The Role of Corporate Sustainability in Shaping Integrated Reporting Quality: Insights from Europe

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ABSTRACT

Drawing on corporate sustainability and integrated reporting literature, this study investigates the extent to which corporate sustainability strategy influences integrated reporting quality, with a particular focus on the moderating role of national governance. Using a comprehensive panel data sample of 2850 firm-year observations from 285 non-financial firms across six key European economies (the United Kingdom, Germany, Denmark, France, Sweden, and Italy) over the period 2013-2022, our study contributes to the extant literature by providing timely evidence on the impact of corporate sustainability strategy on integrated reporting quality. Our findings show that firms with strong sustainability strategies tend to engage in high-quality integrated reporting. Furthermore, our evidence suggests that the influence of corporate sustainability strategy on integrated reporting is moderated/explained largely by national governance. Our findings are robust to controlling for various endogeneity issues, with major implications for managers, policymakers, governments, and other stakeholders.

Keywords: Corporate sustainability strategy; integrated reporting quality; national governance; neo-institutional theory; Europe.

1. Introduction

In today's global business environment, corporate reporting has undergone a significant transformation. Specifically, organisations are moving beyond the traditional focus on financial reporting towards a more integrated approach that combines both financial and non-financial information within a single comprehensive report (Vitolla et al., 2019). This shift is largely driven by the increasing demand from diverse stakeholder groups (e.g., investors, regulators, wider community) for greater transparency and accountability regarding an organisation's impact on, and reliance upon, a wide range of capital resources (Nishitani et al., 2021). Further, this shift towards a more holistic approach of reporting reflects a broader understanding that an organisation's long-term value creation and sustained success depend not only on financial capital but also its ability to effectively manage other critical forms of capital, including human, manufactured, social and relationship, intellectual, and natural capitals (Sinnewe et al., 2021).

A central component of this transformation is the emergence of integrated reporting framework, which was developed by the International Integrated Reporting Council (*IIRC*). This framework provides guidelines for organisations to produce concise and cohesive reports, which need to explain how organisations create value over time by combining both financial and non-financial information (García-Sánchez et al., 2024; Sinnewe et al., 2021). This framework has been widely adopted, offering a potential solution to the limitations of traditional reporting, as it gives stakeholders a more cohesive and comprehensive view of an organisation's performance and strategy (Vitolla et al., 2019).

In the European context, the shift towards integrated reporting has been significantly influenced by the increasing regulatory emphasise on integrating both financial and non-financial disclosures (Alta'any et al., 2025; García-Sánchez et al., 2024). Major steps in this direction included EU's Accounting Directive (Directive 2013/34), Non-Financial Reporting Directive (NFRD) (Directive 2014/95), and Corporate Sustainability Reporting Directive (Directive 2022/2464). Overall, these directives have increased institutional pressures on European firms to integrate sustainability into their core business strategies and reporting practices (Aboud et al., 2024). This evolving institutional environment, influenced by regulatory frameworks and standard-setting bodies, such as the *IIRC*, provides a compelling context for examining the relationship between corporate sustainability strategy (*CSS*) and integrated reporting quality (*IRQ*) among European firms.

Empirically, and despite the growing adoption of integrated reporting framework and the increasing pressures on the European firms to implement sustainable practices, there is a relative paucity of empirical research focusing on examining the impact of *CSS* on *IRQ*. Specifically, existing empirical studies have often approached this topic through a narrow lens, focusing largely on CSR disclosures (Ackers & Grobbelaar, 2022; Adams et al., 2016; Helfaya et al., 2023; Permatasari & Tjahjadi, 2024; Sierra-García et al., 2015), without accounting for the multidimensional nature of a comprehensive *CSS*. This can impair the current knowledge about the extent to which *CSS* can influence *IRQ*. Further, and despite increasing theoretical suggestions that external institutional environment, such as national governance framework, play a vital role in influence corporate strategy and reporting practices (Alzyod et al., 2025; Alta'any et al., 2025; Medioli et al., 2024), no prior research, to the best of our extensive search and knowledge, has investigated the moderating effect of national governance on the *CSS-IRQ* nexus. Therefore, this study seeks to address the following research questions:

- To what extent does corporate sustainability strategy (*CSS*) influence integrated reporting quality (*IRQ*)?
- Does national governance moderate the *CSS-IRQ* nexus?

Consequently, and by addressing the above research questions, this study attempts to make several contributions to the extant literature. First, this study contributes to literature by empirically investigating association between a comprehensive and multidimensional measure of CSS and IRQ, using a large sample of 285 non-financial firms across six key European economies. Specifically, our research contributes to past studies by offering a more robust understanding on the extent to which *CSS* can determine *IRQ* quality in a period of increased institutional pressures on European firms to integrate sustainability into their core business strategies and reporting practices. Unlike previous studies that often employed simplified/single-dimensional metrics, such as CSR disclosures, to capture *CSS* (e.g., Ackers & Grobbelaar, 2022; Adams et al., 2016; Sierra-García et al., 2015), our study uses a more comprehensive and multilevel measure of *CSS*, which was derived from the ASSET4 database, and thereby offering a more holistic view of a firm's sustainability commitment.

Second, unlike past studies that have not controlled for the moderating effect of institutional environment on the *CSS-IRQ* nexus, this study contributes to the existing literature by providing new evidence on whether the institutional environment, capture using national governance, moderates the relationship between *CSS* and *IRQ* r. Finally, our research offers

practical insights to governments, policymakers, and other stakeholders. For example, our findings can serve as a motivation for governments and policymakers to strengthen legislations relating to corporate sustainability. Strengthening corporate sustainability legalisations may not only incentivise firms to adopt/embed sustainability principles into their operations/activities but can also enhance the transparency and reliability of their non-financial disclosures, thereby creating a more robust and accountable corporate reporting environment. For managers and practitioners, our findings highlight the value of aligning a comprehensive CSS with high-quality IR, particularly within supportive institutional environments, to enhance decision-making and foster sustainable value creation.

The reminder of this paper is structured as follows. Section 2 presents the theoretical framework and the literature review and hypothesis development. Section 3 details the research methodology, data collection, and measurements of study's variables. Section 4 presents and discusses the empirical results, and Section 5 concludes with the implications of our findings, limitations, and potential avenues for future research.

2. Theory, Empirical Literature Review, and Hypothesis Development

2.1 Theoretical framework

The theoretical foundation of study is grounded in neo-institutional theory (NIT) that explains how organisations behaviours are shaped by institutional environment in which they operate (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). According to this theory, firms should align their practices with the institutional norms, values, and expectations in order to legitimise their operations/activities and survive (Ntim & Soobaroyen, 2013; Suchman, 1995). Further, this theory suggests that firms often conform to institutional norms, values, and expectations not only to enhance their economic efficiency, but also to achieve legitimacy, social acceptance, and survival (Sarhan et al., 2024; Jiang et al., 2022; Scott, 1995). These institutional pressures [coercive (regulatory), mimetic (peer imitation), and normative (professional norms)], collectively influence corporate reporting practices (Elmanaseer & Gerged, 2025), including those relating to integrated reporting.

Previous studies have extensively used NIT to understand a number of corporate activities including CSR (Aguilera et al., 2007; Ntim & Soobaroyen, 2013), organisational strategies (Royer, 1999; Suddaby et al., 2013), public relations (Fredriksson et al., 2013), anti-corruption (Sarhan et al., 2024) and sustainability reporting (Elmanaseer & Gerged, 2025; Larrinaga,

2007). The theory has, however, been less used in interpreting issues relating to *CSS* and *IRQ*. Our research seeks to fill this gap and provide a new theoretical lens to understand these increasingly relevant organisational practices. NIT provides a more nuanced approach to understand corporate sustainability and reporting practices (Brammer et al., 2012; Elmanaseer & Gerged, 2025), by referring to both the efficiency and legitimisation perspectives (Sarhan et al., 2024). Accordingly, this study draws on the efficiency and legitimisation insights of neo-institutional theory to illustrate the influence of *CSS* on *IRQ*.

Briefly, the legitimisation perspective of NIT suggests that firms may commit to good sustainability and reporting practices, not merely to obtain competitive advantages (e.g., to access important resources), but also to improve their legitimacy and social acceptance (Meyer & Rowan, 1977; Scott, 1995, 2014). Specifically, the legitimisation perspective indicates that institutional pressures (i.e., coercive, mimetic, and normative) may compel firms to adopt specific strategies and practices to improve their legitimacy and social acceptance (García-Sánchez et al., 2024). For example, regulatory initiatives [(e.g., EU's Non-Financial Reporting Directive (NFRD) and Corporate Sustainability Reporting Directive (CSRD)], increasing investor interest in corporate sustainability and public disclosures, and global frameworks (e.g., Global Reporting Initiative (GRI), International Sustainability Standards Board (ISSB) may encourage firms to adopt good sustainability strategies and engage in better integrated reporting (Camilleri, 2018; Kılıç et al., 2021). This is due to that implementing such good sustainability and reporting practices can help in aligning firms' goals with those of the broader society, and this in turn, can enhance the legitimacy of their operations/activities, as well as improve their public image and reputation (Suchman, 1995).

Similarly, the efficiency perspective of NIT (Roszkowska et al., 2024) posits that institutional pressures may also force firms to compete for critical resources to maximise shareholder wealth. Further, this perspective suggests that by committing to high levels of accountability and transparency through increased integrated reporting, firms can improve their reputation and goodwill, thereby gaining access to crucial resources (Sarhan et al., 2024; Jiang et al., 2022). In addition, greater engagement in disclosures, including integrated reporting, may not only enhance firms' legitimacy and social acceptance but also reduce transaction costs (e.g., information acquisition costs) and asymmetry of information among different groups of stakeholders, and this in turn, can improve firms' overall operational efficiency and value (Gomez, 2024; Di Vaio et al., 2024).

2.2 Literature review and hypothesis development

2.2.1 Corporate sustainability strategy and integrated reporting quality

The legitimisation perspective of neo-institutional theory (NIT) suggests that firms' commitment to robust sustainability strategies is a strategic move to strengthen their legitimacy and gain/maintain public acceptance (Meyer & Rowan, 1977; Scott, 1995). This is due to that committing to strong corporate sustainability strategy can increase pressure on firms to align their practices with institutional norms, values and expectations, through engaging in high-quality integrated reporting, to legitimise their operations/activities and survive (Ntim & Soobaroyen, 2013; Suchman, 1995). Therefore, and according to the legitimisation perspective of NIT, firms with strong sustainability strategies are expected to engage high-quality integrated reporting in order to demonstrate their adherence to social norms/values and to maintain stakeholder trust.

In addition, the NIT efficiency perspective (e.g. Sarhan et al., 2024; Jiang et al., 2022) argues that firms may implement strong sustainability strategies, not just to enhance their reputation and public image, but also to express accountability to powerful stakeholders in order to gain competitive advantages through getting access to important resources. In addition, the NIT efficiency perspective suggests that the implementation of strong sustainability strategy is often associated with increased managerial monitoring, and this can help in reducing information asymmetry by increasing pressure on firms to disclose more information in their reports (Roszkowska et al., 2024).

Empirically, prior studies have largely examined the impact of corporate sustainability, particularly through the lens of CSR, on the disclosure of non-financial information (Ackers & Grobbelaar, 2022; Adams et al., 2016; Helfaya et al., 2023; Permatasari & Tjahjadi, 2024; Sierra-García et al., 2015). Overall, the findings of these studies suggest that firms with greater CSR engagement tend to disclose more non-financial information. For example, and based on 7,144 global observations, Sierra-García et al. (2015) report that the CSR-orientation is positively associated with the likelihood of a firm producing an integrated report. Similarly, and based on 7,840 observations, Helfaya et al. (2023) find that CSR-oriented European firms tend to engage in high-quality ESG disclosures. However, CSR reporting has been criticised for a lack of standardisation, how voluntary it is (De Colle et al., 2014), which increases the risks firms may engage in symbolic behaviours such as "greenwashing" to achieve a positive public perception without a real commitment or change (Omran et al., 2021a). Contracting to

the reactive nature of traditional CSR, corporate sustainability strategy (*CSS*) is a much deeper and proactive approach (Wijethilake, 2017). This is because *CSS*: (i) integrates sustainability issues within all of business operations/activities (Opferkuch et al., 2021); (ii) formalises consideration on the board level (Klettner et al., 2014); and (iii) pursues efficiencies of business goals with its long-term value creation (Lloret, 2016).

Despite the importance of *CSS*, there remains a paucity of empirical evidence on its impact on *IRQ*. Prior studies (e.g., Maniora, 2017; McNally & Maroun, 2018) suggests that integrated reporting provides a superior platform for sustainability communication compared to traditional CSR reports because it explicitly links sustainability efforts to business outcomes. Nevertheless, most studies have focused on CSR disclosures as a proxy for sustainability (e.g., Ackers & Grobbelaar, 2022; Helfaya et al., 2023; Sierra-García et al., 2015) and overlooked the multidimensionality of *CSS*. This study seeks to address this gap by operationalising *CSS*, using a comprehensive measure derived from ASSET4 database, to capture firm-level commitment to good sustainability practices.

From regulatory perspective, the European regulations (e.g., the Accounting 2013/34, NFRD-2014/95, CSRD-2022/2464) require from the European firms to integrate sustainability into their core business strategies and reporting practices. For example, the Accounting 2013/34 and NFRD-2014/95 directives were pivotal for promoting greater corporate accountability and transparency by mandating that EU firms' disclosure key non-financial information metrics, such as information on environmental, social, and employee matters, respect for human rights, anti-corruption, and anti-bribery issues (Aboud et al., 2024). Furthermore, CSRD-2022/2464 directive, which replaced the NFRD-2014/95, has significantly expands the scope of mandatory sustainability reporting to include not only large EU firms, but also small and medium-sized enterprises (Pisano et al., 2025). The CSRD also mandates more detailed reporting requirements, compelling firms to disclose information on both financial materiality and sustainability risks and opportunities, including their impact on the environment and society (Hummel & Jobst, 2024). Hence, implementing a robust *CSS* can be viewed as a good practice that can improve *IRQ*. Therefore, and in line with this argument and the predictions of NIT (legitimisation and efficiency perspectives), we hypothesise that:

H1. *CSS is positively and significantly associated with integrated reporting quality.*

2.2.2 The moderating role of national governance on the CSS-IRQ nexus

NIT posits that institutional environment plays a vital role in influencing corporate strategy and reporting behaviours (Ntim & Soobaroyen, 2013). Further, this theory suggests that national-level governance represents a key institutional factor (La Porta et al., 2000) that can moderate the link between corporate sustainability strategy and the quality of its integrated reporting. Specifically, and from a neo-institutional efficiency perspective (Kolk, 2008) firms in countries with strong governance systems (e.g., strong rule of law, effective government, low corruption, and high regulatory quality) are often subject to greater pressure from stakeholders, especially providers of finance (e.g., investors, creditors), to address and report on sustainability issues. This may be due to that strong governance environment are often associated with more accountability, transparency, and lower levels of tolerance for non-compliance (Young & Thyil, 2014). Consistent with this view, firms in countries with sound governance institutions are more likely to possess strong sustainability strategies and to issue high-quality integrated reports, and this can help firms meet stakeholders' needs and attain their support, which is often necessary to obtain critical resources (Ntim & Soobaroyen, 2013). In addition, the legitimisation perspective of NIT (Husted & Allen, 2006) contends that firms working in countries characterised by weak governance structures can utilise good reporting and sustainability practices as a means of social acceptance and to legitimise their activities/operations. Consistent with this, and in keeping with this view, firms in countries that have weak governance regimes will most likely adopt intense sustainability strategies and publish high-quality integrated reports so that they can be seen as legitimate and credible.

Empirically, despite increased anecdotal evidence and theoretical suggestions that national governance can influence corporate sustainability strategy and integrated reporting practices (Husted & Allen, 2006; Young & Thyil, 2014), there is a notable lack of empirical research investigating its moderating effect on the *CSS-IRQ* nexus. This offers a great opportunity to contribute to the existing integrated reporting literature. Therefore, and consistent with neo-institutional legitimisation and efficiency perspectives, we hypothesise that:

H2. *National governance positively moderates the CSS-IRQ nexus.*

Based on the hypotheses presented above, Figure 1 illustrates the conceptual framework of this study.

Insert Figure 1 about here

3. Research Design

3.1 Data and Sample

To test our hypotheses, we initially targeted non-financial listed firms from all 27 European countries between 2013 and 2022. However, we restricted our final sample to firms with complete available data on the ASSET4 DataStream (now Refinitiv). This resulted in having a final balanced panel data sample of 285 non-financial firms (2,850 firm-year observations) from six European countries: the United Kingdom, Germany, Denmark, France, Sweden, and Italy. We focused on these six countries for two main reasons, in addition to data availability. First, they represent a diverse, yet highly industrialised cross-section of European economies (Algan et al., 2010; Fouquet & Broadberry, 2015; Pollard, 1973), sharing similar advancements in financial systems and institutional environments (Aggarwal & Goodell, 2010; De Haan et al., 2020), while also having distinct national governance systems (Jordan, 2001). Second, these nations have been at the forefront of developing integrated reporting and voluntary regulatory frameworks for ESG reporting (Hummel & Jobst, 2024; Singhania et al., 2024), making them an ideal context for this research. Table 1 provides a full breakdown of the sample's distribution by country.

Insert Table 1 about here

We started our analysis in 2013 because this year marked the passage of Directive 2013/34 by the European Union (Aboud et al., 2024). This directive was a landmark change, as it required European listed firms to include a non-financial statement in their management reports. This statement had to contain essential information on a firm's environmental, social, and employee-related performance (Helfaya et al., 2023). Starting in 2013, therefore, allows us to capture the crucial period immediately following the implementation of this directive. Our analysis ended in 2022, as this was the last year with available data when we started data collection.

3.2 Research Variables

We classify our study variables into four main groups. First, and consistent with prior studies (Chouaibi & Hichri, 2021; De Villiers et al., 2017; Hichri, 2022) we employ the Thomson Reuters' ASSET4 DataStream[1] "*CGVS*" variable to measure the quality of integrated reporting (*IRQ*). According to Thomson Reuters' ASSET4 database, *CGVS* captures the commitment and

[1]See these links for more information about data relating to CGVS (Asset4ESGProfessional_Guide.pdf), CSS (Environmental, social & governance scores guide), and national governance (Home | Worldwide Governance Indicators). Data of last access: 05 October 2025.

effectiveness of a firm's leadership in developing a comprehensive vision and strategy that combines both financial and non-financial considerations. It also reflects the firm's ability to show and convey how economic, social, and environmental factors are incorporated into its day-to-day decision-making processes (Serafeim, 2015). The *CGVS* score ranges from 0 (indicating poor quality of integrated reporting) to 100 (denoting high-quality of integrated reporting). This score consists of 12 sub-items, of which 8 outcome and 4 driver scores (see Appendix A for more details).

Second, Corporate Sustainability Strategy (*CSS*) is our main independent variable. Following previous research (Helfaya & Moussa, 2017; Orazalin & Baydauletov, 2020) we measure *CSS* using the sustainability strategy score[2], which obtained from Thomson Reuters ASSET4 DataStream. This score, which ranges from 0 to 100, measures a firm's commitment to sustainability policies and initiatives. A higher score signifies the implementation of robust sustainability strategies, reflecting a firm's dedication to embedding environmental, social, and governance factors into its core business practices (Orazalin & Baydauletov, 2020). We, therefore, use sustainability strategy score to capture *CSS* as it captures the firm's commitment and strategic depth to sustainability, moving beyond simple CSR disclosures (Orazalin, 2020).

Third, to test *H2*, which examines the moderating effect of national governance (*NG*) on the *CSS-IRQ* nexus, we created an interaction variable between *NG* and *CSS*. We measure *NG* using the World Bank Governance Indicators, which include voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption. Following prior studies (Dikova & Van Witteloostuijn, 2007; Elamer et al., 2020; Kaufmann et al., 2011), we used principal components analysis (*PCA*) to create an aggregated measure for *NG*. Table 2 presents the *PCA* eigenvectors and diagnostics of the six *NG* indicators. The overall Kaiser–Meyer–Olkin (*KMO*) value of 0.816 exceeds the recommended minimum value of 0.50 (Tunyi & Ntim, 2016), implying that the sample is suitable for *PCA* (Elamer et al., 2020).

Insert Table 2 about here

Finally, and to control for potential omitted variable bias, the study includes several control variables, including the presence of a board sustainability committee (*EBSC*), a country legal

[2]This study uses CSR strategy score provided by Thomson Reuters ASSET4 DataStream. For more information about this score, please see this link: Environmental, social & governance scores guide. Data of last access: 05 October 2025.

system (*CLAW*), firm size (*FSIZE*), leverage (*LEV*), return on assets (*ROA*), market-to-book value (*MBV*), Year (*YEAR*), and industry (*INDUST*) variables. Although specific hypotheses were not developed for the relationship between each of these control variables and integrated reporting quality (*IRQ*), existing literature provides strong evidence that these factors can influence *IRQ* (Assidi, 2023; Appiagyei & Donkor, 2024; Bananuka et al., 2022; Campbell, 2006; Cormier et al., 2024; Frias-Aceituno et al., 2013; Radu & Smaili, 2022; Songini et al., 2021). Full definitions and measurements of all the variables used are presented in Table 3.

Insert Table 3 about here

3.3 Research Models

This study uses a balanced panel dataset of 285 non-financial listed firms from six European countries. Hence, and to control for potential unobserved firm-specific differences (e.g., cultural, managerial, and operational) that can influence both corporate sustainability strategy (*CSS*) and integrated reporting quality (*IRQ*), and consistent with past studies (Bansal, 2025; Fasan & Mio, 2017; Gerwanski et al., 2019), we used Husman test to determine the appropriate panel regression model by comparing the fixed-effects and random-effects models[3]. The test results confirmed that a fixed-effects model was the most appropriate choice for our balanced panel data, as opposed to a random-effects model. Therefore, and to test our first hypothesis (i.e., the impact of corporate sustainability strategy on integrated reporting quality), we estimated our first model using fixed-effects regression as follows:

$$IRQ_{it} = \beta_0 + \beta_1 CSS_{it} + \beta_2 NG_{it} + \beta_3 EBSC_{it} + \beta_4 CLAW_{it} + \beta_5\, FSIZE_{it} + \beta_6\, LEV_{it} + \beta_{76}\, ROA_{it} + \beta_8\, MBV_{it} + \beta_9\, INDUST_{it} + \beta_{10} YEAR_{it} + \varepsilon_{it} \quad (\mathbf{1})$$

In addition, and to test hypothesis 2 [moderating effect of national governance (*NG*) on the *CSS-IRQ* nexus], we created an interaction variable between *NG* and *CSS*. We also included the same control variables as specified in Model 1. Accordingly, we estimated our second model using fixed effects regression as follows:

$$IRQ_{it} = \beta_0 + \beta_1 CSS_{it} + \beta_2 NG_{it} + \beta_3 NG_{it} * CSS_{it} + \beta_4 EBSC_{it} + \beta_{35} CLAW_{it} + \beta_6\, FSIZE_{it} + \beta_7\, LEV_{it} + \beta_8\, ROA_{it} + \beta_9\, MBV_{it} + \beta_{10}\, INDUST_{it} + \beta_{11} YEAR_{it} + \varepsilon_{it} \quad (\mathbf{2})$$

[3]STATA software was used to analyse our data.

Where *i* represents the number of firms; *t* represents the year; *IRQ* refers to integrated reporting quality; *CSS* refers to corporate sustainability strategy; *NG* refers to the national governance; *NG*CSS* refers to the interaction between *NG* and *CSS*; *EBSC* refers to the existence of board sustainability committee; *CLAW* refers to a country legal system (a dummy variable for common law countries); *FSIZE* refers to firm size, *LEV* refers to leverage, *ROA* refers to the return on assets; *MBV* refers to market-to-book value. We have also controlled for the year and industry differences, using *YEAR* and *INDUST* dummies.

4. Empirical Findings

4.1 Descriptive Analysis and Bivariate Correlations

Table 4 presents the summary descriptive statistics for our dependent (*IRQ*), dependent (*CSS*), moderating (*NG*), and control variables. The table is divided into seven panels, where the first panel presents the descriptive statistics for the whole sample, and panels 2-7 present descriptive statistics for each country based on our sample.

Insert Table 4 about here

As shown in Panel 1 of Table 4, *IRQ* ranges from 1 to 0.10, with an average value of 0.82 and the standard deviation of 0.26, implying that, on average, firms in our sample demonstrate a high level of integrated reporting quality. This finding is consistent with those reported by Chouaibi and Hichri (2021), who report that the *IRQ* for the European firms ranges from between 0.95 and 0.10, with a mean value of 0.82. Further, Panel 1 shows that *CSS* has a mean of 0.60 and a standard deviation of 0.36, with a range from 0.00 to 1.00. This indicates that, on average, firms tend to have a strong corporate social strategy. In addition, the mean value of *NG* is 0.41, with a high standard deviation of 2.04. The wide range of *NG*, from -5.34 to 3.13, suggests that there is a significant variation in governance systems among our sample of European firms.

Moreover, Panel 1 of Table 4 shows that there is a wide variation in the distribution of all control variables. For example, firm size (*FSIZE*) ranges from 5.85 to 21.54, with a mean of 16 and a standard deviation of 1.88, reflecting the diversity of firm sizes in our sample. Similarly, the existence of board sustainability committee (*EBSC*) ranges from 0.00 to 1.00, with a mean value of 0.59 and a standard deviation of 0.27, implying that about 60% of the firms in the sample have sustainability committees. Overall, the wide variations of all examined

variables suggests that the sample has been carefully selected, thereby reducing the likelihood of sample selection bias.

Furthermore, the descriptive statistics for the six European countries (Panels 2-7) reveal interesting variations in the distribution of all variables under examination. For example, and with respect to *IRQ*, the UK and Italy show the highest mean values, at 0.93 and 0.91, respectively, which is considerably higher than the overall sample mean of 0.82. Similarly, the mean value of *IRQ* for France is also high, at 0.86, suggesting a strong commitment to integrated reporting. In contrast, Sweden, Germany, and Denmark have lower mean *IRQ* values (0.72, 0.73, and 0.74, respectively), which is below the full sample mean of 0.82. Regarding *CSS*, the highest mean value is observed in the UK (0.66), followed by Germany (0.60) and both Sweden and Italy (0.58). This suggests these countries place a greater emphasis on corporate sustainability strategy. In contrast, France and Denmark have lower mean *CSS* values, at 0.55 and 0.53, respectively. Similarly, the results of *NG* indicate that Denmark (0.99), Sweden (0.97), and the UK (0.95) have the highest mean values, suggesting robust governance frameworks. Germany (0.93) and France (0.74) also demonstrate strong governance systems. However, Italy has a significantly lower mean *NG* of 0.26, which may suggest a weaker national governance environment compared to the other nations in the sample. Overall, the reported results in Panels 2-7 indicate that our study variables are widely distributed.

In addition, Table 5 presents the correlation matrix results for our study variables. Overall, the reported results suggest that our study variables do not suffer from any serious multicollinearity problem. This is further supported by the variance inflation factor (VIF) values, which are all well below the standard threshold of 10 (Myers, 1990).

Insert Table 5 about here

4.2 Multivariate Analyses

Models 1 and 3 in Table 6 present the empirical results relating to the impact of corporate sustainability strategy (*CSS*) on integrated reporting quality (*IRQ*), employing fixed-effects and Tobit regression techniques, respectively. The moderating effect of national governance (*NG*) on the *CSS*-*IRQ* relationship is shown in Models 2 and 4, using fixed effects and Tobit regression, respectively. First, and to test our first hypothesis, the coefficient on *CSS*, in Model 1, is positive and statistically significant, indicating that firms with strong sustainability strategies are more likely to engage in high-quality integrated reporting. Empirically, our result, generally, lends support to the findings of past studies (Ackers & Grobbelaar, 2022; Adams et

al., 2016; Helfaya et al., 2023; Permatasari & Tjahjadi, 2024; Sierra-García et al., 2015), which indicate that firms with greater sustainability strategies tend to engage in more disclosures of non-financial information. For example, Helfaya et al. (2023) and Sierra-García et al. (2015) report that firms with strong CSR-oriented strategies tend to engage in high-quality disclosures in their reports.

Theoretically, our result offers support to neo-institutional theory (NIT). For example, NIT legitimisation perspective indicates that firms tend to adopt robust sustainability strategies as a way to gain legitimacy and public acceptance (Meyer & Rowan, 1977; Scott, 1995). This, in turn, may increase pressure on firm to engage in high-quality integrated reporting to align with institutional norms and maintain stakeholder trust (Ntim & Soobaroyen, 2013; Suchman, 1995). Similarly, the efficiency perspective suggests that firms may use strong sustainability strategies not only to enhance their legitimacy/social acceptance, but also to secure competitive advantages, and improve corporate accountability to powerful stakeholders (Sarhan et al., 2024; Jiang et al., 2022). This commitment to sustainability may increase monitoring on management activities (Roszkowska et al., 2024), thereby reducing information asymmetry (Elmanaseer & Gerged, 2025) and pressuring firms to provide more disclosures in their integrated reports. Further, the positive result is also in line with the recommendation of EU regulations (e.g., NFRD-2014/95, CSRD-2022/2464), which expect European firms to integrate sustainability into their core business strategies and reporting practices.

Insert Table 6 about here

Second, the result relating to the moderating effect of national governance (*NG*) on the *CSS-IRQ* nexus, using fixed effects regression, is reported in Model 2 of Table 6. The coefficient on the *NG* is positive and statistically significant, implying that firms in countries with strong governance systems tend to implement robust sustainability strategies, and this in turn, can impact positively on the quality of their integrated reporting. Similarly, the coefficient of the interaction variable (*CSS*NG*) is positive and statistically significant, and this offers empirical support to our second hypothesis, and the predictions of NIT. Specifically, our finding lends support to the efficiency perspective (Kolk, 2008; Young & Thyil, 2014), which indicates that in countries with strong governance systems, firms may face increased pressure from powerful stakeholders, particularly investors and creditors, for greater accountability and transparency. This environment may force firms to implement robust sustainability strategies and high-quality integrated reporting to secure vital resources (Ntim & Soobaroyen, 2013). The positive

interaction effect of *NG* also provides support to the legitimisation perspective of NIT, which suggests that firms may adopt strong *CSS* and integrated reporting practices to gain social acceptance and be viewed as legitimate/trustworthy ((Husted & Allen, 2006).

Finally, and given that integrated reporting quality (*IRQ*) is a truncated variable (its value ranges between 0 and 100), this study employs Tobit panel data regression model in addition to the fixed-effects regression. Consistent with previous literature (Grassmann et al., 2019; Lavin et al., 2021; Sarea & Salami, 2021), this method is utilised to address potential heteroscedasticity and provide more robust estimates of the dependent variable's predicted value compared with the fixed-effects model (Sarhan et al., 2024). The results of Tobit regression, which reported in Models 3 and 4 of Table 6, generally remain consistent with those reported in Models 1 and 2 of Table 6, and hence providing further empirical support to our hypotheses (*H1* and *H2*).

4.3 Additional Analyses

We performed several additional tests to deal with various types of endogeneities problems. First, to address potential endogeneity, which may arise from omitted variables, dynamics, and simultaneity issues, a generalised method of moments (GMM) was estimated. This method uses the lagged values of both independent and dependent variables as internal instruments (Elmanaseer & Gerged, 2025; Elmagrhi et al., 2021; Wintoki et al., 2012). We checked the validity of our GMM model through the application of autocorrelation [(AR(1) and AR(2)], Hansen and Sargan tests. The findings from the autocorrelation confirmed significance for AR(1), and insignificant for AR(2), indicating that the residuals are not serially correlated (Elmagrhi et al., 2021). The findings from the Hansen and Sargan tests indicated that our instruments were valid. Overall, the reported outcomes in Models 1 and 2 in Table 7 remain similar to those reported in Models 1-4 in Table 6, which means that our findings are robust against numerous endogeneity issues.

Second, and in order to alleviate possible endogeneity issues due to omitted variable bias, the study utilised a two-stage least squares (2SLS) model. Following earlier research (La Porta et al., 2000), the study employed legal origin (a dummy variable for common law countries) as an instrumental variable for *CSS*. Legal origin was selected based on previous research suggestions that common law systems are associated with strong corporate governance standards, investor protection rights, and disclosure practices (La Porta et al., 2000; Lindahl & Schadewitz, 2013; Zattoni & Cuomo, 2008) and thereby influencing the probability of strong

CSS being implemented. The results from the first stage show that legal origin is a statistically significant predictor of *CSS*, with *F*-statistics well above the standard threshold of 10 (Omran et al., 2021b), confirming strong relevance of our instrument. Further, the *p*-values of over-identification tests are insignificant, confirming the validity of our instrument (Stock et al., 2002). Overall, the reported results in Models 3 and 4 of Table 7 remain consistent with those reported in Models 1-4 in Table 6, implying that our findings are not seriously influenced by endogeneity problems arising from potential omitted variable bias.

Insert Table 7 about here

5. Conclusion

This research empirically investigates the impact of corporate sustainability strategy (*CSS*) on integrating reporting quality (*IRQ*) and consequently ascertains the extent to which the *CSS*-*IRQ* nexus is moderated by national governance. Our study provides empirical evidence on how corporate sustainability strategies impact integrated reporting practices in European firms. Using a comprehensive sample of 285 non-financial firms from six key European economies (the United Kingdom, Germany, Denmark, France, Sweden, and Italy) over the period 2013-2022, we provide empirical evidence that firms with strong sustainability strategies tend to engage in high-quality integrated reporting. This positive relationship implies that firms may implement robust sustainability strategies to both increase efficiency through better resource management and monitoring, and to gain legitimacy by enhancing their reputation and demonstrating accountability to stakeholders. Furthermore, our findings show that the positive corporate sustainability strategy-integrated reporting quality relationship is significantly moderated/explained by the country's governance quality, and this offers new insights into the factors that shape corporate reporting practices across different institutional contexts.

Using both the efficiency and legitimisation perspectives of neo-institutional theory, our analysis offers new insights into how a firm's sustainability strategy is linked to its integrated reporting efforts, and the moderating role of national governance environment. These insights have significant practical implications for governments, policymakers, managers, and other stakeholders. For managers and practitioners, our findings highlight the value of aligning a comprehensive *CSS* with high-quality integrated reporting, particularly within supportive institutional environments, to enhance decision-making and foster sustainable value creation. Specifically, our evidence implies that adopting a strong sustainability strategy is key to

improving firms' integrated reporting, especially in environments with strong national governance quality. This evidence suggests that firms should move beyond symbolic gestures and fully embed their sustainability principles into their operations and reporting frameworks. This strategic alignment helps firms become more transparent and accountable, thereby meeting critical stakeholder expectations and building long-term value.

For policymakers and governments, our findings can serve as a motivation for them to strengthen legislations relating to corporate sustainability. Strengthening corporate sustainability legalisations may not only incentivise firms to adopt/embed sustainability principles into their operations/activities but can also enhance the transparency and reliability of their non-financial disclosures, thereby creating a more robust and accountable corporate reporting environment. Further, our evidence emphasises the importance of strengthening national governance frameworks as a means to indirectly promote high-quality corporate reporting. By enhancing key institutional environments, such as legal enforcement, anti-corruption measures, and regulatory quality, governments can effectively motivate firms to provide more transparent, credible, and comprehensive reports. This strengthened institutional environment can foster a culture of accountability, ultimately leading to more reliable corporate disclosures that benefit all stakeholders.

Our findings also offer important implications for investors and other market participants. Specifically, our evidence implies that when a firm's sustainability strategy is strengthened by effective governance structures, this can result in improving the quality of integrated reporting. This high-quality integrated reporting is crucial for supporting more informed and holistic decision-making, as well as reducing information asymmetry between corporate insiders and external audiences. Accordingly, and to gain a better understanding of a firm's performance/value, investors and other market participants should move beyond the focus on traditional financial metrics and incorporate sustainability strategy and broader governance environment into their investment decisions. Furthermore, this study offers early insights for researchers on the influence of corporate sustainability strategy (*CSS*) on integrated reporting, and how national governance moderates this relationship. Therefore, this study offers a crucial starting point for future research to explore other factors that may influence integrated reporting quality.

Finally, while this research offers important and significant contributions, it is essential to acknowledge its limitations. First, due to lack of available data on corporate sustainability and

integrated reporting, our analysis was restricted to 285 non-financial firms from six European economies (the United Kingdom, Germany, Denmark, France, Sweden, and Italy). Therefore, and as data become available, future studies may offer new insights by extending our analysis to include firms from other European countries. Second, our analysis is limited to 2022, and this may impair the generalisability of our findings to subsequent years, particularly following the introduction of Corporate Sustainability Reporting Directive (2022/2464/EU Directive). Hence, future studies may extend our analysis by including the period following the introduction of 2022/2464 Directive. Third, similar to most archival research, our measures of corporate sustainability strategy and integrated reporting, may not fully reflect actual practices. For this reason, future studies could provide more insights by conducting case studies and holding interviews with various stakeholders, such as managers, regulatory bodies, and policymakers. Fourth, this study focused on investigating the moderating role of national governance, as an external institutional factor, on the relationship between corporate sustainability strategy and integrated reporting quality. Thus, future studies may extend our analysis by examining the moderating effect of other institutional factors, such as national culture, media and social activism, and global initiatives and frameworks (e.g., GRI and ISSB). Finally, in this research, we relied on insights from the efficiency and legitimisation perspectives of neo-institutional theory, and therefore, future studies may offer new insights by using other theories, such as impression management and signalling theories.

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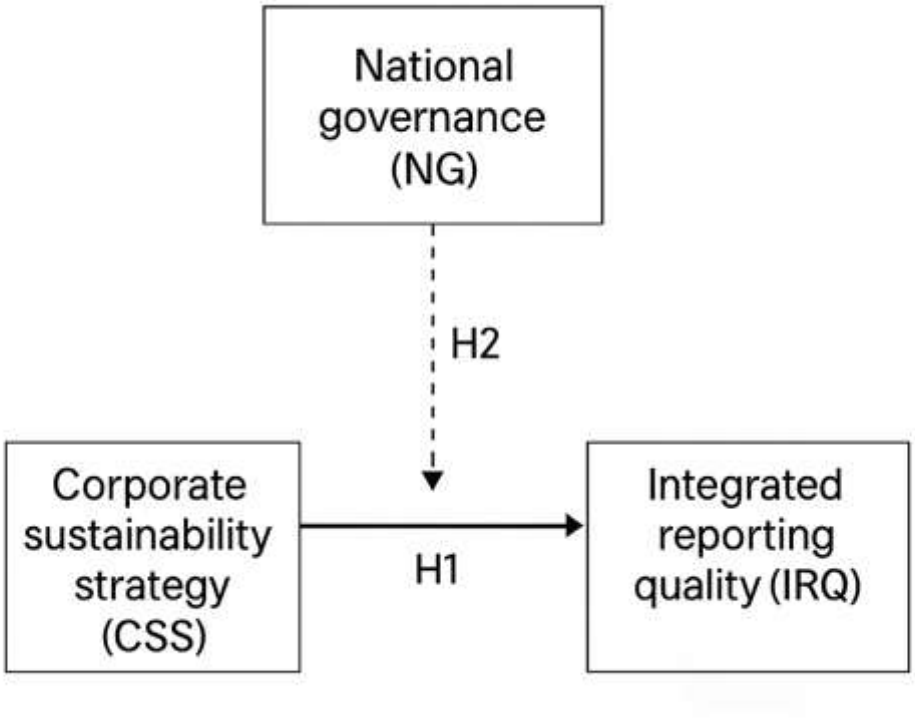

Figure 1. Conceptual framework of the relationship among CSS, NG and IRQ (Source: developed by authors)

Table 1. Distribution of our sample by countries

Sample distribution	Germany	Denmark	France	Sweden	UK	Italy
Initial population	138	68	150	79	300	130
Deductions						
Financial corporations	(40)	(11)	(14)	(18)	(70)	(27)
Companies with missing data	(29)	(34)	(82)	(20)	(168)	(67)
Final sample retained	69	23	54	41	62	36

Table 2. PCA (Eigenvectors) and Diagnostics of the NG

Variable	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Unexplained	KMO
(1) VA	0.415	0.189	-0.670	-0.414	-0.413	-0.024	0	0.790
(2) PS	0.316	0.867	0.162	0.326	0.126	-0.024	0	0.712
(3) GE	0.418	-0.050	0.693	-0.522	-0.212	0.158	0	0.835
(4) RQ	0.429	-0.293	0.093	0.303	-0.112	-0.786	0	0.814
(5) ROL	0.435	-0.172	-0.182	-0.190	0.839	0.087	0	0.854
(6) COC	0.424	-0.308	-0.055	0.567	-0.227	0.591	0	0.849
Eigenvalue	5.022	0.645	0.202	0.082	0.031	0.018	-	-
Proportion	0.837	0.107	0.034	0.014	0.005	0.003	-	-
KMO	-	-	-	-	-	-	-	0.816

Table 3. Variables definition and measurement.

Variable (Abbrev.)	Description
Integrated reporting quality (IRQ)	The ASSET4 DataStream item (CGVS). Please see Appendix A for more details about how it is measured.
Corporate sustainability strategy (CSS)	The score is calculated using the Asset4 database and represents a firm's sustainability efforts toward a holistic vision and plan that incorporates social, economic, and environmental factors into daily decision-making.
National governance (NG)	The measure is based on the Worldwide Governance Indicators (WGI) reported by the World Bank Group on their website (Worldbank.org). We use PCA Analysis to create one NG index from the six key dimensions of national governance per the WGI project: (1) voice and accountability (VA); (2) political stability (PS); (3) government effectiveness (GE); (4) regulatory quality (RQ); (5) rule of law (ROL); and (6) control of corruption (COC) (Dikova & Van Witteloostuijn, 2007; Elamer et al., 2020; Kaufmann et al., 2011). The higher the score of the NG indicates stronger level of national governance quality.
Existence of board sustainability committee (EBSC)	An indicator variable which takes a value of 1 if a firm has a sustainability committee and 0 otherwise.
Common law (CLAW)	Indicator variable for country legal system; it takes a value of 1 for common law and 0 otherwise.
Firm size (FSIZE)	The natural logarithm of a firm's total assets.
Leverage (LEV)	The ratio of Total debt to total assets.
Return on Assets (ROA)	The ratio of net profit (after taxes and interest) to total assets.
Market-to-book value (MBV)	The ratio of market value per share to book value per share.
Industry (INDUST)	A dummy variable equal to 1 if a firm belongs to an industrial sector and 0 otherwise
Year (YEAR)	A dummy variable for the years 2013-2022.

Table 4. Descriptive statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Panel 1: Full Sample					
IRQ	2850	0.82	0.26	0.10	1.00
CSS	2850	0.60	0.36	0.00	1.00
NG	2850	0.41	2.04	-5.34	3.13
EBSC	2849	0.59	0.27	0.00	1.00
CLAW	2850	0.58	0.49	0.00	1.00
FSIZE	2850	16	1.88	5.85	21.54
LEV	2850	1.34	1.2	0.00	2.82
ROA	2850	0.07	0.14	-0.63	2.69
MBV	2850	0.20	0.17	0.01	2.01
Panel 2: UK					
IRQ	620	0.93	0.16	0.10	1.00
CSS	620	0.66	0.23	0.00	0.99
NG	620	0.95	0.14	-4.55	3.01
EBSC	620	0.83	0.37	0.00	1.00
CLAW	620	1.00	0.00	0.00	1.00
FSIZE	620	14.76	2.64	10.00	21.43
LEV	620	0.60	0.82	0.01	1.05
ROA	620	0.72	0.63	-0.40	2.43
MBV	620	1.25	1.60	0.05	1.97
Panel 3: France					
IRQ	540	0.86	0.19	0.11	1.00
CSS	540	0.55	0.26	0.00	0.99
NG	540	0.74	0.35	-5.34	3.01
EBSC	540	0.81	0.39	0.00	1.00
CLAW	540	1.00	0.00	0.00	1.00
FSIZE	540	16.66	1.65	10.12	21.49
LEV	540	0.47	0.51	0.04	2.82
ROA	540	0.84	0.66	-0.60	1.93
MBV	540	1.15	0.79	0.02	1.95
Panel 4: Sweden					
IRQ	410	0.72	0.34	0.15	1.00
CSS	410	0.58	0.32	0.00	0.99
NG	410	0.97	0.03	-1.66	3.13
EBSC	410	0.79	0.41	0.00	1.00
CLAW	410	1.00	0.00	0.00	1.00
FSIZE	410	16.81	2.33	8.85	21.23
LEV	410	0.66	0.60	0.00	2.60
ROA	410	0.58	0.49	-0.52	2.43
MBV	410	1.29	0.80	0.08	1.88

Table 4 (Continued). Descriptive statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Panel 5: Germany					
IRQ	690	0.73	0.28	0.12	1.00
CSS	690	0.60	0.26	0.00	1.00
NG	690	0.93	0.40	-3.56	2.97
EBSC	690	0.92	0.27	0.00	1.00
CLAW	690	1.00	0.00	0.00	1.00
FSIZE	690	15.36	2.18	5.85	20.69
LEV	690	0.79	0.89	0.00	1.86
ROA	690	0.59	0.51	-0.21	1.85
MBV	690	1.20	0.92	0.01	1.30
Panel 6: Italy					
IRQ	360	0.91	0.19	0.14	1.00
CSS	360	0.58	0.33	0.00	0.98
NG	360	0.26	0.16	-2.57	2.85
EBSC	360	0.78	0.41	0.00	1.00
CLAW	360	1.00	0.00	0.00	1.00
FSIZE	360	15.76	2.18	10.00	21.54
LEV	360	0.71	0.88	0.00	2.00
ROA	360	0.49	0.57	-0.63	1.89
MBV	360	1.27	1.15	0.07	1.47
Panel 7: Denmark					
IRQ	230	0.74	0.33	0.18	1.00
CSS	230	0.53	0.26	0.00	0.97
NG	230	0.99	0.09	-1.66	2.84
EBSC	230	0.85	0.36	0.00	1.00
CLAW	230	1.00	0.00	0.00	1.00
FSIZE	230	16.57	1.39	10.75	21.31
LEV	230	0.82	0.69	0.00	2.73
ROA	230	0.42	0.54	-0.40	2.69
MBV	230	1.25	0.75	0.06	2.01

Note: Full variable definitions are provided in Table 2.

Table 5. Pearson's correlation.

Variables	VIF	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) IRQ	1.52	1.000								
(2) CSS	1.49	0.068***	1.000							
(3) NG	1.21	-0.048**	0.806***	1.000						
(4) EBSC	1.10	0.003	0.568***	0.485**	1.000					
(5) CLAW	1.09	0.049***	-0.054**	-0.066*	-0.100	1.000				
(6) FSIZE	1.25	-0.140***	-0.090**	-0.050***	0.230***	0.300*	1.000			
(7) LEV	1.15	-0.006	0.130***	0.078***	0.041**	-0.029**	-0.030	1.000		
(8) ROA	1.05	0.049***	-0.100**	-0.108**	-0.034*	0.021	-0.146***	-0.150***	1.000	
(9) MBV	1.01	-0.020	0.018	-0.004	-0.009	-0.043**	-0.060***	-0.059**	-0.058**	1.000

Note: Please see Table 3 for full variable definitions. p-values are in the parentheses. *** denotes significance at the 1% level ($p<0.01$). ** denotes significance at the 5% level ($p<0.05$). * denotes significance at the 10% level ($p<0.10$).

Table 6. The association among corporate sustainability strategy (CSS), national governance quality, and integrated reporting quality.

	Fixed-Effects		Tobit Regression	
Dep. Variable	IRQ	IRQ	IRQ	IRQ
(*Model*)	(1)	(2)	(3)	(4)
CSS	0.072***	0.058***	0.643***	0.543***
	(0.001)	(0.000)	(0.001)	(0.001)
NG	0.026***	0.018***	0.318***	0.283***
	(0.000)	(0.000)	(0.000)	(0.000)
CSS*NG		0.012***	-	0.325***
		(0.003)		(0.003)
EBSC	-0.021*	-0.018*	-0.018***	-0.036***
	(0.080)	(0.050)	(0.007)	(0.001)
CLAW	0.033**	0.021**	0.056***	0.044
	(0.005)	(0.071)	(0.000)	(0.938)
FSIZE	-0.013***	-0.013***	-0.134***	-0.173**
	(0.000)	(0.000)	(0.000)	(0.030)
LEV	-0.002	0.003	-0.058	-0.041
	(.0772)	(0.592)	(0.667)	(0.691)
ROA	0.021***	0.020***	0.027***	0.179***
	(0.008)	(0.008)	(0.003)	(0.006)
MBV	0.006	-0.003	0.210	0.163
	(0.247)	(0.335)	(0.287)	(0.589)
Constant	1.012***	1.005***	1.656***	1.732***
	(0.000)	(0.000)	(0.000)	(0.000)
INDUST	Yes	Yes	Yes	Yes
YEAR	Yes	Yes	Yes	Yes
Observations	2850	2850	2850	2850
R^2	0.104	0.137	-	-
Pseudo R^2	-	-	0.120	0.128

Note: Please see Table 3 for full variable definitions. p-values are in the parentheses. *** denotes significance at the 1% level ($p<0.01$). ** denotes significance at the 5% level ($p<0.05$). * denotes significance at the 10% level ($p<0.10$).

Table 7. Additional Analyses

	Dynamic GMM		2SLS	
Dep. Variable	IRQ	IRQ	IRQ	IRQ
(*Model*)	(1)	(2)	(3)	(4)
L.IRQ	0.787***	0.787***	-	-
	(0.000)	(0.002)		
CSS	0.033***	0.034***	1.084***	0.113***
	(0.000)	(0.000)	(0.000)	(0.008)
NG	0.013***	0.011***	0.062***	0.266***
	(0.000)	(0.000)	(0.000)	(0.000)
CSS*NG	-	0.005***	-	0.426***
		(0.000)		(0.000)
EBSC	-0.011***	-0.007***	-0.439***	-0.064*
	(0.000)	(0.000)	(0.000)	(0.067)
CLAW	-0.020***	-0.025***	0.006	0.020
	(0.000)	(0.000)	(0.731)	(0.325)
FSIZE	-0.010***	0.010***	0.010***	-0.025***
	(0.000)	(0.000)	(0.003)	(0.000)
LEV	-0.004***	0.003***	-0.030***	-0.007
	(0.000)	(0.000)	(0.005)	(0.401)
ROA	0.090***	0.001**	0.037***	0.076***
	(0.003)	(0.043)	(0.001)	(0.000)
MBV	-0.001***	-0.001***	-0.012**	-0.010
	(0.000)	(0.000)	(0.027)	(0.207)
INDUST	Yes	Yes	Yes	Yes
YEAR	Yes	Yes	Yes	Yes
Observations	2850	2850	2850	2850
R^2	-	-	0.146	0.171
AR1 (p)	0.000	0.000	-	-
AR2 (p)	0.508	0.511	-	-
Hansen test	0.278	0.275	-	-
Sargan test	0.128	0.468	-	-

Note: Please see Table 3 for full variable definitions. p-values are in the parentheses. *** denotes significance at the 1% level (p<0.01). ** denotes significance at the 5% level (p<0.05). * denotes significance at the 10% level (p<0.10).

Appendix A: CGVS Components

Vision & Strategy	Score	Description
Drivers		
Policy	CGVSD01S	This assesses whether the firm has a policy for maintaining a comprehensive vision and strategy that integrates both financial and extra-financial aspects of its business.
Implementation	CGVSD02S	This evaluates if the firm describes the implementation of its integrated strategy through a public commitment from a senior manager or board member, or by establishing a CSR committee or team.
Monitoring	CGVSD03S	This measures if the firm monitors its integrated strategy by belonging to a specific sustainability index or by conducting external audits on its reporting.
Improvements	CGVSD04S	This checks if the firm sets specific objectives to be achieved as part of its integrated strategy.
Outcomes		
Challenges & Opportunities	CGVSO01S	This determines whether the firm reports on the challenges or opportunities linked to the integration of financial and extra-financial issues.
Integrated Strategy	CGVSO02S	This assesses if the firm integrates financial and extra-financial factors in the management discussion and analysis section of its annual report.
Global Compact Signatory	CGVSO03S	This checks if the firm is a signatory of the Global Compact.
Stakeholder Engagement	CGVSO04S	This evaluates if the firm explains how it engages with its stakeholders.
Transparency	CGVSO05S	This looks at whether the firm publishes a separate CSR/H&S/sustainability report or includes a section on these topics in its annual report.
GRI Report	CGVSO06S	This measures if the firm's CSR/H&S/sustainability report is published in accordance with the GRI guidelines.
Global Reporting	CGVSO07S	This assesses whether the firm's extra-financial report accounts for its global activities.
CSR Reporting Audit	CGVSO08S	This checks if the firm's CSR/H&S/sustainability reporting is audited

Source: De Villiers et al. (2017).