Journal of Financial Reporting and Accounting

Impact of country-specific business integrity and firm-specific ESG on earnings quality: evidence from EU civil law jurisdictions

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Received 12 February 2024
Revised 16 May 2024
13 August 2024
Accepted 5 October 2024

Abstract

Purpose – This paper aims to examine whether variations in country-specific business integrity (BI) and firm-specific environmental, social and governance (ESG) dimensions can explain variations in earnings quality (EQ) in Northern and Southern EU civil law countries.

Design/methodology/approach – Regarding EQ, the analysis builds on the "small gain, small loss" (SGSL) model of Burgstahler and Dichev (1997) and Burgstahler and Chuk (2015). The authors explain SGSL with the BI. Southern Europe or "Club Med" is typically associated with a less rigorous institutional regime than Northern Europe.

Findings – Results evidenced higher EQ in the Northern EU compared with the Southern EU. Furthermore, EQ is explained successfully with the Business Integrity Index (BII) and ESG. The results suggest that BII and ESG represent different dimensions, and, therefore, both should be included in the models explaining EQ.

Practical implications – The results show that the Northern EU civil law countries have higher EQ compared with the Southern EU civil law countries. The difference is explained by the BII variable. For the Southern EU, legislators and other public policy decision-makers should build up and apply tools to limit and fight corruption in those jurisdictions. The impactful elimination of corruption would, in turn, establish a firmer basis to foster ethical behavior and financial market sophistication developments.

Originality/value – The study offers additional insights on the determinants of EQ in the EU civil law countries. The prior literature has argued that, categorically, in common law countries firms engage in higher-quality reporting than those in civil law countries. The results evidence that EQ varies within the EU civil law

This work was supported by funding from the Anja and Erkki Toivanen Foundation. Comments from Janne Engblom, Luis Alvarez Esteban, Antti Fredriksson, Mika Hannula, Ingolf Kloppenburg, Matti Heikkonen, Valtteri Peltonen, Jan Pfister and Mika Vaihekoski have been helpful. The authors wish to thank Valtteri Suutari, Okko Takkinen, Ville-Matti Tarvonen and Valtteri Toivanen for their able research assistance. Alex Frost is acknowledged for the skillful editing of the text. The authors, however, retain responsibility for the final interpretations.

Journal of Financial Reporting and Accounting
Emerald Publishing Limited
1985-2517
DOI 10.1108/JFRA-02-2024-0089

countries; that is, a country's BI and firm-specific ESG contribute to the explanation for EQ. A more specific explanation for the reasons in the EQ "within" civil law jurisdictions could be related to legislators and other public policy decision-makers in charge of establishing regimes and public policies supporting high-quality accounting.

Keywords ESG, Small gain, Small loss, Business integrity, EU

Paper type Research paper

1. Introduction

Earnings quality (EQ) modeling is an important part of accounting research. Echoing Frankel *et al.* (2019), earnings computation seeks to enhance firm value, rather than just measure the change in that value. Over time, several concerns have been raised regarding EQ (Frankel *et al.*, 2019). Arguments explaining low EQ have included, but are not limited to, issues such as new and innovative business models, intangibles, goodwill, various accounting standards and their interpretation and enforcement and nonrecurring items. The most significant transition toward more harmonious accounting information has been and still is the International Financial Reporting Standards (IFRS). The global expansion (among the listed companies in the whole EU since 2005) of IFRS can be primarily characterized as a success despite its challenges (Ball, 2006; see also Ball, 2016).

Earnings are important in several ways. According to Frankel *et al.* (2019), shareholders and lenders demand a periodic, verifiable measure to evaluate and reward managers. In turn, managers need earnings information for decision-making and internal control. Earnings are typically used in remuneration plans and loan covenants. They are the input for certain valuation models, and negative earnings make it difficult to use the accounting-based firm valuation (Palepu *et al.*, 2022). That is because negative earnings are not expected to perpetuate and are thus less informative of a firm's prospects than are profits (Hayn, 1995). Consistent with the importance of earnings, there is a great deal of literature analyzing earnings management (Dechow *et al.*, 2010). Typically, earnings management erodes EQ.

The decision regarding published earnings figures is made at the discretion of the management (Ball, 2013). Flexibility in accounting rules and the existence of positive agency costs cause earnings management to potentially attenuate EQ. IFRS, as a principles-based accounting standard, requires and allows for more professional judgment than rules-based accounting standards (Agoglia *et al.*, 2011; Gray *et al.*, 2015).

In the EU, all listed companies have been required to apply IFRS standards since 2005 (EC, 2024). A rich literature has shown that several firm-, country- and area-specific reasons affect EQ (Soderstrom and Sun, 2007; Wysocki, 2011). Prior influential research has revealed heterogeneity in the adoption of international accounting standards (IAS)/IFRS accounting standards prompted by country-specific institutional features (Burgstahler *et al.*, 2006).

One often used and important model to capture EQ is to compare the frequency of small gains to the frequency of small losses (*SGSL*). *SGSL* has several benefits that support its use in research. The face value interpretation of gains and losses is clear: gains (losses) are universally interpreted as good (bad) news. Firms are aware of this, so there is an incentive to report gains rather than losses to the limits that accounting flexibility enables. The interpretation of the *SGSL* figure is also robust to differences in accounting systems and variations in capital market conditions.

There are voids in the current literature on EQ to which our study aims to contribute. First, to knowledge on EQ in Northern and Southern EU regimes (see Appendix 1). There are, to our knowledge, no such *SGSL* comparisons. Chardonnens and Wallmeier (2024) compared

small loss avoidance between Europe and the USA. They found that the implementation of a new reform for audits and investor protection did not eliminate zero earnings discontinuity in Europe, but did so in the USA. Furthermore, the discontinuity remained more pronounced in code (civil) law countries than in common law countries. However, further investigation on civil law countries in this respect is scant, and our first objective is to rectify this.

Our second research objective stems from the fact that earnings and their communication do not occur in a vacuum, as country- and firm-specific matters influence the communication. Several real-world cases evidence that earnings (and accounting quality more generally) are related to the context in which accounting is exercised (Soltani, 2014). Soltani (2014) analyzed the high-profile American and European corporate scandals of Enron (USA), WorldCom (USA), HealthSouth (USA), Parmalat (Italy), Royal Ahold (The Netherlands) and Vivendi Universal (France). He concluded that in all these failures, the overall ethical climate, aggregated perceptions of organizational conventions and implemented organizational norms played a role. There were multiple reasons why true and fair view was not established concerning these firms. Also, Toshiba (Japan) could be added to the corporate scandals' list for the same reasons. So, in the civil law regime, we analyze to what extent country-specific business integrity (BI) in EU civil law countries is related to EQ. This is in line with Isidro *et al.* (2020), who called for studies taking into account country-specific attributes in explaining variations in reporting quality. A more permissive (rigid) BI regime in a country is likely to offer more (less) leeway in firm reporting, including earnings. This is an important viewpoint for, among others, those responsible for developing BI and related matters in a country.

Besides country-specific BI, we analyze whether firm-specific ESG variations are related to EQ. We focus on ESG to discover what role it plays in firms following IFRS in EU civil law jurisdictions. A consistent and coherent finding in the prior research, typically based on stakeholder theory, is that higher ESG quality is positively related to better EQ. These important findings support the view that financial reporting and sustainability reporting and their quality go hand-in-hand. In other words, managers who are diligent in financial reporting are likely to follow the same principles in ESG reporting, to serve a wide variety of stakeholders with diverse information needs from a firm (its operations and performance).

Prior research based on a limited sample of US companies found that ESG disclosures were associated with EQ (Rezaee and Tuo, 2019; other studies listed in Shi *et al.*, 2022). In a similar vein, Chouaibi and Zouari (2022), using data from five EU countries, reported that a company's high social and ethical practices (measures derived from ESG) mitigated its real earnings management. Furthermore, Nagy *et al.* (2022) focused on the Visegrad countries (Poland, the Czech Republic, Slovakia and Hungary) and found that higher ESG performance limited earnings management. There are also country-specific studies evidencing a negative association between ESG and, in a broad sense, earnings management (Grimaldi *et al.*, 2020, Italian evidence; Kim and Lee, 2023, Korean evidence; Mohmed *et al.*, 2020, Egyptian evidence; Palacios-Manzano *et al.*, 2021, Spanish evidence; Sun *et al.*, 2024, Chinese evidence; Velte, 2019, German evidence; Zhang *et al.*, 2023, Chinese evidence).

There have also been a small number of findings that have deviated from this general line, for example, Tohang *et al.* (2024). Based on 18 Asian countries and their telecommunications service firms, the study found a positive (negative) association between ESG and discretionary accruals (innate EQ). This finding was likely due to challenges in the sector, such as rapid digital transformation and unexpected market development. Regarding the results, Tohang *et al.* presumed that the use of ESG was somewhat symbolic, being detrimental to EQ.

The findings support the view that besides the conventional financial reporting materials, firm communication with external stakeholders is a wide-ranging and systematic endeavor covering strongly emerging ESG themes. These developments are also in line with the UN's Sustainable Development Goals (SDGs) in 2015; specifically SDG 12 ensure sustainable consumption and production patterns, and SDG target 12.6 which encourages companies to adopt sustainable practices and to integrate sustainability information into their reporting cycle (see also Envoria, 2023).

ESG quality also has other implications in corporate communication. For example, ESG ratings and analysts' earnings forecast accuracy are positively associated (Luo and Wu, 2022). Our study will shed light on whether firms' ESG levels are associated with their EQ in EU civil law countries. The focus on EU civil law countries is motivated because the vast majority of EU member countries are governed by civil law systems. During the study period, the only exceptions were the UK and Ireland (European e-Justice Portal – National Legislation, 2023). Pathak and Das Gupta (2022) found that ESG performance reduced earnings management in the civil law countries. Also, Bilyay-Erdogan (2022) discovered that civil law negatively moderates the ESG – information asymmetry relationship. Focusing solely on civil law countries helps us understand whether there are other factors causing differences in financial reporting quality within such countries.

Our paper proceeds as follows: Section 2 reviews the related literature on accounting quality and the factors affecting it. A full motivation for the paper is in Section 3, together with hypotheses related to EQ. The method to capture earnings management, as well as a method to explain EQ, are both presented in Section 4. The section also provides more insight and details for hypotheses and data. Results and robustness checks are reported in Section 5. Section 6 concludes.

2. Literature review

2.1 Accounting quality studies and the EU

A widely cited paper is Leuz *et al.* (2003). It used earnings management variables based on an analysis of accruals *vis-à-vis* cash flow. Of their sample of 31 countries, 14 were from the Western EU (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, The Netherlands, Portugal, Spain, Sweden and UK). Their results centered on the effect of the explanatory variables, and they made no effort to find geographical or cultural patterns. In addition, after corrections for the anti director index (targeted to measure outsider shareholder rights), the association between that index and earnings management deteriorated significantly (Francis *et al.*, 2016).

Han *et al.* (2010) examined culture using 32 countries. They were not listed, but presumably, some were from the EU. The explanatory variables were "individualism" and "uncertainty avoidance" from Hofstede (1980). The research design was typical: use a conventional method to measure the dependent variable (earnings management), and regress that on an oft-used, easily accessible explanatory variable (Hofstede scores). They also copied an "investor protection" variable (legal enforcement index) from La Porta *et al.* (1998). They found statistical associations. However, they did not try to group countries by culture, so potential regional patterns remained concealed.

Gray *et al.* (2015) virtually replicated Han *et al.* (2010). Their paper used the same measures of earnings management and culture and used almost the same legal variable. It departed from Han *et al.* (2010) in using a later period and only Western EU countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, The Netherlands, Portugal, Spain, Sweden and UK; of which 12 countries are included in the current study). The explanatory variables (cultural factors) were "individualism" and

"uncertainty avoidance," which originated from Hofstede's data. The findings showed that the tendency of earnings management continues post-IFRS, and that cultural factors can explain differences in earnings management across countries. The two cultural variables Gray *et al.* (2015) used are rather distant from countries' business environments. To improve EQ, it is hard to assess how a country's cultural factors could or should be treated for that purpose.

Barth *et al.* (2008) investigated EQ in 21 countries, including 13 from the EU. The authors inquired whether firms that voluntarily adopted IAS had higher accounting quality. By three of their four measures, quality among adopters was higher.

Overall, studies focusing solely on the EU and its specific areas remain rare. Yet, research results focused on EU areas could potentially be useful to EU public policy decision-makers on the EU level and also the country level, since the EU is not a monolithic area of jurisdictions. These matters motivate the study at hand.

2.2 Institutional factors and accounting quality

The prior literature has documented that institutional factors affect financial reporting practice. There is variation in reported accounting quality across countries, attributed to accounting regime differences, legal institutions, enforcement, capital structure, market demand, managers' incentives, economic development, the importance of the accounting profession, investor rights and Big 4 audit firm effects. Ball *et al.* (2000) found that this variation existed even within the same accounting standards. They also claimed that the cross-country differences in the application of accounting standards stemmed from differences in enforcement, as well as differences in managerial discretion.

Ball *et al.* (2003) studied the effect of institutional factors on financial reporting quality, measuring the latter as timely incorporation of economic loss. They examined the timeliness of earnings in firms from four East Asian countries, and compared it with that from two benchmark samples, one of which was a purely common law countries' sample, the other a purely civil law countries sample. They concluded "the incentives of managers and auditors appear to dominate accounting standards as a determinant of financial reporting" and suggested researchers pay attention to the institutional influences on preparers' financial reporting incentives.

Ding *et al.* (2007) investigated the impact of cross-country variations in institutional frameworks on the difference between domestic and international accounting standards (DAS and IAS) and explored how those differences affected financial reporting quality. Their sample covered 30 countries, including 12 in the current study. They discovered that adopting IAS may not automatically improve national accounting systems, unless countries also implemented thorough adjustments in economic development policy, corporate governance and financial market functioning.

Leuz *et al.* (2003) suggested an endogenous link between the quality of reported earnings and investor protection. They conducted a cluster analysis across groups drawn from 31 countries (of which 12 countries are included in the current study) to identify groupings of countries with similar institutional characteristics. They found that outsider economies with dispersed ownership, strong investor protection and large stock markets showed lower levels of earnings management than insider economies with concentrated ownership, weak investor protection and less developed stock markets.

Burgstahler *et al.* (2006) studied the effects of legal institutions on accounting quality. They used the factors reported in La Porta *et al.* (1998) as their causal variables, and the average of four earnings management variables as the accounting quality measure. They concluded that "legal institutions that facilitate equity financing in public markets, such as

strong minority-shareholder rights and extensive disclosure requirements reduce the level of earnings management […] ."

Bushman and Piotroski (2006) presented an extensive analysis of the influence of legal and political institutions on financial reporting incentives. It studied accounting quality in the form of conservatism (the timely reporting of bad news relative to good; see also Basu, 1997). Their sample comprised 38 countries, including 12 examined in this study. They adopted the standard "common is better than civil" (CC) approach, justified using La Porta *et al.* (1998). Although they noted that "it is also the case that institutions can vary dramatically across countries with similar legal origin," their study was based on the assumption of no variation. They found that bad news was reported in a more timely fashion in countries with high-quality judicial systems than in those with low-quality judicial systems, after controlling for legal origin.

Although the weight of statistical analysis supports the association of accounting quality with the legal family, not everyone reaches that conclusion. Graff (2008) emphasized that "although investors are treated differently across legal families, the data do not support the claim that common law countries generally protect financial investors better than civil law countries." Graff's study covered 47 countries, including 12 in this study. Graff concluded that investors were treated differently across legal families.

Effective financial reporting requires the consistent and systematic implementation and enforcement of accounting standards. In line with that, Brown *et al.* (2014) reported that country differences (51 countries for years 2002, 2005 and 2008; 12 of those countries in this study) in the enforcement of accounting standards were related to country-level measures of economic and market activity, financial transparency and earnings management.

In sum, the prior research has evidenced that there are several institutional factors which affect accounting quality. A major research challenge is to separate causes and effects, since the determinants and outcomes of both accounting and nonaccounting institutions are intertwined. To respond to some of these challenges, this study is based on jurisdictions with IFRS in established use, all of which are civil law regimes in the EU and use *BII* and ESG that capture dimensions not previously applied in parallel in this deliberately specified EQ context.

2.3 Country's role in corporate transparency

Francis *et al.* (2009) proposed that higher quality financial reporting requires greater disclosure, limits managerial reporting discretion and subjects firm reporting to credible external audits. They used three proxies from Morck *et al.* (2000) to measure transparency: information environment, earnings opacity and stock price synchronicity. For information environment, they focused on financial disclosure intensity, credibility of financial accounting disclosures through higher quality audits and amount of confidential information acquisition. For earnings opacity, they followed Bhattacharya *et al.*'s (2003) three earnings opacity metrics: earnings aggressiveness, earnings smoothing and loss avoidance. For synchronicity, they adopted Morck *et al.*'s (2000) idea that in countries with a better information environment, including corporate transparency, stock prices will reflect more idiosyncratic information, which results in less synchronicity. Overall, a country's more transparent information environment and better corporate transparency enhanced the flow of resources to growth industries.

Ding *et al.* (2007) found country-specific differences when they compared domestic accounting standards to IAS. Based on a sample of 30 countries (of which 12 are included in the current study) for 2001, they showed that differences among the countries were determined by the importance of the equity market and ownership concentration, the level of

economic development and importance of the accounting profession. In the EU context, Pope and McLeay (2011) reported that the consequences of IFRS adoption and implementation quality were diverse, due to preparers' incentives and the effectiveness of local enforcement. They pointed out that results from research are typically "on average" results, and much information remains yet to be discovered. As a partial response to Pope and McLeay (2011), the current paper analyzes the impact of country-specific BI and firm-specific ESG on EQ without "averaging" these dimensions.

Glaum *et al.* (2013) analyzed compliance with IFRS 3 (Business Combinations) and IAS 36 (Impairment of Assets) required disclosures across 17 European countries in year 2005 IFRS statements. Their country-level variables captured the "distance" between national accounting systems and IFRS, the national enforcement system, size and activity level of the national stock market and national cultural values (preference for change or status quo). The strength of the enforcement system and the size of the stock market were associated with compliance.

Isidro *et al.* (2020) provided evidence of the codependence among the many country attributes previously linked to financial reporting quality. Specifically, while IFRS adoption explained higher reporting quality, that explanation (even) evaporated after other changing country-level determinants of reporting quality were added into the model. The authors put forward several suggestions for the development of international accounting research, such as the importance of recognizing institutional interdependencies rather than examining a single country variable as one of interest. In addition, they suggested that country attributes should be evaluated as portfolios of interrelated attributes. In line with that, we use indices that capture and summarize several dimensions of BI in each sample country.

2.4 Environmental, social and governance's role in corporate transparency

The topic of ESG disclosure has attracted increasing attention in the accounting literature (reviewed in Tsang *et al.*, 2023). ESG scores, which are taken for granted in this study, measure corporations' performance and success in these three dimensions. The E pillar comprises resource use, emissions and innovation. The S pillar comprises workforce, human rights, community and product responsibility. The G pillar tracks management, shareholders and corporate social responsibility (CSR) strategy (www.refinitiv.com). Typically, studies focusing on ESG and corporate transparency are based on stakeholder theory. The fundamental argument supporting this approach is that there is a wide variety of information needs among stakeholders: from conventional financial statement information and related figures to advanced sustainability information. The extent to which country-specific BI and firm-specific ESG can explain EQ when included in the same model is an open question this paper addresses. ESG can be related to the overall trustworthiness of corporate communication (Rezaee and Tuo, 2019). In addition, high-quality ESG could resonate with high EQ and lead to a better allocation of capital (Kothari *et al.*, 2010).

3. Motivation and research hypotheses

3.1 Enhancement for prior empirical research settings

There is a large body of accounting research that attributes "quality" differences among financial accounting reports to the family of legal systems, common law and civil law (e.g. Ball *et al.*, 2000). This is based on the statistical significance of a civil/common (CC) indicator variable. However, there is an acute dearth of literature explaining the connection between the legal family and the "quality" of financial reporting (broadly speaking). Many other factors differ among firms and their countries that may easily explain the statistical correlation between the legal family and the quality of financial reporting (Isidro *et al.*,

2020). For example, the CC indicator variable could obfuscate underlying factors that correlate with the variable. In these situations, explaining financial reporting quality with the CC indicator variable leads us astray. As an example, and in line with these complexities, Wysocki (2011) described institutions' role in these circumstances as: "Determinants and outcomes of both accounting institutions (including IFRS) and non-accounting institutions are fundamentally intertwined."

The European Union, except for the UK (an EU member during the research period) and Ireland, is governed by civil law systems. Contrary to that cohesion, the EU comprises countries that represent a wide range of historical, cultural, social, economic and institutional differences *within* the civil law systems, accounting traditions and other factors that could plausibly affect financial reporting practice (Glaum *et al.*, 2013). Our focus lies on EQ in civil law EU countries, and we, therefore, excluded the UK and Ireland from our data. The enhanced knowledge, in turn, should support public policy decision-makers in the field of accounting, and also those who use accounting information in their decision-making.

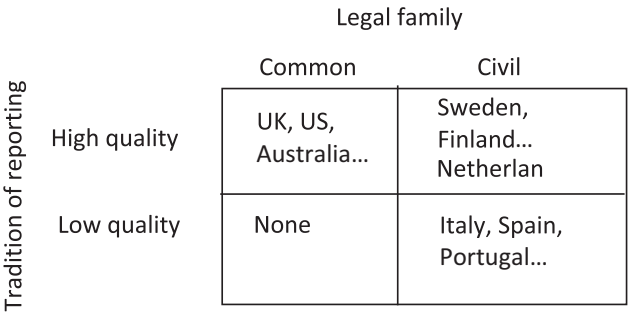
In the prior literature, Pope and McLeay (2011) reviewed a large body of European IFRS transition evidence research. They concluded that accounting quality was context-specific in the pre- and post-IFRS periods, and depends on factors reflecting managers' incentives and the effectiveness of local enforcement. In line with that context-specificity, we divide a sample of EU firms in a civil law context into "Northern" and "Southern" subsamples. We base this partition on evidence from the previous literature, in particular Gray *et al.* (2015). Their sample comprised 14 European countries, and they discovered that the impact of national culture on firms' earnings management persisted post-IFRS adoption. We add to the prior literature by analyzing the impact of BI on EQ, where BI is a linear combination of the corruption perceptions index, the ethical behavior of firms and financial market sophistication. We provide a more detailed interpretation of the constructed BI measure in Section 4.3.1. The measure adds to the literature since, to some extent, accounting research on inter country accounting quality relies on a "civil-common" dummy without further analyses in the jurisdiction (see also review in Lindahl and Schadewitz, 2013).

Adopting a wider perspective, we can recognize that civil law countries compared to common law countries, being more numerous, more varied in their histories and more dispersed among the continents, have examples of high and low reporting quality. We have formulated a matrix whose dimensions are the legal family and the tradition of reporting, as in Figure 1 below.

The classification of sample countries into cells is based on the prior literature (e.g. Isidro *et al.*, 2020). We can see that, typically, Northern countries are classified as those with a high-quality reporting tradition and Southern countries with a tradition of low-quality reporting. For historical reasons, none appear in the lower left cell.

Common law developed in England and then spread to other territories that were colonized by the English. [It also developed quite independently in Scotland (Watson, 1993)]. The point to stress is that these "other territories" were parts of England, that is, colonies that even after independence remained (most of them) part of the British Commonwealth.

Conversely, civil law was more widespread. It, too, resulted from colonization in certain cases, but it should be noted that the colonizers were not a single country, as in the case of common law. France, Belgium, Germany, Italy, Portugal, Spain and The Netherlands all colonized other territories, where they implemented their disparate civil codes. Furthermore, many countries that were never colonized freely chose civil law structures modeled on the Germanic or French model. This more varied pattern of adoption has, in turn, resulted in a wider pattern of accounting quality outcomes.



Source: Created by authors

Figure 1. Classification matrix in legal family – the tradition of reporting dimensions

Another reason for the wider variance among civil law countries is that it is harder to import common law (Watson, 1993). Appendix 1 details the country-specific legal family (sub family) for each civil law sample country in this study.

Aside from BI, we look to analyze to what extent ESG is related to EQ. The majority of the prior research analyzing EQ (and accounting quality more generally) and ESG reports a positive link between the two. The theoretical foundation for these studies is typically stakeholder theory, where managers pay attention to a firm's interest groups more widely, instead of focusing on a narrower range, typically shareholders. High EQ embodies managers' state of will and tenor to supply timely and unbiased EQ information and also high-quality ESG information.

3.2 Research hypotheses

We focus on Northern and Southern EU countries with a civil law regime. This enables us to analyze factors *within* the civil law regime that are potentially able to explain variations in EQ. Our *first research hypothesis* is that:

H1. EQ in the Southern EU is lower than EQ in the Northern EU.

To gain further insight regarding EQ, we include also country-specific BI and firm-specific sustainability measures in the model. We apply the Business Integrity Index (*BII*) to capture regime differences in BI. *BII* aims to capture the degree of business environment virtue and financial market sophistication. Prior research has evidenced that a country's regulatory environment impacts corporate disclosure (Ernstberger and Grüning, 2013). *BII* comprises three dimensions: corruption perception, ethical behavior and financial sophistication. For example, corruption has been evidenced to affect accounting quality (Chen *et al.*, 2020; Dass *et al.*, 2016). We derive our *second research hypothesis:*

H2. BI explains EQ in the Southern EU and in the Northern EU.

The prior research has evidenced that sustainability disclosures are associated with EQ. For example, Rezaee and Tuo (2019) reported that sustainability disclosure quality is positively associated with innate EQ and negatively associated with discretionary EQ. Furthermore, a positive correlation between sustainability disclosure quantity and worse discretionary EQ fits with the idea that high sustainability disclosure quantity enhances a positive correlation

between "bad" firms mimicking "good" firms, by disclosing unverified information with less credibility. Their study is based on US-listed firms covering the period 1999–2015. Furthermore, a meta-analysis covering a large number of studies reports that CSR is negatively associated with earnings management (Shi *et al.*, 2022). Also, results based on emerging markets are in line with this meta-analysis. Specifically, Nguyen (2022) evidences from emerging East Asian economies that sustainable firms engage less in earnings management. We derive our *third research hypothesis:*

H3. ESG explains EQ in the Southern EU and the Northern EU.

Finally, we analyze how individual dimensions of ESG are associated with EQ (for similar disaggregation of ESG, see Luo and Wu, 2022). It is possible that individual ESG dimensions (E, S and G) uncover more about the relations between ESG and EQ. We derive *sub hypotheses* for the third main research hypothesis:

H3a. Disaggregate components of ESG (i.e. E, S and G) explain EQ in the Southern EU and in the Northern EU.

4. Models and data

4.1 Overview of the research design

Our research design is as follows. First, we divide the EU civil law sample into a "Northern" and a "Southern" subsample (see Appendix 1). We follow the European convention of dividing countries approximately into those to the north or south of the Rhine.

4.2 Computing earnings quality

The frequency of small gains divided by the frequency of small losses (*SGSL*) indicates whether those frequencies are or are not even. This evenness is based on the idea that events resulting in small losses or small gains occur to about the same extent. *SGSL* is an approximation for EQ. Prior research has shown that small gains are more frequent than small losses in actual earnings data. Some studies have even called this ratio the loss avoidance ratio (Tang *et al.*, 2016). *SGSL* has benefits:

- no obvious alternative explanations than earnings management; and
- does not depend on accruals, which may differ due to different accounting standards, differences in their implementation or enforcement or industry differences.

Typically, conclusions based o*n SGSL* behavior are themselves based on implicit assumptions on continuous and smooth theoretical earnings curves or tests that do not require distributional assumptions (for example, Burgstahler and Dichev, 1997).

We analyze whether there are fewer small losses and more small gains than a model anticipates. Firm size is controlled by dividing earnings (t) by total assets (t) (for the superiority of scaling compared to size-partitioned research designs, see Burgstahler and Chuk, 2015). The numerator is earnings before interests and taxes (EBIT). We applied this earnings level to focus on the permanent kind of earnings. In addition, EBIT is unaffected by various capital structures or tax rates because it is earnings – level before interests and taxes.

Earnings data are obtained from datastream, and contain, at the beginning, 17,051 observations for 15 countries covering the years 2013–2017. This sample period was used because it was not subject to any major global shocks. In addition, some of the more recent data (e.g. the data originating from the global competitiveness reports) were collected using a

different schema than we applied to the data for the period 2013–2017. The descriptive statistics for the standardized earnings (SE) are shown in Table 1.

Table 1 above shows that although the mean of standardized earnings (SE = EBIT/total assets) is greater in the Southern EU, the median is less than in the Northern EU. Furthermore, the standard deviation for Northern EU earnings is higher compared with Southern EU earnings. For further analysis, EQ is computed for each country and year as a ratio of the number of small gains to the number of small losses for that country in each year. The criteria for small gains/losses are defined as $0.00 < SE < 0.05$ and $-0.05 < SE < 0.00$, respectively. Thus, at the outset, we had five years *15 countries = 75 different observations for *SGSL* computed from the initial 17,051 observations. However, some of the firm-specific values for the independent variables were unavailable. We also dropped three countries (Malta, Cyprus and Luxembourg) due to a very small number of observations. The final sample for the panel regression analysis consisted of 12 countries and 3,369 observations.

4.3 Method to explain earnings quality

We propose that BI in local economies is likely to determine "accounting quality," since there is a *plausible* linkage (which has not been established for legal families [see (Lindahl and Schadewitz, 2013)]. High levels of integrity and quality of business practices are likely associated with high-quality public policy in that country and, in turn, are likely to have high EQ as well.

Model (1) below allows us to study whether the coefficients for the Northern and Southern indicator variables (*South*) deviate from each other. *SGSL*i approximates EQ for country i, computed as the frequency of SGs divided by the frequency of SLs (Leuz *et al.*, 2003). Since *SGSL* is skewed to the right, we have a dependent variable in logarithmic form. In addition to that, we have a country-specific *BII*i variable informing whether *BII* can *explain SGSL* and to what extent. *BII* comprises three equally weighted elements: corruption perception, ethical behavior and financial sophistication. *BII* scores and sources for the *BII* elements are reported in Table 2. The measures and motivation for applying BI to *explain SGSL* are given in Section 4.3.1. Besides *South* and *BII*, we include into our model ESG dimensions based on aggregate ESG figures, and also on separate E, S and G figures.

Our coefficient-specific hypotheses (in alternative form) are expressed as signs for coefficient, and are as follows: $\beta 1 > 0$ [constant indicating how much Northern (D-value = 0) *SGSL* differs from Southern on average], $\beta 2 < 0$ (coefficient indicating how much *BII* explains *SGSL*) and $\beta 3 < 0$ (coefficient indicating how much *ESGcom* explains *SGSL*).

To control two firm-specific aspects, we introduced control variables, *Growth* and *Leverage*. In line with Francis and Wang (2008), we control for the potential impact of firm-specific growth on the main results. Managers might be pressured to report profitable, value-increasing growth, that is, pressure to report positive earnings. Our measure for the *Growth*

Table 1. Descriptive statistics for standardized earnings by country group

Area	*n*	Mean	Median	SD
Northern EU	8,770	−0.033	0.051	1.469
Southern EU	8,281	−0.011	0.034	0.878
Total	17,051	0.022	0.042	1.219

Note: *n* refers to the number of firm-year observations
Source: Created by authors

Table 2. Country-specific descriptive statistics for Business Integrity Index scores[a]

Country	Continental Europe location	*n*	Mean	Minimum	Maximum
Austria	North	5	6.87	6.81	6.94
Belgium	North	5	6.99	6.83	7.18
Denmark	North	5	7.94	7.87	8.01
Finland	North	5	8.40	8.22	8.52
France	South	5	6.57	6.44	6.70
Germany	North	5	7.24	7.14	7.31
Greece	South	5	3.92	3.78	4.04
Italy	South	5	4.17	4.12	4.22
The Netherlands	North	5	7.47	7.36	7.60
Portugal	South	5	5.30	5.12	5.54
Spain	South	5	5.10	5.01	5.19
Sweden	North	5	8.04	7.86	8.24
Total *North*		35	7.56	6.81	8.52
Total *South*		25	5.01	3.78	6.70
Total		60	6.44	3.78	8.52

Notes: The Business Integrity Index (*BII*, score 0–10) reports the outcome of business conditions in 12 countries, North = Northern (seven countries), *South* = Southern (five countries) over five years 2013–2017. It proxies for the conditions that could affect unbiased and transparent reporting to a company's investors. Due to data limitations, Cyprus, Luxembourg and Malta are not included here; [a]The *BII* score combines the three measures for the country *i* as an average Those measures are the "Corruption Perceptions Index" 2013–2017 (CPI, Transparency International, 2009), "Ethical behavior of firms" and "Financial market sophistication." The latter two are drawn from the Global Competitiveness Reports 2013–2017 (Schwab, 2010)
Source: Created by authors

variable is sales in the current year minus sales in the previous year and the difference divided by sales in the previous year. The other control variable, firm-specific *Leverage* (measured as total liabilities divided by total assets) is used to control for financial pressure (e.g. in terms of loan covenants, and higher interest rates) that might cause firms to manage slightly negative earnings upward to be positive:

$$\ln(SGSL_{it}) = \beta_0 + \beta_1 South_{it} + \beta_2 BII_{it} + \beta_3 ESGcom_{it} + \beta_4 Envir_{it} + \beta_5 Socl_{it} + \beta_6 Gover_{it} + \beta_7 Growth_{it} + \beta_8 Leverage_{it} + \varepsilon_{it} \quad (1)$$

Descriptive statistics for variables are reported in Appendix 2. Ln(*SGSL*) shows good variety with a mean of 0.902. The *Growth* variable indicates 0.115 average growth for the sample firms and its variation is high. The *mean Leverage* is 0.656 but its variety is lower than the variety for *Growth*. Other variables presented in Appendix 2 will be commented on around Tables 2 and 3. Appendix 3 reports correlations between variables in the regression model. Correlations show preliminary support for the first and second hypotheses. In other words, the EQ variable [ln(*SGSL*)] is positively correlated with the *South* variable and negatively correlated with the *BII* variable. Also, the correlations *between BII* and *ESGcom* variable and its components E, S and G are low, suggesting that these explanatory variables in the model are capturing different aspects.

In the model, the dependent variable is in logarithmic form, thus the values of coefficients refer to percent changes in the dependent variable. In addition, we anticipate that BI enhances the low values of *SGSL*. Therefore, we hypothesize a

Table 3. Descriptive statistics for ESG and its components

Variable	*n*	Mean	Median	SD	Min	Max
ESGcom	3,369	55.700	57.300	18.800	0.630	93.500
Envir	3,369	59.600	66.300	27.300	0.000	98.200
Socl	3,369	63.300	67.400	23.130	0.430	98.600
Gover	3,369	53.700	55.400	23.300	0.820	98.800

Notes: *ESGcom*: Aggregate score for a firm's environmental, social and governance performance (rank score 0–100); *Envir*/*Socl*/*Gover*: score for a firm's environmental/social/governance performance, respectively (rank score 0–100)
Source: Created by authors

negative coefficient $\beta 2$. Regarding *ESGcom* we anticipate that also *ESGcom* enhances the low values of *SGSL*. Due to this, we hypothesize a negative coefficient $\beta 3$. Regarding components of disaggregate *ESGcom*, we propose negative coefficients ($\beta 4$, $\beta 5$ and $\beta 6$) as well. For control variables *Growth* and *Leverage*, we propose positive coefficients ($\beta 7$ and $\beta 8$) due to potential pressures for managers to show growth and good leverage position, respectively.

4.3.1 Measures of business integrity. We use a "Business Integrity Index" constructed as an average from the sources described below. *BII*i is the "business integrity" index for country i. Compared to the one-dimensional variable index – construction is neater of capturing more dimensions into account (as suggested in Isidro *et al.*, 2020). The first *BII* component is the corruption perceptions index (CPI). CPI ranks countries based on the views of businesspeople, country analysts and nonresident experts regarding the level of corruption among public officials and politicians (Transparency International, 2009, p. 395; www.transparency.org).

The second and third *BII* components – ethical behavior, and financial sophistication – originate from the global competitiveness report published by the World Economic Forum (WEF) within the framework of the Global Competitiveness Network (Schwab, 2010). In its mission, WEF (established in 1971) states itself as "the International Organization for Public-Private Cooperation" (www.weforum.org). For the report, over 150 Partner Institutions administer the Executive Opinion Survey in their respective country (Schwab, 2010; Chapter 1.2).

Descriptive statistics for *BII* values are reported in Table 2. The *mean BII* value for the whole research period 2013–2017 is 6.44. *BII* mean for North countries is 7.56 and for South countries 5.01, respectively. Austria receives the minimum North country value of 6.81. This value is higher than the maximum value of South country France receiving 6.70. These index figures give a systematic indication that BI is different between the Northern and the Southern EU.

The maintained hypothesis underlying BI is that the companies, which operate in public policy environments, where the overall level of honesty is high and dealings are unbiased and fair, will comply the most scrupulously with reporting standards. The auditors in these environments will also be more likely to adhere closely to auditing standards. Investor protection laws (La Porta *et al.*, 1998) do not necessarily result in investors being well protected, but they do create the conditions for good protection. Similarly, high levels of integrity in business practice create the conditions under which good reporting is likely to occur. One great benefit of *BII* components is that their value

gives a fairly direct idea of whether the value of each of the components is decreasing or increasing accounting quality.

The variable we include in our empirical tests is an equally weighted, linear combination of components drawn from global studies of country business conditions:

(1) Corruption Perceptions Index 2013–2017 (CPI, Transparency International, 2009):

- CPI relates to perceptions of the degree of corruption as seen by businesspeople and country analysts, and ranges between 0 (highly corrupt) and 10 (highly clean). Overall, TI used 13 surveys and expert assessments, and at least three were required for a country to be included in the CPI by TI.

(2) Ethical behavior of firms [from global competitiveness reports 2013–2017; item 1.17 (Schwab, 2010)]:

- The question asked of executives here is: "How would you compare the corporate ethics (ethical behavior in interactions with public officials, politicians, and other enterprises) of firms in your country with those of other countries in the world?" (1 = among the worst in the world; 7 among the best in the world, rescaled to 0–10).

(3) Financial market sophistication [from global competitiveness reports 2013–2017; item 8.01 (Schwab, 2010)]:

- The question asked of executives here is: "How would you assess the level of sophistication of financial markets in your country?" (1 = poor by international standards; 7 = excellent by international standards, rescaled to 0–10).

4.3.2 Environmental, social and governance data. Firm-specific aggregate ESG data (*ESGcom*) and its E, S and G components are drawn from the commercial Refinitiv database (www.refinitiv.com). Table 3 below documents ESG data and its components.

Overall, the aggregate index means and median values for *ESGcom* resemble a great many of those for *ESGcom* components (*Envir*, *Socl* and *Gover*). The *mean ESGcom* value is 55.70, indicating that there is room for improvement in ESG performance. The same is true of the *ESGcom* dimensions. The social dimension seems to perform best with the highest mean of 63.30, and also has the lowest standard deviation (23.130) of the *ESGcom* components. The environmental component has the second highest mean of 59.60, and its standard deviation is somewhat higher than those of *Socl* and *Gover*. It might be that the reporting of the environmental dimension is more reactive than of the social and governance dimensions. In addition, the relevance of environmental issues may vary a great deal between industries, causing an increase in standard deviation for the *Envir* component.

4.3.3 Summary of research design and statistical methods. In this subsection, we review the econometric model and its execution. The model is represented as follows [identical to equation (1) above]:

$$\ln(SGSL_{it}) = \beta_0 + \beta_1 South_{it} + \beta_2 BII_{it} + \beta_3 ESGcom_{it} + \beta_4 Envir_{it} + \beta_5 Socl_{it} + \beta_6 Gover_{it} + \beta_7 Growth_{it} + \beta_8 Leverage_{it} + \varepsilon_{it} \quad (2)$$

where,

$\ln(SGSL_{it})$ = dependent variable for EQ. The variable is country-specific. EQ is computed for each country *i* and year *t* as a ratio of the number of small gains to the number of small losses (*SGSL*).

Explanatory variables:

South = indicator variable with value 0 if Northern EU and 1 if Southern EU for each country and each year.

BII = country-specific Business Integrity Index (score 0–10). It is an average of three components drawn from global studies of country business conditions.

ESGcom = aggregate score for a firm's environmental, social and governance performance (rank score 0–100) drawn from the Refinitiv database.

Envir/*Socl*/*Gover* = score for a firm's environmental/social/governance performance, respectively (rank score 0–100) drawn from the Refinitiv database.

Growth = (Sales in the current year minus Sales in the previous year)/Sales in the previous year.

Leverage = Total liabilities divided by Total assets.

The conducted statistical analysis is a fixed effects (year fixed) panel regression with white robust standard errors. An estimation of a random effects model was not possible due to too small a number of years for the size (number of parameters) of the model. However, for a smaller model without control variables and ESG components, the Hausman test suggested a fixed effects model. The cross-section unit is company.

5. Results

5.1 Earnings quality and its determinants

Table 4 below shows to what extent *BII* and *ESGcom* explain EQ variation among the sample countries. Overall, Adj. R^2 is fairly high at 0.337.

The indicator variable *South* is positive and statistically significant at the 0.1% level. In other words, EQ is higher in the Northern than Southern EU. This result supports our *H1*. Other studies, focusing on EQ, have reported congruent findings regarding countries in this study. That is, the recognized quality difference in earnings or in financial reporting shown in the prior research is mostly in line with this study (Isidro *et al.*, 2020; Leuz *et al.*, 2003). This evidence is also consistent with the previous literature that indicates national culture impacts managers' decisions regarding earnings management (Chardonnens and Wallmeier, 2024; Gray *et al.*, 2015). When a country's institutional regime is less stringent, it leaves notable leeway for managers to manage earnings (see also Burgstahler *et al.*, 2006).

Regarding the *BII*, it is statistically significant at the 5% level, where control variables *Growth* and *Leverage* are included in the model. A negative coefficient for the *BII* indicates that higher *BII* is associated with higher EQ as hypothesized. Therefore, the *H2* proposing that *BII* explains EQ is accepted. This result is in line with that reported by Francis *et al.* (2016). It could be pointed out that the correlation between the legal score index in Francis *et al.* (2016) and *BII* applied in this study is very high at 0.98 for those countries included in both studies. Some other studies have reported the same, that is, ethical and reputational concerns with reference to stakeholders drive managers to produce high-quality financial reports (Chouaibi and Zouari, 2022; Kim *et al.*, 2012). Responsible managers in terms of *BII* (capturing corruption, ethical behavior of firms and financial market sophistication) behave also in an accountable manner regarding EQ.

ESGcom is also statistically significant at the 5% level. A better *ESGcom* score is associated with higher EQ. This finding is in line with several prior studies, such as country-specific findings in Ellili (2022), Grimaldi *et al.* (2020), Kim *et al.* (2012), Kim and Lee (2023), Mohmed *et al.* (2020), Palacios-Manzano *et al.* (2021), Rezaee and Tuo (2019), Sun *et al.* (2024), Zhang *et al.* (2023) and Velte (2019). Also, studies with multiple countries in their sample have discovered that firm responsibility is positively associated with EQ (Nagy *et al.*, 2022; Pathak and Das Gupta, 2022; Tohang *et al.*, 2024 regarding innate EQ). In

Table 4. Panel regression results for earnings quality (EQ)

Dependent variable: ln(*SGSL*)	Coefficient (std. Error)
Independent variables	
South	0.4577*** (0.0288)
BII	−0.0471* (0.0194)
ESGcom	−0.0019* (0.0009)
Envir	0.0004 (0.0006)
Socl	0.0027*** (0.0008)
Gover	0.0002 (0.0006)
Constant	0.8312*** (0.1638)
Control variables	Yes
N	3,369
R^2	0.337

Notes: ln(*SGSL*) = logarithmic country-specific earnings quality measure: number of SG/number of SL. High(low) ratio values indicate low(high) earnings quality, respectively. *South* = Indicator variable with value 0 if Northern EU and 1 if Southern EU. Northern EU comprises Austria, Belgium, Denmark, Finland, Germany, the Netherlands and Sweden. The Southern EU comprises France, Greece, Italy, Portugal and Spain. *BII* = country-specific Business Integrity Index (score 0–10). *ESGcom* = aggregate score for a firm's environmental, social and governance performance (rank score 0–100), *Envir/Socl/Gover* = score for a firm's environmental/social/governance performance, respectively (rank score 0–100). Firm-specific control variables are *Growth* = (sales in the current year minus sales in the previous year)/sales in the previous year, and *Leverage* = total liabilities divided by total assets. Robust (HAC) standard errors are given in parentheses under coefficient; *, ** and ***designate statistical significance for the individual coefficient at the 5%, 1% or 0.1% level, respectively
Source: Created by authors

addition, this outcome evidences that aggregate ESG captures some firm-specific qualities affecting EQ that are not captured by the country-specific *BII*. Besides country-level *BII* forces, there are also firm-specific forces captured by ESG that have an impact on EQ. Results support the conclusion that managers who are oriented to pay attention to and stress sustainable matters communicate earnings in an unbiased manner. This outcome supports our third research hypothesis: ESG explains EQ in the Southern EU and the Northern EU.

In addition, we disaggregated *ESGcom* into its components and analyzed their effect on EQ (see Table 4). E and G components are not separately statistically significantly associated with EQ. S component, on the other hand, has a positive coefficient at the 0.1% level of statistical significance. One potential explanation for this is that firms experiencing challenges concerning social pillar tracks (workforce, human rights, community and product responsibility) expand their social dimension reporting to alleviate some of the incidences and confrontations related to social issues. These social challenges could, in turn, be reflections also of other challenges the firm is facing. These various challenges could be associated with low EQ. The S pillar could indicate more about the economic phase a firm is confronting. That phase, in turn, could cause firm pressure to circumvent bad (negative) earnings. If so, firm EQ will decrease. The Granger causality test supports this explanation, that is, high social pillar values precede low EQ.

Therefore, a plausible explanation for the S component decreasing EQ is managers' attention paid to primary stakeholders (Bilyay-Erdogan, 2022) to communicate social matters, especially in times of challenging profitability. It could also be that managers try to camouflage their opportunistic earnings behaviors (impairing EQ) (Gargouri *et al.*, 2010). Also, Flugum and Souther (2023) discovered increased use of stakeholder language among

firms narrowly missing earnings estimates. Furthermore, based on Bangladeshi emerging market data, Muttakin *et al.* (2015) found that managers use sustainability disclosures to shift stakeholders' focus from managerial opportunism. The social dimension is a likely candidate for use in this stakeholder emphasis, since it covers a broad variety of soft issues that are typically hard to quantify (see also Wagenhofer, 2023). It is also possible that firms with an expanded social component build slack over time to soften the negative impact of low EQ (Thomas *et al.*, 2022).

Finally, we ran a regression with interaction terms (*South*ESGcom*, *South*Envir*, *South*Socl* and *South*Gover*). The main results reported remain qualitatively the same. One nuance we found here was that higher *Gover* values were associated with better EQ. It is logical that especially in a regime (*South*) offering a fair amount of leeway, better corporate governance enhances better EQ.

In sum, the values of *BII* and its components are substantially different between the Northern and Southern EU. The maximum value for Southern European country France (6.70) is below the minimum value for Northern European country Austria (6.81) (see also Table 2). *BII* averages between the Northern (7.56) and Southern (5.01) EU differ substantially from each other, too. All this indicates consistently that the components of *BII* capture certain aspects in the sample countries that deviate between the Northern and Southern EU, and that those differences are also related to EQ.

The inclusion of the *ESGcom* variable enhanced the model's explanatory power. Firm-specific *ESGcom* variables support high EQ. However, the analyses of the E, S and G pillars produced somewhat mixed results.

5.2 Robustness checks

We performed two robustness checks. First, we ran the regression model yearly, and the year-specific results supported our earlier conclusions. This indicates the phenomenon investigated is fairly stable.

Our second robustness analysis was related to *BII*. Specifically, we checked the incremental explanatory power of its three components: corruption perception, ethical behavior and financial market sophistication. Our analyses show that *BII* components were highly correlated, and regression runs with components did not add to the regression run with aggregate *BII*. The correlation among different sources used in CPI is recognized (Transparency International, 2009, 395). Related to the consistency of *BII*, it should be noted that in the earlier phase we experimented also with the "Freedom from corruption" measure (Miller and Holmes, 2010). This measure is designed to monitor the level of corruption as perceived by society as a whole. This measure was highly correlated with the other three measures already employed in our current *BII*. Due to this, and to the lack of incremental contribution for *BII*, we deliberately excluded "Freedom from corruption" from our final *BII*.

6. Conclusions

Leaning on stakeholder theory, we have analyzed EQ in the Northern and Southern EU. The current body of evidence in the empirical international accounting literature suggests there are multiple intertwined effects impacting financial reporting quality (Isidro *et al.*, 2020). In this paper, we have focused on EQ using *SGSL* because it is a clear indicator of earnings management and can provide useful information about the constraints and incentives of accounting practices (Chardonnens and Wallmeier, 2024). We have analyzed whether BI explains reporting quality within civil law countries. Our study focuses on civil law countries to harmonize the data from that perspective, and because the civil law regime is dominant in

the EU. In addition, it is important to advance beyond the typical common-civil law dichotomy and scrutinize EQ-related effects within civil law regimes.

Besides country-specific BI, we analyze whether firm-specific sustainability measured by ESG contributes to EQ. The prior research has evidenced quite consistently that ESG is positively associated with EQ. However, there is a dearth of evidence on ESG's potential incremental contribution to EQ when country-specific BI is included in the inquiry. The results indicate that ESG contributes positively to EQ. On an aggregate ESG level, our results show that it is important to take better account of variations "within" civil law jurisdictions. Overall, our results produce a more complete picture of EQ and the factors affecting it. Besides *BII*, also firm-specific ESG can contribute to the explanation for EQ.

We also analyzed the impact of ESG components on EQ. Notably, S pillar (variable *Socl*) decreased EQ. A plausible explanation for this finding, supported by the Granger causality test, is that firms experiencing challenges concerning social pillar issues (workforce, human rights, community and product responsibility) expand their social dimension reporting to alleviate some of the incidences and confrontations related to social issues. Other challenges the firm might be facing could also be reflected in the S pillar, and in turn, associated with low EQ. When adopting an opportunistic stance, managers may try to divert stakeholders' attention from earnings to ESG matters by expanding ESG reporting and especially quite flexible S pillar issues (Muttakin *et al.*, 2015). In line with Muttakin *et al.* (2015), firms engaging in ESG activities do not necessarily always behave ethically or transparently in their earnings reporting.

Firm communication and transparency issues are also important in practice. First, the practical contribution is related to legislators and other public policy decision-makers in charge of establishing regimes and public policies supporting high-quality accounting. The difference in EQ between Northern and Southern is explained by the *BII* variable. The obtained *BII* values indicate that there is a wide gap between top- and bottom-performing jurisdictions. Northern EU countries are performing fairly well in terms of corruption perception (score 8.30 out of 10) and ethical behavior (score 7.90 out of 10), but there is still work to be done to improve financial market sophistication (score 6.50 out of 10). For the Southern EU, legislators and other public policy decision-makers should build up and apply tools to limit and fight corruption (score 6.10 out of 10) in those jurisdictions. The impactful elimination of corruption would, in turn, establish a firmer basis to foster ethical behavior (score 5.80 out of 10) and financial market sophistication (5.00 out of 10) developments. We believe that several public policy tools and actions are needed to create impactful results and improvements in these areas.

Besides country-specific *BII*, also firm-specific ESG is related to EQ. It is important to note that *BII* and ESG represent different dimensions, as evidenced also by the very low correlation between the two variables. Therefore, legislators need to pay careful attention to how ESG reporting could be most influentially regulated. The prior research and our results here find that high ESG or component thereof does not guarantee high EQ. Therefore, all stakeholders interested in a firm's underlying ESG performance are well advised to use that information with care.

We recognize certain caveats in this paper. One of the several areas where judgment was required was the selection of components for inclusion in the *BII*. Although the components are all natural choices, there may of course be others worthy of consideration.

The second caveat relates to unavoidable subjectivity embedded in categorizing countries. A finer classification of countries, for example, according to more specific legal families (French, Germanic, Scandinavian; see Appendix 1) could create the potential to analyze linkages between more nuanced legal regimes, EQ, BI and ESG.

The third caveat concerns the lack of more recent data. A number of changes in global competitiveness report data in recent years have made it incompatible with the data used in this study.

EQ is a global theme and the research design followed in this paper applies to other territories besides the EU. Also, the interpretation of our EQ measure *SGSL* is quite unambiguous, strengthening its potential to apply in various territories (for more benefits on the use of *SGSL*, see Chardonnens and Wallmeier, 2024). Nowadays, firms are increasingly evaluated beyond profitability on their wider societal impact, such as their sustainability. Essentially, the pursuit of firm profitability should not be at the cost of low sustainability. Compared to financial reporting, ESG reporting is still in its early stages (Dechow, 2023). However, it is important to analyze to what extent, for example, EQ and ESG are related, and what lessons could be learned from that relation. Further research could advance further understanding on relations between information on finances and sustainability. A better understanding of these relations would, in turn, help legislators in their work and support various stakeholders in their analyses. Besides looking to clarify linkages between information on finances and sustainability, it is important to keep in mind that the reporting landscape/regime in which it is exercised plays an important role.

Finally, we present suggestions for future research. The potential connection between BI and the strategic timing of earnings calls would be a fruitful direction to pursue (Gong *et al.*, 2019). It would also be insightful to investigate the means firms employ when managing their earnings. Furthermore, it would be interesting to analyze whether and how other disclosures besides earnings are related to EQ. It would also be important to know how variety in BI regimes potentially affects sustainability reporting. In addition, when new practices to improve BI arise, a follow-up study will be necessary to analyze the consequences of those (public policy) actions. External shocks, such as the COVID pandemic or geopolitical or societal conflicts, could create an opportunity to analyze their impact on financial and sustainability reporting.

The last research suggestion relates to assurance services. The value of an audit derives from the reduction in risk of erroneous or manipulated information (Knechel, 2021). According to Knechel, one area where auditors could help improve information quality is ESG reporting. It would be interesting and insightful to analyze and compare consequences of assured and nonassured ESG reports, and whether and how assured vs nonassured reports are related to financial reporting quality.

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Appendix 1

Table A1. Sample countries, their legal family and contribution to the data

Country $n = 15$	Legal family	Continental Europe location	No. of firm-years	Mean assets	Mean EBIT/ assets
Austria	Germanic	North	383	9,040,533	0.046
Belgium	French	North	611	9,210,450	−0.125
Cyprus		South	335	552,446	−0.097
Denmark	Scandinavian	North	793	4,932,888	0.027
Finland	Scandinavian	North	703	2,139,417	0.006
France	French	South	3,828	30,997,223	−0.041
Germany	Germanic	North	3,254	10,890,735	−0.027
Greece	French	South	1,069	2,085,304	0.009
Italy	French	South	1,638	49,973,598	0.025
Luxembourg		North	67	4,197,128	0.050
Malta		South	96	1,039,825	0.047
The Netherlands	French	North	425	17,130,339	−0.007
Portugal	French	South	292	30,339,664	−0.038
Spain	French	South	1,023	23,861,454	0.059
Sweden	Scandinavian	North	2,534	3,392,125	−0.067
Total			17,051		

Appendix 2

Table A2. Descriptive statistics for variables in the Model (1)

Variable	Mean	Median	SD	Minimum	Maximum	*n*
ln(*SGSL*)	0.902	1.060	0.607	−0.693	2.140	3,369
South	0.566	1.000	0.496	0.000	1.000	3,369
BII	6.440	6.690	1.320	3.780	8.520	3,369
ESGcom	55.700	57.300	18.800	0.630	93.500	3,369
Envir	59.600	66.300	27.300	0.000	98.200	3,369
Socl	63.300	67.400	23.130	0.430	98.600	3,369
Gover	53.700	55.400	23.300	0.820	98.800	3,369
Growth	0.115	0.018	2.390	−1.010	98.200	3,369
Leverage	0.656	0.642	0.339	−0.080	14.627	3,369

Notes: ln(*SGSL*) = country-specific earnings quality measure: number of SG/number of SL. High(low) ratio values indicate low(high) earnings quality, respectively. *South* = indicator variable with value 0 if Northern Europe and 1 if Southern Europe. *BII* = country-specific Business Integrity Index (score 0–10). *ESGcom* = aggregate score for a firm's environmental, social and governance performance (score 0–100), *Envir*/*Socl*/*Gover* = score for a firm's environmental/social/governance performance, respectively (score 0–100). Firm-specific control variables are *Growth* = (sales in the current year minus sales in the previous year)/sales in the previous year. *Leverage* = total liabilities divided by total assets

Appendix 3

Table A3. Correlations between variables in the regression Model (1)

Correlation	ln(*SGSL*)	*South*	*BII*	*ESGcom*	*Gover*	*Envir*	*Socl*	*Growth*	*Leverage*
ln(*SGSL*)	1.000								
South	0.472	1.000							
BII	−0.387	−0.752	1.000						
ESGcom	0.092	0.154	−0.040	1.000					
Gover	0.084	0.149	−0.058	0.632	1.000				
Envir	0.132	0.199	−0.041	0.757	0.439	1.000			
Socl	0.147	0.183	−0.071	0.796	0.458	0.743	1.000		
Growth	−0.010	−0.025	0.009	−0.083	−0.070	−0.067	−0.076	1.000	
Leverage	0.085	0.134	−0.124	0.003	0.027	0.034	0.018	−0.056	1.000

Notes: ln(*SGSL*) = country-specific earnings quality measure: number of SG/number of SL. High(low) ratio values indicate low(high) earnings quality, respectively. *South* = indicator variable with value 0 if Northern EU and 1 if Southern EU. *BII* = country-specific Business Integrity Index (score 0–10). *ESGcom* = aggregate score for a firm's environmental, social and governance performance (score 0–100), *Envir*/*Socl*/*Gover* = score for a firm's environmental/social/governance performance, respectively (score 0–100). Firm-specific control variables are *Growth* = (sales in the current year minus sales in the previous year)/sales in the previous year, and *Leverage* = total liabilities divided by total assets

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