Institutional Investors and Corporate Social Performance - A Meta-Analysis and Investigation of Moderating Effects with an Emphasis on Country-Level Institutional Factors

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III. List of abbreviations

AJG	Academic Journal Guide
AOM	Academy of Management
CFE	Country fixed effects
CFP	Corporate financial performance
CSP	Corporate social performance
CSR	Corporate social responsibility
DV	Dependent variable
ENV	Environmental pillar
EPI	Environmental Performance Index
ESG	Environmental, social, and governance
EU	European Union
GDP	Gross domestic product
HDI	Human Development Index
HOMA	Hedges and Olkin-type meta-analysis
IFE	Industry fixed effects
IO	Institutional ownership
IV	Independent variable
LIO	Long-term institutional ownership
OMT	Organizations and Management Theory
ONE	Organizations and the Natural Environment
PRI	Principles for Responsible Investment
Q	Tobin's Q
RoA	Return on assets
RQ	Research question

SEC	U.S. Securities and Exchange Commission
SIM	Social Issues in Management
SIO	Short-term institutional ownership
SOC	Social pillar
SPI	Social Progress Index
STR	Strategic Management
UN	United Nations
VIF	Variance inflation factor
YFE	Year fixed effects

1 Introduction

1.1 Relevance and background

The role of business in society has changed significantly over the last few decades. Nowadays, companies are regularly held responsible for the impact of their decisions and actions on society, which is often referred to as corporate social responsibility (CSR) (e.g., International Organization for Standardization, 2010), and a company's corporate social performance (CSP) refers to the outcomes and results of such CSR activities (Lahouel et al., 2021). Along with this development, investors' expectations and activities have also evolved. Shareholders are no longer solely focused on companies' financial statuses when making investment decisions (Edmans & Kacperczyk, 2022; Dyck et al., 2019). This shift in investor behavior is evidenced, for instance, by an increase in CSR-related shareholder proposals (Flammer et al., 2021). Of the heterogenous groups of investors, which generally encompass retail and institutional investors, the latter are often particularly vocal about their expectations of their investment targets' CSP (T. Chen et al., 2020). The United Nations-supported (UN) Principles for Responsible Investment (PRI), for example, is a growing network of investors that commits itself to incorporating environmental, social, and governance (ESG) issues into their investment processes (Gibson Brandon et al., 2022). This network has gained popularity and now has 4,902 signatories with assets under management worth $121.3 trillion (Principles for Responsible Investment, 2022). Another example is the commitment of prominent large institutional investors as for example the pension funds of Norway or Japan, who actively declare the importance of sustainability in their investment strategies (Matos, 2020). The investment motivations of institutional investors regarding CSP can vary from purely nonpecuniary preferences (*values investors*) to pecuniary preferences (*value investors*) (Starks, 2023). *Value investors* consider CSP as driver for firm value, as famously illustrated by BlackRock CEO Larry Fink: "We focus on sustainability not

because we're environmentalists, but because we are capitalists and fiduciaries to our clients" (Fink, 2022). Instead, *values investors* are interested in the effects of the firm on society and the environment. For example, the European asset manager Amundi declares on its website: "Our corporate philanthropy policy focuses on four key areas: education, solidarity, the environment and culture. All around the world, we ensure that our commitments are in line with our values and compatible with our activity as an asset manager" (Amundi, 2025). Regardless of the motivations, both motivations imply that there should be a positive relationship between institutional ownership (IO) and CSP.

1.2 Research problems, research questions and contributions

1.2.1 The IO-CSP relationship

An increasing number of studies has investigated the relationship between IO and CSP from two different angles (Velte, 2022b). On the one hand, many studies have focused on the influence exerted by institutional investors on the CSP of companies in which they are invested (e.g., Xin Cheng et al., 2022; Gloßner, 2019; Neubaum & Zahra, 2006). On the other hand, various studies have examined the causal relationship from a reverse perspective (i.e., the effect of CSP on institutional investors' share) (e.g., Cox et al., 2007; Cullinan et al., 2016; Simerly, 1995). While the first stream of studies draws on the consideration that investor preferences for CSP directly (e.g., by means of shareholder proposals) or indirectly (e.g., by selling off shares or threatening to do so) drive firms' CSR activities, the latter one draws on the idea that investors select firms for their CSP records. However, prior empirical studies on the relationship between IO and CSP have yielded inconclusive findings for both perspectives, as evidenced by several literature reviews (e.g., Faller & Knyphausen-Aufseß, 2018; Gillan et al., 2021; Jain & Jamali, 2016; Velte, 2020; Velte, 2022b). Regarding the impact of IO on CSP (IO→CSP), some studies have discovered a positive relationship (e.g., T. Chen et al., 2020; Dyck et al., 2019), others have reported a negative one (Arora & Dharwadkar, 2011; Yan et al., 2021), while some have found

nonsignificant results (Barnea & Rubin, 2010; Dam & Scholtens, 2012). For the reverse relationship (CSP→IO), certain studies have revealed a positive relationship (Ahmed et al., 2014; Wahba, 2008), while others have reported nonsignificant results (Graves & Waddock, 1994; Oikonomou et al., 2020). Given the increasing significance of IO for CSP and the mixed empirical findings regarding the bidirectional relationship between IO and CSP, a research question (RQ) is defined for each direction of the IO-CSP relationship:

RQ1: Is a high share of IO related to companies' subsequent superior CSP?

RQ2: Is companies' prior superior CSP positively related to higher IO?

Against this background, this dissertation integrates quantitative data from 116 primary empirical studies in two separate meta-analyses. This analysis is grounded in the theoretical frameworks of agency theory and stakeholder salience theory. The results indicate a positive relationship between a high share of IO and a company's subsequent superior CSP (IO→CSP), as well as a positive relationship between prior superior CSP and higher IO (CSP→IO). The meta-analysis was submitted both as a conference paper[1] and as a journal manuscript, with two co-authors, including my supervisor Rüdiger Hahn and Jan Endrikat.

This analysis offers several contributions. A timely response to the call for a meta-analysis focusing on institutional investors, as an external corporate governance measure, and CSP (Velte, 2022a) is offered. Against the background of previously inconclusive findings regarding the focal relationship, this meta-analysis synthesizes prior empirical studies to derive general conclusions about both directions of the relationship between IO and CSP. Theoretical arguments for both directions of the relationship are organized and classified within a framework building on agency theory and stakeholder salience theory. This analysis further contributes to

[1] Scherer et al. (2023) Institutional Ownership and CSR Performance–A Meta-Analysis. In *Academy of Management Proceedings* (Vol. 2023, No. 1, p. 13048). Briarcliff Manor, NY 10510: Academy of Management.

the scholarly discussion by presenting meta-analytic findings, conveying stylized facts or empirical regularities that provide a foundation for future research to develop theory and to conduct more refined tests and extensions (Helfat, 2007; Walls et al., 2012). Furthermore, another contribution of the meta-analysis is that the complexity and inconclusiveness of prior empirical findings can be dissolved. From a practical perspective, the findings of this dissertation indicate that institutional investors can expect a positive impact on the CSP of their invested companies as a result of their investment. Furthermore, companies aiming to improve their CSP may actively solicit investments by institutional investors.

1.2.2 Key moderators shaping the relationship between IO and CSP

The complexity and inconclusiveness of prior empirical findings regarding the IO and CSP relationship, requires careful attention to moderators that may alter how this relationship unfolds (Velte, 2022b). For example, in their literature review on equity ownership and CSR, Faller and Knyphausen-Aufseß (2018) highlight that only a limited number of studies have examined the moderating effects within the IO-CSP relationship. They consequently recommend that future research should focus on these moderating effects to gain deeper insights into the focal relationship. Likewise, Gillan et al. (2021) state that a further analysis of external factors influencing the IO-CSP relationship is deemed necessary. Consequently, to fully understand the dynamics of the IO–CSP relationship, it is essential to investigate moderating factors. This dissertation therefore explores potential moderators that provide a more nuanced understanding of the IO-CSP relationship. The first step of this analysis focuses on examining the moderating variables most likely to have the strongest influence on the IO–CSP relationship: that is (1) temporal factors and (2) corporate financial performance (CFP).

Temporal factors serve as critical moderators in the relationship between IO and CSP. For instance, institutional investors do not constitute a homogeneous group; they differ in their investment horizons, with some prioritizing short-term returns while others adopt a long-term

perspective (Neubaum & Zahra, 2006; Shleifer & Vishny, 1990). The investment horizon is particularly relevant, as CSP-related initiatives are inherently long-term in nature and may not yield immediate financial benefits (Cox et al., 2004; Fu et al., 2019; Mahapatra, 1984). Moreover, issues such as corporate climate performance and human rights within supply chains have gained increasing prominence, particularly over the past few decades (Garel & Petit-Romec, 2021b, Govindan et al., 2021). Moreover, the growing significance of sustainability and CSR-related regulations (Singhania & Saini, 2022) has heightened investor awareness of sustainability concerns and CSP over time (T. Chen et al., 2020; Drempetic et al., 2020).

Second, CFP is the one of the most commonly utilized variables in examining the relationship between IO and CSP. As previously introduced in the context of *value investors*, CFP serves as a key motivation for institutional investors to engage in CSP, driven by risk mitigation or other financial advantages (Lopez-de-Silanes et al., 2024; Starks, 2023). In addition, the interplay between CFP, IO, and CSP has been extensively studied across various contexts. Notably, multiple meta-analyses have explored the association between CSP and CFP (e.g., Busch & Friede, 2018; Orlitzky et al., 2003; Q. Wang et al., 2016). As a result, the following research questions were formulated:

RQ3: Do temporal factors positively moderate the relationship between IO and CSP?

RQ4: Does CFP positively moderate the relationship between IO and CSP?

To address the research questions presented above, this dissertation draws on two methodological approaches: (1) a meta regression and (2) a fixed-effects panel data regression. The meta-regression was included in the previously mentioned submission of the meta-analysis, both as a conference paper and a journal manuscript. To investigate the third research question, the analysis of temporal factors requires the use of the most comprehensive dataset available.

Accordingly, meta-regression was selected as the most suitable method to investigate the moderating role of temporal factors in the relationship between IO and CSP. The studies included in the meta-analytic sample were published between 1994 and 2024, with a noticeable increase in the number of publications in recent years. Approximately 85% of these studies employ time-series data, covering multiple years from 1988 to 2021. This extensive temporal coverage provides a substantial dataset, offering a significant advantage over a separate regression analysis, which would not encompass the full range of years from 1988 to 2021. Two meta-regressions were conducted: regarding (1) the time horizon of long-term institutional investors and (2) the growing salience of CSP over time.

To address the fourth RQ, a moderator analysis was conducted using a fixed-effects panel data regression with robust standard errors clustered at the firm level. This method offers the advantage of relying on consistently measured CFP variables across observations. Additionally, a meta-regression examining the moderating effect of CFP on the relationship between IO and CSP is employed as a robustness check. With respect to temporal factors, no statistically significant moderating effect of a long-term investment horizon among institutional investors was observed. Nevertheless, the findings indicate that the relationship between IO and CSP has intensified over time. Additionally, CFP was found also to not significantly influence the IO–CSP relationship.

1.2.3 Potential and impactful moderator: country-level institutional factors

In addition to examining the most prominent moderators of the IO–CSP relationship, namely CFP and temporal factors, it is crucial to consider another group of significant potential moderators that have been insufficiently explored in the existing literature: country-level institutional factors. These factors play a significant role in shaping CSR practices within national contexts (Martiny et al., 2024; Zaman et al., 2022) and are thus central to understanding the relationship between IO and CSP (Freeman & Hasnaoui, 2011; Jain & Jamali, 2016; Kavadis & Thomsen, 2023). Country-level institutional factors encompass both formal institutions, such

as legal and financial systems, and informal institutions, such as cultural norms and societal values (Majid Khan et al., 2018; Lubatkin et al., 2005; Matten & Moon, 2008). Previous studies offer numerous examples of how country-level institutional factors influence CSR and CSP. For example, Ioannou and Serafeim (2012) suggest that political systems, education levels, labor market conditions, and cultural characteristics can influence the CSR engagement of firms operating within a given country. Moreover, regulatory environments are a critical consideration for firms and investors alike, as non-compliance with CSR-related regulations may lead to litigation or substantial financial penalties (Kordsachia et al., 2022; Stroebel & Wurgler, 2021). Conversely, informal institutions, such as social norms and shared beliefs, have been shown to affect both firm behavior and the investment decisions of institutional investors (Cahan et al., 2017; Dyck et al., 2019; H. Hong & Kacperczyk, 2009). The moderating role of country-level institutional factors in the IO–CSP relationship is theorized in this dissertation within a research model grounded in institutional theory (Campbell, 2007; DiMaggio & Powell, 1983) and agency theory (Eisenhardt, 1989; Jensen & Meckling, 1976), which serves as the foundation for organizing and interpreting the theoretical arguments.

Appendix A (Moderators of the IO-CSP relationship) encompasses relevant studies on the moderating effect of country-level institutional factors in the IO–CSP relationship. Based on this overview, and to the best of the author's knowledge, only six studies have explicitly addressed the moderating role of country-level institutional factors in the IO-CSP relationship (e.g., Benlemlih et al., 2023; Cahan et al., 2017; T. Chen et al., 2020; Zhe Li et al., 2021; Y. Wang et al., 2023; Zhao et al., 2022). However, these studies appear to adopt a fragmented and narrowly scoped perspective. To date, the extant literature lacks a comprehensive investigation of the moderating role of country-level institutional factors in the IO-CSP relationship. Instead, prior research has predominantly focused on isolated aspects, such as social norms (e.g., Cahan et al., 2017) or litigation risk (e.g., Benlemlih et al., 2023). Consequently, several dimensions of

country-level institutional factors, such as rule of law or a country's commitment to sustainable development, remain largely underexplored, thereby revealing significant gaps in the current body of research. In addition, Kavadis and Thomsen (2023) emphasize the need to consider the multinational and cross-country context to comprehensively capture how investors affect CSP. This emphasis is well-founded, as existing research has largely concentrated on the US context, often relying on data sources such as the KLD database, thus failing to account for broader international context. Consequently, a significant gap in the literature has been identified regarding a comprehensive investigation of the moderating role of country-level institutional factors in the IO–CSP relationship across international contexts. In light of this, the following RQ was proposed:

> **RQ5:** Do country-level institutional factors positively moderate the relationship between IO and CSP?

To investigate RQ five the same methodological approach employed for RQ4 was adopted. To examine the moderating role of country-level institutional factors, several fixed-effects panel data regressions with robust standard errors clustered at the firm level were conducted using a global dataset. This multinational approach offers several contributions. First, unlike previous studies that primarily focused on a narrow set of country-level institutional factors, this dissertation broadens the analysis by incorporating additional dimensions, including economic, freedom and the rule of law. Thus, a more comprehensive framework is offered for understanding the moderating influence of country-level institutional factors. Second, by utilizing a large and global dataset covering 86 countries for the IO→CSP relationship and 81 countries for the CSP→IO relationship, this dissertation enables a global examination of country-level institutional effects. Such a wide-ranging dataset enhances the generalizability of the

findings. Third, this analysis addresses several methodological limitations associated with meta-analyses and meta-regressions. Given the constraints of the meta-analytic dataset, which includes only data from the meta-analytic sample studies (many of which either underrepresent or overrepresent certain countries, such as a strong bias toward U.S.-based studies using the KLD database), a panel data regression using a more comprehensive dataset enables the generation of more generalizable insights. In addition, this method facilitates more nuanced analyses that are difficult to conduct within a meta-regression framework. For example, CSP can be assessed not only as a composite measure but also by its individual dimensions, namely environmental and social performance. Thus, the findings of this dissertation present a nuanced picture of how country-level institutional factors moderate the IO–CSP relationship.

The results of this dissertation indicate that certain country-level institutional factors positively moderate both directions of the IO-CSP relationship, while others provide only partial evidence of moderation, and some exhibit negative or non-significant moderating effects. For example, higher levels of environmental and social development in a country were found to have a positive moderating effect on both directions of the focal relationship. However, moderators like regulatory quality and economic freedom in a country received only partial empirical support. Table 1 provides a summary of the research problems, highlighting their relevance and outlining the corresponding research questions.

Table 1 Research problems, relevance and research questions

Research Problem	Relevance	Research Questions
(1) The relationship between IO and CSP is ambiguous in both directions	e.g., Faller & Knyphausen-Aufseß, 2018, Gillan et al., 2021; Jain & Jamali, 2016; Velte, 2020; Velte 2022a; Velte, 2022b	**RQ1:** Is a high share of IO related to companies' subsequent superior CSP?
		RQ2: Is companies' prior superior CSP positively related to higher IO?
(2) Mixed empirical results on the IO–CSP relationship underscore the need to explore moderating factors	e.g., Faller & Knyphausen-Aufseß, 2018; Gillan et al., 2021	**RQ3:** Do temporal factors positively moderate the relationship between IO and CSP?
		RQ4: Does CFP positively moderate the relationship between IO and CSP?
(3) Although highly relevant, the moderating role of country-level institutional factors in the IO–CSP relationship has not been comprehensively examined on a global scale	e.g., Benlemlih et al. 2023; Dyck et al., 2019; Kavadis & Thomsen, 2023; Zhi Li et al., 2021	**RQ5:** Do country-level institutional factors positively moderate the relationship between IO and CSP?

1.3 Structure of the dissertation

The dissertation is structured in six chapters. The first chapter serves as the introduction and is divided into three sub-chapters. The first sub-chapter emphasizes the increasing significance of CSP for institutional investors. In the second sub-chapter, the three research gaps are identified, the research questions are formulated, the methodological approaches are outlined, and the contributions are presented. In the final sub-chapter of the introduction, the structure of the dissertation is outlined.

Following the introduction, the next chapter explores the conceptual background and theoretical foundations, structured into three sub-chapters as outlined below. First, the key concepts central to this dissertation, namely CSR, CSP and IO, are introduced and defined. The second sub-chapter provides a detailed explanation of key theories, including agency, stakeholder

salience and institutional theory. These theories are then integrated into a theoretical framework that forms the foundation of the dissertation. Based on this theoretical framework and the existing literature, hypotheses are formulated to address the research questions outlined in the introduction. The final sub-chapter presents a research model that combines the theoretical framework with the developed hypotheses into a cohesive structure.

The third chapter addresses the first and second research questions. This dissertation integrates quantitative data from 116 primary empirical studies in two separate meta-analyses. This chapter consists of two sub-chapters. First, the methodological approach of conducting a meta-analysis is clearly highlighted. This presentation involves the identification of sample studies, the coding of studies and lastly meta-analytic calculations. In the second sub-chapter, the meta-analytic results are presented.

The fourth chapter investigates the moderators in the relationship between IO and CSP. It is divided into two sub-chapters. The first sub-chapter focuses on meta-regression and is structured in two parts. The first part describes the process of conducting the meta-regression, followed by the presentation of the results to address RQ3. The second sub-chapter of chapter four focuses on the fixed-effects panel data analysis regarding the moderating effects of CFP and country-level institutional factors. It is divided into two parts: The first part outlines the methodology, covering sample selection, variable description and operationalization, as well as the analytical models employed. The second part presents the empirical results, organized into descriptive panel statistics followed by the findings from the fixed-effects panel data regression.

The fifth chapter presents the discussion of the dissertation's findings and is structured into four sub-chapters. The first sub-chapter discusses the results concerning the relationship between IO and CSP, addressing research questions one and two. The second sub-chapter discusses the findings from the moderator analyses in relation to research questions three to five. The third sub-chapter outlines the practical implications of the dissertation, while the final sub-

chapter reflects on the dissertation's limitations and offers suggestions for future research. The dissertation concludes with the sixth chapter.

2 Conceptual background and theoretical foundations

This chapter provides the conceptual background and the theoretical foundations and is organized into three sub-chapters. It begins by defining the key concepts central to this dissertation, namely CSR, CSP and IO. Moreover, the theoretical foundations of the dissertation are built by introducing key theories, namely agency theory, stakeholder salience theory, and institutional theory. Drawing on this framework and prior research, hypotheses are subsequently developed to address the research questions introduced earlier. Finally, the chapter concludes with the development of an integrated research model that synthesizes the proposed hypotheses and underlying theoretical foundations.

2.1 Definition of key concepts

2.1.1 CSR & CSP

Common and recent definitions of CSR can be found for instance by the European Union (EU), which define CSR as "the responsibility of enterprises for their impacts on society" (European Commission, 2011, October 25, p. 6) or by ISO which describe CSR as the "responsibility of an organization for the impacts of its decisions and activities on society and the environment" (International Organization for Standardization, 2010, p. 3). In corporate practice, concepts and terms such as CSR, sustainability management, or ESG are often used without much differentiation (Hahn, 2011; Mozaffar Khan et al., 2016). Especially in the financial-service sector, ESG is widely used, for example, to rate investments (Edmans & Kacperczyk, 2022). In this dissertation, the term "ESG" was consequently not used when referring to issues of sustainability or corporate responsibility because IO as a central variable of this dissertation is in itself an element of governance in ESG (Jain & Jamali, 2016). The only exception occurs within

the fixed-effects panel data analysis, in which ESG is incorporated directly as a variable. Thus, this dissertation refers to the term CSR and the related CSP as outcome (Lahouel et al., 2021), because there would otherwise be an overlap between the constructs of IO and ESG.

In addition, CSR and respective CSP as an outcome variable are multidimensional as they comprise both an environmental and a social dimension (Walls et al., 2012; H. Wang et al., 2016). As a result, the composite CSP score often holds limited interpretive significance, highlighting the need to analyze the social and environmental dimensions of CSR separately (Erhemjamts & Huang, 2019). The environmental dimension emphasizes a company's influence on the natural environment, encompassing efforts such as reducing carbon emissions, developing environmentally sustainable products and preserving ecological balance (Matos, 2020; Walls et al., 2012). In contrast, the social dimension pertains to a company's interactions with its employees, adherence to human rights, and contributions to society, as demonstrated through initiatives aimed at enhancing employment quality, fostering community engagement, and promoting diversity (Graafland & Mazereeuw-Van der Duijn Schouten, 2012; Matos, 2020).

2.1.2 Institutional investors

The second key variable is institutional investors, who manage money or funds on behalf of their clients (Velte, 2022b). First, a fundamental characteristic of institutional investors is their fiduciary duty to act in the best interest of their clients (Kavadis & Thomsen, 2023), which extends to various stewardship functions (Klettner, 2021). Furthermore, institutional investors are professionals, their assets are highly diversified, and their portfolios are well-balanced (Matos, 2020). Notably, they hold a significant share of the global equity market (Dyck et al., 2019; Erhemjamts & Huang, 2019). The significance of institutional investors, particularly their influence on CSR, has been steadily increasing over the past decades (Matos, 2020). For example the Forum for Sustainable and Responsible Investment reports that for 2024/2025 $6.5

of $52.5 trillion in US assets under management were committed to a sustainable investing (The Sustainable Investment Forum, 2024).

Institutional investors can be distinguished by various attributes. Below, the most relevant ones are outlined: (1) investor type, (2) time horizon, (3) commitment to sustainability and (4) the location of the institutional investor (Velte, 2022b). Regarding (1) investor type, institutional investors encompass a diverse range of entities. On the one hand, this includes various types of investment funds, such as mutual funds, pension funds, and hedge funds. On the other hand, institutional investors also comprise banks, insurance companies, and other professional asset managers (Faller & Knyphausen-Aufseß, 2018). In addition, the (2) time horizon is a crucial attribute of an institutional investor (Erhemjamts & Huang, 2019). For instance, a hedge fund focused on short-term profits may be reluctant to support costly CSR initiatives (Boubaker et al., 2017). In contrast, a long-term investor like a pension fund may be focused on long-term profits and could also be interested in the financial benefits of sustained CSR engagement, such as reduced risk (Kordsachia et al., 2022). Third (3), institutional investors can easily be distinguished by their commitment towards sustainability (Velte, 2022b). For example, as mentioned in the introduction, certain institutional investors who have signed the UN PRI pledge their commitment to the cause of sustainability (Kordsachia et al., 2022). Another example is Norges Bank Investment Management, as well as Norway's and Japan’s Government Pension Investment Funds, which actively integrate sustainability into their investment strategies (Matos, 2020). Last (4) institutional investors can also be distinguished by the location of their domicile (Kavadis & Thomsen, 2023). For example, institutional investors’ decisions may be shaped by the norms of their home countries (Dyck et al., 2019).

Institutional investors can influence a company’s CSP either directly (e.g., through actions like shareholder proposals) or indirectly (e.g., by selling shares or signaling the intention to do so) to encourage firms to enhance their CSR efforts (T. Chen et al., 2020; DesJardine,

Grewal, & Viswanathan, 2023). Before making an investment, institutional investors identify their target companies through a screening process, in which the CSP of the target company plays a role. For instance, companies may be selected as investment targets after a positive screening, while those failing the screening process are excluded from consideration (Dyck et al., 2019).

Furthermore, institutional investors have a distinctive set of capabilities, which allows them to influence the CSR agenda of companies (Mahoney & Roberts, 2007). Compared to retail investors, they possess more specific resources and capabilities, which leads to superior information-processing abilities (Schnatterly et al., 2008). Institutional investors typically own a larger portion of shares and thus also of voting rights, which better enables them to make their voice heard (Dressler & Mugerman, 2023). In addition, it can be more difficult for them to readily reduce their investment volume because withdrawing a significant share of capital from a company could negatively impact the value of their investment (Cox et al., 2004).

2.2 Theory and hypotheses

In the following, hypotheses are developed for both directions of the focal relationship and, subsequently, for the moderating effects building on agency theory, stakeholder salience theory and institutional theory. Each theory provides distinct perspectives that, taken together, help form a more comprehensive understanding of the IO–CSP relationship. Therefore, using these theories is synergetic, as they collectively cover governance dynamics, stakeholder influence and the institutional environment.

Agency theory is the most prominent theoretical approach to examine the relationship between IO and CSP (Velte, 2022b). Agency theory explains the relationship between principals (here: institutional investors) and agents (managers) (Eisenhardt, 1989; Jensen & Meckling, 1976). Agents are expected to act in the best interests of the principal. Nonetheless, information asymmetry can result in agency conflicts when the principal's and agent's interests do not align.

Regarding CSP, managers, who possess an informational advantage, might be reluctant to commit to CSP activities that demand significant managerial effort, incur potential costs, and utilize limited managerial resources (Kock et al., 2012). The theory helps to explain how differences in incentives and information asymmetry might affect CSR efforts and, consequently, CSP (Buertey et al., 2020). This theory provides a valuable framework for formulating hypotheses about the influence of IO on managerial decisions related to CSP.

Stakeholder salience theory is applied to analyze how companies prioritize different stakeholders (including institutional investors) (Erhemjamts & Huang, 2019). The application of stakeholder salience theory offers a valuable lens for developing hypotheses concerning the differential influence of institutional investors based on their salience, which could be determined by their power (ownership stake), legitimacy (commitment to CSP), and urgency (investment timelines) (R. K. Mitchell et al., 1997; Neubaum & Zahra, 2006). Given the focus on IO, this theory helps explain why certain stakeholders such as institutional investors may be more influential than others in driving CSP (David et al., 2007).

Institutional theory explains how organizational behavior is shaped by the norms, values, and rules of the institutional environment in which organizations operate, particularly with regard to CSR, CSP and IO (Ioannou & Serafeim, 2012; Jain & Jamali, 2016). Foundational contributions to this theory come from Meyer and Rowan (1977), DiMaggio and Powell (1983) and Scott (1995). In recent years, the theory has been extended through new concepts such as institutional logics, institutional work, and institutional entrepreneurship, allowing for a more nuanced analysis of CSR practices. First, Meyer and Rowan (1977) argue that organizations often adopt formal structures, such as CSR policies, not primarily for efficiency, but to secure legitimacy regarding their environment. These structures often have a symbolic character and lead to a decoupling of formal structures from actual operational practices. CSR could thus be interpreted as a way to express compliance with societal expectations without fundamentally

changing core business practices. Moreover, DiMaggio and Powell (1983) extend this perspective by introducing the concept of institutional isomorphism, which explains why organizations within a field tend to adopt similar practices over time. They distinguish between:

- Coercive isomorphism (e.g., mandatory CSR regulations),
- Mimetic isomorphism (imitation under uncertainty), and
- Normative isomorphism (e.g., impact of professional CSR standards).

CSR practices, therefore, could emerge often as a response to structural pressures in the institutional environment. In addition, Scott (1995) systematizes institutional influences through three dimensions: regulative, normative, and cultural-cognitive. CSR initiatives could be located along these dimensions for instance, through legal reporting requirements (regulative), societal expectations regarding CSR (normative), or through a conception of how other actors would behave in comparable situations (cultural-cognitive). The more recent discourse has expanded the theory through concepts such as institutional logics (Thornton et al., 2012). Organizations would operate in the tension between multiple institutional logics, such as market logic. CSR is seen here as the outcome of negotiating competing values or beliefs. Institutional investors are likewise embedded in such logics, for instance, some may operate according to a sustainability-oriented logic by applying CSR criteria and making socially responsible investment decisions. As institutional theory evolved, the concept of institutional work came into focus (Lawrence & Suddaby, 2006). Organizations and actors would not be merely passive recipients of institutional pressures but actively shape and transform them. Particularly in the CSR field, institutional entrepreneurs (Battilana et al., 2009), such as institutional investors committed to sustainability, might play a key role in creating new norms and transforming existing institutions.

The three theories provide complementary perspectives on the IO-CSP relationship: Agency theory addresses the internal dynamics and governance structures affecting CSP, focusing on conflicts and alignment between principals (institutional investors) and agents

(managers). Stakeholder salience theory extends this by considering external pressures and the varying influence of different stakeholder groups, including institutional investors, on a firm's CSP strategies. Institutional theory incorporates the dimension of cross-country variations and provides a framework for understanding why differences in the relationship between IO and CSP arise as a result of the institutional environment within different countries.

2.2.1 The relationship between IO and CSP

Institutional investors seek high CSP from the companies they invest in for two main reasons. First, institutional investors are motivated due to pecuniary motivations (*value investors*), or second, they are driven by nonpecuniary motivations (*values investors*) (Lopez-de-Silanes et al., 2024; Starks, 2023). From a pecuniary perspective (*value investors*), the potential impact of CSP on CFP may help explain why value-oriented investors are inclined to favor firms with strong CSP (Faller & Knyphausen-Aufseß, 2018). Such companies often present lower risks and potentially better long-term returns due to lower adverse externalities such as litigation or regulatory burden (Barnett et al., 2018; Ceccarelli et al., 2023; T. Chen et al., 2020). Although some short-term institutional investors may not "walk the talk" (Raghunandan & Rajgopal, 2022, p. 825) and frequently prioritize short-term financial gains over long-term sustainability goals (Gloßner, 2019), various meta-analyses have found a positive relationship between CSP and CFP (Busch & Friede, 2018; Orlitzky et al., 2003; Q. Wang et al., 2016). Furthermore, regulatory and societal pressures shape institutional investors' investment behavior (Cox et al., 2004; Ryan & Schneider, 2002). Recently, for instance, the much-debated EU taxonomy for sustainable activities has increased institutional investors' awareness of environmental issues and is expected to significantly influence investment behavior, especially in Europe (Kordsachia et al., 2022). Similar regulatory approaches can be observed in other parts of the world. In the United States, for example, the Securities and Exchange Commission (SEC) proposed that companies disclose risks associated with climate change and emissions (Securities and Exchange Commission,

2022). However, adverse effects have also been observed. For example, Arora et al. (2024) found that ownership concentration could negatively impact environmental performance. This occurs because blockholders may prioritize short-term gains at the expense of environmental performance. Furthermore, increased ownership control could intensify this problem by giving blockholders greater leverage over other stakeholders. Only robust corporate governance mechanisms, such as regulatory frameworks, could mitigate this negative impact and even foster a positive relationship between ownership concentration and environmental performance. Regarding societal pressures, institutional investors, who typically act in a fiduciary role for their clients (T. Chen et al., 2020; Harjoto et al., 2017), are likely to react to an increasing general interest in socially responsible investments (Global Sustainable Investment Alliance GSIA, 2021). An additional pecuniary advantage of CSP for IO is the diversification of systematic risk (Lopez-de-Silanes et al., 2024). In particular, most institutional investors are universal owners that are usually invested in multiple companies in different countries. Hence, they bear a systematic market risk and are consequently affected by global trends such as climate change (Hawley & Williams, 2007). Kiernan (2007) underscores the pivotal role of universal owners, such as institutional investors, in the sustainable development of the companies they invest in. This significance stems from their investment clout, manifested either through the volume of shares they hold or through active engagement. Thus, it is reasonable to anticipate their vested interest in addressing global trends and mitigating the repercussions of phenomena like climate change. In addition, DesJardine, Grewal, and Viswanathan (2023) posit that a positive relationship exists between universal owners and the CSP of companies. They attributed this relationship to the potential of CSR activities to generate positive spillover effects that mitigate systematic market risk.

Moreover and beyond the pure financial motivation of *value investors*, *values investors* are additionally driven by nonpecuniary motivations, such as ethical values, when seeking high

CSP (Lopez-de-Silanes et al., 2024; Starks, 2023). Such institutional investors may be endowed with a particular underlying set of social norms that guides their investment behavior (Cahan et al., 2017; Dyck et al., 2019). Norms can be defined as "peoples' views of how they, and others, should or should not behave" (Akerlof & Kranton, 2005, p. 12). Norms are reflected in the policies, rules, or values prevalent within a society (Dyck et al., 2019). H. Hong and Kacperczyk (2009) found that norm-constrained investors hold stocks differently from non-norm-constrained investors to the extent that the former, for example, refuse to invest in "sin" stocks, which relate to publicly listed companies in industries such as tobacco, alcohol, or gaming. Therefore, social norms could provide an additional explanation for investors' demand for a company's higher CSP.

The main theoretical framework for understanding the IO-CSP relationship is a combination of agency theory and stakeholder salience theory. Agency theory explains the relationship between institutional investors and the managers of invested companies in the context of CSP (Velte, 2022b). Agency conflicts and associated costs may arise, for example, when institutional investors demand higher CSP, but managers hesitate to improve CSR activities due to concerns about potential costs or resource constraints (Kock et al., 2012). In this context, strong corporate governance, such as robust shareholder rights, could help mitigate agency costs and align the interests of institutional investors and managers (Jain & Jamali, 2016). Without such mechanisms, agency conflicts and their associated costs may negatively affect the company's CSR activities. In addition to agency theory, stakeholder salience theory suggests that the demands of institutional investors for higher CSP may be prioritized over those of other stakeholders (Neubaum & Zahra, 2006), which could help reduce agency costs. Both theories offer complementary insights into how and why institutional investors might influence CSP. By integrating these two perspectives, a more comprehensive understanding of governance

dynamics and stakeholder influence is achieved. Based on these considerations, the following hypothesis is proposed:

> ***Hypothesis 1 (H1):*** *A high share of IO is positively related to companies' subsequent superior CSP.*

The second RQ deals with the question whether companies‘ prior superior CSP is positively related to higher IO. When examining the reverse causal relationship (CSP→IO), according to which institutional investors select firms based on their CSP, prior research suggests a positive relationship (Ahmed et al., 2014; Wahba, 2008). Other than for the causal direction (IO→CSP), for the reverse causal direction (CSP→IO) agency theory and stakeholder salience theory are less important as the institutional investor has not yet made an investment. Instead, the previously outlined arguments are employed, suggesting that institutional investors generally exhibit a preference for strong CSP, driven by pecuniary (*value investors*) or nonpecuniary motivations (*values investors*) (Lopez-de-Silanes et al., 2024; Starks, 2023) and thus invest in these companies based on these motivations.

Value investors could be interested in investing in companies that already exhibited high CSP as this could be associated with the companies' improved financial performance and reduced risks, as illustrated above. Kölbel and Busch (2021), for example, point out that good CSP ratings convey a risk-minimizing effect. Moreover, companies with high CSP may attract institutional investors, as these firms have already made substantial investments in CSP. This allows institutional investors to potentially reap the financial rewards of high CSP without incurring the initial costs. Additionally, institutional investors may be inclined to invest in companies with high CSP due to nonpecuniary motivations (*values investors*), such as previously

mentioned factors like norms (Cahan et al., 2017; Dyck et al., 2019). Thus, a corresponding hypothesis is proposed:

Hypothesis 2 (H2): *Companies' prior superior CSP is positively related to higher IO.*

2.2.2 Moderating effects on the relationship between IO and CSP

2.2.2.1 Temporal factors

Institutional investors are not a homogenous group. Some investors have a more short-term investment horizon whereas others adopt a more long-term one (Neubaum & Zahra, 2006; Shleifer & Vishny, 1990). The investment horizon is important, as CSP-related activities are presumably of a long-term nature and thus do not always pay off in the short-term (Cox et al., 2004; Fu et al., 2019; Mahapatra, 1984). From an agency theory perspective, a potential conflict could arise between a long-term institutional investor dedicated to sustainable development and CSR and a manager whose primary focus is on meeting short-term objectives, often at the expense of CSP goals (Kock et al., 2012). Thus, institutional investors, especially those with a long-term investment horizon, such as pension funds (Cox et al., 2008), may promote investments in companies' CSP as their goals are less restricted to short-term financial gains (Gloßner, 2019). Accordingly, the following hypothesis is suggested:

Hypothesis 3 (H3): *Institutional investors' long-term investment horizon positively moderates the relationship between IO and CSP.*

Furthermore, issues such as corporate climate performance or human rights in supply chains have gained increasing salience especially in the last few decades (Garel & Petit-Romec, 2021b, Govindan et al., 2021). In addition, a growing relevance of sustainability and CSR-related

regulations (Singhania & Saini, 2022), entail that investors have become increasingly aware of sustainable issues and CSP over time (T. Chen et al., 2020; Drempetic et al., 2020). Empirical studies based on more recent data on the relationship between IO and CSP should thus show a stronger relationship between the two variables. From an agency theory perspective, the increasing salience of CSP has implications for the principal-agent relationship, potentially intensifying agency conflicts as institutional investors increasingly advocate for enhanced CSP standards. It is important to note, however, that the discourse around sustainability and CSP has become increasingly polarized recently (Eccles, 2024). Nevertheless, this debate has not yet been reflected in empirical studies due to the time lag in data availability, so the following hypothesis is derived:

> ***Hypothesis 4 (H4):*** *The positive relationship between IO and CSP has become stronger over time.*

2.2.2.2 CFP

RQ4 explores whether CFP positively moderates the relationship between IO and CSP. As mentioned earlier, one of the reasons why (institutional) investors may be interested in superior CSP refers to the supposed positive relationship between CSP and CFP. While several meta-analyses have provided support for a small positive relationship between CSP and CFP (e.g., Busch & Friede, 2018; Orlitzky et al., 2003; Q. Wang et al., 2016), recently a more nuanced discussion emerged centering around the material or immaterial nature of CSP issues. Given the broad and multidimensional nature of CSP and given the documented heterogeneity of empirical findings concerning the CSP-CFP relationship, not all CSP issues and practices may equally translate into positive CFP. T. Chen et al. (2020) emphasize that the number of CSP issues is very large, and that the categories that are financially material for firms vary systematically between

industries. For example, direct greenhouse gas emissions (one issue of the environmental dimension of CSP) can be a material issue for utility firms but can be immaterial for financial companies (DesJardine, Grewal, & Viswanathan, 2023; Grewal et al., 2021; Mozaffar Khan et al., 2016). Vishwanathan et al. (2020) theoretically developed and empirically validated a concept that they call 'strategic CSR.' It refers to those firm activities that appear to further some social good, while at the same time benefiting the firm financially by either enhancing its reputation, increasing stakeholder reciprocation, mitigating firm-specific risk or improving innovation. Since the investment sentiments of institutional investors can range from purely financial motivations of *value investors* to motivations arising from nonpecuniary preferences of *values investors* (Starks, 2023), the financial materiality of CSP becomes a key factor in shaping the IO-CSP relationship. Consequently, the following hypothesis is proposed:

> ***Hypothesis 5 (H5):*** *A strong CFP of a company positively moderates the relationship between IO and CSP.*

2.2.2.3 Country-level institutional factors

This sub-chapter formulates hypotheses to examine the fifth RQ, specifically assessing whether country-level institutional factors positively moderate the relationship between IO and CSP. The hypotheses are derived from the underlying theoretical framework and prior literature.

According to Matten and Moon (2008), institutional factors are related to national, institutional frameworks that have developed over time and comprise both formal institutions, such as the legal and financial environment, and informal institutions, such as norms and values. Whilst formal institutions can be readily measured through legislation (La Porta et al., 2008) or the form of the legal system (e.g., common law or civil law systems) (Liang & Renneboog, 2017), informal institutions, represented by norms and values are more intangible and harder to

quantify (Jain & Jamali, 2016). Previous literature suggests that country-level institutional factors have an impact on companies' CSR activities (Freeman & Hasnaoui, 2011; Jain & Jamali, 2016). For example, Liang and Renneboog (2017) emphasize the multidimensional nature of CSR, arguing that this complexity compels companies to consider external factors, such as the country-level institutional context in which they operate. They describe CSR as a tradeoff that is significantly shaped by the country-level institutional environment. Since this institutional environment varies across countries, its influence on CSR practices could also differ (G. Halkos & Skouloudis, 2016). Likewise, Ioannou and Serafeim (2012) highlight that political, educational, labor, and cultural factors in a country play a crucial role in shaping CSP. Besides, Stroebel and Wurgler (2021) note that regulatory risk is a critical factor when assessing climate risk for companies and investors. Moreover, institutional factors also influence corporate CSR disclosures (Coluccia et al., 2018), while the economic structure of a country impacts CSR activities and policies (Jackson & Apostolakou, 2010). Ultimately, Liang and Renneboog (2017) argue that variations in the institutional environment across countries account for differences in companies' CSP, as CSR-related regulations can vary between nations. In addition, country-level institutional factors may shape the investment sentiment and behavior of institutional investors (Dyck et al., 2019; Yahia et al., 2023). For example, institutional investors are often influenced by informal institutional factors, such as social norms (Xu Cheng et al., 2024), political ideology (Bolton et al., 2020), and religious beliefs (Zhao et al., 2022), all of which can affect their investment decisions.

Understanding the influence of country-level institutional factors on the relationship between IO and CSP necessitates the integration of institutional theory and agency theory. Both theories are essential for a comprehensive understanding, offering valuable insights into the moderating role of country-level institutional factors in the IO-CSP relationship. Institutional theory offers a compelling lens through which to examine the widespread adoption of CSR

practices, particularly as a means of securing organizational legitimacy (Campbell, 2007; Meyer & Rowan, 1977). Institutional investors may serve as influential actors in shaping corporate responses to institutional pressures, potentially endorsing CSR as a mechanism through which firms could acquire or sustain legitimacy within their institutional environments. Moreover, agency theory (Eisenhardt, 1989; Jensen & Meckling, 1976) could provide a valuable theoretical foundation for understanding how country-level institutional factors may moderate the relationship between institutional investors and CSP. For example, in institutional environments characterized by strong legal enforcement and investor protections, agency conflicts may be mitigated, as the capacity of institutional investors to influence managerial decisions toward improved CSP may be strengthened (Armour, 2020; La Porta et al., 1998). Conversely, in institutional contexts characterized by weak legal protections and poor enforcement, institutional investors may be less effective in promoting CSP.

A key country-level institutional factor is regulatory quality, which refers to the formulation and implementation of robust policies and regulatory frameworks by a country that foster the development of the private sector and ensure a stable institutional environment (Busse & Groizard, 2008; Liang & Renneboog, 2017). In institutional contexts with high regulatory quality, characterized for example by effective governance and by stringent and well-enforced regulations, the costs of externalizing private interests at the expense of societal or environmental well-being are significantly higher (Arora et al., 2024). An example for regulatory quality is the EU's Corporate Sustainability Reporting Directive, which mandates comprehensive sustainability disclosures, thereby reinforcing transparency and institutional accountability (European Union, 2022). Such regulatory initiatives could align firm behavior with societal expectations. In contrast, regulatory inefficiencies or ambiguities may undermine CSP (e.g., Fifka & Loza Adaui, 2015). Regulatory risk, for instance, is a key consideration for firms and investors when making strategic decisions (Stroebel & Wurgler, 2021). Likewise, inconsistent or

vague policies, such as divergent non-financial reporting standards across jurisdictions, could lead to costly and inefficient reporting outcomes (Ahlström & Monciardini, 2022; Tamvada, 2020). Moreover, weak regulatory frameworks, constituting a form of ineffective external governance, could have an adverse impact on environmental performance, for example, by allowing blockholders to externalize private costs (Arora et al., 2024).

From the perspective of institutional theory, firms are inclined to conform to formal institutional pressures, including regulations (Campbell, 2007; Meyer & Rowan, 1977). When these regulations are well aligned with CSR goals, as is typically the case in high-quality regulatory environments, they could enhance firms' CSR engagement by legitimizing and structuring CSR practices (G. E. Halkos & Nomikos, 2021; Jain & Jamali, 2016; Meyer & Rowan, 1977). For example, tax incentives and subsidies could influence a company's CSP (Kacem & Brahim Omri, 2022; Wenqi et al., 2022; Zhu et al., 2023). In addition, institutional theory emphasizes that organizations are subject to coercive pressures stemming from regulations (DiMaggio & Powell, 1983). In contexts characterized by high regulatory quality, where governments effectively enforce rules, coercive pressures may thus help align corporate behavior with societal expectations for strong CSP. This institutional setting may also enhance the influence of institutional investors on firms' CSP, as regulatory frameworks could legitimize institutional investor demands for high CSP (Meyer & Rowan, 1977). Conversely, weak regulatory environments may reduce coercive pressure (DiMaggio & Powell, 1983), limiting investors' ability to drive CSP improvements.

Agency theory (Eisenhardt, 1989; Jensen & Meckling, 1976) complements this view by emphasizing how regulation could help reduce agency costs. For example, when CSR-related rules are clear and enforced, managers could be more likely to act in line with the interests of institutional investors, who generally favor high CSP (e.g., Lu & Cheng, 2023). However, in regulatory environments characterized by regulatory burdens, regulations may function more as a

costly compliance obligation than as an effective governance tool (e.g., H. Shu & Tan, 2023), thereby diminishing firms' incentives to engage in CSR activities and intensifying agency-related challenges (Kock et al., 2012). In such settings, institutional investors may need to actively engage with corporate management to promote CSR activities. Similarly, in weak regulatory environments characterized by minimal external pressures, agency problems may arise as managers could exhibit reluctance to allocate resources toward CSR initiatives (Buertey et al., 2020). In these circumstances, institutional investors may function as substitutes for formal regulatory pressure, advocating for enhanced CSP. Based on the preceding discussion, the following hypothesis is proposed:

> ***Hypothesis 6 (H6):*** *A higher level of regulatory quality in a country positively moderates the relationship between IO and CSP.*

While regulatory quality is central to shaping the relationship between IO and CSP, other country-level institutional factors, particularly economic freedom and rule of law, also critically influence the extent to which institutional investors could drive CSP (Cai et al., 2016; Pinheiro et al., 2024).

First, economic freedom reflects the degree to which market-based mechanisms govern economic activity, encompassing personal choice, property rights and open competition (Gwartney & Lawson, 2003). In countries shaped by a high degree of economic freedom, firms face fewer institutional constraints and are better positioned to allocate resources toward CSR strategies (Graafland & Noorderhaven, 2020; Liang & Renneboog, 2017). From the perspective of institutional theory, firms operate within an institutional context shaped by coercive, normative, and mimetic pressures (DiMaggio & Powell, 1983). Economic freedom, as a formal institutional dimension, constitutes a coercive institutional force that defines the framework

within which economic activity takes place. In contexts with high economic freedom, formal institutions may encourage firms to respond to stakeholder expectations, such as from institutional owners, including those related to CSR, as part of a broader effort to gain and maintain legitimacy (Campbell, 2007; Meyer & Rowan, 1977). From an agency theory perspective (Eisenhardt, 1989; Jensen & Meckling, 1976), economic freedom could enhance mechanisms that reduce agency conflicts. When market institutions function efficiently, principals (institutional investors) could better monitor agents (corporate managers) and promote CSR activities. Accordingly, a high degree of economic freedom could positively moderate the relationship between IO and CSP. Building on the previous arguments, this leads to the following hypothesis:

> ***Hypothesis 7A (H7A):*** *A higher level of economic freedom in country positively moderates the relationship between IO and CSP.*

Moreover, the rule of law also plays a significant role in shaping the relationship between IO and CSP. The World Justice Project defines the rule of law as a "durable system of laws, institutions, norms, and community commitment that delivers four universal principles: accountability, just law, open government, and accessible and impartial justice" (World Justice Project, 2025a). By promoting accountability, legal predictability, and the enforcement of rights, a strong rule of law creates an institutional environment that encourages firms to adopt socially responsible practices, thereby enhancing CSP (Forgione et al., 2020; Gwartney & Lawson, 2003; Haggard et al., 2008). Moreover, the rule of law plays a crucial role for institutional investors, as legal systems with effective enforcement mechanisms, particularly those that uphold shareholder rights, could strengthen their ability to influence corporate CSR activities, thereby improving governance and accountability (Armour, 2020).

Institutional theory suggests that organizations adapt their behavior to align with institutional pressures in their environment (DiMaggio & Powell, 1983). In this context, the rule of law could moderate the relationship between IO and CSP by strengthening coercive or regulative pressures that legitimize CSR engagement (DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Scott, 1995). Agency theory explains that institutional investors act as principals who monitor managers (agents) to reduce information asymmetry and ensure alignment with shareholder interests (Eisenhardt, 1989; Jensen & Meckling, 1976). The rule of law could strengthen this monitoring function by providing a reliable legal framework that enforces contracts and protects investor rights (Armour, 2020; La Porta et al., 1998), thereby potentially strengthening the ability of institutional investors to influence and improve CSP. Accordingly, the following hypothesis is suggested:

> ***Hypothesis 7B (H7B):*** *A stronger rule of law in a country positively moderates the relationship between IO and CSP.*

Moreover, a country's level of economic development is a key determinant in shaping the CSP of companies operating within that country (Ho et al., 2012). Economically advanced countries are, for example, characterized by a high income per capita, a well-developed education system, and a well-qualified and accessible skilled workforce (Cai et al., 2016). High economic development is related to high CSP because people in low-income countries must first satisfy basic needs like food (Seale et al., 2003), which limits the resources available to address higher-level needs such as environmental quality and safe working conditions; in contrast, wealthier countries have more resources to invest in fulfilling these advanced social and environmental demands, resulting in higher CSP (Cai et al., 2016).

From the perspective of institutional theory, economically advanced countries may offer an institutional environment where CSR norms are widely diffused, for example, through active civil societies, high-quality educational systems, and coherent policy frameworks (Campbell, 2007; Ioannou & Serafeim, 2012). In such contexts, society may demand higher CSR standards, and both companies and institutional investors are more likely to respond to these demands in order to maintain legitimacy (Meyer & Rowan, 1977; Scott, 1995). Moreover, from the lens of agency theory (Jensen & Meckling, 1976), in economically developed countries, the above described heightened expectations for high CSP (Cai et al., 2016) may intensify agency conflicts. For example, institutional investors aiming to meet these heightened expectations may exert pressure on company managers to enhance their CSR initiatives. Based on this reasoning, the following hypothesis is proposed:

> ***Hypothesis 8 (H8):*** *A higher level of economic development in a country positively moderates the relationship between IO and CSP.*

Moreover, sustainable development, reflecting a country's development in environmental and social dimensions constitutes a critical country-level institutional factor that could influence the relationship between institutional ownership and CSP (Dyck et al., 2019; Ho et al., 2012). The environmental development of a country is, for example, reflected by factors such as carbon emissions, recycling rates, the level of pollution or the overall level of environmental awareness (Ioannou & Serafeim, 2012). Similarly, social development, encompasses for example a country's education, labor rights, equity, and quality of life (United Nations, 2024). Countries with higher levels of environmental or social development tend to exhibit stronger national norms and expectations concerning environmental and social responsibility, which in turn may

influence the behavior of both companies and institutional investors in relation to CSR activities (Dyck et al., 2019; Kagan et al., 2003).

From the perspective of institutional theory, both environmental and social development contribute to shaping an institutional environment characterized by normative pressures and heightened expectations for improved CSP (Campbell, 2007; Dyck et al., 2019). Companies and institutional investors that meet these CSR related expectations may be rewarded with legitimacy (Meyer & Rowan, 1977). Agency theory (Jensen & Meckling, 1976) provides a complementary lens to examine how CSR-related expectations could give rise to new forms of agency conflict. When corporate actions diverge from the environmental and social norms valued by broader society, institutional investors aiming to align with these norms may face increased agency costs (Buertey et al., 2020). Consequently, the following hypotheses are suggested:

> **Hypothesis 9A (H9A):** *A higher level of environmental development in a country positively moderates the relationship between IO and CSP.*

> ***Hypothesis 9B (H9B):*** *A higher level of social development in a country positively moderates the relationship between IO and CSP.*

The table below (Table 2) provides an overview of the research questions along with their corresponding hypotheses.

Table 2: Research questions with corresponding hypotheses

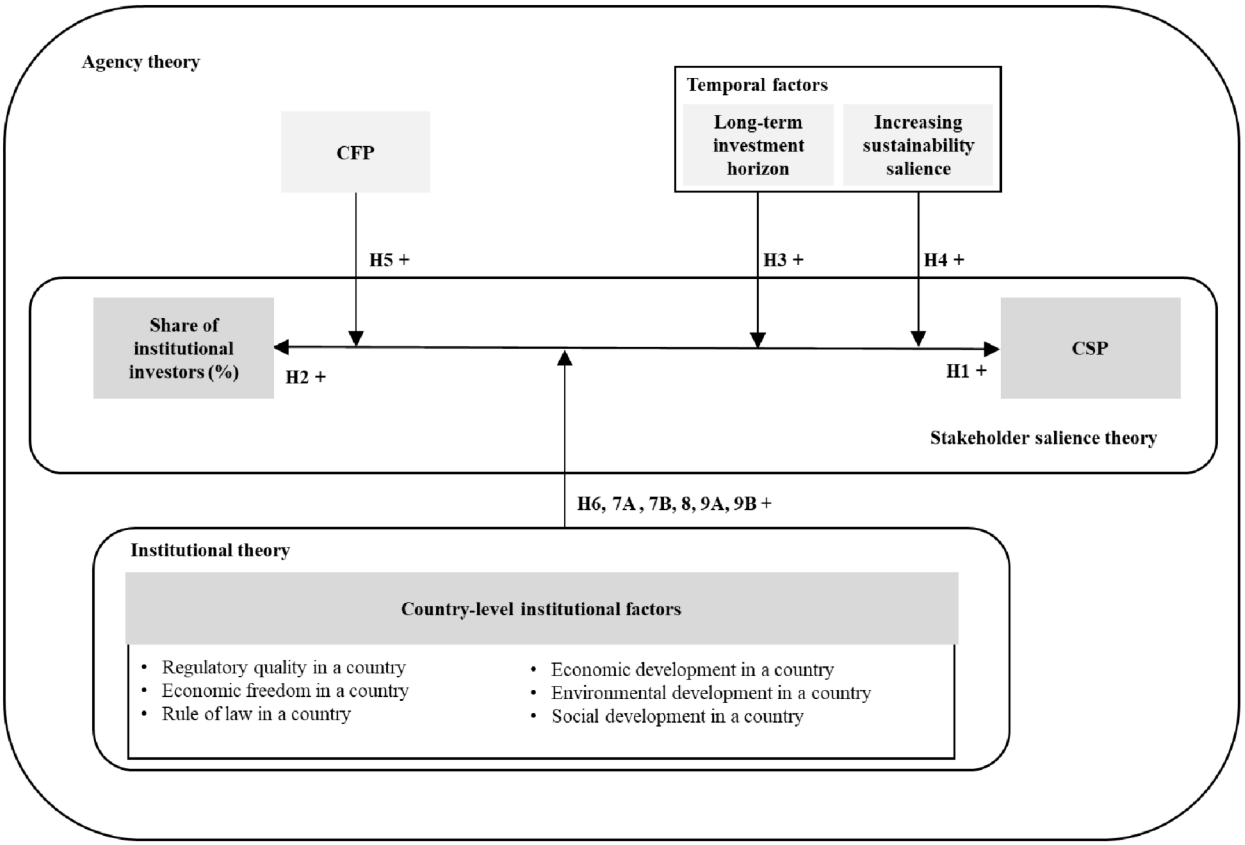
Research Questions	Hypothesis
RQ1: Is a high share of IO related to companies' subsequent superior CSP?	**Hypothesis 1 (H1):** A high share of IO is positively related to companies' subsequent superior CSP.
RQ2: Is companies' prior superior CSP positively related to higher IO?	**Hypothesis 2 (H2):** Companies' prior superior CSP is positively related to higher IO.
RQ3: Do temporal factors positively moderate the relationship between IO and CSP?	**Hypothesis 3 (H3):** Institutional investors' long-term investment horizon positively moderates the relationship between IO and CSP. **Hypothesis 4 (H4):** The positive relationship between IO and CSP has become stronger over time.
RQ4: Does CFP positively moderate the relationship between IO and CSP?	**Hypothesis 5 (H5):** A strong CFP of a company positively moderates the relationship between IO and CSP.
RQ5: Do country-level institutional factors positively moderate the relationship between IO and CSP?	**Hypothesis 6 (H6):** A higher level of regulatory quality in a country positively moderates the relationship between IO and CSP. **Hypothesis 7 (H7A):** A higher level of economic freedom in country positively moderates the relationship between IO and CSP. **Hypothesis 7 (H7B):** A stronger rule of law in a country positively moderates the relationship between IO and CSP. **Hypothesis 8 (H8):** A higher level of economic development in a country positively moderates the relationship between IO and CSP. **Hypothesis 9A (H9A):** A higher level of environmental development in a country positively moderates the relationship between IO and CSP. **Hypothesis 9B (H9B):** A higher level of social development in a country positively moderates the relationship between IO and CSP.

2.3 Research model

Figure 1 illustrates the foundational research model that underpins this dissertation. The model comprises all proposed hypotheses, visually representing the individual hypothesized

relationships. In addition, it provides an overview of the theoretical framework employed throughout the dissertation. Agency theory constitutes the primary theoretical lens guiding the analysis of all examined relationships. Stakeholder salience theory is primarily utilized to explain the direct relationship between IO and CSP. Institutional theory plays a central role in elaborating on the moderating effects of country-level institutional factors on the IO-CSP relationship. Importantly, all moderating variables are hypothesized to exert a positive influence on this central relationship.

Figure 1: Research Model



3 The relationship between IO and CSP – a meta-analysis

The following chapter details the methodology applied in conducting the meta-analysis and subsequently presents the corresponding empirical results. This meta-analysis examines the relationship between IO and CSP, offering new empirical insights in light of the inconsistent findings reported in previous research. The chapter is organized into two main sub-chapters. The first sub-chapter, meta-analytic methods, begins by detailing the study identification process. This is followed by a description of the coding procedure applied to the selected studies. Finally, the sub-chapter concludes with an explanation of the meta-analytic techniques and calculations utilized. The second sub-chapter presents the results of the meta-analysis. As stated in the introductory chapter, the meta-analysis and the meta-regression were handed in as a separate paper with my co-authors: Rüdiger Hahn and Jan Endrikat.

3.1 Meta-analytic methods

To derive a comprehensive sample of studies, this dissertation draws on five complementary literature-search procedures (see Figure 2 for details and results; ***Appendix B (Search process and screening criteria)*** provides extensive details about this process). First, it was searched in the Scopus and Web of Knowledge databases based on the combination of keywords illustrated in Figure 3. Second, the four most important subject areas of the journals were selected in which suitable studies were identified in the first step.[2] For these subject areas, journals with 4* ratings by the Academic Journal Guide (AJG) were determined and these journals' issues were manually

[2] Accounting, Finance, Strategy and General Management, Ethics, Gender and Social Responsibility were the most often assigned subject areas of the studies identified in the first step.

reviewed over the last years.[3] Third, a search was conducted through the reference lists of seven review articles known that covered the focal topic (Faller & Knyphausen-Aufseß, 2018; Jain & Jamali, 2016; Karn et al., 2023; Kavadis & Thomsen, 2023; Ludwig & Sassen, 2022; Velte, 2020; Velte, 2022b). Fourth, it was searched for studies included in the Academy of Management (AOM) annual meeting programs. Finally, unpublished manuscripts were solicited from scholars via repeated calls on the listserv communities of the Social Issues in Management (SIM), Organizations and the Natural Environment (ONE), Organizations and Management Theory (OMT), and Strategic Management (STR) division of the Academy of Management, as well as on LinkedIn. To be included in the analyses, studies had to be written in English and topically relevant. Studies had to report a bivariate correlation between an IO variable and a CSP variable to allow for computing the effect size (Lipsey & Wilson, 2001). Authors of several papers were contacted regarding missing information for the calculation of effect sizes and a study was included when the authors provided the necessary information on request.

[3] The AJG is an internationally renowned rating for business-related journals published by the Chartered Association of Business Schools. The rating ranges from "1" (journals that publish research of recognized but modest standard) to "4*" (journals that publish the most original and best-executed research). See Chartered Association of Business Schools (2021). The following journals constitute the 4*-rated journals on the four subject areas: *Academy of Management Annals*, *Academy of Management Journal*, *Academy of Management Review*, *Accounting, Organizations and Society*, *Accounting Review*, *Administrative Science Quarterly*, *Journal of Accounting and Economics*, *Journal of Accounting Research*, *Journal of Finance*, *Journal of Financial Economics*, *Journal of Management*, *Strategic Management Journal*, and *Review of Financial Studies*. It was not searched in *Academy of Management Annals* and *Academy of Management Review* because these journals do not publish empirical studies. To arrive at a manageable number of issues for our review, 2017 was used as the starting year.

Figure 2: Literature-search process

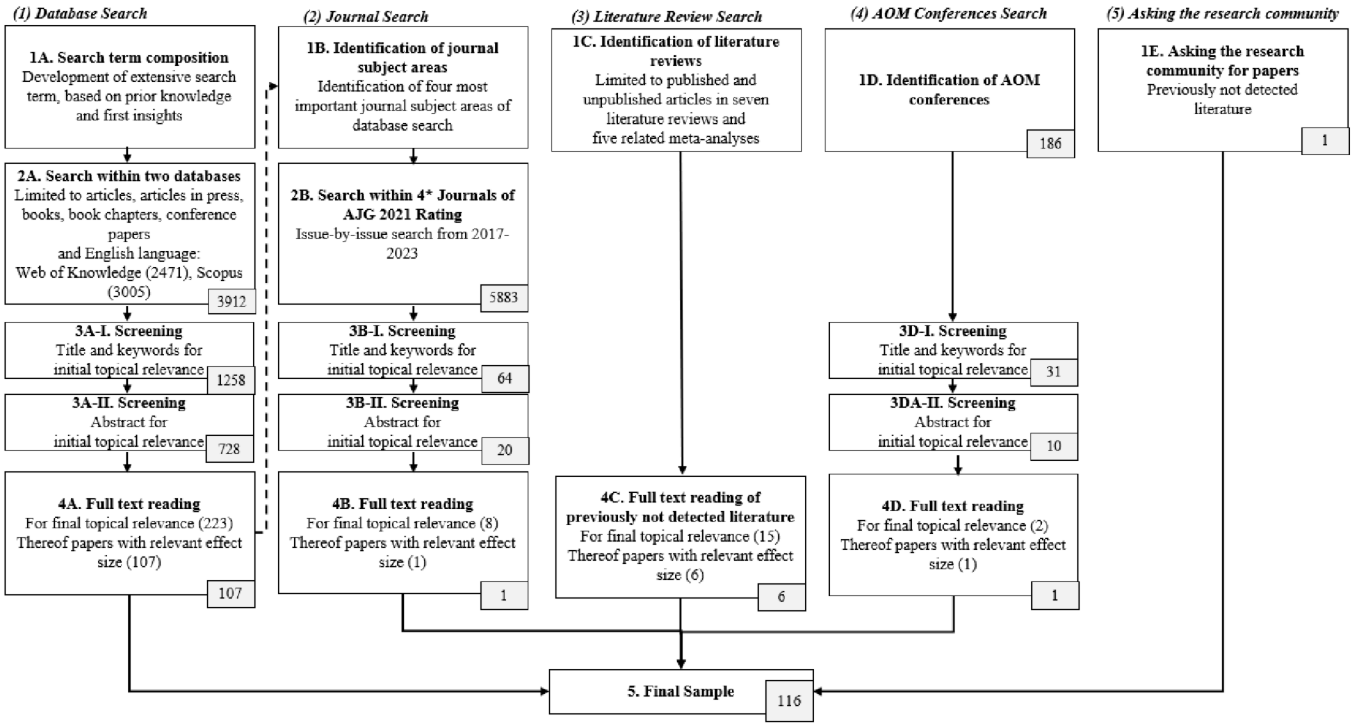
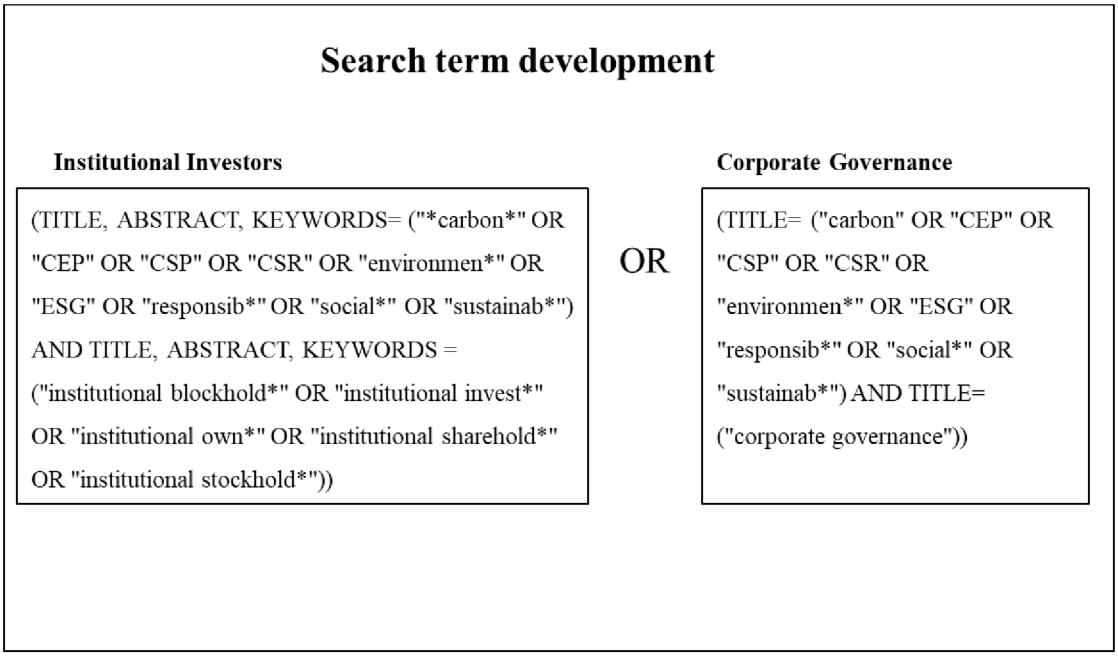


Figure 3: Search-term development



Two separate meta-analyses were conducted. The first covered the relationship between IO and companies' subsequent CSP (IO→CSP). The sample for this analysis comprised 106 studies representing a total of 868,904 observations from 108 independent samples. The second meta-analysis related to the reverse causal direction (CSP→IO), that is, the relationship between companies' high CSP and the subsequent share of institutional investors. 89 studies were included in this calculation, comprising 753,378 observations.[4]

The overall set of studies included in the two meta-analyses comprised 116 studies representing a total of 933,684 observations from 118 independent samples. These studies were published between 1994 and 2024, with a clear trend toward more studies being published in more recent years. The absolute majority (~85%) of studies use time-series data, covering multiple years, spanning from 1988-2021. While this dissertation does not claim to have included all existing research on the focal relationship, it reflects confidence that a systematic and representative sample of relevant studies within the area of interest has been compiled. ***Appendix C (Overview of sample)*** summarizes the studies included in the meta-analyses.

The authors jointly developed a coding scheme to extract information, including the effect sizes from each study. The studies were coded in two sequences. The first sequence covered studies available until July 2021, the second sequence thereafter. After pilot testing and refining the scheme, the first author coded all the studies of both sequences. To obtain accurate and reliable coding results (Carpenter & Berry, 2017; Endrikat et al., 2021), a second author independently coded 20 studies of the first sequence. The overall agreement was at 95%, with a Cohen's Kappa of .93. In addition, a third coder independently coded 40 studies of the second sequence, with an nearly identical overall agreement of 94% with a Cohen's Kappa of .92,

[4] For this second meta-analysis, one outlier study was excluded with an extreme sample size (e.g., Hoepner and Schopohl, 2020). To verify the results, the meta-analysis was performed with and without the outlier study but no substantial change in the results was observed.

suggesting almost perfect reliability (Landis & Koch, 1977). The few minor discrepancies were resolved through communicative validation (Kvale, 1995).

To measure IO, the sample studies mainly used the ratio of the number of shares held by institutional investors to the total number of shares (e.g., Jain & Zaman, 2020). Furthermore, all the IO subdimensions, including long- and short-term (e.g., Neubaum & Zahra, 2006) and foreign and domestic (e.g., W. Shi & Veenstra, 2021) institutional investors or a specific institutional-investor type such as mutual-funds ownership (Kock et al., 2012) were included as a measure. In cases in which studies included several measures for IO subdimensions such as short- and long-term IO but no composite IO score (e.g., Erhemjamts & Huang, 2019), a holistic IO score was manually calculated.[5] For the analysis, it did not matter whether these variables were dependent, independent, or control variables in a study (Dalton et al., 2003). However, studies were not included that only provided vague specifications of the extent of IO (e.g., B. Hong et al., 2016) or those with dummy variables for IO (e.g., W. Rees & Rodionova, 2013).

The sample studies measured CSP in various ways, reflecting its multidimensional nature and capturing issues such as employee or community relations, product safety, or environmental performance (Endrikat et al., 2021; H. Wang et al., 2016). Most of the studies reported a holistic CSP score from one of the prominent databases, such as KLD (e.g., David et al., 2007; Erhemjamts & Huang, 2019) or ASSET4 (e.g., W. Shi & Veenstra, 2021; Yan et al., 2021). Regarding the portion of studies using the different sources, the studies at hand used a variety of sources to operationalize the CSP variable. Most prominently, one third of the studies used the KLD/MSCI ESG database, 11 % used the Refinitiv/Asset 4 database, and 7% the Hexun

[5] Calculating holistic scores (i.e., composite correlations) allows a derivation of more valid results than using separate scores (Higgins et al., 2003; Ones & Viswevaran, 1996). Erhemjamts and Huang (2019), for example, reported only short-term and long-term, but no total IO. In such cases, a specific template was used to calculate a composite effect size. Composite correlations are computed based on the average correlations between different measures of construct X (e.g., short-term IO and long-term IO) and the measure of construct Y (e.g., CSP), corrected for the correlation among the measures of construct X (e.g., short-term IO and long-term IO) (Schmidt and Hunter (2014). Generally, the creation of a composite correlation results in a more construct valid measure of the construct of interest (Higgins et al., 2003; Ones and Viswevaran, 1996).

database. The remaining studies used a subdimension of CSP, such as any form of environmental (e.g., Walls et al., 2012) or social (e.g., C. H. Cho et al., 2017) performance. When information on the environmental and social dimensions of CSP was separately available, holistic CSP scores were calculated for the overall analyses.

Finally, it was coded whether the focal variables in the primary studies were measured based on a time lag to obtain some indication of the causality of the relationship between IO and CSP. In particular, the coding captured (1) whether the measurement of IO preceded that of CSP, which would indicate a causal link from the former to the latter (IO→CSP), (2), whether the measurement of CSP preceded that of IO, which would indicate a reverse causal direction (CSP→IO), or (3) whether the two variables were concurrently measured[6], which would preclude any causal inference. It is important to note that time-lag effects or temporal precedence in measurement are not identical to causality but are accepted as a strong indicator (Bono & McNamara, 2011; Endrikat et al., 2014; T. R. Mitchell & James, 2001).

It was opted for the Hedges and Olkin-type meta-analysis (HOMA) (Hedges & Olkin, 1985) because an absolute majority of the primary studies were based on observed measures for both variables.[7] For that purpose, Meta-essentials was utilized (Suurmond et al., 2017) to estimate random-effects models. These models inherently imply that, besides the variability in the population, any variability between effect sizes is due to sampling error (Lee et al., 2017; Lipsey & Wilson, 2001).

[6] The sample studies measured CSP and IO concurrently for different reasons. First, both variables do not necessarily represent dependent variables or independent variables in the original models of the papers. Rather, for example in the case of the study of Y. Kim et al. (2014), IO was a control variable and CSP an independent variable. Therefore, the authors may have decided against a time-lag and thus the relationship between these two variables is concurrent (e.g., Y. Kim et al., 2014). Moreover, in several studies, the statistically analyzed relationships in the main models are concurrent, but in the robustness check a time-lag is used to verify the data (e.g., X. Wang and Jin (2023).

[7] A different method is outlined by Hunter & Schmidt (2004) and is prominently used in meta-analyses within management research. A particular benefit of this psychometric approach lies in correcting measurement error. However, it was not corrected for measurement error because an absolute majority of our studies did not publish reliability statistics and were based on observed variables. Using the HOMA meta-analytic approach is consistent with recent meta-analyses in management science (e.g., Jeong & Harrison, 2017; Lander & Heugens, 2017).

In the first step, following Hedges and Vevea (1998), Fisher's *z* transformation was used to convert the original correlations because the sample correlation, *r*, does not unbiasedly represent the population *r* (Dalton & Dalton, 2005; Hunter & Schmidt, 2004). Fisher's *z*-transformed correlations are approximately normally distributed. In addition, Fisher's *z* transformation ensures that effect sizes are optimally weighted because the sample variance relies solely on the sample size and not on the population itself (Geyskens et al., 2009). To evaluate whether the mean effect sizes were significant, 95% confidence intervals were calculated. The mean effect sizes are statistically significant when zero is not included in the confidence interval (Lipsey & Wilson, 2001). This dissertation relies on I^2 and *Q* statistics to evaluate how homogeneously the effect sizes were distributed. The *Q* statistic indicates the dispersion of the effect sizes, and when it is significant, it is necessary to test for potential moderating effects (Allan et al., 2019; Lipsey & Wilson, 2001). The I^2 statistic presents the scale of the observed variance that is caused by true disparities among the sample studies relative to error (Allan et al., 2019). Overall, significant *Q* statistics of meta-analytic findings indicate heterogeneity and consequently the existence of moderating effects (Allan et al., 2019). Moreover, one potential problem in a meta-analysis is the file-drawer problem, which reflects conditions in which "the research that appears in the published literature is systematically unrepresentative of the population of completed studies" (Rothstein et al., 2005, p. 1). These conditions might arise when studies are less likely to be published due to their specifics, such as an absence of significance of the findings or the direction of the results (Geyskens et al., 2009). To address this potential problem, the fail-safe *N* statistic was computed This statistic reports the number of null-effect studies that are necessary to obtain a nonsignificant mean effect size (Rosenthal, 1979).

3.2 Meta-analytic results

The results of both meta-analyses are presented in Table 3. A significant and positive mean correlation (r = .06; 95% CI = [.03, .09]) was found for the first direction of the focal relationship (IO→CSP). These meta-analytic findings support H1, which suggests a positive relationship between a high share of IO and subsequent superior CSP. Moreover, the mean effect size for the second meta-analysis is positive and significant (r = .07; 95% CI = [.04, .11]), lending support to H2 that prior superior CSP is related to higher IO (CSP→IO). In addition, the file-drawer problem is addressed by calculating the fail-safe N for the significant relationships. For the mean effect sizes to become nonsignificant, 939 further null-effect studies for the first and 950 for the second meta-analysis would be required. Furthermore, the robustness of the meta-analytic relationships is examined by calculating the Q and I^2 statistics. A significant Q statistic reveals significant heterogeneity for both relationships and consequently the need to explore the existence of moderating effects. Moreover, the relevant shares of the I^2 statistic (above 75%) for both directions of the relationship indicate that a high proportion of the variance is not attributable to error but rather to the existence of true differences among the studies.

Table 3: Meta-analytic results

Relationship	***k***	***N***	***r***	**95% *CI* Lower**	**95% *CI* Upper**	***Q***	p_Q	I^2 **(%)**	***Fail-safe N* (Rosenthal)**
(H1) IO→CSP	108	868,904	.06	.03	.09	13,760.00	.000	99.22%	939
(H2) CSP→IO	89	753,378	.07	.04	.11	10,463.43	.000	99.16%	950

Note: *k* = number of samples; *N* = sample size; *r* = mean effect size; 95% *CI* = confidence interval; *Q* = *Q* statistic; p_Q = significance of *Q* statistic; I^2 = share of variance related to true differences among the studies; fail-safe *N* statistic

4 Moderators of this relationship

The following chapter investigates potential moderating factors influencing the relationship between IO and CSP, thereby addressing research questions 3 through 5. The chapter is organized into two main sub-chapters. First, the methodology and results of the meta-regression are presented, followed by those of the fixed-effects panel data analysis.

4.1 Meta-regression

4.1.1 Meta-regression methods

In addition to the meta-analysis, potential moderating effects were examined through random-effects meta-regression analyses applied to both directions of the IO–CSP relationship. This approach was employed to address RQ3, which investigates whether temporal factors positively moderate the relationship between IO and CSP. Studies of the meta-analytic sample were published between 1994 and 2024, with a noticeable increase in the number of publications in more recent years. Approximately 85% of the studies utilize time-series data, spanning multiple years from 1988 to 2021. The extended time span of the meta-analytic sample provides a rich dataset and offers a distinct advantage. For example, the Thomson Reuters database provides ESG data only since 2002 (LSEG, 2025b) or Bloomberg since 2009 (Bloomberg, 2015).

The meta-regression was conducted according to the following steps. First, as previously described, the meta-analytic sample was employed; consequently, no further study identification process was necessary. Second, the included studies were coded based on the procedure detailed below: Regarding the time horizon for IO, it was coded whether the primary studies used a measure of long-term investment horizon for IO using a dummy variable (0 and 1, respectively). The sample studies operationalized the time horizon differently. For example, one group of studies categorized a long-term investor horizon by investor type (e.g., Barnea & Rubin, 2010). Typical types of institutional investors with a long-term investment horizon include pension

funds, life assurors, and insurance companies (Brammer & Pavelin, 2006). Other studies such as Erhemjamts and Huang (2019) differentiated the investor horizon using investor churn rates. The investor churn rate relates to the quarterly portfolio turnover of the institutional investor. This approach allows to take into account how frequently an investor trades. Finally, another group of authors (e.g., Garel & Petit-Romec, 2021a) used portfolio turnover as a proxy for investment horizon, based on the rationale that more frequent adjustments in institutional investors' shareholdings indicate a shorter-term investment orientation (Garel & Petit-Romec, 2021a). The timing of the studies was also coded to address the increased prominence of CSP-related issues in the business world. It was distinguished between studies based on samples before 2010 and after 2010 by assigning a dummy coding for each period (0 and 1, respectively).[8] 2010 was used as a cut off year, because this year was marked by a decisive event for sustainability, when the Deepwater Horizon oil spill led to an increasing awareness of sustainability and CSP worldwide (Dyck et al., 2019). For studies based on samples spanning multiple years, they were assigned either before or after 2010, depending on their timely focus. Furthermore, random-effects meta-regression analyses were utilized (Jeong & Harrison, 2017; Lipsey & Wilson, 2001). In these regressions, the mean correlation in the relationship between IO and CSP derived from the meta-analysis is the dependent variable, whereas the potential moderators are the independent variables. Thus, a moderator is detected when the beta coefficient is statistically significant.

4.1.2 Meta-regression results

Table 4 presents the moderating effects of the focal meta-analytic relationships for the first direction of the relationship (IO→CSP) and Table 5 for the second direction (CSP→IO). H3 conjectures that institutional investors' long-term investment horizon positively moderates the focal relationship. For the first direction of the relationship (IO→CSP), nonsignificant evidence

[8] From the 116 studies in the sample, 70 studies cover data before 2010, 40 studies after 2010 and 6 studies could neither be allocated before or after 2010. Studies with time-series data were allocated either before or after 2010, depending on whether the majority of years lies before or after 2010.

(β = .11; R^2 = 1.18%) was found. In addition, for the second direction (CSP→IO), a positive but also nonsignificant effect was found (β = .002; R^2 = 0.05%), thus, H3 is rejected. Next, the results support H4, in that the positive relationship between IO and CSP has become stronger over time. For studies whose data were published after 2010, a positive and significant effect for the first (IO→CSP; β = .43; $p < .01$; R^2 = 18.36%) and second (CSP→IO; β = .36; $p < .01$; R^2 = 13.04%) direction of the relationship was found. For those whose data were published before 2010, opposite and significant effects (β = −.45; $p < .01$; R^2 = 20.01% for IO→CSP and β = −.37; $p < .01$; R^2 = 14.02% for CSP→IO) were found. In addition to 2010, the years 2009 and 2011 were tested as moderators for robustness tests. The tests confirm the results.

Table 4: Meta-regression results for the relationship IO→CSP

Moderator	*k*	*N*	*β*	R^2
Temporal Factors				
(H3) Long-term IO	108	868,717†	.11	1.18%
(H4) Timing before 2010	108	868,904	-.45***	20.01%
(H4) Timing after 2010	108	868,904	.43***	18.36%
Robustness Tests				
(H4) Timing before 2009	108	868,904	-.33***	10.94%
(H4) Timing after 2009	108	868,904	.43***	18.18%
(H4) Timing before 2011	108	868,904	-.43***	18.36%
(H4) Timing after 2011	108	868,904	.42***	17.31%

Note: k = number of samples; N = sample size; β = standardized regression coefficient; R^2 = share of variance of mean effect size explained by moderator.
*$p < .1$, **$p < .05$, and ***$p < .01$.
†Several articles included a smaller sample size for long-term IO compared to total IO.

Table 5: Meta-regression results for the relationship CSP→ IO

Moderator	***k***	***N***	***β***	***R²***
Temporal Factors				
(H3) Long-term IO	89	753,191†	.002	0.05%
(H4) Timing before 2010	89	735,378	-.37***	14.02%
(H4) Timing after 2010	89	735,378	.36***	13.04%
Robustness Tests				
(H4) Timing before 2009	89	735,378	-.26***	6.73%
(H4) Timing after 2009	89	735,378	.35***	12.13%
(H4) Timing before 2011	89	735,378	-.36***	13.04%
(H4) Timing after 2011	89	735,378	.35***	12.04%

Note: k = number of samples; N = sample size; β = standardized regression coefficient; R^2 = share of variance of mean effect size explained by moderator.
*$p < .1$, **$p < .05$, and ***$p < .01$.
†Several articles included a smaller sample size for long-term IO compared to total IO.

4.2 Fixed-effects panel data analysis

This sub-chapter addresses research questions 4 and 5 by examining the moderating role of CFP, as specified in H5, and by analyzing the influence of country-level institutional factors on the relationship between IO and CSP, as proposed in H6 through H9. The chapter is divided into two main sections. The first section outlines the methodology of the fixed-effects panel data analysis. It begins with a detailed description of the sample selection process, followed by an explanation of the variables and their operationalization. Subsequently, the model design is presented. The second section presents the empirical results and is structured in two parts: first, the descriptive panel statistics are reported, followed by the results of the fixed-effects panel regression analysis.

4.2.1 Methodology of the fixed-effects panel data analysis

4.2.1.1 Panel dataset and sample selection

The following section presents the rationale for selecting the database considered most appropriate for this analysis, along with a justification for this choice. Subsequently, the selected time frame is outlined, and its relevance to the analysis is discussed. Finally, the sample selection process is described in detail.

First, several key criteria were identified to justify the selection of the database. The primary criterion was that the database provides the broadest possible country coverage, thereby avoiding limitations often associated with meta-analyses, such as country-level filtering. This broad coverage helps ensure balanced country representation and reduces potential biases, such as the overrepresentation of data from the United States. The second criterion concerned the availability of data across multiple years, which facilitates the examination of temporal patterns and enables the construction of a panel dataset for more robust statistical analysis. Third, the database was expected to include relevant, high-quality, and widely recognized data that have been used in previous academic research. Finally, it was considered essential that the database ideally comprises all necessary variables within a single source to minimize complications

related to data integration, mapping, or missing values. Based on these criteria, the Refinitiv Eikon database was selected for this dissertation.

The Refinitiv Eikon database is a comprehensive financial information platform provided by Refinitiv. It offers access to real-time market data, financial news, economic indicators, and historical datasets, including ESG[9] and financial data, serving the needs of analysts, investors, researchers, and financial institutions (LSEG, 2025c). The Refinitiv Eikon database addresses the above mentioned requirements for several reasons. First, it provides coverage across the absolute majority of countries, offering a vast amount of historical data. In addition the data availability is extensive, as for example the ESG scores are available from 2002 (LSEG, 2025b). Furthermore, its application in various research projects, particularly those examining the relationship between IO and CSP (e.g., Kordsachia et al., 2022; Luo & Tang, 2021; W. Shi & Veenstra, 2021; Yan et al., 2021), demonstrates its proven reliability and relevance within academic and professional contexts. Lastly, the Refinitiv Eikon database offers all necessary data within a single source, with key variables, such as those related to IO, CSP and CFP, readily available (LSEG, 2025a).

A critical methodological decision in this dissertation involved determining the appropriate time frame. The period from 2012 to 2022 was selected based on two main considerations: the availability of relevant data and the growing significance of CSR issues for institutional investors during this period. Beginning in 2012, the Refinitiv Eikon database experienced notable enhancements in data quality, accompanied by an expansion in data coverage (Thomson Reuters, 2012). Therefore, using data from before 2012 would have limited the ability to perform a structured and meaningful comparison. Although ESG data has been available in the Refinitiv Eikon database since 2002 (LSEG, 2025b), its quality and accessibility have improved substantially over the past decade, reflecting the growing prominence of CSR

[9] The Refinitiv Eikon database employs the term ESG to represent CSP. For clarity, the term ESG is specifically used in this dissertation in reference to the Refinitiv Eikon database. In all other contexts, the term CSP will be consistently used throughout the remainder of the dissertation.

during this period (LSEG, 2024). For example, regulatory developments, such as the EU's Non-Financial Reporting Directive introduced in 2014, played a significant role in enhancing ESG performance (Aluchna et al., 2023). Another example is the increased prominence of initiatives during this period, such as the UN PRI (Kordsachia et al., 2022).

Following the selection of the database and the determination of the observation period, the subsequent step involved the sampling process within the Refinitiv Eikon database, as detailed below. Using the 'Advanced Search Tools' within the Web Access section of Refinitiv Eikon, a series of filters were applied to identify relevant equities. The sampling procedure, conducted by the author in autumn 2023, began with the restriction to equity instruments, using the 'primary shares only' filter to exclude secondary listings. Furthermore, the selection was limited to ordinary shares and to companies classified as active. To ensure the inclusion of meaningful ESG data, only firms with ESG scores greater than zero were retained, mitigating sample bias due to the absence of ESG data for a considerable number of firms. Finally, the sample was confined to companies with an IPO date prior to 2012, thereby guaranteeing the availability of sufficient historical data for the analysis covering the 2012–2022 period. Following the application of the aforementioned filters, an initial sample comprising 12,767 equity entries was obtained for further examination. However, this preliminary dataset included a substantial number of duplicate records and exhibited missing values across several key variables. To ensure data integrity and robustness of the analysis, all duplicate entries were eliminated, and observations with incomplete information for any of the relevant variables were excluded. The resulting final sample sizes for both directions of analysis are presented in Table 6 below. Due to data availability constraints, the time period for CSP→IO only covers 9 instead of 10 years for the CSP→IO relationship.

Table 6: Sample description

	IO → CSP	**CSP → IO**
Database	Refinitiv (Eikon)	Refinitiv (Eikon)
Sample Size	42,775	33,519
Σ Companies	6,983	6,005
Σ Industries	74	76
Σ Countries	86	81
Time Frame	2012-2021 (10 years)	2012-2020 (9 years)

4.2.1.2 Variable description and operationalization

After establishing the final sample, as described in the previous chapter, the next step was to identify the relevant variables for the research design. First, the operationalization of the two key variables of this dissertation, IO and CSP, will be presented. This will be followed by a presentation of the control variables. Finally, the moderating variables will be introduced. A summary of the variables used is provided in Tables 7 and 8.

Refinitiv Eikon offers a comprehensive range of scores for the CSP variable. Since their introduction in 2002, these scores have significantly improved in both relevance and consistency. The purpose of these scores is to provide standardized ESG information to the public, particularly to investors (LSEG, 2025b). The primary distinction among the scores is the overall ESG score, as well as the individual pillar scores: environmental, social, and governance. The environmental score measures a company's environmental performance, covering aspects such as carbon emissions, water management, and energy efficiency. The social score evaluates the company's social performance, including factors like working conditions, diversity, and human rights. The governance score assesses the quality of management and shareholder rights. The overall ESG score is a composite measure that integrates all three dimensions. Refinitiv Eikon

calculates these scores based on a wide array of input criteria, which include company reports, press releases, media reports, and reports from non-governmental organizations. The data are standardized on a scale from 0 to 100, with different input criteria weighted according to industry and relevance (LSEG, 2024). This dissertation focuses on the environmental and social dimensions of ESG, as well as the composite ESG score. The governance dimension is not analyzed separately, as key elements of corporate governance are already partially captured by the IO variable, which is closely associated with governance mechanisms (Jain & Jamali, 2016). Accordingly, the environmental and social scores, along with the overall ESG score, are used in this dissertation to represent the outcome dimension of CSR.

The second key variable in this dissertation is IO. Refinitiv Eikon provides a composite IO variable that represents the total proportion of a company's shares held by institutional investors, expressed as a percentage. The data is sourced from a variety of channels, including company disclosures, proprietary sources, and public filings such as those from the SEC. The quality of this data is regularly updated to ensure accuracy and reliability (LSEG, 2025a).

In addition to the standard IO variable, this dissertation incorporates variations of the IO variable to capture the differing investor sentiments associated with various types of institutional investors (e.g., Velte, 2022b). The first variation of the IO variable captures the differences in the investment horizons of institutional investors (e.g., Erhemjamts & Huang, 2019; Gloßner, 2019). Specifically, both short-term and long-term IO variables were incorporated into the analysis. The distinction between short-term and long-term institutional investors was made using the following methodology. First, data on the individual institutional investors of the sample companies were collected and matched with the investor turnover metric from Refinitiv Eikon, which reflects each investor's trading activity as a percentage. Next, the equity-weighted investor turnover was calculated by weighting each investor's investor turnover by their ownership share in the company. Investors with an equity-weighted turnover above the company-specific median

were classified as short-term institutional investors, while those below the median were classified as long-term institutional investors. The second variation of the IO variable reflects institutional investors' commitment to sustainability. Institutional investors that have signed the UN PRI serve as an indicator of this commitment. By signing the PRI, institutional investors show their support for sustainable investing, making their membership a good indicator of their focus on sustainability (PRI Principles for Responsible Investment, 2025). A list of UN PRI signatories was obtained and matched with the institutional investors of the sample companies, enabling the calculation of the proportion of UN PRI-affiliated institutional investors for each firm.

The following section introduces the control variables used and explains their relevance to the research design. All control variables were obtained from the Refinitiv Eikon database. Detailed definitions of each variable are provided in Table 7. First, controlling for firm size in the focal regression is essential, as larger firms typically possess greater resources and financial capacity to potentially support initiatives such as ESG projects. To account for this potential bias, firm size was included in the research design and measured using the natural logarithm of total assets. Moreover, company size is the control variable most commonly used in empirical studies examining the relationship between IO and CSP (e.g., Neubaum & Zahra, 2006; Yoshida et al., 2023). Second, considering the crucial role of CFP in the IO-CSP relationship (e.g., Busch & Friede, 2018; Q. Wang et al., 2016), it is essential to include a form of CFP variable in the research design. Essentially for *value* investors (Starks, 2023), the financial materiality of CSP may serve as a key criterion when making investment decisions related to CSP. The most commonly used CFP variable in existing literature and prior research designs is return on assets (RoA) (e.g., T. Chen et al., 2020; Dyck et al., 2019). RoA, expressed as a percentage, reflects net income in relation to total assets and was included in the research design as a control variable. Third, leverage, another important financial control variable, was included in the analysis. It

provides insight into a firm's financial flexibility to support CSR initiatives and may thus be a relevant factor influencing the investment decisions of institutional investors. Leverage was measured using the debt-to-assets ratio. Furthermore, leverage is commonly employed as a control variable in the IO-CSP literature (e.g., Dam & Scholtens, 2012; Gloßner, 2019; Kordsachia et al., 2022). Finally, asset tangibility was incorporated as a control variable, measured by the ratio of property, plant, and equipment to total assets. Accounting for asset tangibility is important because firms with a higher proportion of tangible assets may have reduced liquidity available to allocate toward CSR activities. This variable is also widely utilized in the IO-CSP literature (e.g., Dyck et al., 2019; Gloßner, 2019; Kordsachia et al., 2022).

Table 7: Variable description

Variables	Variable definition	Source
ESG score	ESG performance score	Refinitiv Eikon
ENV score	Environmental pillar (ENV) score	Refinitiv Eikon
SOC score	Social pillar (SOC) score	Refinitiv Eikon
IO	Total IO (%)	Refinitiv Eikon
Control variables		
Size	Natural logarithm of total assets	Refinitiv Eikon
Leverage	Debt to assets ratio	Refinitiv Eikon
Asset tangibility	Property plant and equipment divided by total assets	Refinitiv Eikon
RoA	Return on assets (%)	Refinitiv Eikon
Additional analysis		
SIO	Short-term IO (%): An institutional investor is classified as short-term if its investor turnover exceeds the median investor turnover of the respective company.	Own calculation
LIO	Long-term IO (%): An institutional investor is classified as long-term if its investor turnover falls below the median investor turnover of the respective company.	Own calculation
UN PRI	Proportion (%) of institutional investors in a company that have signed the UN PRI.	Own calculation
Fixed effects		
Country fixed effects (CFE)		
Industry fixed effects (IFE)		
Year fixed effects (YFE)		

To address research questions 4 and 5, along with their corresponding hypotheses, several moderating variables were incorporated into the model design. These moderating variables are presented in the following section. In addition, the definition of all moderating variables can be found in Table 8. Starting with H5, which examines whether strong CFP positively moderates the focal relationship, two CFP indicators, RoA and Tobin's Q (Q), were employed as moderating variables. While the moderating role of CFP in the IO-CSP relationship has been extensively discussed during the development of H5, and RoA was defined before, a definition of Q is provided below. Q is calculated by dividing a company's enterprise value by its book value. This variable is also commonly used in the IO-CSP literature (e.g., Dyck et al., 2019; Erhemjamts & Huang, 2019).

Furthermore, to address H6, two moderating variables related to regulatory quality are introduced and presented below. The first variable employed is the regulatory quality indicator, sourced from the World Bank. This indicator captures the extent to which a government is capable of formulating and implementing sound policies and regulations that facilitate private sector development (Worldbank, 2025c). Given its focus and credibility, it represents a highly relevant and appropriate measure of regulatory effectiveness. The variable was also used by several studies from the IO-CSP literature such as Yahia et al. (2023) or Liang and Renneboog (2017). Additionally, recognizing the significance of regulatory conditions, a second variable, doing business, is included, based on the World Bank's Ease of Doing Business Index (Worldbank, 2025a). This index, developed through the World Bank's Doing Business project, evaluates the regulatory environment affecting business operations. A higher score reflects a more favorable, business-friendly regulatory context. This measure complements the regulatory quality indicator by introducing an additional dimension: the practical ease of conducting business activities. In other words, it serves as a supplementary indicator that enriches the

understanding of regulatory quality. Since its launch in 2005, the index has evaluated the ease of doing business across various dimensions, such as obtaining electricity, paying taxes, and resolving insolvency (Worldbank, 2025a). The ease of doing business variable has been employed by various prior studies (e.g., Doshi et al., 2019; Nketiah-Amponsah & Sarpong, 2020).

To measure economic freedom (H7A), this dissertation employs the Human Freedom Index, published annually by the Fraser Institute (M. D. Mitchell et al., 2024). The Human Freedom Index provides a comprehensive ranking of 165 countries worldwide, evaluating their levels of economic freedom based on 45 distinct indicators encompassing government policies, regulatory frameworks, and institutional factors. The index has been compiled since 2000, offering a robust longitudinal perspective on the state of economic freedom globally (M. D. Mitchell et al., 2024). The Human Freedom Index, published by the Fraser Institute, has also been utilized in prior empirical research (e.g., Alvarez et al., 2024; Cole et al., 2024).

To examine the moderating effect of the rule of law (H7B), this dissertation utilizes the Rule of Law Index from the World Justice Project, which assesses the extent of rule of law across 142 countries (World Justice Project, 2025b). The index is based on input measures across nine dimensions, such as constraints on government powers, absence of corruption, and civil justice. For example, the complaints mechanism is assessed under the open government dimension, while freedom of assembly is evaluated under fundamental rights. These dimensions, along with their respective country scores, are integrated into a framework that provides insights into the country rankings. Overall, the index offers valuable information about the rule of law on an international scale and serves as an excellent predictor of formal institutional factors. Moreover, it complements other variables used, such as regulatory quality, ease of doing business, or economic freedom, by focusing specifically on the legal system (World Justice Project, 2025b).

Similar to the other moderating variables, the Rule of Law Index has been utilized in prior literature as well (e.g., Beqiraj & Moxham, 2022;Versteeg & Ginsburg, 2017).

To examine the moderating effect of economic development (H8), the logarithm of gross domestic product (GDP) per capita was employed as a proxy for wealth per capita. The logarithmic transformation was applied to normalize the data distribution and reduce the impact of outliers. The data were obtained from the World Bank (Worldbank, 2025b). GDP per capita is an appropriate indicator of a country's wealth as it captures economic output while contextualizing it relative to the population size. Furthermore, it is a standardized metric, facilitating comparability across different countries (Worldbank, 2025b) and was used in prior literature (e.g., Liang & Renneboog, 2017).

Furthermore, to examine the moderating role of environmental development within a country (H9A), the Environmental Performance Index (EPI) is employed. The EPI, published by the Yale Center for Environmental Law & Policy measures the overall environmental performance of a country by incorporating 58 key performance indicators across 11 topics to rank 180 countries (Block et al., 2024). Key areas covered include climate change mitigation and the state of the environment. Overall, the index assesses the extent to which countries achieve their environmental objectives (Block et al., 2024). Therefore, it is a comprehensive and pertinent index for assessing the environmental performance of companies, which is also used in the IO-CSP literature such as by Dyck et al. (2019) or by Zhao et al. (2022).

Last, to measure the moderating role of social development within a country (H9B), this dissertation draws on two complementary data sources which provide a robust representation of a country's social development. The first is the Human Development Index (HDI), which measures the level of human development in a country through indicators across three dimensions: (1) longevity and health, (2) education and knowledge, and (3) living standards (United Nations, 2025). The data are available for download from the UN. In addition, the HDI

has been employed by previous literature (e.g., Daghagh Yazd et al., 2025; Morse, 2023). In addition, the Social Progress Index (SPI) is used. This index assesses a country's social progress. The index includes data spanning the years 2011 to 2023 and covers 170 countries (Social Progress Imperative, 2025). It is structured into three main dimensions: (1) basic human needs, (2) foundations of wellbeing, and (3) opportunity. These dimensions are further divided into sub-dimensions, such as nutrition and medical care under basic human needs. Countries are evaluated and ranked within these sub-dimensions, forming the basis for an overall country ranking (Social Progress Imperative, 2025). Last, the SPI was also utilized by prior studies (e.g., Beltrán-Esteve et al., 2023; Peiró-Palomino et al., 2023).

Table 8: Moderator description

Moderators			
Hypothesis	**Variables**	**Variable Definition**	**Source**
CFP			
H5	RoA	Return on assets	Refinitiv Eikon
	Q	Tobin's Q is determined by dividing the enterprise value of a firm by its total assets' book value.	Refinitiv Eikon
Country-level institutional factors			
H6	Regulatory quality	The regulatory quality measures the ability of the government to enact solid policies and laws to foster private sector development (Worldbank, 2025c).	Worldbank
	Doing business	The Ease of Doing Business Index evaluates the regulatory framework governing business activities. A higher score indicates a more business-friendly regulatory environment for companies (Worldbank, 2025a).	Worldbank
H7A	Economic freedom	The Human Freedom Index is a ranking that assesses the level of economic freedom in 165 countries worldwide, based on 45 indicators related to government policies and institutions (M. D. Mitchell et al., 2024).	Fraser Institute
H7B	Rule of law	The World Justice Project's Rule of Law Index evaluates how effectively the rule of law is upheld across countries, considering dimensions such as government power, corruption levels, or fundamental rights (World Justice Project, 2025b).	World Justice Project
H8	GDP	Logarithm of GDP per capita	Worldbank
H9A	EPI	The EPI evaluates a country's overall environmental performance by integrating 58 key performance indicators across 11 thematic categories, providing a comparative ranking of 180 countries (Block et al., 2024).	Yale Center for Environmental Law & Policy
H9B	HDI	The HDI measures the level of human development in a country (United Nations, 2025).	UN
	SPI	The SPI assesses a country's social progress (Social Progress Imperative, 2025).	Social Progress Imperative

4.2.1.3 Model design

The subchapter is structured into three sections. First, a detailed explanation of the fixed-effects panel regression approach and the rationale for its adoption is provided. Second, key assumptions underpinning the model are outlined. Last, the model formulas are presented.

A typical application of panel data regression involves datasets that follow the same cross-sectional units, such as firms, over multiple time periods (Hausman & Taylor, 1981; Hsiao, 2022). In studies examining the relationship between IO and CSP, panel data sourced from the Refinitiv Eikon database have been widely utilized by prior literature (e.g., Arslan et al., 2021; Kordsachia et al., 2022; Lopatta et al., 2022; Luo & Tang, 2021; W. Shi & Veenstra, 2021; Yan et al., 2021). This dissertation also utilized panel data, making it a suitable case for applying panel regression techniques (Baltagi, 2021). The dataset used in this dissertation exhibited the typical structure of a panel dataset, comprising unit-specific (firm-level) data collected over multiple years. For the analysis of the relationship from IO to CSP (IO→CSP), the dataset included 42,775 firm-year observations, covering 6,983 companies from 86 countries over the period 2012 to 2021. For the reverse relationship (CSP →IO), the sample consisted of 33,519 observations from 6,005 companies across 81 countries, spanning the years 2012 to 2020. Given the combination of cross-sectional (firms) and time-series (years) dimensions, this constituted a classic example of an unbalanced panel dataset.

A fixed-effects panel regression model was used to account for unobserved, time-invariant firm-level heterogeneity (Baltagi, 2021). Additionally, YFE were included to control for temporal factors that could affect all firms simultaneously (Baltagi, 2021; Wooldridge, 2010). A fixed-effects model is appropriate when unobserved heterogeneity is assumed to be correlated with the independent variables, whereas a random-effects model is suitable when such unobserved effects are uncorrelated (Allison, 2009; Firebaugh et al., 2013). If these underlying assumptions are violated, the resulting regression coefficients may be biased. The fixed-effects

model addresses potential bias from unobserved, time-invariant characteristics by applying a within-transformation. This transformation removes unit-specific, time-invariant effects from the data, such as stable firm characteristics, ensuring that only within-firm variation over time is used to estimate the model parameters (Wooldridge, 2010). The dataset used in this dissertation is well suited for a fixed-effects specification, as it helps to control for unobserved heterogeneity such as industry affiliation, national context, and time-specific influences that could otherwise bias the estimation results. For example, the IO-CSP relationship may vary across industries (H. Hong & Kacperczyk, 2009; Mozaffar Khan et al., 2016), differ significantly across countries due to institutional differences (Liang & Renneboog, 2017), and be subject to bias from temporal variation if not properly accounted for (e.g., Kordsachia et al., 2022; Lopatta et al., 2022; W. Shi & Veenstra, 2021). In addition, a Hausman Test (Hausman, 1978; Wooldridge, 2010) was performed for both directions of the IO-CSP relationship, with the results clearly indicating the preference for a fixed-effects model over a random-effects model. Consequently, the regression framework includes fixed effects for country, industry, and year, allowing for control of heterogeneity along these dimensions. CFE were not included in the moderation analysis, representing an exception to the general modeling approach to preserve between-country variation, which is necessary to estimate the impact of country-level institutional moderators.

For the fixed-effects panel data regression model, certain assumptions must be met to ensure the validity of the estimated coefficients. The following section outlines the steps taken to verify the core assumptions of the panel data regression. To assess overall model significance, F-tests were conducted. A significant F-statistic indicates that the explanatory variables, taken together, contribute meaningfully to explaining variation in the dependent variable (Baltagi, 2021; Wooldridge, 2010). Additionally, to address heteroskedasticity, robust standard errors were applied (Arellano, 1987; Baltagi, 2021). Moreover, standard errors were clustered at the firm level to ensure consistent estimation in the presence of serial correlation or heteroskedasticity

within firms (Wooldridge, 2010). To mitigate concerns of endogeneity, particularly simultaneity bias, a temporal lag structure was implemented. Lagging the independent variable by one year helps establish a clearer temporal ordering and reduces the risk of reverse causality (Angrist & Pischke, 2009; Wooldridge, 2010). This approach is also employed in several studies within the IO–CSP literature (e.g., Cox et al., 2007; de Villiers et al., 2011; Gloßner, 2019; Lamb & Butler, 2018). To assess potential multicollinearity, the Variance Inflation Factor (VIF) was calculated for each independent variable. While VIF values below 10 are often used as a general rule of thumb in management and social science research (Hair et al., 1995), this threshold should be interpreted with caution, as its appropriateness may vary depending on the context and model specification (O'brien, 2007). Nevertheless, none of the VIF values in the models applied in this dissertation exceeded this threshold, with the exception of the interaction terms and their constituent variables. This is a well-known artifact due to their mathematical construction (Kalnins & Praitis Hill, 2025). Furthermore, missing data were excluded from the analysis, which is also a common procedure by studies focusing on the IO-CSP relationship (e.g., Aggarwal & Dow, 2012; Arora & Dharwadkar, 2011; Calza et al., 2013). The explanatory power of the model was assessed using the adjusted R^2 statistic, which indicates the proportion of variance in the dependent variable that is accounted for by the independent variables (Cohen, 2013). As both Baltagi (2021) and Wooldridge (2010) emphasize, the assumption of normally distributed residuals is not critical in large samples. This is due to the central limit theorem, which ensures that the sampling distribution of the estimated coefficients approximates normality as the number of cross-sectional units increases, even when the residuals themselves are not normally distributed.

In this section, the model formulas used to address the research questions are presented below. Equation (1) represents the directional relationship from IO to CSP (IO→CSP), while Equation (2) captures the reverse direction, from CSP to IO (CSP→IO). In the equations,

$ESG\ Type_{i,t}$ denotes the type of CSP variable for company *i* in year *t* and $IO\ Type_{i,t}$ represents the type of IO variable for company *i* in year *t*. The term $X_{i,t}$ refers to the vector of control variables for company *i* in year *t*. $\theta_c, \lambda_s, \delta_t$ represent fixed effects for country *c*, industry *s*, and year *t*, respectively. These are included to control for unobserved heterogeneity across countries, industries, and time. $\varepsilon_{i,t}$ captures the idiosyncratic error term. All regressions and the associated descriptive statistics were performed using R (Version 4.4.3).

(1) $ESG\ Type_{i,t+1} = \beta_0 + \beta_1 * IO\ Type_{i,t} + \gamma' X_{i,t} + \theta_c + \lambda_s + \delta_t + \varepsilon_{i,t}$

(2) $IO\ Type_{i,t+1} = \beta_0 + \beta_1 * ESG\ Type_{i,t} + \gamma' X_{i,t} + \theta_c + \lambda_s + \delta_t + \varepsilon_{i,t}$

The model specifications incorporating moderating variables are presented below. Equations (3) and (4) correspond to RQ4, while equations (5) and (6) address RQ5. Equations (3) and (5) examine the direction from IO to CSP (IO → CSP), whereas equations (4) and (6) capture the reverse relationship (CSP → IO). The primary distinction between the two sets of models lies in the treatment of CFE (θ_c): while equations (3) and (4) include country-level fixed effects, these are excluded in equations (5) and (6). In the models below, the term moderator serves as a placeholder for specific moderating variables (e.g., regulatory quality). For example, in equation (3) the interaction term $IO\ Type_{i,t} * Moderator_{i,t}$ captures the conditional effect of IO on CSP, depending on the level of the moderator.

(3) $ESG\ Type_{i,t+1} = \beta_0 + \beta_1 * IO_{i,t} + \beta_2 * IO_{i,t} * Moderator_{i,t} + \gamma X_{i,t} + \theta_c + \lambda_s + \delta_t + \varepsilon_{i,t}$

(4) $IO_{i,t+1} = \beta_0 + \beta_1 * ESG_{i,t} + \beta_2 * ESG_{i,t} * Moderator_{i,t} + \gamma X_{i,t} + \theta_c + \lambda_s + \delta_t + \varepsilon_{i,t}$

(5) $ESG\ Type_{\ i,t+1} = \beta_0 + \beta_1 * IO_{i,t} + \beta_2 * IO_{i,t} * Moderator_{c,t} + \gamma X_{i,t} + \lambda_s + \delta_t + \varepsilon_{i,t}$

(6) $IO_{i,t+1} = \beta_0 + \beta_1 * ESG_{i,t} + \beta_2 * ESG_{i,t} * Moderator_{c,t} + \gamma X_{i,t} + \lambda_s + \delta_t + \varepsilon_{i,t}$

4.2.2 Empirical results of the fixed-effects panel data analysis

This chapter presents the empirical findings of the fixed-effects panel data analysis. The regression results examining the relationship between IO and CSP are provided in ***Appendix D (Regression tables of the IO-CSP relationship)***. This sub-chapter is organized into two main sections: first, the descriptive panel statistics are outlined; subsequently, the results of the fixed-effects panel data regression are presented for both directions of the IO-CSP relationship.

4.2.2.1 Descriptive panel statistics

This chapter is divided into two sections. The first section provides a descriptive overview of the samples used for both directions of the focal relationship by outlining the distributional characteristics of the variables. The second section provides the Pearson correlation matrices for each direction of the IO-CSP relationship.

Table 9 presents summary statistics for the sample investigating the IO → CSP relationship, including the minimum, maximum, mean, median, and standard deviation for each variable. The possible range for ESG, SOC and ENV scores, as well as the IO-related percentage values, spans from 0 to 100. The mean values for the ESG, SOC and ENV scores range between 44.8 to 50.26 indicating that they are positioned approximately at the midpoint of the 0–100 scale. The mean IO share of 42.1% and the median of 33.97% indicate that IO constitutes a substantial proportion of company ownership. The share of UN PRI with a mean share of 7.85% or 4.48% for the median is considerably lower. Throughout the sample, the proportion of LIO is substantially higher, averaging 52.71% with a median of 55.73%, compared to SIO, which shows a mean of 17.14% and median of 12.78%.

Table 10 provides the descriptive statistics for the CSP → IO relationship. As previously noted, the sample size for this direction of analysis is substantially smaller (33.519) than for the first direction of the relationship (42.775). The sample statistics closely resemble those observed in the first direction of the relationship (IO→CSP). Starting with the ESG, ENV and SOC scores, their mean values fall within a similar range, indicating a consistent distribution across both samples (44.44 to 49.25). The IO value is marginally higher compared to the first direction of the relationship, with a mean of 44.24% and a median of 37.12%. A similar pattern is observed for the share of UN PRI, which shows a mean of 8.3% and a median of 5.01%. As before, the proportion of LIO (mean of 53.17% and a median of 55.81%) remains notably greater than that of SIO (mean of 16.54% and a median of 12.63%).

Table 9: Description of the sample IO → CSP

	Variable	N	Minimum	Maximum	Mean	Median	Standard Deviation
1	ESG score$_{t+1}$	42.775	0.82	95.74	49.72	50	19.73
2	SOC score$_{t+1}$	42.775	0.14	98.77	50.26	50.26	23.53
3	ENV score$_{t+1}$	42.775	0.01	98.91	44.80	44.68	26.44
4	IO$_t$	42.775	0	100	42.10	33.97	30.98
5	UN PRI$_t$	42.775	0	100	7.85	4.48	8.29
6	LIO$_t$	42.775	0	100	52.71	55.73	22.12
7	SIO$_t$	42.775	0	100	17.14	12.78	16.19
8	Size$_t$	42.775	14.47	29.21	22.18	22.11	1.83
9	Q$_t$	42.775	0.01	78.17	1.46	0.99	1.97
10	Leverage$_t$	42.775	0	1	0.25	0.23	0.18
11	Asset Tangibility$_t$	42.775	0	1	0.27	0.20	0.25
12	RoA$_t$	42.775	-417.73	377.82	4.27	3.83	10.38

Table 10: Description of the sample CSP → IO

	Variable	N	Minimum	Maximum	Mean	Median	Standard Deviation
1	ESG $score_t$	33.519	1.01	95.74	48.96	49.10	19.83
2	SOC $score_t$	33.519	0.15	98.77	49.25	48.91	23.56
3	ENV $score_t$	33.519	0.03	98.91	44.44	44.10	26.55
4	IO_{t+1}	33.519	0	100	44.24	37.12	30.52
5	UN PRI_{t+1}	33.519	0	79.02	8.30	5.01	8.26
6	LIO_{t+1}	33.519	0	100	53.17	55.81	21.44
7	SIO_{t+1}	33.519	0	100	16.54	12.63	15.28
8	$Size_t$	33.519	14.59	29.06	22.36	22.27	1.77
9	Q_t	33.519	0.01	78.17	1.42	0.98	1.96
10	$Leverage_t$	33.519	0	1	0.25	0.23	0.18
11	Asset $Tangibilty_t$	33.519	0	1	0.27	0.21	0.25
12	RoA_t	33.519	-417.73	377.82	4.14	3.74	10.40

Tables 11 and 12 present the Pearson correlation matrices for each direction of the IO–CSP relationship. In the first direction (IO→CSP), a statistically significant positive correlation was found between IO and the ESG score (0.13; $p<0.001$) and between IO and the SOC score (0.13; $p<0.001$). The pairwise correlation coefficient between IO and the ENV score is 0. For the other direction (CSP→IO) the correlation coefficient between IO and the ESG score is significant and slightly positive (0.1; $p<0.001$), as well as for the IO and the SOC score (0.1; $p<0.001$). The correlation coefficient between IO and ENV score is negative but significant (-0.03; $p<0.001$). The correlation coefficients between LIO and the ESG, SOC, and ENV scores are positive and statistically significant for both directions of the relationship. However, the correlation coefficient between LIO and the ENV score in the (CSP →IO) direction is 0. The correlation coefficients between SIO and the sustainability scores are negative and statistically significant in both directions of the relationship. Thereby the negative correlation is more pronounced for the ENV score than for the SOC score for both directions of the focal relationship. The correlation coefficients for UN PRI yielded mixed results. In the first direction (IO→CSP), the correlations are positive for the ESG score (0.09; $p<0.001$) and the SOC score (0.08; $p<0.001$), while they are negative for the ENV score (-0.03; $p<0.001$). A similar pattern was observed for the second direction (CSP→IO), with positive correlations for the ESG score (0.06; $p<0.001$), for the SOC score (0.07; $p<0.001$) and for the ENV score (-0.05; $p<0.001$). Another finding is that larger companies tend to have higher sustainability scores, as evidenced by stronger correlation coefficients between company size and the ESG, SOC, and ENV scores. Specifically, for the IO→CSP direction, the correlation coefficients are 0.45 ($p<0.001$) for the ESG score, 0.38 ($p<0.001$) for the SOC score and 0.47 ($p<0.001$) for the ENV score. A similar pattern is observed in the second direction (CSP→IO), with positive and significant coefficients for the ESG score (0.43; $p<0.001$), for the SOC score (0.37; $p<0.001$) and for the ENV score (0.47; $p<0.001$).

Table 11: Correlation Matrix IO→CSP

	ESG $score_{t+1}$	SOC $score_{t+1}$	ENV $score_{t+1}$	IO_t	UN_PRI_t	LIO_t	SIO_t	$Size_t$	Q_t	$Leverage_t$	Asset $Tangibility_t$	RoA_t
ESG $score_{t+1}$	1											
SOC $score_{t+1}$	0.9 ***	1										
ENV $score_{t+1}$	0.84 ***	0.72 ***	1									
IO_t	0.13 ***	0.13 ***	0	1								
UN PRI_t	0.09 ***	0.08 ***	-0.03 ***	0.76 ***	1							
LIO_t	0.07 ***	0.09 ***	0.04 ***	0.31 ***	0.24 ***	1						
SIO_t	-0.1 ***	-0.07 ***	-0.15 ***	0.27 ***	0.25 ***	-0.39 ***	1					
$Size_t$	0.45 ***	0.38 ***	0.47 ***	0.04 ***	-0.03 ***	0.14 ***	-0.27 ***	1				
Q_t	-0.01 **	0.01 *	-0.05 ***	0.06 ***	0.04 ***	0.08 ***	0.02 ***	-0.28 ***	1			
$Leverage_t$	0.07 ***	0.06 ***	0.07 ***	0.06 ***	0.07 ***	0.04 ***	0.03 ***	0.1 ***	-0.05 ***	1		
Asset $Tangibility_t$	-0.03 ***	-0.05 ***	0.01	-0.02 ***	0.01 *	0	0.03 ***	-0.14 ***	-0.01 *	0.25 ***	1	
RoA_t	0.06 ***	0.06 ***	0.04 ***	0.03 ***	0.01 *	0.11 ***	-0.02 ***	-0.02 ***	0.34 ***	-0.16 ***	-0.05 ***	1

Note: *p<0.05; **p<0.01; ***p<0.001

Table 12: Correlation Matrix CSP → IO

	ESG score$_t$	SOC score$_t$	ENV score$_t$	IO$_{t+1}$	UNPRI$_{t+1}$	LIO$_{t+1}$	SIO$_{t+1}$	Size$_t$	Q$_t$	Leverage$_t$	Asset Tangibilty$_t$	RoA$_t$
ESG score$_t$	1											
SOC score$_t$	0.9 ***	1										
ENV score$_t$	0.84 ***	0.72 ***	1									
IO$_{t+1}$	0.1 ***	0.1 ***	-0.03 ***	1								
UN PRI$_{t+1}$	0.06 ***	0.07 ***	-0.05 ***	0.76 ***	1							
LIO$_{t+1}$	0.04 ***	0.07 ***	0	0.32 ***	0.24 ***	1						
SIO$_{t+1}$	-0.09 ***	-0.06 ***	-0.14 ***	0.3 ***	0.27 ***	-0.36 ***	1					
Size$_t$	0.43 ***	0.37 ***	0.47 ***	-0.01	-0.08 ***	0.1 ***	-0.26 ***	1				
Q$_t$	-0.02 **	0.01 *	-0.06 ***	0.07 ***	0.05 ***	0.09 ***	0.02 ***	-0.28 ***	1			
Leverage$_t$	0.06 ***	0.06 ***	0.05 ***	0.05 ***	0.07 ***	0.03 ***	0.06 ***	0.08 ***	-0.05 ***	1		
Asset Tangibilty$_t$	-0.03 ***	-0.04 ***	-0.01	-0.03 ***	0.01	-0.01 *	0.03 ***	-0.15 ***	0	0.25 ***	1	
RoA$_t$	0.05 ***	0.06 ***	0.03 ***	0.05 ***	0.02 ***	0.14 ***	-0.05 ***	-0.03 ***	0.39 ***	-0.16 ***	-0.06 ***	1

Note: *p<0.05; **p<0.01; ***p<0.001

4.2.2.2 Fixed-effects panel data regression results

In this section, the regression tables for the moderator analyses examining the focal relationship are presented. For each moderator outlined before, a separate regression table is provided, resulting in a total of 10 regression tables per direction (IO→CSP and CSP→IO). Each table includes a different moderating variable, while the set of control variables remains consistent across all models. For the IO→CSP direction, each regression table comprises three separate regression models: one regressing on the time-lagged ESG score, one on the time-lagged SOC score, and one on the time-lagged ENV score. For the second direction (CSP→IO), each regression table comprises one regression on the time-lagged IO variable. All models include IFE and YFE to account for industry and temporal variation. Additionally, CFE are included in the moderator analyses involving Q and RoA. All moderator analyses yielded statistically significant F-values, indicating that the models corresponding to each moderator analysis are significant. The sample size of each moderator analysis slightly varies as the moderator analysis is constrained by the data availability of the individual moderator. An overview of research questions, corresponding hypotheses and results can be found in Table 13. The regression tables are presented in Tables 14-33 at the end of this section.

Starting with H5, which proposed that CFP positively moderates the relationship between IO and CSP, the results present a mixed picture. CFP was operationalized using Q and RoA. For the first direction of the relationship (IO→CSP), the findings are inconclusive. On the one hand, Q shows a positive and statistically significant moderating effect on the IO–CSP relationship ($\beta = 0.99$ for the ESG score, $\beta = 1.261$ for the ENV score and $\beta = 1.168$ for the SOC score, all $p<0.01$). On the other hand, RoA does not exhibit any significant moderating effect on the ESG score ($\beta = -0.00004$), the ENV score ($\beta = -0.021$), or the SOC score ($\beta = 0.025$). Moreover, although not statistically significant, the coefficients for the ESG score and the ENV score are negative, suggesting a potentially inverse relationship. As such, no consistent moderating effect

of CFP can be identified in this direction. The adjusted R^2 values are relatively high, ranging from 0.438 to 0.449 across both regression tables. However, a discernible pattern emerges for the second direction of the relationship (CSP→IO). Specifically, RoA exhibits a positive and statistically significant moderating effect ($\beta = 0.245$; $p < 0.01$). Similarly, Q also demonstrates a positive and significant interaction with IO ($\beta = 0.503$; $p < 0.05$). The adjusted R^2 values are notably high, with both directions of the model explaining 71.1% of the variance (adjusted $R^2 = 0.711$). Overall, the results do not support a consistent or robust moderating role of CFP across both directions of the relationship. Consequently, H5 is rejected.

H6 proposed that a higher level of regulatory quality in a country positively moderates the relationship between IO and CSP. To empirically test this hypothesis, two indicators were employed: Regulatory quality and doing business. Regarding regulatory quality, for the first direction of the relationship (IO→CSP), positive and statistically significant moderating effects are observed, with coefficients ranging from $\beta = 6.349$ ($p<0.01$) to $\beta = 9.22$ ($p<0.01$). A similar significant result is found for the reverse direction (CSP→IO) ($\beta = 0.68$; $p<0.05$). The adjusted R^2 values across both directions range from 0.245 to 0.346. With respect to doing business, the findings are more ambivalent. In the first direction of the relationship (IO→CSP), the moderating effects are positive and statistically significant across all dimensions: $\beta = 6.654$ for the ESG score, $\beta = 9.393$ for the ENV score, and $\beta = 6.844$ for the SOC score (all $p < 0.01$). The adjusted R^2 values for these models range from 0.246 to 0.299. In contrast, for the reverse relationship (CSP→IO), the moderating effect of doing business remains positive, but is not statistically significant ($\beta = 0.029$), with an adjusted R^2 value of 0.184. These results indicate that the moderating role of doing business is inconsistent across the two directions. Considering the combined results for both regulatory quality and doing business, H6 can only be partially supported, as doing business does not exhibit a significant moderating effect in the CSP→IO direction.

H7A proposes that a higher level of economic freedom in country positively moderates the relationship between IO and CSP. To test this moderating effect, economic freedom is included as a moderator in the analysis. In the direction from IO to CSP (IO→CSP), economic freedom demonstrates a positive and significant moderating effect (regression coefficients range from $\beta = 6.301$ ($p<0.01$) for the ESG score to $\beta = 9.146$ ($p<0.01$) for the ENV score). In the reverse direction (CSP → IO), the moderating effect was also positive, but not significant ($\beta = 0.412$). Hence, H7A could only be partially supported.

The rule of law was measured using the Rule of Law Index and hypothesized in H7B. In the direction from IO to CSP (IO→CSP), a positive moderating effect was found for the ESG score ($\beta = 6.208$; $p<0.01$), as well as for the ENV ($\beta = 9.123$; $p<0.01$) and SOC ($\beta = 6.401$; $p<0.01$) scores. However, the direct regression coefficients of IO on the ESG score ($\beta = -0.042$) was negative and not significant. The regression coefficient on the SOC score ($\beta = 0.034$) was also not significant, while the coefficient on the ENV score was significant but negative ($\beta = -0.164$; $p<0.1$). In the opposite direction (CSP→IO), a positive, but not significant moderating effect on IO ($\beta = 0.419$) was found. Taken together, the findings for the rule of law are mixed. While the moderating effect is positive and statistically significant in the direction from IO to CSP (IO→CSP), it does not reach significance in the reverse direction (CSP→IO). Consequently, H7B is only partially supported.

H8 suggests that that a higher level of economic development in a country positively moderates the relationship between IO and CSP. Economic development was operationalized using the logarithm of GDP per capita as the moderating variable. In the first direction (IO→CSP), significant positive moderation effects were found (ranging from $\beta = 6.231$ to $\beta = 9.079$; $p<0.01$), indicating that higher economic development strengthens the relationship between IO and CSP. Furthermore, the regression coefficients of IO on the ESG, SOC and ENV scores were positive and statistically significant. The adjusted R^2 values for these models ranged

from 0.251 to 0.345. In the reverse direction (CSP → IO), the moderation effect on IO was negative and not statistically significant (β = -0.17), while the regression coefficients of ESG on IO was positive (β = 0.661; p<0.01). The adjusted R^2 value in this direction was 0.31. Overall, the evidence for H8 is mixed. While the first direction provides full support for H8, the second direction yields results that are both non-significant and contrary to H8. Therefore, H8 is rejected.

H9A posits that a higher level of environmental development in a country positively moderates the relationship between IO and CSP. This hypothesis was tested with the EPI. In the first direction of the relationship (IO → CSP), the EPI demonstrated a significant and positive moderating effect on the ESG score (β = 6.376; p<0.01), ENV score (β = 9.136; p<0.01) and the SOC score (β = 6.69; p<0.01). Additionally, IO itself showed a positive and significant effect on all three sustainability scores (coefficients range from β = 0.109; p<0.05 to β = 0.269; p<0.01). The adjusted R^2 values range from 0.273 for the regression on the SOC score to 0.360 for the ENV score. In the reverse direction (CSP→IO), a similar pattern emerges. The moderating effect of the EPI on IO is positive and significant (β = 1.183; p<0.01). The adjusted R^2 values is 0.228. The results suggest that a higher level of environmental development in a country positively moderates the IO–CSP relationship. Therefore, H9A is supported.

H9B proposes that a higher level of social development in a country positively moderates the relationship between IO and CSP. Social development was measured using two indicators: the HDI and the SPI. For HDI, significant and positive moderating effects were observed in both directions (IO→CSP and CSP→IO), indicating that higher levels of human development enhance the strength of the IO-CSP relationship (for IO→CSP all p<0.01, but for CSP→IO p<0.05). Additionally, the regression coefficients of IO on the sustainability scores, as well as the regression coefficient of the ESG score on IO, were all positive and significant (all p<0.01). The adjusted R^2 values range from 0.259 to 0.364, indicating acceptable model fit. A similar pattern

emerged with SPI. It also demonstrates significant (all $p<0.01$) positive moderating effects in both directions of the IO-CSP relationship. In addition, the R^2 values range from 0.252 to 0.361 across both directions of the relationship. Consistent with the HDI results, the regression coefficients of the ESG score on IO, and vice versa, are both significant and positive (both $p<0.01$). In summary, the findings support H9B, suggesting that a higher level of social development in a country positively influences the relationship between IO and CSP.

Table 13: Overview of research questions, hypotheses and corresponding results

Research Questions	Hypothesis	Result
RQ1: Is a high share of IO related to companies' subsequent superior CSP?	**H1:** A high share of IO is positively related to companies' subsequent superior CSP.	**H1** supported
RQ2: Is companies' prior superior CSP positively related to higher IO?	**H2:** Companies' prior superior CSP is positively related to higher IO.	**H2** supported
RQ3: Do temporal factors positively moderate the relationship between IO and CSP?	**H3:** Institutional investors' long-term investment horizon positively moderates the relationship between IO and CSP. **H4:** The positive relationship between IO and CSP has become stronger over time.	**H3** rejected **H4** supported
RQ4: Does CFP positively moderate the relationship between IO and CSP?	**H5:** A strong CFP of a company positively moderates the relationship between IO and CSP.	**H5** rejected
RQ5: Do country-level institutional factors positively moderate the relationship between IO and CSP?	**H6:** A higher level of regulatory quality in a country positively moderates the relationship between IO and CSP. **H7A:** A higher level of economic freedom in country positively moderates the relationship between IO and CSP. **H7B:** A stronger rule of law in a country positively moderates the relationship between IO and CSP. **H8:** A higher level of economic development in a country positively moderates the relationship between IO and CSP. **H9A:** A higher level of environmental development in a country positively moderates the relationship between IO and CSP. **H9B:** A higher level of social development in a country positively moderates the relationship between IO and CSP.	**H6** partially supported **H7A** partially supported **H7B** partially supported **H8** rejected **H9A** supported **H9B** supported

Table 14 Moderator analysis: RoA (IO→CSP)

	ESG score (t+1)	ENV score (t+1)	SOC score (t+1)
	(1)	(2)	(3)
IO	0.128***	0.067***	0.104***
	(0.009)	(0.012)	(0.011)
IO x RoA (interaction)	-0.00004	-0.021	0.025
	(0.019)	(0.025)	(0.024)
Size	7.171***	9.615***	8.023***
	(0.115)	(0.150)	(0.132)
Leverage	-2.758***	-3.450***	-4.779***
	(1.055)	(1.403)	(1.235)
Asset tangibility	0.372	-0.156	1.302**
	(1.039)	(1.351)	(1.192)
RoA	0.002***	0.002***	0.001***
	(0.0004)	(0.0005)	(0.001)
CFE	Yes	Yes	Yes
IFE	Yes	Yes	Yes
YFE	Yes	Yes	Yes
F-Statistic	193.53	198.68	198.55
p-value	0	0	0
Observations	42,775	42,775	42,775
R^2	0.440	0.447	0.446
Adjusted R^2	0.438	0.444	0.444
Note:	$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$		

Table 15 Moderator analysis: Q (IO→CSP)

	ESG score (t+1)	ENV score (t+1)	SOC score (t+1)
	(1)	(2)	(3)
IO	0.138***	0.076***	0.113***
	(0.010)	(0.014)	(0.013)
IO x Q (interaction)	0.990***	1.261***	1.168***
	(0.140)	(0.184)	(0.175)
Size	7.366***	9.888***	8.259***
	(0.115)	(0.149)	(0.131)
Q	-2.723***	-3.535**	-4.795***
	(1.048)	(1.397)	(1.227)
Leverage	0.396	-0.104	1.376
	(1.032)	(1.345)	(1.185)
Asset tangibility	0.015	-0.005	0.013
	(0.013)	(0.016)	(0.016)
RoA	-0.003	-0.001	-0.004
	(0.003)	(0.004)	(0.005)
CFE	Yes	Yes	Yes
IFE	Yes	Yes	Yes
YFE	Yes	Yes	Yes
F-Statistic	195.93	201.51	201.26
p-value	0	0	0
Observations	42,775	42,775	42,775
R^2	0.445	0.451	0.451
Adjusted R^2	0.442	0.449	0.449
Note:	*p<0.1; **p<0.05; ***p<0.01		

Table 16 Moderator analysis: Regulatory quality (IO→CSP)

	ESG score (t+1)	ENV score (t+1)	SOC score (t+1)
	(1)	(2)	(3)
IO	0.107***	0.034	0.134***
	(0.018)	(0.023)	(0.022)
Regulatory quality	4.356***	6.527***	6.114***
	(0.421)	(0.518)	(0.532)
IO x regulatory quality (interaction)	6.349***	9.220***	6.644***
	(0.118)	(0.149)	(0.144)
Size	-0.567	-2.058	-0.055
	(1.165)	(1.541)	(1.430)
Leverage	-1.925*	-3.299**	-1.882
	(1.137)	(1.458)	(1.388)
Asset tangibility	0.096***	0.097***	0.120***
	(0.015)	(0.020)	(0.020)
RoA (%)	-0.056***	-0.083***	-0.084***
	(0.013)	(0.016)	(0.016)
IFE	Yes	Yes	Yes
YFE	Yes	Yes	Yes
F-Statistic	220.98	254.42	170.55
p-value	0	0	0
Observations	42,696	42,696	42,696
R^2	0.316	0.347	0.263
Adjusted R^2	0.314	0.346	0.261
Note:	*p<0.1; **p<0.05; ***p<0.01		

Table 17 Moderator analysis: Doing business (IO→CSP)

	ESG score (t+1)	ENV score (t+1)	SOC score (t+1)
	(1)	(2)	(3)
IO	0.111***	0.072***	0.157***
	(0.019)	(0.023)	(0.023)
Doing business	0.108***	0.166***	0.138***
	(0.018)	(0.023)	(0.023)
IO x doing business (interaction)	6.564***	9.393***	6.844***
	(0.137)	(0.173)	(0.165)
Size	-2.643***	-5.355***	-2.764*
	(1.329)	(1.756)	(1.631)
Leverage	-1.320	-2.888*	-1.309
	(1.269)	(1.651)	(1.525)
Asset tangibility	0.075***	0.060***	0.097***
	(0.017)	(0.023)	(0.022)
RoA	-0.001***	-0.002***	-0.001***
	(0.0002)	(0.0003)	(0.0003)
IFE	Yes	Yes	Yes
YFE	Yes	Yes	Yes
F-Statistic	153.24	173.61	117.42
p-value	0	0	0
Observations	31,045	31,045	31,045
R^2	0.301	0.328	0.248
Adjusted R^2	0.299	0.326	0.246
Note:	*p<0.1; **p<0.05; ***p<0.01		

Table 18 Moderator analysis: Economic freedom (IO→CSP)

	ESG score (t+1)	ENV score (t+1)	SOC score (t+1)
	(1)	(2)	(3)
IO	1.189***	1.535***	1.413***
	(0.095)	(0.122)	(0.119)
Economic freedom	5.308***	7.682***	7.053***
	(0.403)	(0.497)	(0.507)
IO x economic freedom (interaction)	6.301***	9.146***	6.577***
	(0.119)	(0.150)	(0.144)
Size	-0.097	-1.504	0.426
	(1.158)	(1.535)	(1.425)
Leverage	-1.559	-2.880**	-1.549
	(1.132)	(1.451)	(1.381)
Asset tangibility	0.094***	0.094***	0.118***
	(0.015)	(0.020)	(0.020)
RoA	-0.143***	-0.199***	-0.172***
	(0.012)	(0.015)	(0.015)
IFE	Yes	Yes	Yes
YFE	Yes	Yes	Yes
F-Statistic	227.98	261.46	175.47
p-value	0	0	0
Observations	42,452	42,452	42,452
R^2	0.324	0.355	0.269
Adjusted R^2	0.322	0.353	0.268
Note:	*p<0.1; **p<0.05; ***p<0.01		

Table 19 Moderator analysis: Rule of law (IO→CSP)

	ESG score (t+1)	ENV score (t+1)	SOC score (t+1)
	(1)	(2)	(3)
IO	-0.042	-0.164*	0.034
	(0.062)	(0.079)	(0.076)
Rule of law	16.713***	28.702***	23.657***
	(2.654)	(3.292)	(3.364)
IO x rule of law (interaction)	6.208***	9.123***	6.401***
	(0.120)	(0.151)	(0.146)
Size	-0.141	-1.399	0.508
	(1.196)	(1.581)	(1.471)
Leverage	-2.005*	-3.811***	-2.074
	(1.151)	(1.476)	(1.415)
Asset tangibility	0.099***	0.101***	0.118***
	(0.016)	(0.020)	(0.021)
RoA	0.112	0.133	0.003
	(0.086)	(0.110)	(0.105)
IFE	Yes	Yes	Yes
YFE	Yes	Yes	Yes
F-Statistic	203.94	242.64	152.01
p-value	0	0	0
Observations	39,494	39,494	39,494
R^2	0.315	0.354	0.256
Adjusted R^2	0.314	0.353	0.254
Note:	*p<0.1; **p<0.05; ***p<0.01		

Table 20 Moderator analysis: EPI (IO→CSP)

	ESG score (t+1)	ENV score (t+1)	SOC score (t+1)
	(1)	(2)	(3)
IO	0.158***	0.109**	0.269***
	(0.035)	(0.044)	(0.043)
EPI	0.228***	0.354***	0.344***
	(0.018)	(0.022)	(0.023)
IO x EPI (interaction)	6.376***	9.136***	6.690***
	(0.118)	(0.148)	(0.144)
Size	-1.539	-3.402**	-1.309
	(1.215)	(1.609)	(1.493)
Leverage	-1.808	-2.816*	-1.861
	(1.164)	(1.481)	(1.421)
Asset tangibility	0.104***	0.103***	0.119***
	(0.019)	(0.024)	(0.023)
RoA	-0.002***	-0.003***	-0.003***
	(0.0005)	(0.001)	(0.001)
IFE	Yes	Yes	Yes
YFE	Yes	Yes	Yes
F-Statistic	108.27	124.04	83.1
p-value	0	0	0
Observations	18,160	18,160	18,160
R^2	0.332	0.363	0.276
Adjusted R^2	0.329	0.360	0.273
Note:	*p<0.1; **p<0.05; ***p<0.01		

Table 21 Moderator analysis: GDP (IO→CSP)

	ESG score (t+1)	ENV score (t+1)	SOC score (t+1)
	(1)	(2)	(3)
IO	1.009***	1.471***	1.102***
	(0.104)	(0.134)	(0.128)
GDP	5.114***	10.277***	5.427***
	(0.809)	(0.983)	(1.015)
IO x GDP (interaction)	6.231***	9.079***	6.467***
	(0.121)	(0.152)	(0.148)
Size	-0.688	-2.139	-0.383
	(1.168)	(1.555)	(1.432)
Leverage	-2.340**	-3.710**	-2.430*
	(1.144)	(1.464)	(1.392)
Asset tangibility	0.083***	0.084***	0.098***
	(0.015)	(0.020)	(0.019)
RoA	-0.203***	-0.325***	-0.223***
	(0.022)	(0.029)	(0.027)
IFE	Yes	Yes	Yes
YFE	Yes	Yes	Yes
F-Statistic	211.72	246.23	157.24
p-value	0	0	0
Observations	41,433	41,433	41,433
R^2	0.313	0.346	0.253
Adjusted R^2	0.312	0.345	0.251
Note:	*p<0.1; **p<0.05; ***p<0.01		

Table 22 Moderator analysis: HDI (IO→CSP)

	ESG score (t+1)	ENV score (t+1)	SOC score (t+1)
	(1)	(2)	(3)
IO	0.881***	1.248***	1.181***
	(0.100)	(0.128)	(0.122)
HDI	33.762***	57.411***	47.919***
	(3.565)	(4.447)	(4.486)
IO x HDI (interaction)	5.841***	8.674***	6.020***
	(0.113)	(0.143)	(0.140)
Size	2.167*	1.820	2.918*
	(1.152)	(1.552)	(1.416)
Leverage	-3.285***	-4.776***	-3.234**
	(1.116)	(1.396)	(1.374)
Asset tangibility	0.099***	0.113***	0.108***
	(0.017)	(0.023)	(0.022)
RoA	-0.898***	-1.421***	-1.228***
	(0.110)	(0.141)	(0.134)
IFE	Yes	Yes	Yes
YFE	Yes	Yes	Yes
F-Statistic	116.85	139.05	85.96
p-value	0	0	0
Observations	20,061	20,061	20,061
R^2	0.327	0.366	0.263
Adjusted R^2	0.324	0.364	0.260
Note:	*p<0.1; **p<0.05; ***p<0.01		

Table 23 Moderator analysis: SPI (IO→CSP)

	ESG score (t+1)	ENV score (t+1)	SOC score (t+1)
	(1)	(2)	(3)
IO	0.215***	0.250***	0.348***
	(0.054)	(0.068)	(0.067)
SPI	0.301***	0.510***	0.423***
	(0.028)	(0.034)	(0.036)
IO x SPI (interaction)	6.370***	9.249***	6.617***
	(0.123)	(0.154)	(0.150)
Company size	-0.831	-2.903*	-0.379
	(1.244)	(1.645)	(1.536)
Leverage	-2.603**	-4.208***	-2.677*
	(1.203)	(1.534)	(1.465)
Asset tangibility	0.107***	0.110***	0.127***
	(0.018)	(0.023)	(0.023)
RoA	-0.002***	-0.004***	-0.004***
	(0.001)	(0.001)	(0.001)
IFE	Yes	Yes	Yes
YFE	Yes	Yes	Yes
F-Statistic	177.83	210.57	134.01
p-value	0	0	0
Observations	32,211	32,211	32,211
R^2	0.325	0.363	0.266
Adjusted R^2	0.323	0.361	0.264
Note:	*p<0.1; **p<0.05; ***p<0.01		

Table 24 Moderator analysis: RoA (CSP→ IO)

	IO (t+1)
ESG score	0.160***
	(0.014)
ESG score x RoA (interaction)	0.245***
	(0.041)
Size	0.501**
	(0.200)
Leverage	-1.431
	(1.348)
Asset tangibility	-1.720
	(1.266)
RoA	-0.004***
	(0.001)
IFE	Yes
YFE	Yes
CFE	Yes
F-Statistic	489.49
p-value	0
Observations	33,519
R^2	0.713
Adjusted R^2	0.711

Note: *p<0.1; **p<0.05; ***p<0.01

Table 25 Moderator analysis Q: (CSP→IO)

	IO (t+1)
ESG score	0.153***
	(0.015)
Q	0.229
	(0.270)
ESG score x Q (interaction)	0.503**
	(0.205)
Size	-0.994
	(1.349)
Leverage	-1.711
	(1.270)
Asset tangibility	0.104***
	(0.021)
RoA	-0.009*
	(0.005)
IFE	Yes
YFE	Yes
CFE	Yes
F-Statistic	485.17
p-value	0
Observations	33,519
R^2	0.712
Adjusted R^2	0.711

Note: *p<0.1; **p<0.05; ***p<0.01

Table 26 Moderator analysis: Regulatory quality (CSP→ IO)

	IO (t+1)
ESG score	0.131***
	(0.025)
Regulatory quality	15.275***
	(1.073)
ESG score x regulatory quality (interaction)	0.680**
	(0.273)
Size	12.277***
	(2.228)
Leverage	-1.591
	(2.146)
Asset tangibility	0.159***
	(0.027)
RoA	-0.050**
	(0.022)
IFE	Yes
YFE	Yes
F-Statistic	121.46
p-value	0
Observations	33,465
R^2	0.247
Adjusted R^2	0.245

Note: *p<0.1; **p<0.05; ***p<0.01

Table 27 Moderator analysis: Doing business (CSP→ IO)

	IO (t+1)
ESG score	0.139***
	(0.051)
Doing business	0.348***
	(0.033)
ESG score x doing business (interaction)	0.029
	(0.289)
Size	10.979***
	(2.447)
Leverage	-2.554
	(2.322)
Asset tangibility	0.117***
	(0.028)
RoA	-0.0004
	(0.001)
IFE	Yes
YFE	Yes
F-Statistic	71.03
p-value	0
Observations	27,572
R^2	0.187
Adjusted R^2	0.184

Note: *p<0.1; **p<0.05; ***p<0.01

Table 28 Moderator analysis: Economic freedom (CSP→ IO)

	IO (t+1)
ESG score	-0.027
	(0.156)
Economic freedom	15.499***
	(0.993)
ESG score x economic freedom (interaction)	0.412
	(0.266)
Size	11.351***
	(2.140)
Leverage	-2.327
	(2.054)
Asset tangibility	0.164***
	(0.026)
RoA	0.014
	(0.021)
IFE	Yes
YFE	Yes
F-Statistic	167.16
p-value	0
Observations	33,284
R^2	0.312
Adjusted R^2	0.310

Note: *p<0.1; **p<0.05; ***p<0.01

Table 29 Moderator analysis: Rule of law (CSP→ IO)

	IO (t+1)
ESG score	0.370***
	(0.087)
Rule of law	82.508***
	(6.423)
ESG score x rule of law (interaction)	0.419
	(0.282)
Size	11.625***
	(2.354)
Leverage	-0.374
	(2.250)
Asset tangibility	0.151***
	(0.027)
RoA	-0.415***
	(0.129)
IFE	Yes
YFE	Yes
F-Statistic	99.57
p-value	0
Observations	30,922
R^2	0.225
Adjusted R^2	0.223

Note: *p<0.1; **p<0.05; ***p<0.01

Table 30 Moderator analysis: EPI (CSP→ IO)

	IO (t+1)
ESG score	0.635***
	(0.060)
EPI	1.049***
	(0.049)
ESG score x EPI (interaction)	1.183***
	(0.265)
Size	10.178***
	(2.257)
Leverage	-1.508
	(2.181)
Asset tangibility	0.135***
	(0.031)
RoA	-0.008***
	(0.001)
IFE	Yes
YFE	Yes
F-Statistic	57.07
p-value	0
Observations	15,915
R^2	0.232
Adjusted R^2	0.228

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Table 31 Moderator analysis: GDP (CSP→ IO)

	IO (t+1)
ESG score	0.661***
	(0.188)
GDP	36.086***
	(2.145)
ESG score x GDP (interaction)	-0.170
	(0.265)
Size	11.483***
	(2.158)
Leverage	-0.741
	(2.034)
Asset tangibility	0.178***
	(0.027)
RoA	-0.120***
	(0.043)
IFE	Yes
YFE	Yes
F-Statistic	162.84
p-value	0
Observations	32,407
R^2	0.312
Adjusted R^2	0.310

Note: *p<0.1; **p<0.05; ***p<0.01

Table 32 Moderator analysis: HDI (CSP→ IO)

	IO (t+1)
ESG score	1.042***
	(0.180)
HDI	175.410***
	(10.970)
ESG score x HDI (interaction)	0.625**
	(0.257)
Size	7.871***
	(2.179)
Leverage	0.578
	(2.139)
Asset tangibility	0.138***
	(0.030)
RoA	-1.015***
	(0.209)
IFE	Yes
YFE	Yes
F-Statistic	57.81
p-value	0
Observations	13,484
R^2	0.264
Adjusted R^2	0.259

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Table 33 Moderator analysis: SPI (CSP→ IO)

	IO (t+1)
ESG score	0.537***
	(0.087)
SPI	1.316***
	(0.062)
ESG score x SPI (interaction)	0.715***
	(0.273)
Size	11.480***
	(2.274)
Leverage	-1.470
	(2.197)
Asset tangibility	0.152***
	(0.027)
RoA	-0.006***
	(0.001)
IFE	Yes
YFE	Yes
F-Statistic	110.51
p-value	0
Observations	28,646
R^2	0.254
Adjusted R^2	0.252

Note: *p<0.1; **p<0.05; ***p<0.01

5 Discussion

This discussion chapter is structured into four sub-chapters. It begins by addressing the research questions through a synthesis of the key insights derived from the preceding chapters, offering structured and coherent responses to each. This is accomplished in the first two sub-chapters: the first examines the relationship between IO and CSP, while the second analyzes the moderating variables that influence this relationship. The subsequent sub-chapter examines the practical implications of the findings, highlighting their relevance and potential applications in real-world contexts. The final sub-chapter concludes by outlining the dissertation's limitations and suggesting avenues for future research.

5.1 The relationship between IO and CSP

As outlined in the introduction of this dissertation, prior empirical evidence regarding the relationship between IO and CSP is inconclusive, with mixed results reported in both directions of the relationship (Faller & Knyphausen-Aufseß, 2018; Velte, 2022b).To address this ambiguity, two research questions were formulated. The first (RQ1) investigates whether a high share of IO is positively associated with companies' subsequent superior CSP. The second (RQ2) examines whether companies' prior superior CSP is positively linked to higher IO. To address the mixed findings of prior literature regarding the relationship between IO and CSP, a meta-analysis was conducted on each of the two directions of the relationship between IO and CSP. The results suggest that a high share of institutional investors is associated with companies' subsequent superior CSP. The clear positive effect size is noteworthy as it contradicts the findings of several studies that indicate nonsignificant (e.g., Barnea & Rubin, 2010; Dam & Scholtens, 2012) or even negative findings (e.g., Arora & Dharwadkar, 2011; Yan et al., 2021). The results can be interpreted within the framework of agency theory and stakeholder salience theory. The effort to enhance CSP may result in agency conflicts (Velte, 2022b), as managers might overlook CSP due to the extra managerial work required for its implementation (Kock et al., 2012). Agency

conflicts may be resolved, because managers follow institutional investor demands, because they are the most salient stakeholder (Neubaum & Zahra, 2006). Addressing RQ1, the meta-analytic findings imply that institutional investors are motivated to enhance companies' CSP, driven by both pecuniary motivations (*value investors*) and non-pecuniary motivations (*values investors*) (Lopez-de-Silanes et al., 2024; Starks, 2023). Moreover, several robustness checks were conducted for the IO→CSP direction. As presented in Appendix D, the regressions of IO on the ESG, ENV, and SOC scores, as well as the regression coefficients from the various moderator analyses in which IO was regressed on these scores, closely align with the meta-analytic findings. These results provide strong empirical support for H1. Collectively, these results, embedded in an agency- and stakeholder salience theoretical framework, substantiate RQ1, suggesting that a higher proportion of IO is positively associated with subsequent superior CSP.

For the reverse relationship, that is, the impact of CSP on IO (CSP→IO), the findings imply a significant and positive effect, contrary to some of the prior nonsignificant findings (e.g., Graves & Waddock, 1994; Oikonomou et al., 2020), which indicates that prior superior CSP is associated with higher IO. The findings suggest that institutional investors invest in firms with a high CSP, potentially due to pecuniary (*value investors*) or nonpecuniary motivations (*values investors*) (Lopez-de-Silanes et al., 2024; Starks, 2023). Similar to the first direction of the relationship (IO → CSP), the findings in Appendix D and the results from the various regression tables also align closely with the meta-regression outcomes in the second direction (CSP → IO), providing full support for H2. Overall, the findings support H2 and provide evidence in response to RQ2, suggesting that companies with prior superior CSP tend to attract higher IO.

In regard of the relationship between IO and CSP, this dissertation makes a substantial contribution to the scholarly discourse. By synthesizing the previously mixed empirical findings, it provides clear evidence of a significant and positive relationship between IO and CSP in both directions. Furthermore, key theoretical frameworks, such as agency theory and stakeholder

salience theory, are thoroughly examined and integrated to deepen the understanding of the underlying mechanisms shaping this relationship.

5.2 Moderators of the IO-CSP relationship

The following section begins by discussing the moderating role of temporal factors in the IO–CSP relationship, followed by an examination of CFP as a moderator, and concludes with an analysis of the moderating effects of country-level institutional factors.

5.2.1 Temporal factors

Temporal factors are conceptualized in this dissertation in two distinct ways: first, through the long-term investment horizon of institutional ownership (H3), and second, through the growing salience of CSP over time (H4). Both factors are addressed within RQ3, which explores whether temporal factors positively moderate the IO–CSP relationship. The moderating effects of these factors on the focal relationship are primarily examined through meta-regression analysis, which offers a considerably broader temporal scope, spanning 1988 to 2021, compared to the 10-year window of the fixed-effects panel data regression conducted in this dissertation.

Regarding the long-term time horizon of IO, institutional investors do not form a homogeneous group; they vary in their investment horizons, with some emphasizing short-term returns while others adopt a long-term perspective (Neubaum & Zahra, 2006; Shleifer & Vishny, 1990). The investment horizon is particularly significant, as CSP-related initiatives are inherently long-term and may not generate immediate financial returns (Cox et al., 2004; Fu et al., 2019; Mahapatra, 1984). The meta-regression results imply no empirical support for the hypothesis that a long-term investment horizon of IO moderates the relationship between IO and CSP. As a robustness check, the variable representing LIO was incorporated into separate regression models for both directions of the relationship (IO→CSP and CSP→IO). The corresponding results are presented in Appendix D. The findings from these analyses underscore the ambiguity surrounding the moderating role of LIO in the IO–CSP relationship. In conjunction with the

meta-regression results, these outcomes do not support H3, which is therefore rejected. The ambiguous findings could be explained due to a potential agency conflict between, on the one hand, long-term institutional investors committed to CSP and managers who prioritize short-term objectives potentially at the expense of CSP goals, on the other hand (Kock et al., 2012). This misalignment could ultimately mitigate the hypothesized moderating effect.

In contrast to the long-term investment horizon of IO, the second temporal factor, namely, the increasing salience of CSP reveals a much clearer pattern for both directions of the focal relationship. For H4, the meta-regression results, using 2010 as the cut-off year, indicate a positive moderating effect associated with the growing salience of CSP in more recent years and confirm the assumptions that sustainable issues, such as corporate climate performance or human rights in supply chains (Garel & Petit-Romec, 2021b; Govindan et al., 2021) have gained increasing attention by institutional investors in the years under study. As part of a robustness test, the years 2009 and 2011 were utilized as moderating variables, yielding results that are fully consistent with those of the meta-regression conducted for the year 2010. The findings entail that investors have become increasingly aware of sustainable issues and CSP over time (T. Chen et al., 2020; Drempetic et al., 2020). From an agency theory perspective, the increasing salience of CSP has implications for the principal-agent relationship, potentially intensifying agency conflicts as institutional investors could increasingly advocate for enhanced CSP standards. Taken together, the evidence provides support for H4.

When considering both the long-term investment horizon of IO and the increasing salience of CSP together, an ambivalent understanding of the moderating role of temporal factors emerges. On the one hand, the results offer limited insight into the moderating role of the long-term investment horizon of IO; on the other hand, the increasing salience of CSP reveals a more consistent and discernible pattern.

5.2.2 CFP

CFP has served as a key moderating variable in the relationship between IO and CSP (e.g., Arora & Dharwadkar, 2011; Dakhli, 2021; Wahba, 2008). RQ4 examines whether CFP positively moderates the relationship between IO and CSP. This question was addressed using two distinct methodological approaches. First, the moderating role of CFP was examined using a fixed-effects panel data regression, with CFP measured through both RoA and Q. Second, a robustness test was conducted via a meta-regression, presented in ***Appendix E (Robustness test: Meta-regression of CFP)***. The fixed-effects panel data regression analysis yielded mixed evidence across both directions of the focal relationship (IO→CSP and CSP→IO) and variables (RoA and Q), while the meta-regression also produced inconclusive and non-significant results. Consequently, H5 could not be confirmed due to the ambiguity of the results. Although previous studies, such as Starks (2023) on *value investors* suggest a positive moderating effect of CFP on the IO–CSP relationship, the panel data regression and robustness checks in this dissertation do not support this proposition. Instead, the results indicate that a more nuanced understanding of CFP's moderating role is necessary, particularly with respect to the financial materiality of CSP. Overall, the evidence suggests that CFP does not represent a primary criterion for institutional investors when making investment decisions related to a firm's CSP. Thus, RQ4, which addresses whether CFP positively moderates the IO–CSP relationship, remains unresolved.

5.2.3 Country-level institutional factors

Prior literature has insufficiently addressed country-level institutional factors as moderators in the IO–CSP relationship, often adopting a fragmented and narrowly focused approach that lacks a comprehensive examination. In particular, most studies have concentrated on specific country-level institutional factors, such as social norms (e.g., Cahan et al., 2017) or litigation risk (e.g., Benlemlih et al., 2023). However, country-level institutional factors exert a substantial influence on CSR practices within national boundaries (Martiny et al., 2024; Zaman et al., 2022), making

them critical variables in understanding the IO–CSP relationship (Freeman & Hasnaoui, 2011; Jain & Jamali, 2016; Kavadis & Thomsen, 2023). RQ5 investigates whether country-level institutional factors positively moderate the IO-CSP relationship. To address this RQ, this dissertation utilizes fixed-effects panel data regression analyses with firm-level clustered robust standard errors. This method is particularly suited to the extensive panel dataset comprising over 86 countries and 42,775 observations for the IO→CSP direction, and over 81 countries and 33,519 observations for the CSP→IO direction. To address RQ5 six hypotheses (H6, H7A,B, H8, H9A and H9B) were formulated. In the following, the hypotheses are evaluated based on the results.

Beginning with H6, regulatory quality was operationalized using two variables: regulatory quality and doing business, both sourced from the World Bank. The empirical results reveal an ambivalent pattern. Specifically, regulatory quality demonstrates positive and statistically significant effects in both directions of the relationship, from IO to CSP (IO→CSP) and vice versa (CSP→IO). In contrast, doing business yields positive and significant results only in the IO→CSP direction, while the results in the reverse direction (CSP→IO) are positive but not statistically significant. Consequently, H6 receives only partial empirical support.

The positive moderating effects on the IO→CSP relationship can largely be explained by institutional theory. Drawing on institutional theory, strong regulatory environments may reinforce coercive pressures that encourage corporate CSR activities, thereby aligning corporate behavior with the expectations for high CSP held by society and institutional investors (Campbell, 2007; DiMaggio & Powell, 1983; Scott, 1995). Such an institutional setting may also strengthen the influence of institutional investors on firms' CSP, as regulatory frameworks could legitimize their demands (Meyer & Rowan, 1977). Another explanation for the observed positive relationship relates to the potential reduction of agency costs (Jensen & Meckling, 1976). Effective regulatory environments could curb such costs by aligning managerial actions with the

interests of institutional investors and other stakeholder (e.g., Lu & Cheng, 2023). When regulations support CSP, managers could be more likely to pursue CSR initiatives that align with the objectives of institutional investors, thereby potentially reducing information asymmetries.

The non-significant findings for the CSP→IO direction in the context of doing business may be attributed to the greater influence that regulatory quality tends to exert during the post-investment phase, when institutional investors have already committed their capital to the firms. This discrepancy may arise because, prior to the investment, information asymmetries between institutional investors and managers (Jensen & Meckling, 1976) may still persist, as institutional investors may have not yet fully factored in that effective regulation could exert coercive pressure (DiMaggio & Powell, 1983) on companies to enhance CSP.

Moreover, H7A examines whether a higher level of economic freedom in a country positively moderates the relationship between IO and CSP, while H7B investigates whether a stronger rule of law in a country positively moderates the focal relationship. To empirically test H7A, economic freedom was measured using the Economic Freedom Index from the Fraser Institute. For H7B, the Rule of Law Index from the World Justice Project served as a proxy for the rule of law. Consistent with the findings for H6, the results for H7A and H7B offer only partial empirical support. Specifically, for the IO→CSP direction, both indicators yielded positive and statistically significant moderating effects, indicating that greater economic freedom and a stronger rule of law enhance the impact of institutional ownership on CSP. However, for the reverse direction (CSP→IO), although the results remained positive, both indicators did not reach statistical significance, suggesting a more limited or indirect moderating influence in this direction. Thus, taken together, the evidence suggests that H7A and H7B are only partially supported.

Similar to H6, the clear positive moderating effects of both economic freedom and the rule of law on the IO→CSP relationship can be explained by institutional theory. High levels of

economic freedom and a strong rule of law may strengthen the institutional environment, for example through clear rules, investor protection, and accountability (Armour, 2020; Ioannou & Serafeim, 2012; Liang & Renneboog, 2017). This strengthened environment, in turn, could intensify coercive and regulatory pressures on firms to improve CSR activities (Campbell, 2007; DiMaggio & Powell, 1983; Scott, 1995) and legitimize the demands of institutional investors for higher CSP (Meyer & Rowan, 1977).

Agency theory offers another explanation for the clear positive results. A strong institutional environment, characterized by a high level of economic freedom and a strong rule of law, is likely to enhance investor control over managers, for example, due to strengthened shareholder rights and legal protections (Armour, 2020; Arora & Dharwadkar, 2011). This, in turn, increases investor influence and could help reduce agency costs (Eisenhardt, 1989; Jensen & Meckling, 1976).

As with H6, the non-significant findings for the CSP → IO direction in H7A and H7B may be attributed to the greater relevance of economic freedom and of the rule of law during the post-investment phase for institutional investors. Once again, the discrepancy may be explained by persistent information asymmetries and agency costs before the investment takes place (Eisenhardt, 1989; Jensen & Meckling, 1976), as institutional investors may not yet fully factor in the coercive and regulatory pressures that a high level of economic freedom and a strong rule of law could place on firms to improve their CSP (DiMaggio & Powell, 1983; Scott, 1995).

H8 posits that a higher level of economic development in a country positively moderates the relationship between IO and CSP. Economic development is operationalized through the logarithm of GDP per capita, serving as the moderating variable. In the direction from IO to CSP (IO→CSP), the moderating effect of economic development is both positive and statistically significant, thus lending support to the hypothesized relationship. However, in the reverse direction, from CSP to IO (CSP→IO), the moderating effect is negative and fails to reach

statistical significance. Consequently, the overall findings do not provide consistent support for H8, leading to its rejection.

Aligned with the previous hypotheses, institutional theory is the primary lens through which the positive moderating effect of economic development on the IO→CSP relationship could be explained. Countries with a high level of economic development could provide an institutional context in which CSR norms are deeply embedded. This may be reflected, for example, in active civil societies, strong educational systems, and consistent policy environments (Campbell, 2007; Ioannou & Serafeim, 2012). Within such settings, societal expectations regarding CSR may be higher, prompting both companies and institutional investors to align with these expectations in order to preserve their legitimacy (Meyer & Rowan, 1977; Scott, 1995). In addition, wealthier countries possess greater resources that enable them to meet these societal expectations, which in turn leads to higher CSP (Cai et al., 2016).

In contrast, agency theory offers a less convincing explanation of the positive results of the IO→CSP relationship. From the perspective of agency theory (Jensen & Meckling, 1976), the heightened expectations for strong CSP in economically developed countries (Cai et al., 2016) could potentially intensify, rather than alleviate, agency conflicts. For instance, institutional investors striving to meet these elevated societal expectations may increase pressure on corporate managers to strengthen their CSR efforts.

However, the negative and non-significant moderating effect of economic development for the CSP→IO relationship suggests that a country's level of economic development may influence institutional investors' perceptions of CSP only post-investment (IO→CSP). By contrast, in the pre-investment phase (CSP→IO), when evaluating potential investments based on CSP, economic development does not appear to exert a significant influence. A possible explanation for this discrepancy could be that institutional investors perceive the heightened societal expectations for higher CSP much stronger after they have made the investment.

Regarding H9A, which hypothesizes that a higher level of environmental development in a country positively moderates the IO–CSP relationship, the empirical findings reveal a clear and consistent positive pattern supporting this hypothesis for both directions of that relationship. Likewise, H9B suggests that a higher level of social development in a country positively moderates the focal relationship. The results provide robust and consistent evidence across both directions of the relationship, offering full empirical support for H9B.

These clear positive moderating results can be explained by institutional theory, as both environmental and social development in a country strengthen the broader institutional environment by amplifying normative pressures and heightened expectations for improved CSP (Campbell, 2007; Dyck et al., 2019). Fulfilling these CSR expectations could help companies and institutional investors secure legitimacy (Meyer & Rowan, 1977). Similar to the reasoning in H8, agency theory (Buertey et al., 2020; Jensen & Meckling, 1976) offers only limited explanatory power for the observed positive relationship.

5.3 Practical implications

This sub-chapter outlines several important practical implications emerging from the findings of this dissertation. These implications are structured into three groups for: (1) institutional investors, (2) corporate managers, and (3) policymakers.

With respect to the practical implications for institutional investors, the findings of this dissertation indicate that CSP represents a key priority for institutional investors. CSP is taken into account both during the initial investment screening process and throughout the investment holding period. Moreover, institutional investors should remain attentive to the various moderating factors that might influence CSP. In particular, the country-level institutional factors play a critical role in shaping how institutional investors engage with sustainability issues. Therefore, investment decisions should be based on a thorough assessment of country-level institutional factors, such as the strength and orientation of regulatory frameworks, societal

attitudes toward sustainability, or the rule of law. Furthermore, the results indicate that country-level institutional factors are primarily taken into account after the investment has been made. However, institutional investors could benefit from considering these country-level institutional factors prior to making an investment in order to form clearer expectations regarding companies' CSP. Finally, institutional investors should be prepared to navigate agency conflicts with managers who may be reluctant to engage in CSP.

The findings suggest that managers may actively seek IO to support their CSP endeavors. Furthermore, improving a company's CSP could increase its attractiveness for institutional investors. Accordingly, managers should carefully consider the factors that may moderate the relationship between institutional investors, whether current or potential, and the firm's CSR initiatives and overall CSP. In managing this relationship, particular attention should be paid to the increasing importance of CSR and CSP for institutional investors and how their investment horizon may influence expectations regarding CSP. Moreover, managers should be aware of the institutional context of the country in which they operate with respect to CSP, as these country-level institutional factors may significantly affect their ability to attract and retain institutional investors. Notably, managers should also recognize the potential for agency conflicts, especially with institutional investors who prioritize high CSP standards.

Policymakers should recognize the significant influence that the institutional environment exerts on the relationship between institutional investors and firms' CSP within a given country. For example, policy interventions could serve not only as mechanisms for directly regulating CSR, but also as instruments for shaping the dynamics between corporate CSR efforts and institutional investment behavior. The findings of this dissertation underscore the importance of creating an institutional environment that actively fosters CSP.

5.4 Limitations and future research

This dissertation acknowledges several limitations, which in turn suggest promising avenues for future research. The first section will critically examine the inherent limitations of the meta-analysis and the meta-regression, while also identifying relevant directions for future research. The second section will then address the constraints associated with the fixed-effects panel data analysis and will further identify potential directions for future research.

5.4.1 Meta-analysis & meta-regression

For RQ1 and RQ2, which examine the relationship between IO and CSP, the core argument rests on the assumption that institutional investors' sentiment toward CSP is driven by specific underlying motivations. However, these motivations may be highly heterogeneous, given that institutional investors constitute a diverse group encompassing a range of distinct investor types. On the one hand, for example, impact investors aim to achieve measurable social or environmental impacts in addition to financial returns (Hehenberger et al., 2019), and they might thus even be willing to sacrifice returns (Barber et al., 2021). Hedge funds, on the other hand, are known for their rather short-term and purely financial perspective. Such types of institutional investors might be interested in their investment targets' CSP for entirely different reasons, for example to reduce financial risks (Duanmu et al., 2021). Future research could thus draw on more detailed empirical data to derive concrete indications of various types of institutional investors' specific investment sentiment regarding CSP.

In the meta-analysis, the key variables, CSP and IO, entail heterogeneity, to some extent. The variable CSP was measured in many different ways as some studies provided a holistic CSP score from the KLD/MSCI ESG database (e.g., Erhemjamts & Huang, 2019; Gloßner, 2019) whereas others, for example, reported carbon emissions (e.g., Luo & Tang, 2021). In addition, the scores were obtained from several different databases, such as the KLD/MSCI ESG, ASSET4, and Hexun databases, which use different forms of measurement (Berg et al., 2022).

Similarly, IO was measured, for example, by a composite score or by the share of an institutional investor type such as a fund. Future research, which would have access to an even higher number of studies, could address this heterogeneity of measurements by using a more fine-grained analysis and considering the differences between these measurements in more detail.

Furthermore, approximately half of all the meta-analytic sample studies focused on the United States as a country setting, which limits the meaningfulness of the meta-analytic and meta-regression findings. Future research might thus focus on more balanced country settings, assigning weight to countries other than the United States, especially emerging countries. Furthermore, future research should also investigate the existence of a not linear relationship between IO and CSP (e.g., Harjoto et al., 2017; W.-Y. Oh et al., 2017).

Moreover, the meta-analytic dataset extends only up to 2021, which means it does not account for trends that may have emerged afterwards, such as the recent heated political debate suggesting that CSP has lost its appeal in the business landscape (Eccles, 2024). Therefore, future research should incorporate datasets that include more recent years.

Despite the efforts to encompass a broad range of variables, inherent limitations regarding data availability emerged in the meta-analytic sample that had an impact on the scope of the initial research design. For example, geographic proximity of institutional owners to the firms in which they invest could influence their ability to assess and value CSP activities, especially those that are based on "soft information," as Chang et al. (2021) suggest. Subsequent studies could address this gap in the literature by leveraging more comprehensive datasets and exploring the nuanced ways in which, for example, geographic proximity can influence institutional investors' engagement with CSP.

Finally, the meta-analytic calculations indicate causality only to a limited extent (Endrikat et al., 2021; Jeong & Harrison, 2017). Although time lags exist between the independent and

dependent variables in the primary studies, this study does not reveal causality between the directions of the relationship between IO and CSP.

5.4.2 Fixed-effects panel data analysis

The following section discusses the limitations of the fixed-effects panel data analysis employed in this dissertation and outlines potential avenues for future research. A key limitation of this approach is that fixed effects only control for unobserved factors that remain constant over time within each firm. This means that any important variables that change over time but are not included in the model may still bias the results (Wooldridge, 2010). In addition, YFE, IFE, and CFE are included to account for temporal dynamics, sector-specific characteristics, and cross-country institutional differences. While this enhances validity by focusing on within-firm variation over time, it simultaneously removes between-firm, between-industry, and between-country variation from the estimation, thereby limiting the ability to assess their direct influence on the relationship of interest (Angrist & Pischke, 2009; Wooldridge, 2010).

Moreover, while robust standard errors clustered at the firm level effectively address issues of heteroskedasticity and serial correlation within firms (Cameron & Miller, 2015; Petersen, 2009), they do not account for potential endogeneity between the explanatory variables and the dependent variable (Wooldridge, 2010). Hence, conclusions drawn from the regression estimates must be interpreted with appropriate caution. Additionally, incorporating multilevel modeling techniques may allow for simultaneous analysis of within- and between-firm, industry, and country variation, providing a more comprehensive understanding of their respective impacts (Snijders & Bosker, 2012). To tackle potential endogeneity issues, future studies could utilize instrumental variable approaches or dynamic panel estimators like the generalized method of moments to obtain more robust causal inferences (Baltagi, 2021; Wooldridge, 2010).

Although the sample size is relatively large, a considerable amount of data had to be excluded due to availability constraints, primarily resulting from missing values. One key issue

was the variation in reporting periods across companies, particularly regarding the disclosure of IO shares. In some cases, inconsistencies in reporting led to unrealistic values, such as IO shares exceeding 100%. To address this issue, IO shares were capped at 100% where necessary. The same approach was applied to similar cases involving other variables, for example LIO and SIO. Additionally, some moderating variables were not available for the entire time period covered in the analysis. While certain variables, such as GDP data from the World Bank, demonstrated comprehensive availability, others, such as the Ease of Doing Business Index, were not consistently reported for all years under review. Another limitation, as previously discussed, pertains to the ESG score provided by Refinitiv Eikon. This score includes the governance component, which is not the primary focus of this analysis. Since no alternative score exclusively covering the environmental and social dimensions was available, the best possible approach was to report the environmental and social dimensions separately alongside the overall ESG score. However, it is important to consider that the ESG score is influenced by the governance dimension, which may introduce a bias in its interpretation. As outlined in the methods chapter, additional limitations arise from the use of the Refinitiv Eikon database and the specific time period selected for data extraction. Future research could draw on alternative or supplementary databases that do not incorporate a governance dimension within their CSP scores. Moreover, expanding the dataset to cover a longer time period and a larger sample size may help mitigate some of these limitations. Moreover, as demonstrated in the results section, a more nuanced understanding of CFP as a moderating factor in the IO-CSP relationship is essential, particularly with regard to the financial materiality of CSP, an aspect that future research could further explore. Finally, future research should examine why institutional investors' investment sentiment toward CSP is more strongly influenced by country-level institutional factors after investment than before.

6 Conclusion

This dissertation investigates the relationship between IO and CSP across multiple levels of analysis. Agency theory serves as the primary theoretical foundation, complemented by stakeholder salience theory to explain the IO–CSP relationship. In addition, institutional theory is integrated to analyze the moderating role of country-level institutional factors. Together, these theories form the main theoretical framework guiding this research.

First, the dissertation employs meta-analytic techniques to examine the bidirectional relationship between IO and CSP. Drawing on 116 empirical studies, the meta-analyses clarify previously inconsistent findings. Results show a positive association in both directions: a high share of IO relates to superior subsequent CSP, and prior superior CSP relates to higher IO.

In addition, existing literature highlights the importance of moderating factors in this relationship. However, prior studies provide limited insight into these moderators, especially regarding the moderating role of country-level institutional factors. To address this gap, this dissertation explores moderating factors in both directions of the IO-CSP relationship using two methods: meta-regression and fixed-effects panel regression. The meta-regression assesses the moderating role of temporal moderators but finds no significant effect of institutional investors' long-term horizon, although CSP appears increasingly salient in the investment decisions of institutional investors. The fixed-effects panel regression finds no significant moderating effect of CFP, suggesting a need for a more nuanced analysis, especially regarding the financial materiality of CSP. This dissertation focuses on country-level institutional factors, which have received limited attention in prior research. Adopting a comprehensive approach, it grounds these moderators in institutional and agency theory and empirically examines their moderating effects on both directions of the relationship between IO and CSP. However, the findings provide mixed support: the hypotheses regarding the positive moderating roles of regulatory quality, economic freedom and the rule of law are only partially supported. Notably, these positive moderating

effects are supported for the IO→CSP direction, but not for the reverse. In contrast, the positive moderating role of a country's environmental and social development is fully supported by the results. Lastly, the findings of this dissertation do not show that a higher level of economic development in a country positively moderates the relationship between IO and CSP.

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Appendix

Appendix A: Moderators of the IO-CSP relationship

Previous literature emphasized the importance of exploring moderating effects to better understand the relationship between IO and CSP (Velte, 2022b). However, despite the large number of studies on the IO-CSP relationship, the amount and variety of moderating effects in this context remains limited (Faller & Knyphausen-Aufseß, 2018; Gillan et al., 2021). Against this backdrop, this appendix provides an overview of studies examining moderating effects in the IO-CSP relationship. Only studies in which the moderator explicitly pertains to the IO-CSP relationship were included, while those employing alternative research designs were excluded. The results are presented in Table 34 below. The range of moderators investigated remains relatively narrow and tends to revolve around recurring thematic categories. Among the 29 studies presented in the table below, ten studies examine the moderating effect of temporal factors and seven incorporate a CFP variable as a moderator. Only six studies, according to the author's knowledge, explicitly investigate the moderating effect of country-level institutional factors on the IO–CSP relationship (e.g., Benlemlih et al., 2023; Cahan et al., 2017; T. Chen et al., 2020; Zhe Li et al., 2021; Y. Wang et al., 2023; Zhao et al., 2022). However, a closer look reveals that these studies adopt a fragmented and narrowly focused approach. To date, no study has provided a comprehensive moderator analysis of the combined effects of institutional dimensions at the country level on the IO-CSP relationship. Instead, prior research tends to concentrate on isolated aspects such as social norms (e.g., Cahan et al., 2017) or litigation risk (e.g., Benlemlih et al., 2023). Moreover, several institutional factors, such as the rule of law or a country's sustainable development, remain underexplored, highlighting notable gaps in the literature. The remaining studies presented in the overview below investigate diverse, context-specific moderators, such as geographic proximity (Chang et al., 2021) or ownership dispersion (Lopatta et al., 2017).

Table 34: Moderating effects of the IO-CSP relationship

Author	Journal	Model	Cluster	Moderator
Arora & Dharwadkar, 2011	*Corporate governance: an international review*	Independent variable (IV): IO dependent variable (DV): CSP	CFP	(1) Cash & accounts receivables (2) Debt equity ratio (3) Market to book ratio attainment discrepancy. (4) RoA attainment discrepancy
Benlemlih et al., 2023	*British Journal of Management*	IV: IO DV: CSP	Institutional Factors, Other	(1) Litigation risk (2) Board gender diversity
Cahan et al., 2017	*Journal of Business Ethics*	IV: CSP DV: IO	Institutional Factors	Norms
Chang et al., 2021	*Review of Quantitative Finance and Accounting*	IV: IO DV: CSP	Other	Geographic proximity
T. Chen et al., 2020	*Journal of financial economics*	IV: IO DV: CSP	Institutional Factors, Other	Corporate Governance (Board independence, shareholder rights (E-index), executive incentive compensation, analyst coverage)
Xin Cheng et al., 2022	*Journal of Banking and Finance*	IV: IO DV: CSP	Temporal Factors, Other	(1) Investment horizon (2) Social Inclination
Xu Cheng et al., 2024	*Journal of Business Ethics*	IV: IO DV: CSP	Temporal Factors	Post-event
B. B. Choi et al., 2013	*Corporate Governance: An International Review*	IV: IO DV: CSP	CFP	Earnings management
D. Choi et al., 2020	*Sustainability*	IV: IO DV: CSP	CFP	(1) Research and development (2) Liquidity
Chung et al., 2019	*Asian Business & Management*	IV: IO DV: CSP	Other, Temporal Factors, CFP	(1) Chaebol dummy (2) Post 2012 dummy (3) Liquidity (4) Research & development

Dakhli, 2021	*Society and Business Review*	IV: IO DV: CSP	CFP	Financial Performance
Dyck et al., 2019	*Journal of financial economics*	IV: IO DV: CSP	Temporal Factors	(1) Post-Event (2) Post-Crisis
Garel & Petit-Romec, 2021a	*Journal of Business Ethics*	IV: IO DV: CSP	Other	(1) Labor skill index (2) Labor mobility
Gloßner, 2019	*Journal of Banking & Finance*	IV: IO DV: CSP	Temporal factors, Other	(1) Investment horizon (2) Blockholding
Zhe Li et al., 2021	*Journal of Business Finance & Accounting*	IV: IO DV: CSP	Institutional Factors, Other	(1) Regulatory quality (2) Geographical distance (3) Voting Power
Z. F. Li et al., 2021	*Journal of Business Ethics*	IV: IO DV: CSP	Other, Temporal Factors	(1) Democratic Contributions (2) Fund Duration (3) Average fund CSR
Lopatta et al., 2017	*Corporate Governance: An International Review*	IV: IO DV: CSP	Other	Ownership dispersion
Y. Meng & Wang, 2020	*Managerial Finance*	IV: IO DV: CSP	Temporal factors	Post-event
Neubaum & Zahra, 2006	*Journal of Management*	IV: IO DV: CSP	Other	(1) IO activism (2) Coordination of Activism
Ren et al., 2023	*Pacific-Basin Finance Journal*	IV: IO DV: CSP	Temporal Factors; Other	(1) Post-Event (2) Location
Safiullah et al., 2022	*Energy Economics*	IV: IO DV: CSP	Temporal Factors; Other	(1) Industry (2) Post-Event (3) Carbon emission proposals
C. Shen, 2019	*IOP Conference Series:*	IV: IO DV: CSP	Other	Market Development

	Materials Science and Engineering			
P.-G. Shu & Chiang, 2020	*Pacific-Basin Finance Journal*	IV: IO DV: CSP	Other	(1) Family ownership (2) Loss dummy
Wahba, 2008	*Corporate Social Responsibility and Environmental Management*	IV: CSP DV: IO	CFP	RoA
Wahba, 2010	*Business Strategy and the Environment*	IV: IO DV: CSP	CFP, Other	(1) Financial performance (2) Investment opportunities
Y. Wang et al., 2023	*Finance Research Letters*	IV: IO DV: CSP	Institutional Factors; Other	(1) Economic development (2) Marketization
Xiang et al., 2021	*Review of Managerial Science*	IV: IO DV: CSP	Other	(1) Agency costs (2) Corporate governance
Yadav, 2020	*Indian Journal of Corporate Governance*	IV: IO DV: CSP	Other	Firm internationalization
Zhao et al., 2022	*Journal of Business Ethics*	IV: IO DV: CSP	Temporal factors; Institutional factors	(1) Time horizon (2) Religious belief

Appendix B: Search process and screening criteria

For the first search strategy (database search), two broad databases (Scopus and Web of Science) were used. The search was deliberately not limited to certain journals but instead a broad keyword-based search term was used as illustrated in Figures 2 and 3. The Scopus database contains over 27,000 source titles such as peer-reviewed journals, book series, and conference events as well as almost 300,000 standalone books (Elsevier, 2023). The Social Sciences Citation Index as part of the Web of Science database covers more than 3,500 journals from the field of social sciences. To broaden the coverage, the Emerging Sciences Citation Index was used as part of the Web of Science which includes more than 8,000 journals of regional importance and in emerging scientific fields (Clarivate, 2024a, 2024b).

To achieve a comprehensive coverage, two broad keyword searches were used as depicted in Figure 3. With the first search, the aim was to identify papers related to institutional investors and CSP. Therefore a combination of various synonyms and terms related to CSP was used (such as "CSR," "ESG," "responsib*," "sustainabl*" etc.) with various synonyms and terms related to institutional investors (such as "institutional invest*," "institutional sharehold*" etc.). The second search aimed to identify papers related to corporate governance and CSP, because IO is often used a control variable in studies of CSP and corporate governance. While the CSP-related keywords were identical to the previously mentioned search, the other part of this search used the keyword "corporate governance". Altogether, this search yielded 3,912 hits (without duplicates in the two databases).

Then several other search strategies were added to increase the confidence in the sampling approach and to avoid missing potentially relevant studies. First, a journal-driven search was conducted. Such a search focuses on published studies and is deemed appropriate to ensure that published studies are covered (and thus publicly available datasets on the topic) as

broadly as possible. With this search, it was deliberately not relied on a keyword-based search as this would not have resulted in any further hits because all relevant journals are already included in the two databases which were screened initially. Instead, each issue of a predetermined set of journals was manually screened by looking at literally all articles published in the respective journals. Thus, for reasons of research efficiency and due to obvious limitations in the working capacity, this search had to be restricted to a set of journals which is deemed especially relevant for the topic. To achieve this, 107 articles were categorized from the database-driven approach by the publishing journal's subject area based on Harzing (2021) journal quality list. The four most important subject areas based on a count of articles were "Accounting," "Finance," "Strategy and General Management," as well as "Ethics, Gender and Social Responsibility." To arrive at a manageable number of journals for the manual screening, it was decided to focus on the most influential and reputable journals in this field. This was done by identifying journals with 4* ratings by the AJG. The AJG is an internationally renowned rating for business-related journals published by the Chartered Association of Business Schools. The rating ranges from "1" (journals that publish research of recognized but modest standard) to "4*" (journals that publish the most original and best-executed research) (Chartered Association of Business Schools, 2021). The following journals constitute the 4*-rated journals on the four subject areas: Academy of Management Annals, Academy of Management Journal, Academy of Management Review, Accounting, Organizations and Society, Accounting Review, Administrative Science Quarterly, Journal of Accounting and Economics, Journal of Accounting Research, Journal of Finance, Journal of Financial Economics, Journal of Management, Strategic Management Journal, and Review of Financial Studies. It was not searched in Academy of Management Annals and Academy of Management Review because these journals do not publish empirical studies. To arrive at a manageable number of issues for the review, 2017 was used as the starting year. In the

years 2017 to 2023, these journals together published 5,883 studies which were manually screened for topical relevance. This number is larger than the number of 3,912 gross hits from this keyword search as the latter was already restricted to articles that were potentially relevant from a topical point of view. Such an automated keyword restriction was neither feasible nor appropriate for the journal-driven search strategy, as it would have limited the scope of the search unnecessarily, given that all relevant journals were already encompassed within the databases. Consequently, a keyword search would have been covered already by the first search strategy (the database-driven search). Thus, the overall number of articles published in the 11 journals in the respective years was higher than the topically restricted search based on the mentioned keywords. The reason is that any of the 11 journals publishes articles on a large number of very heterogenous topics that are not at all related to this dissertation. Nevertheless, literally all these studies were manually screened to ensure that no relevant articles are missed that were not covered by the keyword search in the databases. This was purposefully done to follow the advice by Hiebl (2023). Hiebl (2023) suggests to combine various search strategies to arrive at an inclusive sample. If the two strategies (database-driven search and journal-driven search) would instead have built on similar approaches (i.e., both keyword-based), it would not been useful to conduct the journal-driven search in the first place as it would not have broadened the approach. Only one study, which was not already covered by the preceding database search, was identified as relevant from this process. This article was not identified in the database-driven search, because the respective article (Yan et al., 2021) did not mention any of the keywords in title or abstract but instead highlights other terms and expressions such as green investing. The study was nevertheless relevant as it covered the inclusion criteria which were outlined above. However, using further keywords such as green investing in the database-driven search to cover also this article was not suitable because this would have resulted in a vast number of articles.

Overall, this result underlines the inclusiveness of the initial database search and makes it unlikely that an extended issue-by-issue search of further journal volumes in the past would have led to a relevant number of unidentified studies.

As a third search strategy, the complete literature samples of seven literature review articles and five meta-analytic studies on related topics were manually screened. The literature samples of these studies at least partly included also working papers, which should have helped to mediate a potential publication bias. This search yielded six further studies for the sample.

As a fourth strategy to further limit a potential publication bias, it was searched through the conference programs of the AOM annual meetings. The AOM database for Academy of Management Proceedings was searched using the two pertinent search terms (see Figure 3) with no time constraints. This search yielded 1 additional article. Details of the relevant findings of the AOM conference search are displayed in Figure 2.

Fifth and finally, unpublished manuscripts were solicited from scholars via repeated calls on the listserv communities of the SIM, ONE, OMT, and STR division of the AOM, as well as on LinkedIn, which yielded one further study for the sample.

To be eligible for the sample, studies written in English were included that scrutinized the connection between an IO variable and a CSP variable. From a methodological perspective, such studies were included when they reported a bivariate correlation between an IO variable and a CSP variable to allow for computing the effect size. In case such correlations were not available in the studies, the t-statistics between IO and CSP were instead converted to a relevant effect size for the meta-analysis when available. Finally, if both were not available but the studies nevertheless deemed relevant from a topical perspective, the corresponding authors were approached directly via email to ask whether they could share the respective information. Following previous best practice examples in other recently published meta-analyses (e.g.,

Hansen & Block, 2021), studies without topical fit or data availability were not included in the analysis.

Appendix C: Overview of sample

Author	Journal	AJG rating 2021	Sample size	Time lag of the variables	Data source CSP
Aggarwal & Dow, 2012	*The European Journal of Finance*	3	325	concurrent	KLD/MSCI ESG
Ahmed et al., 2014	*Corporate Social Responsibility and Environmental Management*	1	148	CSP → IO	Other
Ahmed et al., 2017	*Global Business Review*	1	148	CSP → IO	Other
Ahmed et al., 2022	*Journal of Sustainable Finance & Investment*	1	148	CSP → IO	Other
Aksoy et al., 2020	*Journal of Cleaner Production*	2	316	concurrent	Other
Alazzani et al., 2017	*Corporate Governance: The International Journal of Business in Society*	2	133	concurrent	Other
Arora & Dharwadkar, 2011	*Corporate Governance: An International Review*	3	1,522	IO → CSP	KLD/MSCI ESG
Arslan et al., 2021	*Pakistan Journal of Commerce and Social Science*	n.a.	4,672	concurrent	Refinitiv/Asset4
Barko et al., 2022	*Journal of Business Ethics*	3	705	concurrent	Refinitiv/Asset4
Barnea & Rubin, 2010	*Journal of Business Ethics*	3	2,641	concurrent	KLD/MSCI ESG
Barnett et al., 2022	*Review of Accounting Studies*	4	26,086	concurrent	KLD/MSCI ESG
Benlemlih et al., 2023	*British Journal of Management*	4	4,352	concurrent	Bloomberg
Berrone et al., 2010	*Administrative Science Quarterly*	4*	194	IO → CSP	Other
Brammer & Pavelin, 2006	*Journal of Management Studies*	4	210	concurrent	EIRIS
Buertey et al., 2020	*Corporate Social Responsibility and Environmental Management*	1	354	concurrent	Other
Cahan et al., 2017	*Journal of Business Ethics*	3	36,225	concurrent	KLD/MSCI ESG
Calza et al., 2013	*International Journal of Globalisation and Small Business*	1	28	concurrent	Other
Calza et al., 2016	*Business Strategy and the Environment*	3	778	concurrent	Other
Cao & Mu, 2022	*Sustainability*	n.a.	1537	concurrent	Bloomberg

Chariri et al., 2019	*Journal of Asia Business Studies*	1	145	concurrent	Other
X. Chen et al., 2021	*The Extractive Industries and Society*	n.a.	13,867	concurrent	Hexun
Xin Cheng et al., 2022	*Journal of Banking & Finance*	3	34,500	IO→CSP	KLD/MSCI ESG
C. H. Cho et al., 2017	*Journal of Business Ethics*	3	10,297	concurrent	KLD/MSCI ESG
E. Cho et al., 2015	*Journal of Applied Business Research*	n.a.	606	concurrent	KEJI Index
S. Y. Cho et al., 2013	*Journal of Accounting and Public Policy*	3	17,555	concurrent	KLD/MSCI ESG
B. B. Choi et al., 2013	*Corporate Governance: An International Review*	3	2,042	concurrent	KEJI Index
Chulkov & Wang, 2023	*Studies in Economics and Finance*	1	21,633	concurrent	KLD/MSCI ESG
Chung et al., 2019	*Asian Business & Management*	2	1,618	concurrent	KEJI Index
Cox et al., 2007	*Journal of Business Finance & Accounting*	3	541	CSP → IO	EIRIS
Cullinan et al., 2016	*Social Responsibility Journal*	1	195	CSP → IO	KLD/MSCI ESG
Dakhli, 2022	*Journal of Financial Crime*	n.a.	2,400	concurrent	Refinitiv/Asset4
Dam & Scholtens, 2012	*Corporate Governance: An International Review*	3	758	concurrent	EIRIS
David et al., 2007	*Strategic Management Journal*	4*	730	concurrent	KLD/MSCI ESG
de Villiers et al., 2011	*Journal of Management*	4*	2,151	IO→CSP	KLD/MSCI ESG
Desender & Epure, 2015	*Academy of Management Proceedings*	n.a.	11,163	IO→CSP	Refinitiv/Asset4
Desender & Epure, 2021	*Global Strategy Journal*	4	16,491	concurrent	Refinitiv/Asset4
DesJardine, Shi, & Westphal, 2023	*Journal of Management*	4*	12,267	concurrent	KLD/MSCI ESG
Ducassy & Montandrau, 2015	*Research in International Business and Finance*	2	41	concurrent	Other
Eding & Scholtens, 2017	*Corporate Social Responsibility and Environmental Management*	3	963	concurrent	Refinitiv/Asset4
Elgergeni et al., 2018	*International Journal of Sustainable Development & World Ecology*	n.a.	250	IO → CSP	Other

Ellimäki et al., 2023	*Journal of International Business Studies*	4*	1,200	concurrent	Refinitiv/Asset4
Erhemjamts & Huang, 2019	*Journal of Business Research*	3	15,217	concurrent	KLD/MSCI ESG
Fernando et al., 2019	*Journal of Applied Corporate Finance*	1	10,949	CSP→IO	KLD/MSCI ESG
Garel & Petit-Romec, 2021a	*Journal of Business Ethics*	3	18,169	concurrent	KLD/MSCI ESG
Gloßner, 2019	*Journal of Banking & Finance*	3	38,845	IO → CSP	KLD/MSCI ESG
Graves & Waddock, 1994	*Academy of Management Journal*	4*	453	CSP → IO	KLD/MSCI ESG
Gu, 2023	*Sage Open*	n.a.	1,557	concurrent	Hexun
Hoepner & Schopohl, 2020	*Journal of Business Ethics*	3	574,151	CSP → IO	KLD/MSCI ESG
J.-K. Hong et al., 2022	*Managerial and Decision Economics*	2	2,005	IO→CSP	KLD/MSCI ESG
K. Hong et al., 2022	*Sustainability*	n.a.	13,232	concurrent	KLD/MSCI ESG
Hwang et al., 2022	*Management Science*	4*	25,263	concurrent	KLD/MSCI ESG
Jain & Zaman, 2020	*British Journal of Management*	4	1,421	concurrent	Refinitiv/Asset4
F. Jia et al., 2022	*Sustainability*	-	16,810	concurrent	Other
X. Jia et al., 2023	*Kybernetes*	1	383	concurrent	Other
Jo & Harjoto, 2012	*Journal of Business Ethics*	3	9,410	IO → CSP	KLD/MSCI ESG
Johnson & Greening, 1999	*Academy of Management Journal*	4*	252	IO → CSP	KLD/MSCI ESG
Kangarluie & Bayazidi, 2011	*Australian Journal of Basic and Applied Sciences*	n.a.	92	concurrent	Other
Kennelly, 2019	*n.a.*	n.a.	232	IO → CSP	KLD/MSCI ESG
I. Kim et al., 2019	*Management Science*	4*	22,004	concurrent	KLD/MSCI ESG
Y. Kim et al., 2014	*Journal of Banking & Finance*	3	9,705	concurrent	KLD/MSCI ESG
Kock et al., 2012	*Journal of Management Studies*	4	559	concurrent	Other
Kong, 2013	*Journal of Business Economics and Management*	2	312	concurrent	Other

Laksmana et al., 2023	*Journal of Business Research*	3	15,193	concurrent	KLD/MSCI ESG
Lamb & Butler, 2018	*Business & Society*	3	1,478	IO → CSP	KLD/MSCI ESG
W. Li & Zhang, 2010	*Journal of Business Ethics*	3	692	IO → CSP	SNAI
Lin & Chih, 2016	*n.a.*	n.a.	6,767	IO→CSP	KLD/MSCI ESG
Liu et al., 2023	*Accounting & Finance*	2	8,421	IO→CSP	Bloomberg
Lopatta et al., 2022	*Journal of Sustainable Finance & Investment*	1	11,391	concurrent	Refinitiv/Asset4
Lopatta et al., 2017	*Corporate Governance: An International Review*	3	17,017	concurrent	Other
Lozano & Martínez-Ferrero, 2022	*Research in International Business and Finance*	2	69,461	concurrent	Refinitiv/Asset4
Luo & Tang, 2021	*Accounting & Finance*	2	1,406	concurrent	Refinitiv/Asset4
Mallin et al., 2013	*Journal of Business Ethics*	3	221	concurrent	KLD/MSCI ESG
McGuire et al., 2003	*Journal of Business Ethics*	3	374	concurrent	KLD/MSCI ESG
S. Meng et al., 2022	*Frontiers in Psychology*	3	10,048	concurrent	Hexun
Miller et al., 2023	*European Financial Management*	3	5,441	concurrent	Other
Motta & Uchida, 2018	*Journal of the Japanese and International Economies*	2	443	IO → CSP	Other
Mulchandani & Jain, 2023	*International Journal of Indian Culture and Business Management*	1	736	concurrent	Other
Neubaum & Zahra, 2006	*Journal of Management*	4*	357 &383 (two data sets)	IO → CSP	KLD/MSCI ESG
Nizar et al., 2023	*International Journal of Finance & Economics*	3	1,230	concurrent	Refinitiv/Asset4
Nofsinger et al., 2019	*Journal of Corporate Finance*	4	50,965	concurrent	KLD/MSCI ESG
W. Y. Oh et al., 2011	*Journal of Business Ethics*	3	118	IO → CSP	KEJI Index
W.-Y. Oh et al., 2017	*Journal of Business Ethics*	3	654	IO → CSP	KLD/MSCI ESG
Oikonomou et al., 2020	*The European Journal of Finance*	3	22,795	concurrent	KLD/MSCI ESG

Ould Daoud Ellili, 2020	*Sustainability*	-	300	concurrent	Bloomberg
Ozdemir et al., 2023	*Tourism Management*		446	concurrent	KLD/MSCI ESG
Park et al., 2019	*International Journal of Contemporary Hospitality Management*	3	301	IO → CSP	KLD/MSCI ESG
Rastogi et al., 2024	*Asian Review of Accounting*	2	390	concurrent	Other
B. Rees & Mackenzie, 2011	*n.a.*	n.a.	1,830	IO → CSP	Other
Rehbein et al., 2013	*Journal of Business Ethics*	3	641	concurrent	KLD/MSCI ESG
Ren et al., 2023	*Pacific-Basin Finance Journal*	2	1,278	IO → CSP	Hexun
Sarhan, 2024	*International Journal of Disclosure and Governance*	2	1,840	concurrent	Refinitiv/Asset4
X. Shen et al., 2021	*Kybernetes*	1	4,472	concurrent	Other
P. Shi et al., 2019	*Journal of Coastal Research*	-	8,968	concurrent	Hexun
W. Shi & Veenstra, 2021	*Journal of Business Ethics*	3	34,222	concurrent	Refinitiv/Asset4
P.-G. Shu & Chiang, 2020	*Pacific-Basin Finance Journal*	2	11,414	concurrent	Other
Simerly, 1995	*Psychological Reports*	1	84	CSP → IO	Other
Smulowitz et al., 2023	*Journal of Business Ethics*	3	11,355	IO→CSP	KLD/MSCI ESG
Suto & Takehara, 2016	*Social Responsibility Journal*	1	2,680	concurrent	Other
Verma et al., 2022	*Global Business Review*	1	469	concurrent	Other
Wahba, 2008	*Corporate Social Responsibility and Environmental Management*	1	435	concurrent	Other
Walls et al., 2012	*Strategic Management Journal*	4*	2,002	concurrent	KLD/MSCI ESG
J. Wang et al., 2022	*Journal of Management & Business Research*	n.a.	3,303	concurrent	Other
K. T. Wang & Sun, 2022	*Finance Research Letters*	2	9,013	concurrent	KLD/MSCI ESG
M. Wang & Chen, 2017	*Corporate Governance: An International Review*	3	1,430	concurrent	SNAI
X. Wang & Jin, 2023	*Journal of Global Business Trade*	n.a.	23,519	concurrent	Other

Wei & Chengshu, 2023	*Business Ethics, the Environment & Responsibility*	n.a.	20,449	concurrent	Hexun
Wu et al., 2022	*Sustainability*	n.a.	6,895	concurrent	Other
Xiang et al., 2021	*Review of Managerial Science*	2	12,556	concurrent	Other
Xu et al., 2019	*Business Strategy and the Environment*	3	569	concurrent	Hexun
Yadav, 2020	*Indian Journal of Corporate Governance*	n.a.	438	IO → CSP	Refinitiv/Asset4
Yahia et al., 2023	*Journal of Banking & Finance*	3	8,161	CSP→IO	Other
Yan et al., 2021	*Administrative Science Quarterly*	4*	25,688	IO → CSP	Refinitiv/Asset4
B. Yang et al., 2024	*Emerging Markets Finance and Trade*	2	7,562	concurrent	Bloomberg
W.-E. Yang et al., 2023	*Environmental Science and Pollution Research*	n.a.	43,953	CSP→IO	Other
Yoshida et al., 2023	*Corporate Social Responsibility and Environmental Management*	1	7,444 & 4,139 (two data sets)	IO→CSP	Refinitiv/Asset4
Zhai, 2021	*n.a.*	n.a.	8,016	IO→CSP	Other
Zhao et al., 2022	*Journal of Business Ethics*	3	23,046	concurrent	Hexun

Appendix D: Regression tables of the IO-CSP relationship

This appendix presents seven regression tables that investigate the bidirectional relationship between IO and CSP. Tables 35 through 38 focus on the first direction of the relationship (IO → CSP), while tables 39 through 41 examine the reverse direction (CSP → IO). These tables are included in this appendix, as the relationship between IO and CSP in both directions has already been comprehensively analyzed through meta-analytic methods based on a substantially larger sample size (868,904 observation for the relationship IO→CSP and 753,378 observations for the relationship CSP→IO). The regression analyses presented in this appendix primarily serve as robustness checks that support the findings derived from the meta-analyses and meta-regressions. In addition to their role as robustness tests, these analyses allow for greater variation in the operationalization of IO and CSP compared to the previous moderator analyses. This addresses a key limitation of the meta-analysis and meta-regression, in which an extensive variation in variable specifications was not feasible.

All regression models include fixed effects for country, industry, and year. The F-statistics for all models are statistically significant. The sample size for regressions analyzing the IO → CSP direction is 42,775, while for the CSP → IO direction, the sample includes 33,519 observations. To address potential endogeneity concerns, all dependent variables are lagged by one year. Specifically, the ESG score, the ENV score, and the SOC score are lagged for analyses examining IO → CSP, whereas IO, UN PRI, LIO, and SIO are lagged in the regressions examining CSP → IO. The adjusted R^2 values range from 0.268 (regression of the SOC score on SIO) to 0.712 (regression of the ESG score on IO), indicating a relatively high explanatory power across models.

In the IO →CSP direction, the regression coefficients of IO on the ESG score ($\beta = 0.134$; $p < 0.01$), the ENV score ($\beta = 0.075$; $p < 0.01$), and the SOC score ($\beta = 0.107$; $p < 0.01$) are all

positive and statistically significant. Similar patterns are observed for UN PRI, with positive effects on the ESG score ($\beta = 0.203$; $p < 0.01$), the ENV score ($\beta = 0.093$; $p < 0.01$), and the SOC score ($\beta = 0.141$; $p < 0.01$). By contrast, SIO shows consistently negative and significant associations for the ESG score ($\beta = -0.038$; $p < 0.01$), for the ENV score ($\beta = -0.032$; $p < 0.01$), and for the SOC score ($\beta = -0.040$; $p < 0.01$). For LIO, no significant effects are found for the ESG score ($\beta = -0.006$) or the ENV score ($\beta = -0.006$), although a small but significant effect is observed for the SOC score ($\beta = 0.014$; $p < 0.01$).

In the CSP → IO direction, the ESG score is positively associated with IO ($\beta = 0.141$; $p < 0.01$) and UN PRI ($\beta = 0.025$; $p < 0.01$), but negatively associated with LIO ($\beta = -0.026$; $p < 0.05$) and SIO ($\beta = -0.022$; $p < 0.01$). A comparable pattern emerges for the ENV score: a significant positive effect is observed for IO ($\beta = 0.036$; $p < 0.01$), while the coefficient for UN PRI is positive but not statistically significant ($\beta = 0.004$). In contrast, both LIO ($\beta = -0.016$; $p < 0.1$) and SIO ($\beta = -0.009$; $p < 0.1$) exhibit negative and significant effects. For the SOC score, significant positive effects are found for IO ($\beta = 0.075$; $p < 0.01$) and UN PRI ($\beta = 0.011$; $p < 0.01$), while SIO shows a negative relationship ($\beta = -0.018$; $p < 0.01$). The coefficient for LIO ($\beta = 0.001$) is not statistically significant in this case.

The regression analysis results for the IO → CSP relationship are fully consistent with the findings of the meta-analysis regarding H1 and RQ1. Notably, the effects associated with UN PRI are stronger than those observed for general IO. IO who signed UN PRI could be typically more committed to sustainability principles and therefore may exert a more substantial influence on CSP (Dyck et al., 2019; Kordsachia et al., 2022). The negative coefficients observed for SIO suggest that investors primarily motivated by short-term financial returns may be less likely to support, or may even hinder, long-term sustainability initiatives (Gloßner, 2019). Conversely, the results for LIO are largely non-significant, with the exception of the SOC score. These results

mirror the meta-regression findings, which similarly did not yield significant outcomes for LIO in most dimensions.

The findings for the reverse relationship (CSP → IO) also support the results from the meta-analysis regarding H2 and RQ2. Higher overall CSP, as well as stronger environmental and social performance, positively influence both IO and UN PRI. The sole exception is the non-significant regression coefficient for the effect of the ENV score on UN PRI. Moreover, the ESG score ($\beta = -0.026$; $p < 0.05$) and the ENV score ($\beta = -0.016$; $p < 0.1$) exhibit negative and statistically significant effects on LIO, while the SOC score ($\beta = 0.001$) is not significant. These findings imply that superior CSP may not play a decisive role in the investment decisions of LIO. The results for SIO are negative across the ESG score, the ENV score, and the SOC score, reinforcing the view that short-term institutional investors may not prioritize CSP in their investment decisions, likely due to concerns that such practices could compromise immediate financial returns (Gloßner, 2019).

Table 35 Regression analysis: IO → CSP

	ESG score (t+1)	ENV score (t+1)	SOC score (t+1)
	(1)	(2)	(3)
IO	0.134***	0.075***	0.107***
	(0.009)	(0.012)	(0.011)
Size	7.159***	9.599***	8.015***
	(0.115)	(0.150)	(0.132)
Leverage	-2.640***	-3.282***	-4.701***
	(1.060)	(1.408)	(1.239)
Asset tangibility	0.283	-0.282	1.244**
	(1.039)	(1.352)	(1.192)
RoA	0.057***	0.060***	0.062***
	(0.015)	(0.020)	(0.018)
CFE	Yes	Yes	Yes
IFE	Yes	Yes	Yes
YFE	Yes	Yes	Yes
F-Statistic	194.14	199.24	199.55
p-value	0	0	0
Observations	42,775	42,775	42,775
R^2	0.439	0.446	0.446
Adjusted R^2	0.437	0.444	0.444
Note:	*p<0.1; **p<0.05; ***p<0.01		

Table 36 Regression analysis: UN PRI → CSP

	ESG score (t+1)	ENV score (t+1)	SOC score (t+1)
	(1)	(2)	(3)
UN PRI	0.203***	0.093***	0.141***
	(0.026)	(0.035)	(0.029)
Size	7.405***	9.744***	8.220***
	(0.113)	(0.147)	(0.128)
Leverage	-2.875***	-3.401**	-4.877***
	(1.067)	(1.408)	(1.242)
Asset tangibility	0.029	-0.420	1.045
	(1.044)	(1.353)	(1.194)
RoA	0.065***	0.065***	0.069***
	(0.015)	(0.020)	(0.018)
CFE	Yes	Yes	Yes
IFE	Yes	Yes	Yes
YFE	Yes	Yes	Yes
F-Statistic	186.8	197.72	195.77
p-value	0	0	0
Observations	42,775	42,775	42,775
R^2	0.430	0.444	0.441
Adjusted R^2	0.428	0.442	0.439
Note:	*p<0.1; **p<0.05; ***p<0.01		

Table 37 Regression analysis: SIO → CSP

	ESG score (t+1)	ENV score (t+1)	SOC score (t+1)
	(1)	(2)	(3)
SIO	-0.038***	-0.032***	-0.040***
	(0.008)	(0.010)	(0.009)
Size	7.389***	9.705***	8.180***
	(0.115)	(0.149)	(0.130)
Leverage	-2.609**	-3.226**	-4.642***
	(1.074)	(1.410)	(1.244)
Asset tangibility	0.096	-0.383	1.098
	(1.046)	(1.354)	(1.194)
RoA	0.067***	0.065***	0.070***
	(0.015)	(0.020)	(0.018)
CFE	Yes	Yes	Yes
IFE	Yes	Yes	Yes
YFE	Yes	Yes	Yes
F-Statistic	184.59	197.61	195.24
p-value	0	0	0
Observations	42,775	42,775	42,775
R^2	0.427	0.444	0.441
Adjusted R^2	0.425	0.442	0.439
Note:	*p<0.1; **p<0.05; ***p<0.01		

Table 38 Regression analysis: LIO → CSP

	ESG score (t+1)	ENV score (t+1)	SOC score (t+1)
	(1)	(2)	(3)
LIO	-0.006	-0.006	0.014***
	(0.007)	(0.009)	(0.009)
Size	7.482***	9.786***	8.232***
	(0.114)	(0.148)	(0.131)
Leverage	-2.784***	-3.379***	-4.695***
	(1.077)	(1.411)	(1.247)
Asset tangibility	0.091	-0.386	1.056**
	(1.047)	(1.354)	(1.195)
RoA	0.068***	0.066***	0.069***
	(0.015)	(0.020)	(0.018)
CFE	Yes	Yes	Yes
IFE	Yes	Yes	Yes
YFE	Yes	Yes	Yes
F-Statistic	184.06	197.39	194.89
p-value	0	0	0
Observations	42,775	42,775	42,775
R^2	0.426	0.443	0.440
Adjusted R^2	0.424	0.441	0.438
Note:	*p<0.1; **p<0.05; ***p<0.01		

Table 39 Regression analysis: ESG → IO

	IO (t+1)	UN PRI (t+1)	LIO (t+1)	SIO (t+1)
	(1)	(2)	(3)	(4)
ESG score	0.141***	0.025***	-0.026**	-0.022***
	(0.013)	(0.004)	(0.012)	(0.007)
Size	0.515**	-0.014	1.931***	-1.892***
	(0.205)	(0.069)	(0.181)	(0.099)
Q	-0.146	-0.093***	0.380***	-0.470***
	(0.104)	(0.034)	(0.128)	(0.077)
Leverage	-1.092	0.596	-7.533***	4.064***
	(1.348)	(0.440)	(1.207)	(0.676)
Asset tangibility	-1.762	0.165	1.794	0.460
	(1.270)	(0.455)	(1.127)	(0.667)
RoA	0.100***	0.014**	0.162***	-0.027**
	(0.021)	(0.006)	(0.019)	(0.012)
CFE	Yes	Yes	Yes	Yes
IFE	Yes	Yes	Yes	Yes
YFE	Yes	Yes	Yes	Yes
F-Statistic	487.77	213.65	100.18	73.56
p-value	0	0	0	0
Observations	33,519	33,519	33,519	33,519
R^2	0.712	0.520	0.337	0.272
Adjusted R^2	0.711	0.517	0.333	0.268
Note:	*p<0.1; **p<0.05; ***p<0.01			

Table 40 Regression analysis: ENV → IO

	IO (t+1)	UN PRI (t+1)	LIO (t+1)	SIO (t+1)
	(1)	(2)	(3)	(4)
ENV score	0.036***	0.004	-0.016*	-0.009*
	(0.010)	(0.003)	(0.008)	(0.005)
Size	1.252***	0.137**	1.892***	-1.972***
	(0.203)	(0.068)	(0.179)	(0.098)
Q	-0.078	-0.078**	0.378***	-0.477***
	(0.103)	(0.033)	(0.128)	(0.078)
Leverage	-1.385	0.535	-7.520***	4.095***
	(1.358)	(0.441)	(1.207)	(0.676)
Asset tangibility	-1.624	0.189	1.766	0.437
	(1.274)	(0.455)	(1.128)	(0.668)
RoA	0.101***	0.014**	0.162***	-0.027**
	(0.021)	(0.006)	(0.019)	(0.012)
CFE	Yes	Yes	Yes	Yes
IFE	Yes	Yes	Yes	Yes
YFE	Yes	Yes	Yes	Yes
F-Statistic	477.72	211.98	100.13	73.43
p-value	0	0	0	0
Observations	33,519	33,519	33,519	33,519
R^2	0.708	0.518	0.337	0.271
Adjusted R^2	0.706	0.515	0.333	0.268
Note:	*p<0.1; **p<0.05; ***p<0.01			

Table 41 Regression analysis: SOC → IO

	IO (t+1)	UN PRI (t+1)	LIO (t+1)	SIO (t+1)
	(1)	(2)	(3)	(4)
SOC score	0.075***	0.011***	0.001	-0.018***
	(0.011)	(0.004)	(0.010)	(0.006)
Size	0.969***	0.087	1.715***	-1.914***
	(0.199)	(0.067)	(0.179)	(0.096)
Q	-0.107	-0.084**	0.359***	-0.471***
	(0.105)	(0.034)	(0.127)	(0.076)
Leverage	-1.155	0.572	-7.444***	4.044***
	(1.355)	(0.443)	(1.210)	(0.676)
Asset tangibility	-1.823	0.160	1.768	0.484
	(1.274)	(0.456)	(1.128)	(0.668)
RoA	0.101***	0.014**	0.162***	-0.027**
	(0.020)	(0.006)	(0.019)	(0.012)
CFE	Yes	Yes	Yes	Yes
IFE	Yes	Yes	Yes	Yes
YFE	Yes	Yes	Yes	Yes
F-Statistic	480.88	212.35	100.03	73.53
p-value	0	0	0	0
Observations	33,519	33,519	33,519	33,519
R^2	0.709	0.518	0.336	0.271
Adjusted R^2	0.708	0.516	0.333	0.268
Note:	*p<0.1; **p<0.05; ***p<0.01			

Appendix E: Robustness test: Meta-regression of CFP

This appendix reports the meta-regression results examining the moderating effect of CFP on the relationship between IO and CSP. This analysis serves as a robustness check for RQ4 and H5. Methodologically, the analysis adheres to the meta-regression approach outlined in chapter 4.1. In the following the coding process is detailed, followed by a presentation of the corresponding findings. The sample studies were reviewed for correlations between CFP and CSP. Material (versus immaterial) CSP was proxied by consulting the correlation table of each respective study; CSP was classified as material if the correlation coefficient between CSP and CFP was positive, and as immaterial if the coefficient was negative. CFP was measured using variables such as RoA, Return on Equity, Return on Sales, Q, with dummy coding applied to categorize studies. Studies indicating material CSP were coded as 1, whereas those revealing immaterial CSP were coded as 0. Studies yielding mixed results, for which CSP could not be clearly classified as material or immaterial, or studies lacking such correlation data were excluded from the analysis. The results of this robustness test are presented in Table 42 for the first direction (IO→CSP) and in Table 43 for the second direction (CSP→IO). However, no significant results were obtained from the meta-regression, likely due to the heterogeneity of CFP variables across the sample studies. Consequently, the results of the robustness test do not support H5.

Table 42 Meta-regression results for the relationship IO→CSP

Moderator	***k***	***N***	***β***	***R²***
CFP				
CFP	70	487,743	-.16	2.64%

Note: *k* = number of samples; *N* = sample size; *β* = standardized regression coefficient; R^2 = share of variance of mean effect size explained by moderator.
*$p < .1$, **$p < .05$, and ***$p < .01$.

Table 43 Meta-regression results for the relationship CSP→ IO

Moderator	***k***	***N***	***β***	***R²***
CFP				
CFP	54	397,735	-.16	2.58%

Note: k = number of samples; N = sample size; β = standardized regression coefficient; R^2 = share of variance of mean effect size explained by moderator.
*$p < .1$, **$p < .05$, and ***$p < .01$.