, Construction_and_Materials, @2010, Software_and_Computer_Services, ESG_COMP, TD_TA_ADJ, Automobiles_and_Parts, @2016, Chemicals, @2011, RD_TS_ADJ, Technology_Hardware_and_Equipment, @2017

b. Predictors: (Constant), CO_AGE_RC, @2014, Media, Gas__Water_and_Multiutilities, Nonlife_Insurance, Forestry_and_Paper, Fixed_Line_Telecommunications, Financial_Services, Oil_Equipment_and_Services, Equity_Investment_Instruments, Alternative_Energy, Real_Estate_Investment_Trusts, Support_Services, Real_Estate_Investment_and_Services, Mining, Tobacco, Aerospace_and_Defense, Leisure_Goods, Mobile_Telecommunications, @2018, Industrial_Transportation, Travel_and_Leisure, Personal_Goods, Food_and_Drug_Retailers, Oil_and_Gas_Producers, Electricity, @2008, Beverages, General_Retailers, Household_Goods_and_Home_Construction, Health_Care_Equipment_and_Services, General_Industrials, @2009, Industrial_Metals_and_Mining, Food_Producers, @2013, Pharmaceuticals_and_Biotechnology, @2012, EMPL_ADJ, Electronic_and_Electrical_Equipment, @2015, Construction_and_Materials, @2010, Software_and_Computer_Services, ESG_COMP, TD_TA_ADJ, Automobiles_and_Parts, @2016, Chemicals, @2011, RD_TS_ADJ, Technology_Hardware_and_Equipment, @2017, MALAYSIA, CZECH_REPUBLIC, RUSSIAN_FEDERATION, PORTUGAL, THAILAND, CHILE, MEXICO, NEW_ZEALAND, HUNGARY, POLAND, ISRAEL, INDONESIA, NETHERLANDS, AUSTRIA, SOUTH_AFRICA, BELGIUM, GREECE, PHILIPPINES, INDIA, SWITZERLAND, AUSTRALIA, BRAZIL, NORWAY, HONG_KONG, FINLAND, TURKEY, ITALY, DENMARK, SOUTH_KOREA, FRANCE, GERMANY, SWEDEN, CANADA, CHINA, UNITED_KINGDOM, SPAIN, TAIWAN, JAPAN

c. Dependent Variable: ROA_ADJ

Table 43: Model summary of regression model M2.1 (own representation)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	44166,235	53	833,325	25,891	,000[b]
	Residual	295912,453	9194	32,185		
	Total	340078,688	9247			
2	Regression	84104,986	91	924,231	33,059	,000[c]
	Residual	255973,702	9156	27,957		
	Total	340078,688	9247			

a. Dependent Variable: ROA_ADJ

b. Predictors: (Constant), CO_AGE_RC, @2014, Media, Gas__Water_and_Multiutilities, Nonlife_Insurance, Forestry_and_Paper, Fixed_Line_Telecommunications, Financial_Services, Oil_Equipment_and_Services, Equity_Investment_Instruments, Alternative_Energy, Real_Estate_Investment_Trusts, Support_Services, Real_Estate_Investment_and_Services, Mining, Tobacco, Aerospace_and_Defense, Leisure_Goods, Mobile_Telecommunications, @2018, Industrial_Transportation, Travel_and_Leisure, Personal_Goods, Food_and_Drug_Retailers, Oil_and_Gas_Producers, Electricity, @2008, Beverages, General_Retailers, Household_Goods_and_Home_Construction, Health_Care_Equipment_and_Services, General_Industrials, @2009, Industrial_Metals_and_Mining, Food_Producers, @2013, Pharmaceuticals_and_Biotechnology, @2012, EMPL_ADJ, Electronic_and_Electrical_Equipment, @2015, Construction_and_Materials, @2010, Software_and_Computer_Services, ESG_COMP, TD_TA_ADJ, Automobiles_and_Parts, @2016, Chemicals, @2011, RD_TS_ADJ, Technology_Hardware_and_Equipment, @2017

c. Predictors: (Constant), CO_AGE_RC, @2014, Media, Gas__Water_and_Multiutilities, Nonlife_Insurance, Forestry_and_Paper, Fixed_Line_Telecommunications, Financial_Services, Oil_Equipment_and_Services, Equity_Investment_Instruments, Alternative_Energy, Real_Estate_Investment_Trusts, Support_Services, Real_Estate_Investment_and_Services, Mining, Tobacco, Aerospace_and_Defense, Leisure_Goods, Mobile_Telecommunications, @2018, Industrial_Transportation, Travel_and_Leisure, Personal_Goods, Food_and_Drug_Retailers, Oil_and_Gas_Producers, Electricity, @2008, Beverages, General_Retailers, Household_Goods_and_Home_Construction, Health_Care_Equipment_and_Services, General_Industrials, @2009, Industrial_Metals_and_Mining, Food_Producers, @2013, Pharmaceuticals_and_Biotechnology, @2012, EMPL_ADJ, Electronic_and_Electrical_Equipment, @2015, Construction_and_Materials, @2010, Software_and_Computer_Services, ESG_COMP, TD_TA_ADJ, Automobiles_and_Parts, @2016, Chemicals, @2011, RD_TS_ADJ, Technology_Hardware_and_Equipment, @2017, MALAYSIA, CZECH_REPUBLIC, RUSSIAN_FEDERATION, PORTUGAL, THAILAND, CHILE, MEXICO, NEW_ZEALAND, HUNGARY, POLAND, ISRAEL, INDONESIA, NETHERLANDS, AUSTRIA, SOUTH_AFRICA, BELGIUM, GREECE, PHILIPPINES, INDIA, SWITZERLAND, AUSTRALIA, BRAZIL, NORWAY, HONG_KONG, FINLAND, TURKEY, ITALY, DENMARK, SOUTH_KOREA, FRANCE, GERMANY, SWEDEN, CANADA, CHINA, UNITED_KINGDOM, SPAIN, TAIWAN, JAPAN

Table 44: ANOVA of regression model M2.1 (own representation)

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	9,403	,361		26,046	,000		
	ESG_COMP	,012	,004	,036	3,325	,001	,814	1,229
	Oil_and_Gas_Producers	-1,109	,442	-,028	-2,508	,012	,777	1,287
	Oil_Equipment_and_Services	-,523	,551	-,010	-,950	,342	,875	1,143
	Alternative_Energy	-2,897	1,116	-,026	-2,596	,009	,960	1,042
	Chemicals	,327	,294	,014	1,111	,267	,574	1,741
	Forestry_and_Paper	-1,302	,769	-,017	-1,694	,090	,929	1,076
	Industrial_Metals_and_Mining	-1,560	,352	-,052	-4,427	,000	,691	1,447
	Mining	-1,367	,933	-,015	-1,465	,143	,952	1,050
	Construction_and_Materials	-,926	,320	-,035	-2,893	,004	,642	1,558
	Aerospace_and_Defense	-,640	,432	-,016	-1,480	,139	,788	1,269
	General_Industrials	-,030	,440	-,001	-,069	,945	,802	1,246
	Electronic_and_Electrical_Equipment	-,124	,317	-,005	-,391	,696	,619	1,614
	Industrial_Transportation	-,993	,713	-,014	-1,394	,163	,912	1,096
	Support_Services	-,109	,474	-,002	-,231	,818	,835	1,197
	Automobiles_and_Parts	,034	,313	,001	,108	,914	,598	1,672
	Beverages	,718	,543	,014	1,322	,186	,865	1,156
	Food_Producers	,660	,358	,021	1,847	,065	,712	1,404
	Household_Goods_and_Home_Construction	1,613	,410	,043	3,930	,000	,779	1,283
	Leisure_Goods	-1,384	,440	-,034	-3,142	,002	,790	1,266
	Personal_Goods	2,325	,401	,064	5,803	,000	,768	1,303
	Tobacco	9,595	,843	,115	11,382	,000	,929	1,076
	Health_Care_Equipment_and_Services	2,989	,369	,094	8,091	,000	,698	1,432
	Pharmaceuticals_and_Biotechnology	2,223	,360	,082	6,177	,000	,538	1,860
	Food_and_Drug_Retailers	,903	,706	,013	1,278	,201	,916	1,092
	General_Retailers	1,120	,437	,029	2,560	,010	,763	1,311
	Media	-,749	,493	-,016	-1,521	,128	,848	1,179
	Travel_and_Leisure	,477	,544	,009	,875	,381	,854	1,171
	Fixed_Line_Telecommunications	2,216	,599	,039	3,699	,000	,872	1,147
	Mobile_Telecommunications	,366	,658	,006	,556	,578	,893	1,120
	Electricity	-,507	,457	-,013	-1,108	,268	,742	1,347
	Gas__Water_and_Multiutilities	-,823	,556	-,016	-1,481	,139	,852	1,174
	Nonlife_Insurance	-,763	2,326	-,003	-,328	,743	,992	1,008
	Real_Estate_Investment_and_Services	1,106	1,094	,010	1,011	,312	,963	1,038
	Real_Estate_Investment_Trusts	,632	1,215	,005	,520	,603	,951	1,052
	Financial_Services	-,940	,649	-,015	-1,448	,148	,907	1,102
	Equity_Investment_Instruments	,094	1,830	,001	,052	,959	,962	1,040
	Software_and_Computer_Services	1,402	,357	,051	3,924	,000	,558	1,794
	Technology_Hardware_and_Equipment	,172	,319	,007	,540	,589	,499	2,002
	@2008	-1,132	,314	-,049	-3,602	,000	,516	1,937
	@2009	-3,280	,308	-,147	-10,643	,000	,495	2,019
	@2010	-1,207	,297	-,059	-4,065	,000	,455	2,199
	@2011	-1,022	,296	-,050	-3,456	,001	,450	2,225
	@2012	-1,969	,299	-,094	-6,576	,000	,462	2,166

	@2013	-2,332	,306	-,107	-7,617	,000	,480	2,082
	@2014	-1,960	,307	-,089	-6,389	,000	,484	2,065
	@2015	-2,416	,300	-,115	-8,047	,000	,460	2,176
	@2016	-2,209	,299	-,107	-7,386	,000	,452	2,214
	@2017	-1,844	,298	-,090	-6,179	,000	,447	2,236
	@2018	-1,488	,378	-,048	-3,941	,000	,650	1,538
	EMPL_ADJ	-2,570E-6	,000	-,034	-3,208	,001	,841	1,188
	RD_TS_ADJ	-,050	,016	-,042	-3,104	,002	,517	1,933
	TD_TA_ADJ	-,093	,004	-,245	-22,471	,000	,797	1,254
	CO_AGE_RC	-,004	,001	-,028	-2,544	,011	,803	1,246
2	(Constant)	11,935	,366		32,567	,000		
	ESG_COMP	,014	,003	,042	4,053	,000	,752	1,330
	Oil_and_Gas_Producers	-2,013	,433	-,050	-4,645	,000	,703	1,423
	Oil_Equipment_and_Services	-1,596	,529	-,030	-3,018	,003	,824	1,213
	Alternative_Energy	-3,806	1,103	-,034	-3,452	,001	,854	1,171
	Chemicals	1,025	,279	,045	3,671	,000	,553	1,807
	Forestry_and_Paper	-1,857	,728	-,024	-2,552	,011	,900	1,111
	Industrial_Metals_and_Mining	-1,343	,337	-,045	-3,980	,000	,654	1,529
	Mining	-2,828	,896	-,030	-3,157	,002	,897	1,115
	Construction_and_Materials	-,947	,302	-,036	-3,137	,002	,626	1,599
	Aerospace_and_Defense	-2,189	,415	-,055	-5,278	,000	,744	1,345
	General_Industrials	-,390	,416	-,010	-,938	,349	,779	1,284
	Electronic_and_Electrical_Equipment	,191	,304	,007	,629	,530	,587	1,703
	Industrial_Transportation	-,578	,671	-,008	-,861	,390	,893	1,120
	Support_Services	-,498	,446	-,011	-1,116	,264	,818	1,222
	Automobiles_and_Parts	,859	,296	,035	2,900	,004	,579	1,727
	Beverages	,170	,518	,003	,328	,743	,826	1,211
	Food_Producers	,121	,342	,004	,353	,724	,677	1,476
	Household_Goods_and_Home_Construction	,889	,387	,024	2,299	,022	,762	1,313
	Leisure_Goods	-,439	,414	-,011	-1,060	,289	,776	1,289
	Personal_Goods	2,342	,379	,065	6,177	,000	,744	1,343
	Tobacco	8,410	,792	,101	10,622	,000	,915	1,093
	Health_Care_Equipment_and_Services	1,757	,355	,055	4,944	,000	,655	1,526
	Pharmaceuticals_and_Biotechnology	1,973	,345	,073	5,721	,000	,509	1,966
	Food_and_Drug_Retailers	-1,125	,670	-,016	-1,679	,093	,885	1,131
	General_Retailers	-,132	,421	-,003	-,314	,754	,716	1,396
	Media	-,546	,467	-,012	-1,170	,242	,822	1,217
	Travel_and_Leisure	1,211	,517	,023	2,344	,019	,823	1,215
	Fixed_Line_Telecommunications	1,072	,576	,019	1,860	,063	,818	1,222
	Mobile_Telecommunications	,747	,622	,012	1,202	,229	,869	1,150
	Electricity	,479	,439	,012	1,090	,276	,699	1,430
	Gas__Water_and_Multiutilities	-,937	,527	-,018	-1,777	,076	,822	1,217
	Nonlife_Insurance	-2,998	2,172	-,013	-1,380	,168	,988	1,012
	Real_Estate_Investment_and_Services	2,742	1,023	,025	2,681	,007	,957	1,045
	Real_Estate_Investment_Trusts	-1,164	1,138	-,010	-1,023	,306	,941	1,063
	Financial_Services	-2,253	,623	-,035	-3,615	,000	,855	1,170
	Equity_Investment_Instruments	-1,576	1,709	-,009	-,923	,356	,959	1,043
	Software_and_Computer_Services	,840	,337	,031	2,488	,013	,543	1,843

Technology_Hardware_and_Equipment	,261	,307	,011	,848	,396	,468	2,135
@2008	-1,266	,293	-,055	-4,319	,000	,516	1,940
@2009	-3,508	,288	-,157	-12,196	,000	,494	2,025
@2010	-1,579	,279	-,077	-5,666	,000	,448	2,231
@2011	-1,416	,278	-,069	-5,097	,000	,443	2,258
@2012	-2,328	,281	-,111	-8,281	,000	,455	2,199
@2013	-2,588	,287	-,119	-9,033	,000	,476	2,100
@2014	-2,187	,287	-,100	-7,616	,000	,480	2,082
@2015	-2,752	,281	-,132	-9,784	,000	,455	2,198
@2016	-2,652	,280	-,128	-9,478	,000	,448	2,233
@2017	-2,316	,280	-,113	-8,282	,000	,442	2,262
@2018	-1,513	,353	-,048	-4,284	,000	,646	1,548
EMPL_ADJ	-1,924E-6	,000	-,025	-2,492	,013	,787	1,271
RD_TS_ADJ	-,088	,016	-,073	-5,610	,000	,480	2,085
TD_TA_ADJ	-,105	,004	-,278	-26,730	,000	,762	1,312
CO_AGE_RC	-,003	,001	-,019	-1,763	,078	,699	1,431
AUSTRALIA	,680	,605	,011	1,125	,260	,930	1,076
AUSTRIA	-1,813	,831	-,020	-2,182	,029	,947	1,056
BELGIUM	-3,583	,700	-,048	-5,119	,000	,941	1,062
BRAZIL	,382	,690	,005	,553	,580	,924	1,083
CANADA	-1,238	,482	-,025	-2,569	,010	,861	1,161
CHILE	-2,878	3,078	-,009	-,935	,350	,984	1,016
CHINA	-1,681	,452	-,037	-3,721	,000	,826	1,211
CZECH_REPUBLIC	-4,687	5,306	-,008	-,883	,377	,993	1,007
DENMARK	2,808	,598	,045	4,699	,000	,908	1,101
FINLAND	-,960	,481	-,019	-1,996	,046	,890	1,124
FRANCE	-2,936	,323	-,091	-9,081	,000	,817	1,224
GERMANY	-2,720	,274	-,102	-9,912	,000	,773	1,293
GREECE	-,927	1,353	-,006	-,685	,493	,956	1,046
HONG_KONG	-,628	,615	-,010	-1,022	,307	,910	1,098
HUNGARY	-3,379	1,892	-,016	-1,786	,074	,977	1,023
INDIA	2,677	,782	,032	3,425	,001	,939	1,065
INDONESIA	6,037	,840	,067	7,191	,000	,949	1,054
ISRAEL	-1,867	,926	-,019	-2,016	,044	,962	1,040
ITALY	-2,848	,575	-,047	-4,957	,000	,901	1,110
JAPAN	-4,420	,163	-,347	-27,175	,000	,503	1,988
MALAYSIA	-6,600	5,304	-,011	-1,244	,213	,994	1,006
MEXICO	-,228	1,262	-,002	-,181	,856	,976	1,024
NETHERLANDS	-1,879	,564	-,031	-3,334	,001	,936	1,069
NEW_ZEALAND	-3,148	1,784	-,016	-1,765	,078	,977	1,024
NORWAY	-2,163	,691	-,030	-3,128	,002	,920	1,087
PHILIPPINES	4,662	1,275	,034	3,657	,000	,957	1,045
POLAND	1,392	1,621	,008	,859	,391	,969	1,032
PORTUGAL	-2,306	3,071	-,007	-,751	,453	,989	1,011
RUSSIAN_FEDERATION	3,534	3,754	,009	,941	,347	,992	1,008
SOUTH_AFRICA	-1,196	,696	-,016	-1,719	,086	,937	1,067
SOUTH_KOREA	-1,944	,356	-,055	-5,467	,000	,826	1,211
SPAIN	-,192	,657	-,003	-,293	,770	,826	1,211
SWEDEN	,482	,417	,011	1,155	,248	,859	1,164
SWITZERLAND	-,120	,385	-,003	-,312	,755	,874	1,144
TAIWAN	-1,581	,361	-,046	-4,374	,000	,747	1,339
THAILAND	,056	3,765	,000	,015	,988	,986	1,014
TURKEY	2,363	,592	,038	3,993	,000	,906	1,104
UNITED_KINGDOM	1,027	,276	,038	3,717	,000	,767	1,304

a. Dependent Variable: ROA_ADJ

Table 45: Coefficients of regression model M2.1
(own representation)

E REGRESSION OUTPUT OF MODEL M2.2 VARIATION (1)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,498[a]	,248	,240	5,29934	2,003

a. Predictors: (Constant), CO_AGE_RC, @2014, NORWAY, THAILAND, RUSSIAN_FEDERATION, PHILIPPINES, CHILE, NEW_ZEALAND, INDIA, CZECH_REPUBLIC, ISRAEL, MALAYSIA, TURKEY, Nonlife_Insurance, PORTUGAL, SOUTH_AFRICA, NETHERLANDS, GREECE, HUNGARY, Gas__Water_and_Multiutilities, BRAZIL, AUSTRIA, INDONESIA, Real_Estate_Investment_and_Services, MEXICO, Equity_Investment_Instruments, POLAND, Alternative_Energy, Real_Estate_Investment_Trusts, FINLAND, DENMARK, AUSTRALIA, BELGIUM, ITALY, Tobacco, Mining, Support_Services, Media, SWITZERLAND, @2018, Leisure_Goods, Industrial_Transportation, Food_and_Drug_Retailers, @2008, Household_Goods_and_Home_Construction, Personal_Goods, General_Retailers, Mobile_Telecommunications, SOUTH_KOREA, @2009, Forestry_and_Paper, Travel_and_Leisure, Aerospace_and_Defense, Financial_Services, Oil_Equipment_and_Services, General_Industrials, Fixed_Line_Telecommunications, HONG_KONG, @2012, Beverages, FRANCE, CHINA, Electronic_and_Electrical_Equipment, GERMANY, @2010, Food_Producers, Electricity, Construction_and_Materials, SWEDEN, TAIWAN, CANADA, @2013, Industrial_Metals_and_Mining, Automobiles_and_Parts, UNITED_KINGDOM, Health_Care_Equipment_and_Services, Oil_and_Gas_Producers, @2015, EMPL_ADJ, Pharmaceuticals_and_Biotechnology, SPAIN, TD_TA_ADJ, Software_and_Computer_Services, @2016, ESG_COMP, Chemicals, @2011, RD_TS_ADJ, JAPAN, FS_TS_ADJ, Technology_Hardware_and_Equipment, @2017

b. Dependent Variable: ROA_ADJ

Table 46: Model summary of regression model M2.2 variation (1) (own representation)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	80048,701	92	870,095	30,983	,000[b]
	Residual	243030,478	8654	28,083		
	Total	323079,178	8746			

a. Dependent Variable: ROA_ADJ

b. Predictors: (Constant), CO_AGE_RC, @2014, NORWAY, THAILAND, RUSSIAN_FEDERATION, PHILIPPINES, CHILE, NEW_ZEALAND, INDIA, CZECH_REPUBLIC, ISRAEL, MALAYSIA, TURKEY, Nonlife_Insurance, PORTUGAL, SOUTH_AFRICA, NETHERLANDS, GREECE, HUNGARY, Gas__Water_and_Multiutilities, BRAZIL, AUSTRIA, INDONESIA, Real_Estate_Investment_and_Services, MEXICO, Equity_Investment_Instruments, POLAND, Alternative_Energy, Real_Estate_Investment_Trusts, FINLAND, DENMARK, AUSTRALIA, BELGIUM, ITALY, Tobacco, Mining, Support_Services, Media, SWITZERLAND, @2018, Leisure_Goods, Industrial_Transportation, Food_and_Drug_Retailers, @2008, Household_Goods_and_Home_Construction, Personal_Goods, General_Retailers, Mobile_Telecommunications, SOUTH_KOREA, @2009, Forestry_and_Paper, Travel_and_Leisure, Aerospace_and_Defense, Financial_Services, Oil_Equipment_and_Services, General_Industrials, Fixed_Line_Telecommunications, HONG_KONG, @2012, Beverages, FRANCE, CHINA, Electronic_and_Electrical_Equipment, GERMANY, @2010, Food_Producers, Electricity, Construction_and_Materials, SWEDEN, TAIWAN, CANADA, @2013, Industrial_Metals_and_Mining, Automobiles_and_Parts, UNITED_KINGDOM, Health_Care_Equipment_and_Services, Oil_and_Gas_Producers, @2015, EMPL_ADJ, Pharmaceuticals_and_Biotechnology, SPAIN, TD_TA_ADJ, Software_and_Computer_Services, @2016, ESG_COMP, Chemicals, @2011, RD_TS_ADJ, JAPAN, FS_TS_ADJ, Technology_Hardware_and_Equipment, @2017

Table 47: ANOVA of regression model M2.2 variation (1) (own representation)

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	11,701	,386		30,307	,000		
	ESG_COMP	,010	,004	,030	2,803	,005	,739	1,353
	FS_TS_ADJ	,018	,003	,090	6,788	,000	,496	2,014
	AUSTRALIA	,043	,619	,001	,069	,945	,923	1,083
	AUSTRIA	-2,676	,843	-,031	-3,173	,002	,923	1,083
	BELGIUM	-3,943	,706	-,054	-5,583	,000	,929	1,076
	BRAZIL	-,171	,716	-,002	-,239	,811	,920	1,086
	CANADA	-1,757	,498	-,036	-3,526	,000	,851	1,176
	CHILE	-4,235	3,094	-,013	-1,369	,171	,978	1,022
	CHINA	-1,362	,475	-,029	-2,865	,004	,827	1,210
	CZECH_REPUBLIC	-5,307	5,322	-,009	-,997	,319	,992	1,008
	DENMARK	1,843	,614	,030	3,000	,003	,874	1,145
	FINLAND	-1,468	,489	-,030	-3,003	,003	,865	1,156
	FRANCE	-3,365	,333	-,106	-10,119	,000	,791	1,265
	GERMANY	-3,302	,288	-,125	-11,469	,000	,731	1,368
	GREECE	-1,058	1,622	-,006	-,652	,514	,971	1,029
	HONG_KONG	-1,561	,635	-,024	-2,459	,014	,901	1,109
	HUNGARY	-4,453	1,903	-,022	-2,341	,019	,971	1,030
	INDIA	2,850	,793	,035	3,596	,000	,936	1,068
	INDONESIA	6,287	,865	,070	7,266	,000	,942	1,061
	ISRAEL	-2,444	1,010	-,023	-2,421	,016	,953	1,049
	ITALY	-3,679	,598	-,061	-6,152	,000	,881	1,134
	JAPAN	-4,286	,168	-,333	-25,571	,000	,512	1,952
	MALAYSIA	-6,837	5,317	-,012	-1,286	,199	,993	1,007
	MEXICO	-1,272	1,385	-,009	-,919	,358	,978	1,022
	NETHERLANDS	-2,510	,578	-,043	-4,345	,000	,905	1,105
	NEW_ZEALAND	-2,697	2,024	-,013	-1,332	,183	,980	1,020
	NORWAY	-2,824	,708	-,039	-3,990	,000	,896	1,116
	PHILIPPINES	4,966	1,316	,036	3,774	,000	,956	1,046
	POLAND	2,691	1,705	,015	1,578	,115	,967	1,034
	PORTUGAL	-3,024	3,080	-,009	-,982	,326	,987	1,013
	RUSSIAN_FEDERATION	3,440	3,763	,009	,914	,361	,992	1,008
	SOUTH_AFRICA	-,879	,727	-,012	-1,209	,227	,939	1,065
	SOUTH_KOREA	-2,105	,378	-,057	-5,573	,000	,836	1,196
	SPAIN	-,877	,676	-,013	-1,297	,195	,804	1,243
	SWEDEN	-,216	,435	-,005	-,497	,619	,806	1,241
	SWITZERLAND	-,760	,397	-,020	-1,917	,055	,829	1,207
	TAIWAN	-2,068	,374	-,059	-5,526	,000	,753	1,328
	THAILAND	-,560	5,329	-,001	-,105	,916	,989	1,011
	TURKEY	2,778	,616	,044	4,508	,000	,911	1,098
	UNITED_KINGDOM	,459	,291	,017	1,576	,115	,708	1,412
	Oil_and_Gas_Producers	-1,636	,447	-,040	-3,658	,000	,711	1,406
	Oil_Equipment_and_Services	-1,329	,542	-,025	-2,453	,014	,828	1,207
	Alternative_Energy	-3,624	1,108	-,033	-3,271	,001	,850	1,176
	Chemicals	,928	,283	,041	3,281	,001	,557	1,794
	Forestry_and_Paper	-1,765	,756	-,023	-2,334	,020	,899	1,112
	Industrial_Metals_and_Mining	-1,407	,347	-,047	-4,054	,000	,658	1,520
	Mining	-2,539	,944	-,026	-2,691	,007	,905	1,105
	Construction_and_Materials	-,553	,316	-,020	-1,749	,080	,635	1,575

Aerospace_and_Defense	-1,883	,420	-,049	-4,487	,000	,733	1,363
General_Industrials	-,340	,418	-,009	-,813	,416	,776	1,289
Electronic_and_Electrical_Equipment	-,031	,309	-,001	-,101	,920	,587	1,703
Industrial_Transportation	-,283	,687	-,004	-,412	,680	,896	1,116
Support_Services	-,347	,459	-,008	-,756	,450	,819	1,222
Automobiles_and_Parts	,788	,299	,032	2,637	,008	,576	1,736
Beverages	,449	,575	,008	,780	,435	,834	1,199
Food_Producers	,580	,359	,018	1,617	,106	,680	1,471
Household_Goods_and_Home_Construction	1,339	,402	,035	3,328	,001	,765	1,307
Leisure_Goods	-,471	,418	-,012	-1,129	,259	,775	1,291
Personal_Goods	2,490	,387	,069	6,438	,000	,747	1,339
Tobacco	8,785	,837	,102	10,491	,000	,915	1,093
Health_Care_Equipment_and_Services	1,871	,360	,060	5,193	,000	,653	1,531
Pharmaceuticals_and_Biotechnology	2,546	,360	,094	7,064	,000	,495	2,019
Food_and_Drug_Retailers	-,315	,688	-,005	-,457	,648	,867	1,153
General_Retailers	,527	,446	,013	1,183	,237	,710	1,409
Media	-,022	,500	,000	-,045	,964	,821	1,217
Travel_and_Leisure	1,804	,537	,035	3,356	,001	,802	1,247
Fixed_Line_Telecommunications	2,342	,649	,038	3,607	,000	,801	1,249
Mobile_Telecommunications	,789	,677	,012	1,165	,244	,870	1,149
Electricity	1,375	,492	,031	2,795	,005	,696	1,436
Gas__Water_and_Multiutilities	-,449	,567	-,008	-,791	,429	,796	1,256
Nonlife_Insurance	-2,652	2,178	-,011	-1,218	,223	,988	1,013
Real_Estate_Investment_and_Services	3,500	1,184	,028	2,957	,003	,957	1,045
Real_Estate_Investment_Trusts	-,714	1,144	-,006	-,625	,532	,936	1,068
Financial_Services	-1,411	,651	-,022	-2,169	,030	,847	1,180
Equity_Investment_Instruments	-,712	1,717	-,004	-,415	,678	,954	1,049
Software_and_Computer_Services	1,160	,356	,042	3,260	,001	,535	1,869
Technology_Hardware_and_Equipment	,231	,313	,010	,740	,460	,466	2,144
@2008	-1,330	,312	-,056	-4,267	,000	,512	1,954
@2009	-3,757	,306	-,164	-12,287	,000	,489	2,046
@2010	-1,849	,296	-,088	-6,247	,000	,442	2,260
@2011	-1,585	,294	-,076	-5,383	,000	,431	2,320
@2012	-2,500	,296	-,119	-8,435	,000	,437	2,290
@2013	-2,792	,299	-,130	-9,352	,000	,449	2,228
@2014	-2,360	,300	-,109	-7,880	,000	,453	2,209
@2015	-2,974	,293	-,145	-10,131	,000	,427	2,344
@2016	-2,858	,292	-,141	-9,797	,000	,421	2,375
@2017	-2,498	,291	-,124	-8,570	,000	,415	2,411
@2018	-1,731	,363	-,056	-4,762	,000	,619	1,615
EMPL_ADJ	-2,044E-6	,000	-,027	-2,612	,009	,791	1,264
RD_TS_ADJ	-,119	,016	-,101	-7,318	,000	,457	2,189
TD_TA_ADJ	-,106	,004	-,276	-26,017	,000	,771	1,297
CO_AGE_RC	-,004	,001	-,028	-2,538	,011	,697	1,434

a. Dependent Variable: ROA_ADJ

Table 48: Coefficients of regression model M2.2 variation (1) (own representation)

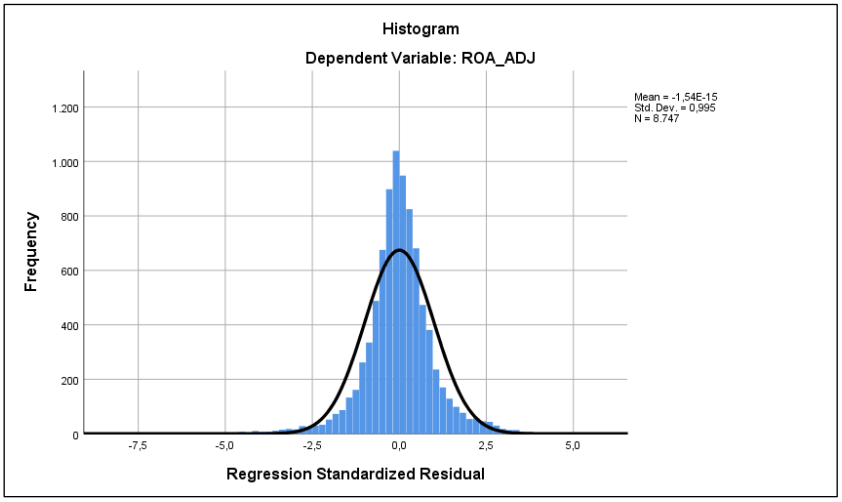

Figure 26: Distribution of regression standardized residuals of model M2.2 variation (1)
(own representation)

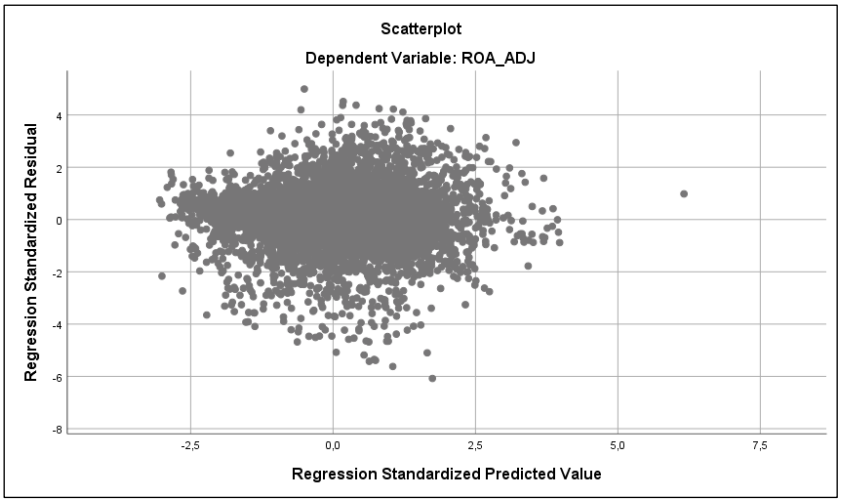

Figure 27: Standardized residual by standardized predicted value scatterplot of model M2.2 variation (1)
(own representation)

F REGRESSION OUTPUT OF THE REDUCED AND COMPLETE MODEL M2.2 VARIATION (1)

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,494[a]	,244	,236	5,31312	
2	,498[b]	,248	,240	5,29934	2,003

a. Predictors: (Constant), CO_AGE_RC, @2014, NORWAY, THAILAND, RUSSIAN_FEDERATION, PHILIPPINES, CHILE, NEW_ZEALAND, INDIA, CZECH_REPUBLIC, ISRAEL, MALAYSIA, TURKEY, Nonlife_Insurance, PORTUGAL, SOUTH_AFRICA, NETHERLANDS, GREECE, HUNGARY, Gas__Water_and_Multiutilities, BRAZIL, AUSTRIA, INDONESIA, Real_Estate_Investment_and_Services, MEXICO, Equity_Investment_Instruments, POLAND, Alternative_Energy, Real_Estate_Investment_Trusts, FINLAND, DENMARK, AUSTRALIA, BELGIUM, ITALY, Tobacco, Mining, Support_Services, Media, SWITZERLAND, @2018, Leisure_Goods, Industrial_Transportation, Food_and_Drug_Retailers, @2008, Household_Goods_and_Home_Construction, Personal_Goods, General_Retailers, Mobile_Telecommunications, SOUTH_KOREA, @2009, Forestry_and_Paper, Travel_and_Leisure, Aerospace_and_Defense, Financial_Services, Oil_Equipment_and_Services, General_Industrials, Fixed_Line_Telecommunications, HONG_KONG, @2012, Beverages, FRANCE, CHINA, Electronic_and_Electrical_Equipment, GERMANY, @2010, Food_Producers, Electricity, Construction_and_Materials, SWEDEN, TAIWAN, CANADA, @2013, Industrial_Metals_and_Mining, Automobiles_and_Parts, UNITED_KINGDOM, Health_Care_Equipment_and_Services, Oil_and_Gas_Producers, @2015, EMPL_ADJ, Pharmaceuticals_and_Biotechnology, SPAIN, TD_TA_ADJ, Software_and_Computer_Services, @2016, ESG_COMP, Chemicals, @2011, RD_TS_ADJ, JAPAN, Technology_Hardware_and_Equipment, @2017

b. Predictors: (Constant), CO_AGE_RC, @2014, NORWAY, THAILAND, RUSSIAN_FEDERATION, PHILIPPINES, CHILE, NEW_ZEALAND, INDIA, CZECH_REPUBLIC, ISRAEL, MALAYSIA, TURKEY, Nonlife_Insurance, PORTUGAL, SOUTH_AFRICA, NETHERLANDS, GREECE, HUNGARY, Gas__Water_and_Multiutilities, BRAZIL, AUSTRIA, INDONESIA, Real_Estate_Investment_and_Services, MEXICO, Equity_Investment_Instruments, POLAND, Alternative_Energy, Real_Estate_Investment_Trusts, FINLAND, DENMARK, AUSTRALIA, BELGIUM, ITALY, Tobacco, Mining, Support_Services, Media, SWITZERLAND, @2018, Leisure_Goods, Industrial_Transportation, Food_and_Drug_Retailers, @2008, Household_Goods_and_Home_Construction, Personal_Goods, General_Retailers, Mobile_Telecommunications, SOUTH_KOREA, @2009, Forestry_and_Paper, Travel_and_Leisure, Aerospace_and_Defense, Financial_Services, Oil_Equipment_and_Services, General_Industrials, Fixed_Line_Telecommunications, HONG_KONG, @2012, Beverages, FRANCE, CHINA, Electronic_and_Electrical_Equipment, GERMANY, @2010, Food_Producers, Electricity, Construction_and_Materials, SWEDEN, TAIWAN, CANADA, @2013, Industrial_Metals_and_Mining, Automobiles_and_Parts, UNITED_KINGDOM, Health_Care_Equipment_and_Services, Oil_and_Gas_Producers, @2015, EMPL_ADJ, Pharmaceuticals_and_Biotechnology, SPAIN, TD_TA_ADJ, Software_and_Computer_Services, @2016, ESG_COMP, Chemicals, @2011, RD_TS_ADJ, JAPAN, Technology_Hardware_and_Equipment, @2017, FS_TS_ADJ

c. Dependent Variable: ROA_ADJ

Table 49: Model summary of the reduced and complete regression model M2.2 variation (1) (own representation)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	78754,663	91	865,436	30,657	,000[b]
	Residual	244324,515	8655	28,229		
	Total	323079,178	8746			
2	Regression	80048,701	92	870,095	30,983	,000[c]
	Residual	243030,478	8654	28,083		
	Total	323079,178	8746			

a. Dependent Variable: ROA_ADJ

b. Predictors: (Constant), CO_AGE_RC, @2014, NORWAY, THAILAND, RUSSIAN_FEDERATION, PHILIPPINES, CHILE, NEW_ZEALAND, INDIA, CZECH_REPUBLIC, ISRAEL, MALAYSIA, TURKEY, Nonlife_Insurance, PORTUGAL, SOUTH_AFRICA, NETHERLANDS, GREECE, HUNGARY, Gas__Water_and_Multiutilities, BRAZIL, AUSTRIA, INDONESIA, Real_Estate_Investment_and_Services, MEXICO, Equity_Investment_Instruments, POLAND, Alternative_Energy, Real_Estate_Investment_Trusts, FINLAND, DENMARK, AUSTRALIA, BELGIUM, ITALY, Tobacco, Mining, Support_Services, Media, SWITZERLAND, @2018, Leisure_Goods, Industrial_Transportation, Food_and_Drug_Retailers, @2008, Household_Goods_and_Home_Construction, Personal_Goods, General_Retailers, Mobile_Telecommunications, SOUTH_KOREA, @2009, Forestry_and_Paper, Travel_and_Leisure, Aerospace_and_Defense, Financial_Services, Oil_Equipment_and_Services, General_Industrials, Fixed_Line_Telecommunications, HONG_KONG, @2012, Beverages, FRANCE, CHINA, Electronic_and_Electrical_Equipment, GERMANY, @2010, Food_Producers, Electricity, Construction_and_Materials, SWEDEN, TAIWAN, CANADA, @2013, Industrial_Metals_and_Mining, Automobiles_and_Parts, UNITED_KINGDOM, Health_Care_Equipment_and_Services, Oil_and_Gas_Producers, @2015, EMPL_ADJ, Pharmaceuticals_and_Biotechnology, SPAIN, TD_TA_ADJ, Software_and_Computer_Services, @2016, ESG_COMP, Chemicals, @2011, RD_TS_ADJ, JAPAN, Technology_Hardware_and_Equipment, @2017

c. Predictors: (Constant), CO_AGE_RC, @2014, NORWAY, THAILAND, RUSSIAN_FEDERATION, PHILIPPINES, CHILE, NEW_ZEALAND, INDIA, CZECH_REPUBLIC, ISRAEL, MALAYSIA, TURKEY, Nonlife_Insurance, PORTUGAL, SOUTH_AFRICA, NETHERLANDS, GREECE, HUNGARY, Gas__Water_and_Multiutilities, BRAZIL, AUSTRIA, INDONESIA, Real_Estate_Investment_and_Services, MEXICO, Equity_Investment_Instruments, POLAND, Alternative_Energy, Real_Estate_Investment_Trusts, FINLAND, DENMARK, AUSTRALIA, BELGIUM, ITALY, Tobacco, Mining, Support_Services, Media, SWITZERLAND, @2018, Leisure_Goods, Industrial_Transportation, Food_and_Drug_Retailers, @2008, Household_Goods_and_Home_Construction, Personal_Goods, General_Retailers, Mobile_Telecommunications, SOUTH_KOREA, @2009, Forestry_and_Paper, Travel_and_Leisure, Aerospace_and_Defense, Financial_Services, Oil_Equipment_and_Services, General_Industrials, Fixed_Line_Telecommunications, HONG_KONG, @2012, Beverages, FRANCE, CHINA, Electronic_and_Electrical_Equipment, GERMANY, @2010, Food_Producers, Electricity, Construction_and_Materials, SWEDEN, TAIWAN, CANADA, @2013, Industrial_Metals_and_Mining, Automobiles_and_Parts, UNITED_KINGDOM, Health_Care_Equipment_and_Services, Oil_and_Gas_Producers, @2015, EMPL_ADJ, Pharmaceuticals_and_Biotechnology, SPAIN, TD_TA_ADJ, Software_and_Computer_Services, @2016, ESG_COMP, Chemicals, @2011, RD_TS_ADJ, JAPAN, Technology_Hardware_and_Equipment, @2017, FS_TS_ADJ

Table 50: ANOVA of the reduced and complete regression model M2.2 variation (1) (own representation)

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	12,171	,381		31,960	,000		
	ESG_COMP	,014	,004	,041	3,795	,000	,754	1,326
	AUSTRALIA	,290	,620	,005	,468	,639	,927	1,079
	AUSTRIA	-1,810	,836	-,021	-2,166	,030	,945	1,059
	BELGIUM	-3,444	,704	-,047	-4,890	,000	,940	1,064
	BRAZIL	-,084	,717	-,001	-,116	,907	,921	1,086
	CANADA	-1,289	,495	-,026	-2,605	,009	,867	1,153
	CHILE	-2,972	3,096	-,009	-,960	,337	,982	1,018
	CHINA	-1,757	,473	-,038	-3,714	,000	,839	1,192
	CZECH_REPUBLIC	-4,971	5,335	-,009	-,932	,352	,992	1,008
	DENMARK	2,615	,605	,042	4,320	,000	,905	1,105
	FINLAND	-,967	,485	-,020	-1,996	,046	,885	1,130
	FRANCE	-2,991	,329	-,094	-9,097	,000	,813	1,230
	GERMANY	-2,844	,281	-,108	-10,134	,000	,773	1,293
	GREECE	-1,144	1,626	-,007	-,703	,482	,971	1,029
	HONG_KONG	-1,104	,633	-,017	-1,745	,081	,912	1,097
	HUNGARY	-3,495	1,902	-,017	-1,837	,066	,976	1,025
	INDIA	2,663	,794	,032	3,353	,001	,937	1,067
	INDONESIA	5,840	,865	,065	6,752	,000	,948	1,055
	ISRAEL	-1,704	1,006	-,016	-1,693	,090	,964	1,037
	ITALY	-3,142	,594	-,052	-5,287	,000	,897	1,115
	JAPAN	-4,360	,168	-,339	-26,004	,000	,514	1,944
	MALAYSIA	-6,716	5,331	-,012	-1,260	,208	,993	1,007
	MEXICO	-1,037	1,388	-,007	-,747	,455	,979	1,021
	NETHERLANDS	-1,814	,570	-,031	-3,182	,001	,934	1,070
	NEW_ZEALAND	-2,950	2,029	-,014	-1,454	,146	,981	1,020
	NORWAY	-2,152	,703	-,030	-3,062	,002	,914	1,094
	PHILIPPINES	4,873	1,319	,035	3,694	,000	,956	1,046
	POLAND	3,370	1,706	,019	1,975	,048	,971	1,030
	PORTUGAL	-2,644	3,088	-,008	-,856	,392	,987	1,013
	RUSSIAN_FEDERATION	3,713	3,773	,009	,984	,325	,992	1,008
	SOUTH_AFRICA	-,959	,729	-,013	-1,316	,188	,939	1,065
	SOUTH_KOREA	-2,166	,379	-,058	-5,720	,000	,837	1,195
	SPAIN	-,282	,672	-,004	-,420	,675	,818	1,222
	SWEDEN	,465	,425	,011	1,095	,274	,851	1,175
	SWITZERLAND	-,166	,388	-,004	-,428	,669	,871	1,148
	TAIWAN	-1,989	,375	-,057	-5,303	,000	,754	1,327
	THAILAND	,523	5,340	,001	,098	,922	,990	1,010
	TURKEY	2,525	,617	,040	4,095	,000	,914	1,094
	UNITED_KINGDOM	1,004	,281	,038	3,573	,000	,766	1,305
	Oil_and_Gas_Producers	-2,019	,445	-,050	-4,538	,000	,723	1,384
	Oil_Equipment_and_Services	-1,408	,543	-,027	-2,591	,010	,829	1,207
	Alternative_Energy	-3,706	1,111	-,034	-3,337	,001	,850	1,176
	Chemicals	,891	,284	,039	3,143	,002	,558	1,794
	Forestry_and_Paper	-2,017	,757	-,026	-2,664	,008	,901	1,110
	Industrial_Metals_and_Mining	-1,612	,347	-,053	-4,650	,000	,663	1,509
	Mining	-2,617	,946	-,027	-2,766	,006	,905	1,105
	Construction_and_Materials	-,805	,315	-,030	-2,555	,011	,644	1,553
	Aerospace_and_Defense	-2,120	,419	-,055	-5,056	,000	,739	1,354
	General_Industrials	-,405	,419	-,010	-,966	,334	,776	1,288
	Electronic_and_Electrical_Equipment	,115	,309	,005	,373	,709	,590	1,695
	Industrial_Transportation	-,655	,686	-,009	-,954	,340	,902	1,109
	Support_Services	-,586	,459	-,013	-1,278	,201	,824	1,214
	Automobiles_and_Parts	,875	,299	,036	2,925	,003	,577	1,733
	Beverages	-,021	,573	,000	-,036	,971	,846	1,182
	Food_Producers	,284	,357	,009	,795	,427	,690	1,450
	Household_Goods_and_Home_Construction	1,123	,402	,030	2,792	,005	,770	1,299
	Leisure_Goods	-,458	,419	-,012	-1,094	,274	,775	1,291
	Personal_Goods	2,379	,387	,066	6,140	,000	,748	1,336
	Tobacco	8,449	,838	,098	10,082	,000	,918	1,089
	Health_Care_Equipment_and_Services	1,766	,361	,057	4,894	,000	,654	1,529
	Pharmaceuticals_and_Biotechnology	2,212	,358	,081	6,179	,000	,505	1,982
	Food_and_Drug_Retailers	-,958	,683	-,014	-1,403	,161	,884	1,132

	General_Retailers	,005	,440	,000	,010	,992	,732	1,367
	Media	-,437	,497	-,009	-,878	,380	,834	1,199
	Travel_and_Leisure	1,220	,532	,024	2,293	,022	,823	1,215
	Fixed_Line_Telecommunications	1,535	,640	,025	2,399	,016	,828	1,207
	Mobile_Telecommunications	,358	,676	,005	,530	,596	,878	1,139
	Electricity	,683	,482	,016	1,416	,157	,728	1,374
	Gas__Water_and_Multiutilities	-1,171	,559	-,022	-2,096	,036	,825	1,212
	Nonlife_Insurance	-3,021	2,183	-,013	-1,384	,166	,988	1,012
	Real_Estate_Investment_and_Services	2,881	1,183	,023	2,435	,015	,963	1,039
	Real_Estate_Investment_Trusts	-1,180	1,145	-,010	-1,031	,303	,939	1,064
	Financial_Services	-1,923	,648	-,030	-2,968	,003	,859	1,165
	Equity_Investment_Instruments	-1,382	1,719	-,008	-,804	,421	,957	1,045
	Software_and_Computer_Services	,830	,354	,030	2,346	,019	,545	1,834
	Technology_Hardware_and_Equipment	,355	,313	,016	1,134	,257	,468	2,137
	@2008	-1,318	,312	-,055	-4,216	,000	,512	1,954
	@2009	-3,727	,307	-,163	-12,158	,000	,489	2,045
	@2010	-1,802	,297	-,085	-6,073	,000	,443	2,259
	@2011	-1,474	,295	-,071	-5,000	,000	,432	2,312
	@2012	-2,384	,297	-,113	-8,035	,000	,438	2,282
	@2013	-2,709	,299	-,126	-9,060	,000	,450	2,225
	@2014	-2,235	,300	-,103	-7,458	,000	,454	2,201
	@2015	-2,862	,294	-,139	-9,741	,000	,428	2,337
	@2016	-2,764	,292	-,136	-9,460	,000	,422	2,369
	@2017	-2,410	,292	-,120	-8,256	,000	,416	2,406
	@2018	-1,627	,364	-,053	-4,468	,000	,620	1,612
	EMPL_ADJ	-1,719E-6	,000	-,023	-2,195	,028	,794	1,259
	RD_TS_ADJ	-,102	,016	-,086	-6,319	,000	,468	2,135
	TD_TA_ADJ	-,106	,004	-,277	-25,983	,000	,771	1,297
	CO_AGE_RC	-,003	,001	-,025	-2,202	,028	,699	1,431
2	(Constant)	11,701	,386		30,307	,000		
	ESG_COMP	,010	,004	,030	2,803	,005	,739	1,353
	AUSTRALIA	,043	,619	,001	,069	,945	,923	1,083
	AUSTRIA	-2,676	,843	-,031	-3,173	,002	,923	1,083
	BELGIUM	-3,943	,706	-,054	-5,583	,000	,929	1,076
	BRAZIL	-,171	,716	-,002	-,239	,811	,920	1,086
	CANADA	-1,757	,498	-,036	-3,526	,000	,851	1,176
	CHILE	-4,235	3,094	-,013	-1,369	,171	,978	1,022
	CHINA	-1,362	,475	-,029	-2,865	,004	,827	1,210
	CZECH_REPUBLIC	-5,307	5,322	-,009	-,997	,319	,992	1,008
	DENMARK	1,843	,614	,030	3,000	,003	,874	1,145
	FINLAND	-1,468	,489	-,030	-3,003	,003	,865	1,156
	FRANCE	-3,365	,333	-,106	-10,119	,000	,791	1,265
	GERMANY	-3,302	,288	-,125	-11,469	,000	,731	1,368
	GREECE	-1,058	1,622	-,006	-,652	,514	,971	1,029
	HONG_KONG	-1,561	,635	-,024	-2,459	,014	,901	1,109
	HUNGARY	-4,453	1,903	-,022	-2,341	,019	,971	1,030
	INDIA	2,850	,793	,035	3,596	,000	,936	1,068
	INDONESIA	6,287	,865	,070	7,266	,000	,942	1,061
	ISRAEL	-2,444	1,010	-,023	-2,421	,016	,953	1,049
	ITALY	-3,679	,598	-,061	-6,152	,000	,881	1,134
	JAPAN	-4,286	,168	-,333	-25,571	,000	,512	1,952
	MALAYSIA	-6,837	5,317	-,012	-1,286	,199	,993	1,007
	MEXICO	-1,272	1,385	-,009	-,919	,358	,978	1,022
	NETHERLANDS	-2,510	,578	-,043	-4,345	,000	,905	1,105
	NEW_ZEALAND	-2,697	2,024	-,013	-1,332	,183	,980	1,020
	NORWAY	-2,824	,708	-,039	-3,990	,000	,896	1,116
	PHILIPPINES	4,966	1,316	,036	3,774	,000	,956	1,046
	POLAND	2,691	1,705	,015	1,578	,115	,967	1,034
	PORTUGAL	-3,024	3,080	-,009	-,982	,326	,987	1,013
	RUSSIAN_FEDERATION	3,440	3,763	,009	,914	,361	,992	1,008
	SOUTH_AFRICA	-,879	,727	-,012	-1,209	,227	,939	1,065
	SOUTH_KOREA	-2,105	,378	-,057	-5,573	,000	,836	1,196
	SPAIN	-,877	,676	-,013	-1,297	,195	,804	1,243
	SWEDEN	-,216	,435	-,005	-,497	,619	,806	1,241
	SWITZERLAND	-,760	,397	-,020	-1,917	,055	,829	1,207
	TAIWAN	-2,068	,374	-,059	-5,526	,000	,753	1,328
	THAILAND	-,560	5,329	-,001	-,105	,916	,989	1,011

TURKEY	2,778	,616	,044	4,508	,000	,911	1,098
UNITED_KINGDOM	,459	,291	,017	1,576	,115	,708	1,412
Oil_and_Gas_Producers	-1,636	,447	-,040	-3,658	,000	,711	1,406
Oil_Equipment_and_Services	-1,329	,542	-,025	-2,453	,014	,828	1,207
Alternative_Energy	-3,624	1,108	-,033	-3,271	,001	,850	1,176
Chemicals	,928	,283	,041	3,281	,001	,557	1,794
Forestry_and_Paper	-1,765	,756	-,023	-2,334	,020	,899	1,112
Industrial_Metals_and_Mining	-1,407	,347	-,047	-4,054	,000	,658	1,520
Mining	-2,539	,944	-,026	-2,691	,007	,905	1,105
Construction_and_Materials	-,553	,316	-,020	-1,749	,080	,635	1,575
Aerospace_and_Defense	-1,883	,420	-,049	-4,487	,000	,733	1,363
General_Industrials	-,340	,418	-,009	-,813	,416	,776	1,289
Electronic_and_Electrical_Equipment	-,031	,309	-,001	-,101	,920	,587	1,703
Industrial_Transportation	-,283	,687	-,004	-,412	,680	,896	1,116
Support_Services	-,347	,459	-,008	-,756	,450	,819	1,222
Automobiles_and_Parts	,788	,299	,032	2,637	,008	,576	1,736
Beverages	,449	,575	,008	,780	,435	,834	1,199
Food_Producers	,580	,359	,018	1,617	,106	,680	1,471
Household_Goods_and_Home_Construction	1,339	,402	,035	3,328	,001	,765	1,307
Leisure_Goods	-,471	,418	-,012	-1,129	,259	,775	1,291
Personal_Goods	2,490	,387	,069	6,438	,000	,747	1,339
Tobacco	8,785	,837	,102	10,491	,000	,915	1,093
Health_Care_Equipment_and_Services	1,871	,360	,060	5,193	,000	,653	1,531
Pharmaceuticals_and_Biotechnology	2,546	,360	,094	7,064	,000	,495	2,019
Food_and_Drug_Retailers	-,315	,688	-,005	-,457	,648	,867	1,153
General_Retailers	,527	,446	,013	1,183	,237	,710	1,409
Media	-,022	,500	,000	-,045	,964	,821	1,217
Travel_and_Leisure	1,804	,537	,035	3,356	,001	,802	1,247
Fixed_Line_Telecommunications	2,342	,649	,038	3,607	,000	,801	1,249
Mobile_Telecommunications	,789	,677	,012	1,165	,244	,870	1,149
Electricity	1,375	,492	,031	2,795	,005	,696	1,436
Gas__Water_and_Multiutilities	-,449	,567	-,008	-,791	,429	,796	1,256
Nonlife_Insurance	-2,652	2,178	-,011	-1,218	,223	,988	1,013
Real_Estate_Investment_and_Services	3,500	1,184	,028	2,957	,003	,957	1,045
Real_Estate_Investment_Trusts	-,714	1,144	-,006	-,625	,532	,936	1,068
Financial_Services	-1,411	,651	-,022	-2,169	,030	,847	1,180
Equity_Investment_Instruments	-,712	1,717	-,004	-,415	,678	,954	1,049
Software_and_Computer_Services	1,160	,356	,042	3,260	,001	,535	1,869
Technology_Hardware_and_Equipment	,231	,313	,010	,740	,460	,466	2,144
@2008	-1,330	,312	-,056	-4,267	,000	,512	1,954
@2009	-3,757	,306	-,164	-12,287	,000	,489	2,046
@2010	-1,849	,296	-,088	-6,247	,000	,442	2,260
@2011	-1,585	,294	-,076	-5,383	,000	,431	2,320
@2012	-2,500	,296	-,119	-8,435	,000	,437	2,290
@2013	-2,792	,299	-,130	-9,352	,000	,449	2,228
@2014	-2,360	,300	-,109	-7,880	,000	,453	2,209
@2015	-2,974	,293	-,145	-10,131	,000	,427	2,344
@2016	-2,858	,292	-,141	-9,797	,000	,421	2,375
@2017	-2,498	,291	-,124	-8,570	,000	,415	2,411
@2018	-1,731	,363	-,056	-4,762	,000	,619	1,615
EMPL_ADJ	-2,044E-6	,000	-,027	-2,612	,009	,791	1,264
RD_TS_ADJ	-,119	,016	-,101	-7,318	,000	,457	2,189
TD_TA_ADJ	-,106	,004	-,276	-26,017	,000	,771	1,297
CO_AGE_RC	-,004	,001	-,028	-2,538	,011	,697	1,434
FS_TS_ADJ	,018	,003	,090	6,788	,000	,496	2,014

a. Dependent Variable: ROA_ADJ

Table 51: Coefficients of the reduced and complete model M2.2 variation (1) (own representation)

G REGRESSION OUTPUT OF MODEL M2.3 VARIATION (1)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,498[a]	,248	,240	5,29948	2,003

a. Predictors: (Constant), CO_AGE_RC, @2014, NORWAY, THAILAND, RUSSIAN_FEDERATION, PHILIPPINES, CHILE, NEW_ZEALAND, INDIA, CZECH_REPUBLIC, ISRAEL, MALAYSIA, TURKEY, Nonlife_Insurance, PORTUGAL, SOUTH_AFRICA, NETHERLANDS, GREECE, HUNGARY, Gas__Water_and_Multiutilities, BRAZIL, AUSTRIA, INDONESIA, Real_Estate_Investment_and_Services, MEXICO, Equity_Investment_Instruments, POLAND, Alternative_Energy, Real_Estate_Investment_Trusts, FINLAND, DENMARK, AUSTRALIA, BELGIUM, ITALY, Tobacco, Mining, Support_Services, Media, SWITZERLAND, @2018, Leisure_Goods, Industrial_Transportation, Food_and_Drug_Retailers, @2008, Household_Goods_and_Home_Construction, Personal_Goods, General_Retailers, Mobile_Telecommunications, SOUTH_KOREA, @2009, Forestry_and_Paper, Travel_and_Leisure, Aerospace_and_Defense, Financial_Services, Oil_Equipment_and_Services, General_Industrials, Fixed_Line_Telecommunications, HONG_KONG, @2012, Beverages, FRANCE, CHINA, Electronic_and_Electrical_Equipment, GERMANY, @2010, Food_Producers, Electricity, Construction_and_Materials, SWEDEN, TAIWAN, CANADA, @2013, Industrial_Metals_and_Mining, Automobiles_and_Parts, UNITED_KINGDOM, Health_Care_Equipment_and_Services, Oil_and_Gas_Producers, @2015, EMPL_ADJ, Pharmaceuticals_and_Biotechnology, SPAIN, ESG_COMP_CENT_x_FS_TS_ADJ_CENT, TD_TA_ADJ, Software_and_Computer_Services, @2016, Chemicals, @2011, ESG_COMP_CENT, RD_TS_ADJ, JAPAN, FS_TS_ADJ_CENT, Technology_Hardware_and_Equipment, @2017

b. Dependent Variable: ROA_ADJ

Table 52: Model summary of regression model M2.3 variation (1) (own representation)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	80064,485	93	860,908	30,654	,000[b]
	Residual	243014,693	8653	28,084		
	Total	323079,178	8746			

a. Dependent Variable: ROA_ADJ

b. Predictors: (Constant), CO_AGE_RC, @2014, NORWAY, THAILAND, RUSSIAN_FEDERATION, PHILIPPINES, CHILE, NEW_ZEALAND, INDIA, CZECH_REPUBLIC, ISRAEL, MALAYSIA, TURKEY, Nonlife_Insurance, PORTUGAL, SOUTH_AFRICA, NETHERLANDS, GREECE, HUNGARY, Gas__Water_and_Multiutilities, BRAZIL, AUSTRIA, INDONESIA, Real_Estate_Investment_and_Services, MEXICO, Equity_Investment_Instruments, POLAND, Alternative_Energy, Real_Estate_Investment_Trusts, FINLAND, DENMARK, AUSTRALIA, BELGIUM, ITALY, Tobacco, Mining, Support_Services, Media, SWITZERLAND, @2018, Leisure_Goods, Industrial_Transportation, Food_and_Drug_Retailers, @2008, Household_Goods_and_Home_Construction, Personal_Goods, General_Retailers, Mobile_Telecommunications, SOUTH_KOREA, @2009, Forestry_and_Paper, Travel_and_Leisure, Aerospace_and_Defense, Financial_Services, Oil_Equipment_and_Services, General_Industrials, Fixed_Line_Telecommunications, HONG_KONG, @2012, Beverages, FRANCE, CHINA, Electronic_and_Electrical_Equipment, GERMANY, @2010, Food_Producers, Electricity, Construction_and_Materials, SWEDEN, TAIWAN, CANADA, @2013, Industrial_Metals_and_Mining, Automobiles_and_Parts, UNITED_KINGDOM, Health_Care_Equipment_and_Services, Oil_and_Gas_Producers, @2015, EMPL_ADJ, Pharmaceuticals_and_Biotechnology, SPAIN, ESG_COMP_CENT_x_FS_TS_ADJ_CENT, TD_TA_ADJ, Software_and_Computer_Services, @2016, Chemicals, @2011, ESG_COMP_CENT, RD_TS_ADJ, JAPAN, FS_TS_ADJ_CENT, Technology_Hardware_and_Equipment, @2017

Table 53: ANOVA of regression model M2.3 variation (1) (own representation)

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	12,708	,364		34,932	,000		
	ESG_COMP_CENT	,011	,004	,034	2,860	,004	,610	1,640
	FS_TS_ADJ_CENT	,018	,003	,091	6,825	,000	,486	2,057
	ESG_COMP_CENT_x_FS_TS_ADJ_CENT	-7,902E-5	,000	-,009	-,750	,453	,646	1,549
	AUSTRALIA	,035	,619	,001	,057	,955	,923	1,083
	AUSTRIA	-2,678	,843	-,031	-3,176	,001	,923	1,084
	BELGIUM	-3,936	,706	-,054	-5,572	,000	,929	1,076
	BRAZIL	-,185	,716	-,003	-,258	,796	,920	1,087
	CANADA	-1,760	,498	-,036	-3,531	,000	,851	1,176
	CHILE	-4,254	3,094	-,013	-1,375	,169	,978	1,022
	CHINA	-1,331	,477	-,029	-2,790	,005	,820	1,219
	CZECH_REPUBLIC	-5,330	5,322	-,009	-1,001	,317	,992	1,008
	DENMARK	1,843	,614	,030	3,000	,003	,874	1,145
	FINLAND	-1,448	,490	-,030	-2,958	,003	,863	1,159
	FRANCE	-3,345	,334	-,105	-10,029	,000	,786	1,273
	GERMANY	-3,285	,289	-,124	-11,371	,000	,726	1,377
	GREECE	-1,057	1,622	-,006	-,651	,515	,971	1,029
	HONG_KONG	-1,593	,636	-,025	-2,504	,012	,897	1,115
	HUNGARY	-4,513	1,904	-,022	-2,370	,018	,969	1,032
	INDIA	2,840	,793	,035	3,583	,000	,936	1,068
	INDONESIA	6,300	,865	,070	7,280	,000	,942	1,062
	ISRAEL	-2,426	1,010	-,023	-2,402	,016	,952	1,050
	ITALY	-3,660	,599	-,061	-6,114	,000	,880	1,137
	JAPAN	-4,281	,168	-,333	-25,524	,000	,511	1,955
	MALAYSIA	-6,748	5,319	-,012	-1,269	,205	,993	1,007
	MEXICO	-1,301	1,385	-,009	-,939	,348	,978	1,023
	NETHERLANDS	-2,479	,579	-,042	-4,281	,000	,900	1,111
	NEW_ZEALAND	-2,679	2,024	-,012	-1,324	,186	,980	1,020
	NORWAY	-2,794	,709	-,039	-3,942	,000	,894	1,119
	PHILIPPINES	4,978	1,316	,036	3,783	,000	,956	1,046
	POLAND	2,695	1,705	,015	1,580	,114	,967	1,034
	PORTUGAL	-3,009	3,080	-,009	-,977	,329	,987	1,013
	RUSSIAN_FEDERATION	3,444	3,763	,009	,915	,360	,992	1,008
	SOUTH_AFRICA	-,886	,727	-,012	-1,218	,223	,938	1,066
	SOUTH_KOREA	-2,100	,378	-,057	-5,556	,000	,836	1,196
	SPAIN	-,877	,676	-,013	-1,297	,195	,804	1,243
	SWEDEN	-,189	,437	-,005	-,433	,665	,800	1,249
	SWITZERLAND	-,757	,397	-,020	-1,909	,056	,829	1,207
	TAIWAN	-2,071	,374	-,059	-5,532	,000	,753	1,328
	THAILAND	-,580	5,329	-,001	-,109	,913	,989	1,011
	TURKEY	2,787	,616	,044	4,522	,000	,910	1,099
	UNITED_KINGDOM	,468	,292	,018	1,605	,109	,707	1,415
	Oil_and_Gas_Producers	-1,635	,447	-,040	-3,654	,000	,711	1,406
	Oil_Equipment_and_Services	-1,319	,542	-,025	-2,434	,015	,828	1,208
	Alternative_Energy	-3,589	1,109	-,033	-3,237	,001	,849	1,179
	Chemicals	,935	,283	,041	3,302	,001	,557	1,796
	Forestry_and_Paper	-1,769	,756	-,023	-2,339	,019	,899	1,112
	Industrial_Metals_and_Mining	-1,400	,347	-,046	-4,032	,000	,657	1,521
	Mining	-2,532	,944	-,026	-2,683	,007	,905	1,105
	Construction_and_Materials	-,544	,317	-,020	-1,720	,086	,634	1,577

Aerospace_and_Defense	-1,887	,420	-,049	-4,496	,000	,733	1,364
General_Industrials	-,348	,418	-,009	-,831	,406	,775	1,290
Electronic_and_Electrical_Equipment	-,032	,309	-,001	-,103	,918	,587	1,703
Industrial_Transportation	-,309	,687	-,004	-,450	,653	,894	1,119
Support_Services	-,345	,459	-,008	-,751	,453	,819	1,222
Automobiles_and_Parts	,792	,299	,033	2,651	,008	,576	1,737
Beverages	,462	,576	,008	,803	,422	,833	1,200
Food_Producers	,587	,359	,019	1,636	,102	,679	1,472
Household_Goods_and_Home_Construction	1,339	,402	,035	3,330	,001	,765	1,307
Leisure_Goods	-,472	,418	-,012	-1,129	,259	,775	1,291
Personal_Goods	2,496	,387	,070	6,452	,000	,747	1,339
Tobacco	8,775	,837	,102	10,479	,000	,915	1,093
Health_Care_Equipment_and_Services	1,880	,360	,060	5,215	,000	,652	1,533
Pharmaceuticals_and_Biotechnology	2,561	,361	,094	7,094	,000	,494	2,026
Food_and_Drug_Retailers	-,346	,689	-,005	-,503	,615	,864	1,158
General_Retailers	,537	,446	,013	1,205	,228	,709	1,410
Media	-,019	,500	,000	-,037	,970	,821	1,218
Travel_and_Leisure	1,815	,538	,035	3,376	,001	,801	1,248
Fixed_Line_Telecommunications	2,314	,650	,037	3,557	,000	,798	1,253
Mobile_Telecommunications	,791	,677	,012	1,169	,243	,870	1,149
Electricity	1,393	,492	,032	2,828	,005	,695	1,439
Gas__Water_and_Multiutilities	-,464	,568	-,009	-,817	,414	,795	1,258
Nonlife_Insurance	-2,631	2,178	-,011	-1,208	,227	,987	1,013
Real_Estate_Investment_and_Services	3,498	1,184	,028	2,955	,003	,957	1,045
Real_Estate_Investment_Trusts	-,687	1,144	-,006	-,600	,548	,935	1,069
Financial_Services	-1,429	,651	-,022	-2,195	,028	,846	1,182
Equity_Investment_Instruments	-,729	1,717	-,004	-,425	,671	,953	1,049
Software_and_Computer_Services	1,169	,356	,042	3,283	,001	,534	1,871
Technology_Hardware_and_Equipment	,241	,313	,011	,769	,442	,466	2,148
@2008	-1,330	,312	-,056	-4,268	,000	,512	1,954
@2009	-3,756	,306	-,164	-12,283	,000	,489	2,046
@2010	-1,847	,296	-,087	-6,240	,000	,442	2,261
@2011	-1,583	,294	-,076	-5,377	,000	,431	2,320
@2012	-2,496	,296	-,119	-8,420	,000	,437	2,290
@2013	-2,788	,299	-,130	-9,336	,000	,449	2,229
@2014	-2,357	,300	-,109	-7,867	,000	,453	2,210
@2015	-2,966	,294	-,144	-10,098	,000	,426	2,347
@2016	-2,851	,292	-,140	-9,765	,000	,421	2,377
@2017	-2,492	,292	-,124	-8,546	,000	,414	2,413
@2018	-1,725	,364	-,056	-4,746	,000	,619	1,616
EMPL_ADJ	-2,034E-6	,000	-,027	-2,599	,009	,791	1,264
RD_TS_ADJ	-,119	,016	-,101	-7,322	,000	,457	2,189
TD_TA_ADJ	-,106	,004	-,276	-26,023	,000	,771	1,297
CO_AGE_RC	-,004	,001	-,028	-2,484	,013	,694	1,441

a. Dependent Variable: ROA_ADJ

Table 54: Coefficients of regression model M2.3 variation (1) (own representation)

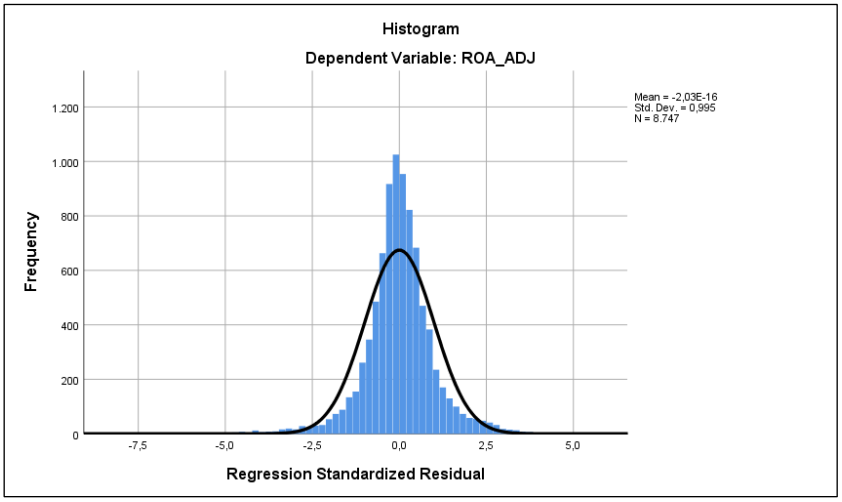

Figure 28: Distribution of regression standardized residuals of model M2.3 variation (1)
(own representation)

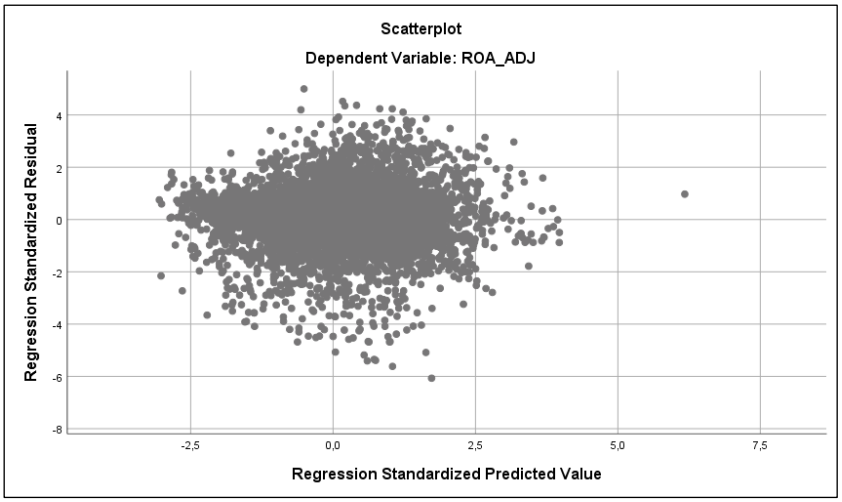

Figure 29: Standardized residual by standardized predicted value scatterplot of model M2.3 variation (1)
(own representation)

H REGRESSION OUTPUT OF MODEL M3.1 VARIATION (2)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,316[a]	,100	,094	11,64169	1,954

a. Predictors: (Constant), CO_AGE_RC, @2014, Support_Services, Fixed_Line_Telecommunications, Nonlife_Insurance, Tobacco, Forestry_and_Paper, Financial_Services, Gas__Water_and_Multiutilities, Oil_Equipment_and_Services, Real_Estate_Investment_and_Services, Real_Estate_Investment_Trusts, Alternative_Energy, Equity_Investment_Instruments, Media, Mining, Aerospace_and_Defense, Mobile_Telecommunications, Personal_Goods, Leisure_Goods, Industrial_Transportation, Travel_and_Leisure, Oil_and_Gas_Producers, Food_and_Drug_Retailers, Electricity, @2009, Beverages, General_Retailers, Household_Goods_and_Home_Construction, Health_Care_Equipment_and_Services, @2008, General_Industrials, Industrial_Metals_and_Mining, Food_Producers, @2010, Pharmaceuticals_and_Biotechnology, EMPL_ADJ, @2013, Construction_and_Materials, @2012, Electronic_and_Electrical_Equipment, GQ_COMP_RC, @2011, Software_and_Computer_Services, ESG_COMP, Automobiles_and_Parts, @2015, TD_TA_ADJ, Chemicals, FS_TS_ADJ, @2016, Technology_Hardware_and_Equipment, RD_TS_ADJ, @2017

b. Dependent Variable: ROE_ADJ

Table 55: Model summary of regression model M3.1 variation (2) (own representation)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	121072,159	54	2242,077	16,543	,000[b]
	Residual	1088161,342	8029	135,529		
	Total	1209233,500	8083			

a. Dependent Variable: ROE_ADJ

b. Predictors: (Constant), CO_AGE_RC, @2014, Support_Services, Fixed_Line_Telecommunications, Nonlife_Insurance, Tobacco, Forestry_and_Paper, Financial_Services, Gas__Water_and_Multiutilities, Oil_Equipment_and_Services, Real_Estate_Investment_and_Services, Real_Estate_Investment_Trusts, Alternative_Energy, Equity_Investment_Instruments, Media, Mining, Aerospace_and_Defense, Mobile_Telecommunications, Personal_Goods, Leisure_Goods, Industrial_Transportation, Travel_and_Leisure, Oil_and_Gas_Producers, Food_and_Drug_Retailers, Electricity, @2009, Beverages, General_Retailers, Household_Goods_and_Home_Construction, Health_Care_Equipment_and_Services, @2008, General_Industrials, Industrial_Metals_and_Mining, Food_Producers, @2010, Pharmaceuticals_and_Biotechnology, EMPL_ADJ, @2013, Construction_and_Materials, @2012, Electronic_and_Electrical_Equipment, GQ_COMP_RC, @2011, Software_and_Computer_Services, ESG_COMP, Automobiles_and_Parts, @2015, TD_TA_ADJ, Chemicals, FS_TS_ADJ, @2016, Technology_Hardware_and_Equipment, RD_TS_ADJ, @2017

Table 56: ANOVA of regression model M3.1 variation (2) (own representation)

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	24,594	1,293		19,024	,000		
	ESG_COMP	,035	,008	,052	4,337	,000	,788	1,270
	FS_TS_ADJ	,056	,005	,142	11,141	,000	,692	1,446
	GQ_COMP_RC	-,102	,013	-,094	-7,980	,000	,808	1,237
	Oil_and_Gas_Producers	-3,657	,964	-,046	-3,795	,000	,759	1,317
	Oil_Equipment_and_Services	-3,399	1,202	-,032	-2,827	,005	,880	1,136
	Alternative_Energy	-6,060	2,430	-,027	-2,494	,013	,959	1,042
	Chemicals	-1,256	,628	-,028	-1,998	,046	,573	1,744
	Forestry_and_Paper	-3,635	1,680	-,024	-2,164	,031	,930	1,076
	Industrial_Metals_and_Mining	-6,569	,768	-,109	-8,557	,000	,695	1,440
	Mining	-6,015	2,050	-,032	-2,934	,003	,953	1,050
	Construction_and_Materials	-2,571	,706	-,048	-3,640	,000	,657	1,521
	Aerospace_and_Defense	1,869	,958	,023	1,950	,051	,799	1,251
	General_Industrials	,159	,947	,002	,167	,867	,806	1,241
	Electronic_and_Electrical_Equipment	-3,161	,684	-,062	-4,624	,000	,622	1,608
	Industrial_Transportation	-1,252	1,555	-,009	-,805	,421	,910	1,098
	Support_Services	-1,476	1,083	-,016	-1,362	,173	,851	1,175
	Automobiles_and_Parts	-,412	,668	-,008	-,617	,537	,595	1,680
	Beverages	-,415	1,280	-,004	-,324	,746	,880	1,136
	Food_Producers	-,657	,792	-,010	-,829	,407	,721	1,387
	Household_Goods_and_Home_Construction	1,759	,926	,023	1,901	,057	,795	1,257
	Leisure_Goods	-4,137	,957	-,051	-4,323	,000	,793	1,260
	Personal_Goods	,454	,883	,006	,514	,607	,775	1,290
	Tobacco	13,589	2,331	,063	5,829	,000	,962	1,039
	Health_Care_Equipment_and_Services	2,850	,794	,045	3,592	,000	,700	1,428
	Pharmaceuticals_and_Biotechnology	2,930	,792	,054	3,699	,000	,529	1,889
	Food_and_Drug_Retailers	6,223	1,535	,045	4,054	,000	,906	1,104

General_Retailers	1,970	,980	,025	2,010	,044	,749	1,335
Media	-1,525	1,127	-,015	-1,353	,176	,860	1,163
Travel_and_Leisure	3,326	1,194	,032	2,786	,005	,839	1,192
Fixed_Line_Telecommunications	6,846	1,452	,053	4,715	,000	,877	1,140
Mobile_Telecommunications	-,468	1,505	-,003	-,311	,756	,901	1,110
Electricity	-,947	1,088	-,011	-,870	,384	,757	1,320
Gas__Water_and_Multiutilities	1,070	1,268	,010	,844	,399	,845	1,184
Nonlife_Insurance	3,332	4,777	,007	,697	,486	,990	1,010
Real_Estate_Investment_and_Services	6,853	2,794	,026	2,453	,014	,967	1,034
Real_Estate_Investment_Trusts	-2,570	2,739	-,010	-,938	,348	,953	1,049
Financial_Services	4,329	1,385	,035	3,125	,002	,903	1,108
Equity_Investment_Instruments	-1,304	3,771	-,004	-,346	,730	,954	1,048
Software_and_Computer_Services	1,776	,798	,032	2,227	,026	,559	1,789
Technology_Hardware_and_Equipment	-2,168	,688	-,047	-3,153	,002	,498	2,010
@2008	-3,143	,694	-,067	-4,527	,000	,516	1,936
@2009	-8,624	,683	-,189	-12,624	,000	,498	2,009
@2010	-4,333	,657	-,104	-6,599	,000	,453	2,208
@2011	-4,277	,653	-,104	-6,550	,000	,443	2,255
@2012	-6,208	,656	-,150	-9,458	,000	,448	2,233
@2013	-6,808	,663	-,161	-10,267	,000	,457	2,189
@2014	-6,033	,664	-,142	-9,081	,000	,460	2,176
@2015	-6,937	,651	-,171	-10,660	,000	,435	2,297
@2016	-5,947	,648	-,148	-9,173	,000	,430	2,324
@2017	-4,828	,647	-,121	-7,462	,000	,425	2,354
EMPL_ADJ	-1,069E-6	,000	-,007	-,629	,530	,839	1,191
RD_TS_ADJ	-,206	,036	-,086	-5,729	,000	,495	2,022
TD_TA_ADJ	-,096	,010	-,120	-10,029	,000	,786	1,273
CO_AGE_RC	-,001	,003	-,004	-,357	,721	,776	1,288

a. Dependent Variable: ROE_ADJ

Table 57: Coefficients of regression model M3.1 variation (2) (own representation)

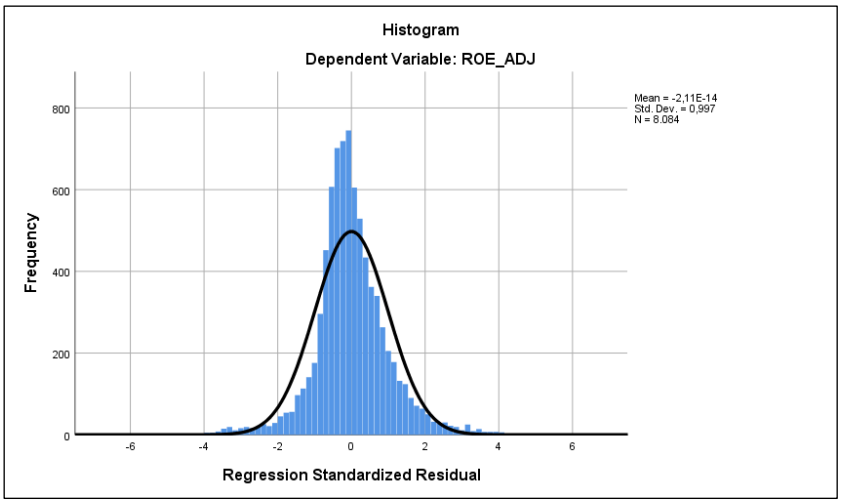

Figure 30: Distribution of regression standardized residuals of model M3.1 variation (2) (own representation)

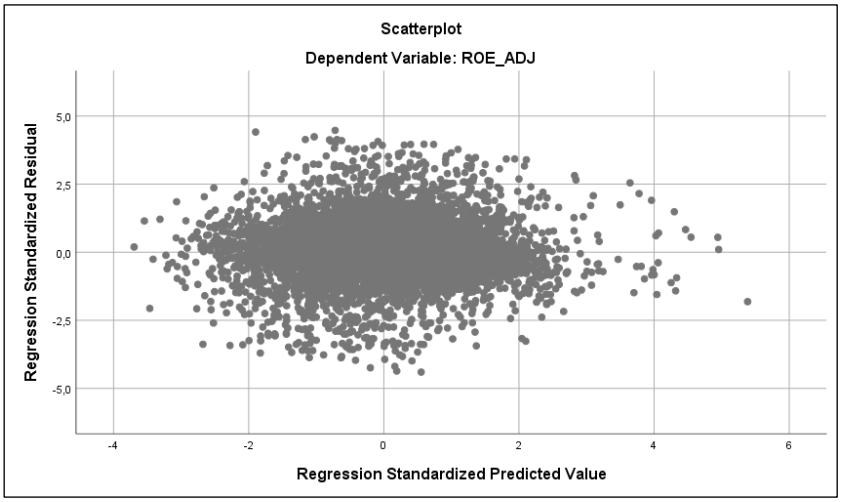

Figure 31: Standardized residual by standardized predicted value scatterplot of model M3.1 variation (2) (own representation)

I REGRESSION OUTPUT OF MODEL M3.2 VARIATION (2)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,319[a]	,102	,095	11,63263	1,956

a. Predictors: (Constant), CO_AGE_RC, @2014, Support_Services, Fixed_Line_Telecommunications, Nonlife_Insurance, Tobacco, Forestry_and_Paper, Financial_Services, Gas__Water_and_Multiutilities, Oil_Equipment_and_Services, Real_Estate_Investment_and_Services, Real_Estate_Investment_Trusts, Alternative_Energy, Equity_Investment_Instruments, Media, Mining, Aerospace_and_Defense, Mobile_Telecommunications, Personal_Goods, Leisure_Goods, Industrial_Transportation, Travel_and_Leisure, Oil_and_Gas_Producers, Food_and_Drug_Retailers, Electricity, @2009, Beverages, General_Retailers, Household_Goods_and_Home_Construction, Health_Care_Equipment_and_Services, @2008, General_Industrials, Industrial_Metals_and_Mining, Food_Producers, @2010, ESG_COMP_CENT_x_GQ_COMP_RC_CENT, Pharmaceuticals_and_Biotechnology, @2013, EMPL_ADJ, Construction_and_Materials, @2012, Electronic_and_Electrical_Equipment, GQ_COMP_RC_CENT, @2011, Software_and_Computer_Services, Automobiles_and_Parts, @2015, TD_TA_ADJ, ESG_COMP_CENT, Chemicals, FS_TS_ADJ, @2016, Technology_Hardware_and_Equipment, RD_TS_ADJ, @2017

b. Dependent Variable: ROE_ADJ

Figure 32: Model summary of regression model M3.2 variation (2) (own representation)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	122899,623	55	2234,539	16,513	,000[b]
	Residual	1086333,877	8028	135,318		
	Total	1209233,500	8083			

a. Dependent Variable: ROE_ADJ

b. Predictors: (Constant), CO_AGE_RC, @2014, Support_Services, Fixed_Line_Telecommunications, Nonlife_Insurance, Tobacco, Forestry_and_Paper, Financial_Services, Gas__Water_and_Multiutilities, Oil_Equipment_and_Services, Real_Estate_Investment_and_Services, Real_Estate_Investment_Trusts, Alternative_Energy, Equity_Investment_Instruments, Media, Mining, Aerospace_and_Defense, Mobile_Telecommunications, Personal_Goods, Leisure_Goods, Industrial_Transportation, Travel_and_Leisure, Oil_and_Gas_Producers, Food_and_Drug_Retailers, Electricity, @2009, Beverages, General_Retailers, Household_Goods_and_Home_Construction, Health_Care_Equipment_and_Services, @2008, General_Industrials, Industrial_Metals_and_Mining, Food_Producers, @2010, ESG_COMP_CENT_x_GQ_COMP_RC_CENT, Pharmaceuticals_and_Biotechnology, @2013, EMPL_ADJ, Construction_and_Materials, @2012, Electronic_and_Electrical_Equipment, GQ_COMP_RC_CENT, @2011, Software_and_Computer_Services, Automobiles_and_Parts, @2015, TD_TA_ADJ, ESG_COMP_CENT, Chemicals, FS_TS_ADJ, @2016, Technology_Hardware_and_Equipment, RD_TS_ADJ, @2017

Figure 33: ANOVA of regression model M3.2 variation (2) (own representation)

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	18,094	,776		23,332	,000		
	ESG_COMP_CENT	,026	,008	,039	3,114	,002	,724	1,382
	FS_TS_ADJ	,055	,005	,140	11,028	,000	,691	1,447
	GQ_COMP_RC_CENT	-,102	,013	-,094	-7,980	,000	,808	1,237
	ESG_COMP_CENT_x_GQ_COMP_RC_CENT	,002	,001	,042	3,675	,000	,852	1,174
	Oil_and_Gas_Producers	-3,144	,973	-,040	-3,232	,001	,744	1,344
	Oil_Equipment_and_Services	-3,107	1,204	-,029	-2,581	,010	,876	1,141
	Alternative_Energy	-5,773	2,429	-,026	-2,377	,017	,958	1,044
	Chemicals	-1,239	,628	-,028	-1,973	,049	,573	1,744
	Forestry_and_Paper	-3,809	1,679	-,025	-2,268	,023	,929	1,077
	Industrial_Metals_and_Mining	-6,473	,767	-,107	-8,434	,000	,694	1,442
	Mining	-6,383	2,051	-,034	-3,113	,002	,950	1,052
	Construction_and_Materials	-2,557	,706	-,047	-3,623	,000	,657	1,521
	Aerospace_and_Defense	1,950	,958	,024	2,036	,042	,799	1,252
	General_Industrials	,300	,947	,004	,317	,751	,805	1,243
	Electronic_and_Electrical_Equipment	-3,052	,684	-,060	-4,464	,000	,621	1,611
	Industrial_Transportation	-1,196	1,554	-,009	-,770	,442	,910	1,098
	Support_Services	-1,439	1,083	-,015	-1,329	,184	,851	1,175
	Automobiles_and_Parts	-,346	,668	-,007	-,518	,605	,595	1,681
	Beverages	-,392	1,279	-,003	-,306	,759	,880	1,136
	Food_Producers	-,673	,791	-,011	-,850	,395	,721	1,387
	Household_Goods_and_Home_Construction	1,765	,925	,023	1,908	,056	,795	1,257
	Leisure_Goods	-4,073	,956	-,051	-4,258	,000	,793	1,261
	Personal_Goods	,547	,882	,007	,620	,536	,775	1,291
	Tobacco	13,612	2,329	,063	5,844	,000	,962	1,039
	Health_Care_Equipment_and_Services	2,893	,793	,046	3,648	,000	,700	1,428
	Pharmaceuticals_and_Biotechnology	2,955	,792	,054	3,733	,000	,529	1,889

Food_and_Drug_Retailers	6,360	1,534	,046	4,146	,000	,906	1,104
General_Retailers	2,068	,979	,026	2,112	,035	,749	1,336
Media	-1,437	1,127	-,015	-1,275	,202	,859	1,164
Travel_and_Leisure	3,363	1,193	,033	2,819	,005	,839	1,192
Fixed_Line_Telecommunications	6,879	1,451	,054	4,742	,000	,877	1,140
Mobile_Telecommunications	-,691	1,505	-,005	-,459	,646	,899	1,112
Electricity	-,663	1,090	-,007	-,608	,543	,754	1,327
Gas__Water_and_Multiutilities	1,057	1,267	,010	,834	,404	,845	1,184
Nonlife_Insurance	3,464	4,774	,008	,726	,468	,990	1,010
Real_Estate_Investment_and_Services	6,865	2,791	,026	2,459	,014	,967	1,034
Real_Estate_Investment_Trusts	-2,463	2,737	-,010	-,900	,368	,953	1,049
Financial_Services	4,437	1,385	,036	3,205	,001	,902	1,108
Equity_Investment_Instruments	-1,213	3,768	-,003	-,322	,747	,954	1,048
Software_and_Computer_Services	1,926	,798	,034	2,414	,016	,558	1,793
Technology_Hardware_and_Equipment	-2,059	,688	-,045	-2,993	,003	,497	2,013
@2008	-3,169	,694	-,067	-4,567	,000	,516	1,936
@2009	-8,647	,683	-,190	-12,667	,000	,498	2,009
@2010	-4,384	,656	-,105	-6,680	,000	,453	2,209
@2011	-4,333	,653	-,105	-6,639	,000	,443	2,257
@2012	-6,267	,656	-,151	-9,552	,000	,448	2,234
@2013	-6,849	,663	-,162	-10,336	,000	,457	2,190
@2014	-6,056	,664	-,142	-9,123	,000	,460	2,176
@2015	-6,968	,650	-,172	-10,715	,000	,435	2,298
@2016	-5,965	,648	-,149	-9,208	,000	,430	2,324
@2017	-4,833	,646	-,121	-7,476	,000	,425	2,354
EMPL_ADJ	-1,206E-6	,000	-,008	-,710	,478	,839	1,192
RD_TS_ADJ	-,209	,036	-,087	-5,807	,000	,494	2,023
TD_TA_ADJ	-,096	,010	-,120	-10,026	,000	,786	1,273
CO_AGE_RC	-,001	,003	-,005	-,418	,676	,776	1,289

a. Dependent Variable: ROE_ADJ

Table 58: Coefficients of regression model M3.2 variation (2) (own representation)

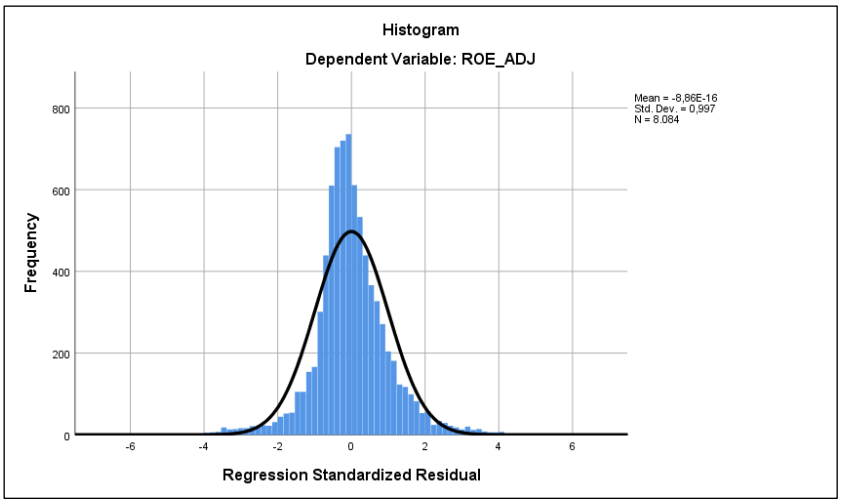

Figure 34: Distribution of regression standardized residuals of model M3.2 variation (2)
(own representation)

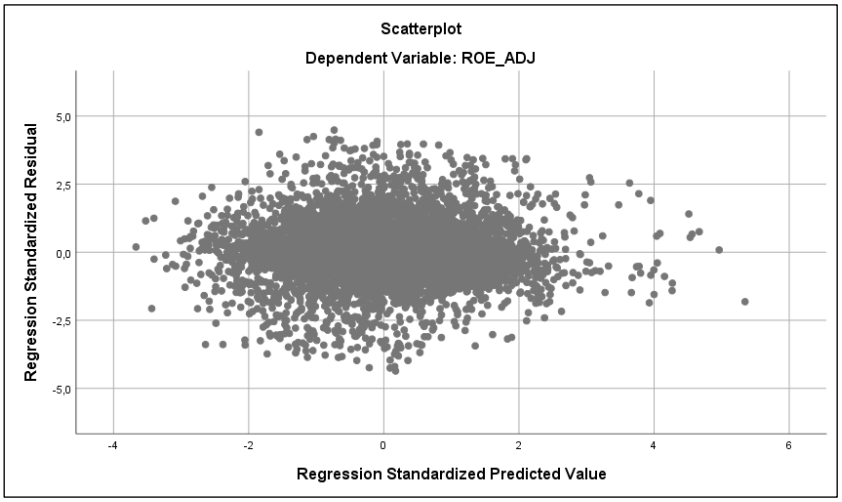

Figure 35: Standardized residual by standardized predicted value scatterplot of model M3.2 variation (2)
(own representation)

J REGRESSION OUTPUT OF MODEL M3.3 VARIATION (2)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,316[a]	,100	,094	11,64211	1,954

a. Predictors: (Constant), CO_AGE_RC, @2014, Support_Services, Fixed_Line_Telecommunications, Nonlife_Insurance, Tobacco, Forestry_and_Paper, Financial_Services, Gas__Water_and_Multiutilities, Oil_Equipment_and_Services, Real_Estate_Investment_and_Services, Real_Estate_Investment_Trusts, Alternative_Energy, Equity_Investment_Instruments, Media, Mining, Aerospace_and_Defense, Mobile_Telecommunications, Personal_Goods, Leisure_Goods, Industrial_Transportation, Travel_and_Leisure, Oil_and_Gas_Producers, Food_and_Drug_Retailers, Electricity, @2009, Beverages, General_Retailers, Household_Goods_and_Home_Construction, Health_Care_Equipment_and_Services, @2008, General_Industrials, Industrial_Metals_and_Mining, Food_Producers, @2010, Pharmaceuticals_and_Biotechnology, EMPL_ADJ, @2013, ESG_COMP_CENT_x_FS_TS_ADJ_CENT_x_GQ_COMP_RC_CENT, Construction_and_Materials, @2012, Electronic_and_Electrical_Equipment, @2011, Software_and_Computer_Services, GQ_COMP_RC_CENT, Automobiles_and_Parts, @2015, TD_TA_ADJ, ESG_COMP_CENT, Chemicals, FS_TS_ADJ_CENT, @2016, Technology_Hardware_and_Equipment, RD_TS_ADJ, @2017

b. Dependent Variable: ROE_ADJ

Table 59: Model summary of regression model M3.3 variation (2) (own representation)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	121128,617	55	2202,338	16,249	,000[b]
	Residual	1088104,883	8028	135,539		
	Total	1209233,500	8083			

a. Dependent Variable: ROE_ADJ

b. Predictors: (Constant), CO_AGE_RC, @2014, Support_Services, Fixed_Line_Telecommunications, Nonlife_Insurance, Tobacco, Forestry_and_Paper, Financial_Services, Gas__Water_and_Multiutilities, Oil_Equipment_and_Services, Real_Estate_Investment_and_Services, Real_Estate_Investment_Trusts, Alternative_Energy, Equity_Investment_Instruments, Media, Mining, Aerospace_and_Defense, Mobile_Telecommunications, Personal_Goods, Leisure_Goods, Industrial_Transportation, Travel_and_Leisure, Oil_and_Gas_Producers, Food_and_Drug_Retailers, Electricity, @2009, Beverages, General_Retailers, Household_Goods_and_Home_Construction, Health_Care_Equipment_and_Services, @2008, General_Industrials, Industrial_Metals_and_Mining, Food_Producers, @2010, Pharmaceuticals_and_Biotechnology, EMPL_ADJ, @2013, ESG_COMP_CENT_x_FS_TS_ADJ_CENT_x_GQ_COMP_RC_CENT, Construction_and_Materials, @2012, Electronic_and_Electrical_Equipment, @2011, Software_and_Computer_Services, GQ_COMP_RC_CENT, Automobiles_and_Parts, @2015, TD_TA_ADJ, ESG_COMP_CENT, Chemicals, FS_TS_ADJ_CENT, @2016, Technology_Hardware_and_Equipment, RD_TS_ADJ, @2017

Table 60: ANOVA of regression model M3.3 variation (2) (own representation)

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	19,733	,752		26,225	,000		
	ESG_COMP_CENT	,036	,008	,054	4,333	,000	,718	1,392
	FS_TS_ADJ_CENT	,056	,005	,143	11,147	,000	,684	1,462
	GQ_COMP_RC_CENT	-,101	,013	-,092	-7,677	,000	,774	1,292
	ESG_COMP_CENT_x_FS_TS_ADJ_CENT_x_GQ_COMP_RC_CENT	-1,206E-5	,000	-,008	-,645	,519	,766	1,306
	Oil_and_Gas_Producers	-3,632	,964	-,046	-3,766	,000	,758	1,319
	Oil_Equipment_and_Services	-3,426	1,203	-,032	-2,848	,004	,879	1,138
	Alternative_Energy	-6,107	2,431	-,027	-2,512	,012	,958	1,043
	Chemicals	-1,259	,628	-,028	-2,003	,045	,573	1,744
	Forestry_and_Paper	-3,609	1,680	-,024	-2,148	,032	,929	1,076
	Industrial_Metals_and_Mining	-6,557	,768	-,109	-8,540	,000	,694	1,441
	Mining	-5,983	2,050	-,032	-2,918	,004	,952	1,050
	Construction_and_Materials	-2,569	,706	-,048	-3,638	,000	,657	1,521
	Aerospace_and_Defense	1,842	,959	,023	1,920	,055	,798	1,253
	General_Industrials	,135	,948	,002	,142	,887	,805	1,243
	Electronic_and_Electrical_Equipment	-3,174	,684	-,062	-4,640	,000	,621	1,610
	Industrial_Transportation	-1,289	1,557	-,009	-,828	,407	,909	1,100
	Support_Services	-1,480	1,083	-,016	-1,367	,172	,851	1,175
	Automobiles_and_Parts	-,429	,669	-,009	-,641	,521	,594	1,682
	Beverages	-,414	1,280	-,004	-,324	,746	,880	1,136
	Food_Producers	-,662	,792	-,010	-,836	,403	,721	1,387
	Household_Goods_and_Home_Construction	1,747	,926	,022	1,886	,059	,795	1,258
	Leisure_Goods	-4,156	,958	-,052	-4,340	,000	,793	1,262
	Personal_Goods	,446	,883	,006	,505	,613	,775	1,290
	Tobacco	13,600	2,331	,063	5,833	,000	,962	1,039
	Health_Care_Equipment_and_Services	2,852	,794	,045	3,594	,000	,700	1,428
	Pharmaceuticals_and_Biotechnology	2,945	,793	,054	3,716	,000	,529	1,891

Food_and_Drug_Retailers	6,160	1,538	,045	4,005	,000	,903	1,108
General_Retailers	1,965	,980	,025	2,005	,045	,749	1,335
Media	-1,526	1,127	-,015	-1,354	,176	,860	1,163
Travel_and_Leisure	3,332	1,194	,032	2,791	,005	,839	1,192
Fixed_Line_Telecommunications	6,782	1,455	,053	4,660	,000	,873	1,146
Mobile_Telecommunications	-,438	1,506	-,003	-,291	,771	,900	1,112
Electricity	-,910	1,090	-,010	-,835	,404	,755	1,324
Gas__Water_and_Multiutilities	1,043	1,269	,009	,822	,411	,844	1,185
Nonlife_Insurance	3,336	4,778	,007	,698	,485	,990	1,010
Real_Estate_Investment_and_Services	6,836	2,794	,026	2,447	,014	,967	1,034
Real_Estate_Investment_Trusts	-2,556	2,739	-,010	-,933	,351	,953	1,049
Financial_Services	4,360	1,386	,035	3,145	,002	,902	1,109
Equity_Investment_Instruments	-1,339	3,772	-,004	-,355	,723	,954	1,048
Software_and_Computer_Services	1,764	,798	,031	2,211	,027	,559	1,789
Technology_Hardware_and_Equipment	-2,174	,688	-,047	-3,160	,002	,498	2,010
@2008	-3,144	,694	-,067	-4,528	,000	,516	1,936
@2009	-8,624	,683	-,189	-12,623	,000	,498	2,009
@2010	-4,331	,657	-,104	-6,596	,000	,453	2,208
@2011	-4,273	,653	-,104	-6,543	,000	,443	2,256
@2012	-6,201	,657	-,149	-9,445	,000	,448	2,234
@2013	-6,804	,663	-,161	-10,261	,000	,457	2,189
@2014	-6,028	,664	-,142	-9,074	,000	,460	2,176
@2015	-6,928	,651	-,171	-10,643	,000	,435	2,298
@2016	-5,936	,649	-,148	-9,154	,000	,430	2,326
@2017	-4,818	,647	-,121	-7,444	,000	,425	2,355
EMPL_ADJ	-1,043E-6	,000	-,007	-,613	,540	,839	1,192
RD_TS_ADJ	-,206	,036	-,086	-5,729	,000	,495	2,022
TD_TA_ADJ	-,097	,010	-,120	-10,040	,000	,785	1,273
CO_AGE_RC	-,001	,003	-,004	-,315	,753	,773	1,294

a. Dependent Variable: ROE_ADJ

Table 61: Coefficients of regression model M3.3 variation (2)
(own representation)

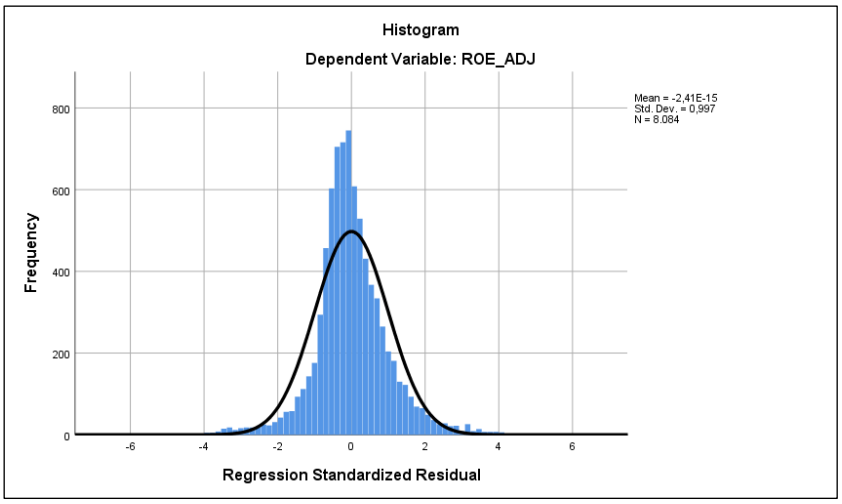

Figure 36: Distribution of regression standardized residuals of model M3.3 variation (2)
(own representation)

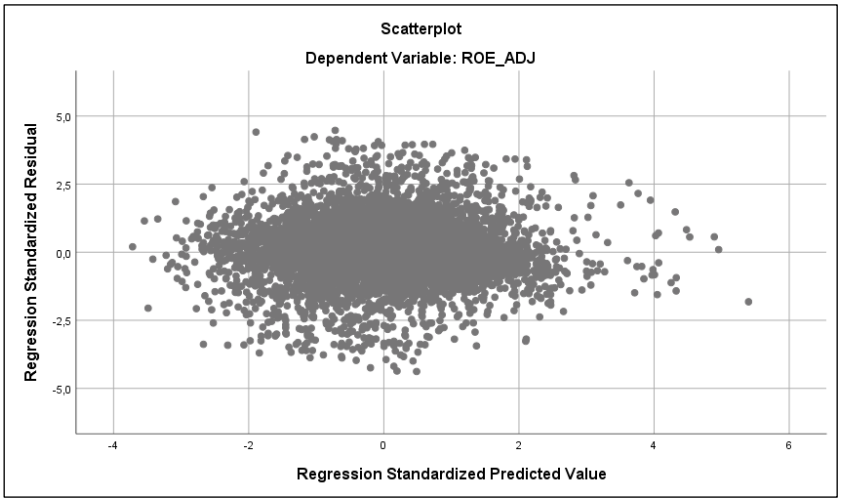

Figure 37: Standardized residual by standardized predicted value scatterplot of model M3.3 variation (2)
(own representation)