

On the role of internationalization of firm-level corporate governance: The case of audit committees

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Abstract

Research Question/Issue: Motivated by the agency theory and the findings of linguistic studies, we analyze the association between the internationalization of a firm's audit committee and its corporate governance.

Research Findings/Insights: Based on data from 2159 publicly traded European firms from 15 countries for the period 2000–2018, we find that firms with foreign directors on their audit committees are associated with lower financial reporting quality. The association is mitigated by stronger country-level investor protection and a higher similarity among intra-committee languages. We further find that foreign directors on the audit committee are related to stock prices being less informative about future earnings.

Theoretical/Academic Implication: In this study, we argue that language differences create communication difficulties that weaken social integration between foreign directors and the other parties involved in overseeing financial reporting, thus hampering their ability to monitor effectively.

Practitioner/Policy Implications: The results indicate that foreign directors on a corporate board increase its independence. However, appointing foreign directors to the firm's audit committee may compromise the board's monitoring function.

KEYWORDS

audit committee, board committees, board composition, board of director mechanisms, corporate governance, director independence, european economy(s), governance environments, individual director issues, legal control mechanisms, legal origins

1 | INTRODUCTION

Studies about the effects of board internationalization on the monitoring and advising role of corporate boards have presented mixed findings. Some of these studies show that foreign directors (FDs) bring specific knowledge, experience, and network ties that boost the advisory capability of corporate boards, in turn resulting in higher value and improved performance for firms (Estélyi & Nisar, 2016; Miletkov et al., 2017; Oxelheim & Randøy, 2003). The appointment of FDs also paves the way for firm internationalization (Maznevski, 1994;

Oxelheim et al., 2013) and better cross-border acquisitions when the target is from the home region of FDs (Masulis et al., 2012). Other studies, however, claim that the presence of FDs on corporate boards causes cultural and language frictions in the boardroom that lead to weaker cooperation and thus to a lower value and performance of the firm (Frijns et al., 2016; Masulis et al., 2012). FDs are also reported to be associated with lower meeting attendance (Hahn & Lasfer, 2016; Masulis et al., 2012), higher CEO compensation (Masulis et al., 2012; Oxelheim & Randøy, 2005), and increased earnings management (Hooghiemstra et al., 2019).

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The above mixed findings indicate that FDs on corporate boards may have both positive and negative effects. Therefore, we examine board internationalization by performing an analysis on the less explored *audit committee*, which is an internal corporate governance mechanism that plays a critical role in curbing earnings management. Specifically, we address the following research question: What does the presence of FDs on the audit committee mean for financial reporting quality (FRQ)?

Managers are commonly involved in earnings manipulation for reasons such as meeting the earnings expectations of the financial market, avoiding violations of debt covenants, or boosting the compensation of top management (Dhaliwal et al., 2004; Doyle et al., 2013; Phillips et al., 2003; Roychowdhury, 2006). The audit committee is expected to minimize such self-serving behavior on the part of the management by properly overseeing financial reporting practices and ensuring the integrity of the internal as well as external audit (The European Parliament and the Council of the European Union, 2014). Due to its small size and specialized and technical focus, any changes in the composition of the audit committee could potentially result in changed dynamics and efficiencies (Kolev et al., 2019). Thus, we argue that the appointment of even a single FD increases the cultural and language diversities of the committee in such a way that the FD potentially affects the culture of corporate reporting in the firm.

We address our research question by analyzing data from 2159 firms representing 15 European countries¹ over the period 2000 to 2018. This sample provides us with 14,328 firm-year observations, of which 3845 (approximately 27%) have at least one FD on their audit committee. In our analysis, to measure the FRQ, we use the discretionary accrual measures developed by McNichols (2002) and Kothari et al. (2005), as well as the future earnings response coefficient (FERC) (Collins et al., 1994; Lundholm & Myers, 2002). We measure FDs on an audit committee by their ratio to the total number of directors sitting on the committee. Our results show that firms with FDs on their audit committee are associated with lower-quality accruals and that this relation is contingent on whether the FDs speak the same language as or a similar language to that spoken in the host country. When there is no language barrier at all, the FDs contribute to an improved FRQ. Our results also show that the negative relation between FDs on the audit committee and FRQ is mitigated by stronger country-level investor protection and the accounting and finance expertise of the FDs. We further find that firms with FDs on their audit committee are associated with less informative stock prices due to lower-quality earnings (in relation to future earnings). We also show that FDs on the audit committee are associated with higher fees and longer delays for audits. The latter results are presumably driven by the FD-induced lower-quality reporting, which increases audit risk and requires the auditor to exert greater effort in exchange for higher fees to minimize that risk.

Assessing the relation between FDs on the audit committee and FRQ presents several methodological challenges. The results from our baseline model may be subject to an omitted variable bias. To address this, we control for firm fixed effects to exploit within-firm intertemporal variations in terms of management quality, corporate culture, and

other unobservable across-firm variations. We also use propensity score matching (PSM), in which we compare firms whose audit committee are composed of both FDs and locals to a set of identical firms whose audit committees are entirely made up of local directors. We match these firms based on a number of variables, such as firm-level governance and performance measures. The results from the firm fixed effects, from PSM, and from other robustness tests confirm our earlier findings that firms with FDs on their audit committee have lower FRQ.

Our paper expands the research frontier in several ways. First, we contribute to the audit committee literature by showing that the internationalization of the audit committee is associated with lower FRQ and stock prices that are less informative about firm-specific future earnings. We also add to the literature that addresses FRQ and audit committee characteristics (Abbott et al., 2004; Carcello & Neal, 2000; Lennox & Park, 2007). Second, by focusing on the communication process of an audit committee, our study adds to the literature on board internationalization by highlighting the positive effect of language similarity in overcoming internal and external communication challenges (Oxelheim et al., 2013). Third, by showing that investor protection mechanisms help mitigate the negative effect of FDs on reporting quality, we contribute to the literature on the effectiveness of country-level governance practices (DeFond et al., 2007; Leuz et al., 2003). Finally, we show that firms with FDs on their audit committee are associated with higher fees and larger delays for audits, contributing to the literature on the fees and report delays of audits (Cao et al., 2020; Caramanis & Lennox, 2008; Chen et al., 2019; Zhang, 2018).

Our study has important implications for corporations and auditors. If firms use FDs, then they face a trade-off between the potential benefits of increased director independence and the potential costs related to FD-induced lower FRQ. A potential solution to the above dilemma could be to recruit FDs who do not bring language differences to the committee (e.g., a French-speaking Swiss director in a French firm), thereby increasing director independence while at the same time maintaining higher FRQ. As for auditors, FD-induced earnings misstatements could increase the audit risk, requiring the auditor to exert costly additional effort to effectively reduce that risk to an acceptable level.

The rest of the paper is organized as follows: In the next section, we discuss the theory and formulate hypotheses. Thereafter, we present our research design and sample. Then follows a section in which we present our results. The concluding section summarizes our findings.

2 | RELATED LITERATURE AND HYPOTHESIS DEVELOPMENT

2.1 | Audit committee characteristics and FRQ

The literature on the monitoring and advising functions of corporate boards and their committees has attracted long-standing scholarly interest (Carson, 2002; Conyon, 1994; Hillier et al., 2011; Pascual-Fuster & Crespi-Cladera, 2018; Peterson et al., 2007; Pucheta-Martinez & Garcia-Meca, 2014; Setia-Atmaja, 2009). The monitoring duties of corporate directors include overseeing the

financial reporting process that is the specific focus of the audit committee (Chambers, 2005; Guthrie & Turnbull, 1995; Tsui et al., 1994). Directive 2014/56/EU of the European Parliament and of the Council points out the importance of the audit committee's oversight role: "Audit committees, or bodies performing an equivalent function within the audited public-interest entity, have a decisive role to play in contributing to high-quality statutory audit" (The European Parliament and the Council of the European Union, 2014).²

Given the vital role of the audit committee in monitoring the financial reporting process, several studies have examined the relation between audit committee characteristics and FRQ. These studies use different measures of financial reporting, such as the quality of accruals (Campbell et al., 2015; Dhaliwal et al., 2010; Klein, 2002; Krishnan et al., 2011; Osma & Noguer, 2007), the issuance of a going-concern report (Carcello & Neal, 2000; Pomeroy & Thornton, 2008), reporting restatements (Agrawal & Chadha, 2005; Archambeault et al., 2008; Carcello et al., 2011; Cohen et al., 2014), fraudulent financial reporting (Beasley et al., 2000), and management discussion and analysis (MD&A) disclosure (Carcello & Neal, 2003), to establish this relation. The findings in these studies provide a general implication that the independence of audit committees and the presence of directors with accounting, finance, and legal expertise positively affect FRQ.

The literature on audit committees also shows that greater independence, a larger size, and greater meeting frequencies of the committee are associated with a lower cost of debt financing and decreased yield spreads (Anderson et al., 2004). A firm whose audit committee comprises independent and skilled directors has a higher likelihood of its managers making earnings forecasts that are more accurate and that trigger a favorable market response (Karamanou & Vafeas, 2005). DeFond et al. (2005) examine whether the capital market reacts to the appointment of directors with financial expertise to the audit committee. They find that the market reacts positively to the recruitment of accounting financial experts but does not react to the appointment of non-accounting financial experts. Further, social ties among audit committee members should have a positive relation with reporting quality (Zhao, 2021), while such ties between the CEO and audit committee members should have a negative relation with reporting quality (Bruynseels & Cardinaels, 2014).

2.2 | FDs on the audit committee and FRQ

Firms recruit FDs to boards for many reasons. For example, a firm might need to hire FDs due to the regulatory pressure to increase board independence and boost the expertise of certain committees. The reason may also be to attract foreign institutional investors, employ foreign skilled workers, or extend business to a foreign market (Estélyi & Nisar, 2016; Miletkov et al., 2017; Oxelheim et al., 2013). However, the literature has not examined the potential relation between FDs on audit committees and FRQ.

We argue that the benefits of appointing FDs to audit committees come at a cost. FDs will likely introduce language and cultural differences to the board in general and to its committees in particular.

The literature on the internationalization of corporate boards provides many examples of communication problems arising from linguistic differences. In an attempt to cope with communication problems and recruit FDs without exposing them to foreign language differences in the boardroom, some firms have even changed their corporate language to English. However, in a number of cases, such changes have weakened communication within the board, as directors have varied levels of language competence (Piekkari et al., 2015). Oxelheim et al. (2013) provide further evidence that external and internal corporate communication issues will likely generate different recruiting approaches with regard to FDs. The literature suggests that, for directors to effectively monitor managerial activities, knowledge of the local language and culture is essential (Hooghiemstra et al., 2019; Miletkov et al., 2017; Tenzer et al., 2014).

The auditing and governance literature indicates that the financial reporting process is extremely technical and that the parties involved in this process require a continuous communication flow for effective information processing (Beasley et al., 2009; Cohen et al., 2002, 2017; Spira, 1998). Beasley et al. (2009) highlight that, to share information and make decisions on issues related to financial reporting, the audit committee on average meets approximately 10 times per year, of which five are face-to-face and five are telephone meetings. In extreme cases, the audit committee could have up to 30 face-to-face and 20 telephone meetings. On average, the duration of an audit committee's face-to-face meetings (telephone meetings) is 197.5 min (85.0 min). Beasley et al. (2009) further add that most meetings of an audit committee take place in the presence of internal control and corporate managers. The committee also meets the auditor to review corporate financial statements, the audit process, and internal control. Communication, as a tool for information sharing and processing, is therefore an essential part of the audit committee members' usual routine. FDs who bring language differences to the audit committee could adversely affect the smooth communication flow required for successful monitoring.

Like any other audit committee member, FDs need to have an advanced understanding of the firm's business, its environment, and the local accounting practices to ensure useful oversight. Specifically, effective monitoring requires directors to collect information at the firm, industry, and wider economy levels, process the information thoroughly and make recommendations, share any decisions with other directors as a group, and seek the implementation of group decisions (Boivie et al., 2016; Forbes & Milliken, 1999). Collecting and processing such information is essential for the audit committee members because it enables them to evaluate the firm's financial performance relative to both the industry in which it operates and the wider economy and thereby assess the probability of fraud and earnings misstatements that typically take place when a firm performs poorly. In instances when detailed information about local accounting policies and businesses is available only in the local language, collecting, processing, and communicating the required information might be challenging for FDs who do not speak the local language. Considering such issues, we predict that FDs who bring linguistic differences to the audit committee will be only weakly integrated into the committee. Further, they will face constraints in obtaining and processing

sufficient information about the firm, due to which the committee will experience internal communication hurdles. These communication problems will also weaken the interaction of the committee with the management, the internal control, and the auditor, causing the firm to face lower FRQ.

To summarize, we predict that linguistic differences will create barriers to efficient communication between all parties involved in the financial reporting process, in turn resulting in lower-quality reporting. We thus formulate the following hypothesis³ on the role of the internationalization of the audit committee:

H1. There is a negative relation between the proportion of foreign directors on the audit committee of a firm and the quality of that firm's financial reporting.

2.3 | Language similarity of FDs

The research has indicated that language barriers affect the formation of trust in multinational teams (Tenzer et al., 2013), which leads to lower social integration and decreased knowledge sharing within such teams (Barner-Rasmussen & Björkman, 2005; Harzing & Feely, 2008; Lagerström & Andersson, 2003; Tenzer et al., 2013). Similar findings are presented by studies on multinational boards. Piekari et al. (2015) show that corporate directors are likely to stay more silent during board meetings in cases where they do not fluently speak the firm's corporate language. They argue that such language-generated problems in corporate communication will undermine the board's monitoring function. Building on that result, we posit that FD-induced language differences in the audit committee will result in minimal cooperation and a lack of knowledge sharing within the committee and with other parties that take part in the financial reporting process. As a result, the firm will experience lower FRQ. In contrast, a higher level of language similarity within an internationalized audit committee will lead the members to trust each other, share relevant information, and cooperate. An FD who speaks a similar language to that spoken in the firm's home country will also be able to become acquainted with local accounting rules and collect and process firm-related information in the same way as a local director would. Consequently, the firm's FRQ will not be affected by the foreignness of that particular FD. This familiarity leads to our next hypothesis (H2):

H2. The negative relation between the proportion of foreign directors on the audit committee of a firm and the quality of that firm's financial reporting is mitigated by the degree of similarity among the languages of the committee.

2.4 | Country-level corporate governance and FRQ

Country-level corporate governance refers to mechanisms through which a country protects shareholders and creditors against

expropriation by managers and controlling shareholders (La Porta et al., 2000; Shleifer & Vishny, 1997). Such mechanisms are vital as they drive corporate choices such as the firm's financing, dividend policies, and ownership structure. The literature suggests that greater corporate governance implemented by a target firm's home country positively affects the firm's performance when announcing a merger or acquisition (Hagendorff et al., 2008; John et al., 2010; Rossi & Volpin, 2004). Greater country-level corporate governance also improves investment efficiency (García-Sánchez & García-Meca, 2018), boosts disclosure on internal control (Hooghiemstra et al., 2015), and paves the way for higher-quality firm-level corporate governance (Doidge et al., 2007). Further, country-level corporate governance is positively related to the number of analysts following a firm (Lang et al., 2004), negatively related to the cost of capital (Chen et al., 2009), and positively related to firm performance during times of crisis (Van Essen et al., 2013).

Some studies have shown that country-level corporate governance and the rule of law that shape investor protection have influential roles in determining FRQ (Burgstahler et al., 2006; DeFond et al., 2007; Lang et al., 2006; Leuz et al., 2003; Shen & Chih, 2007). The findings of these studies, in general, indicate that managers of firms operating in countries with greater investor protection are less likely to manipulate earnings because they have limited capability to accumulate private benefits of control and, therefore, fewer incentives to conceal their performance.

Countries with greater investor protection are more likely to enforce the rules on the disclosure of certain information and the accounting rules that encourage shareholders and creditors to exercise their rights. As stated in La Porta et al. (2000), shareholders have the right to vote on director appointments, to attend or call shareholders' meetings, and to sue directors or management for suspected expropriation, both to protect themselves and at the same time to ensure effective oversight. Likewise, creditors have the right to have mechanisms for bankruptcy and organization procedures and to add measures that will enable them to repossess collateral, to protect their seniority, and to constrain firms from seeking court protection in a reorganization. The effectiveness of these laws depends on their enforcement, and this differs across countries for both political and legal reasons. Capital markets are usually highly developed in countries that have introduced laws on investor protection and have successfully enforced them. We predict that, in highly governed countries, capital market pressure and solid institutional factors will increase auditors' litigation risk and decrease managers' discretion to misstate earnings. As a result, the likelihood of the firm manipulating earnings will decrease even when the firm has FDs on its audit committee. Therefore, we formulate the following hypothesis:

H3. The negative relation between the proportion of foreign directors on the audit committee of a firm and the quality of that firm's financial reporting is mitigated by the level of investor protection in the country where the firm is headquartered.

3 | DATA AND METHODOLOGY

The empirical analysis of our study is based on a sample of 2159 publicly listed firms from 15 European countries over the period 2000–2018. We obtain accounting and stock data from Compustat Global and Worldscope, board data from BoardEx, and audit data from Audit Analytics. Further, we get country-level governance and rule-of-law measures from the World Bank.

Table 1 displays our sample selection criteria. First, we exclude firm-year observations with missing international securities identification numbers (ISIN) and report dates. Second, given that BoardEx provides data at the director level, we remove all duplicates after creating the intended variables to convert the data to the firm level. Third, we remove all firm-year observations with missing financial information. Fourth, we take out observations without standard industry classification (SIC) codes. We also remove utility firms (SIC codes 4900–4999) and financial firms (SIC codes 6000–6999) because those industries fall under specific regulations. Finally, we exclude observations with missing information⁴ on audit committee and FRQ measures. Our sample size for the main test is 14,328 firm-year observations.

3.1 | Dependent variable: Proxies for the FRQ

We use three proxies for FRQ to cover all facets of it and thereby to have our results lend themselves to generalization. To obtain our first proxy for FRQ, we use a version of the cross-sectional proxy in Dechow and Dichev (2002) as modified by McNichols (2002). We estimate the following regression and control for country, industry, and year fixed effects, where the industry is the two-digit SIC code.

$$WCA_{it} = \beta_0 + \beta_1 CFO_{it-1} + \beta_2 CFO_{it} + \beta_3 CFO_{it+1} + \beta_4 \Delta Revenue_{it} + \beta_5 PPE_{it} + \varepsilon_{it} \quad (1)$$

TABLE 1 Sample selection procedure

All the European publicly listed firms	
All firm-year observations in BoardEx European and UK databases	575,465
Less firms with missing data on ISIN and report date	(72,694)
Total number of observations from BoardEx	502,771
Less duplicates: the BoardEx data are at the director level	(447,996)
Less firms with missing financial information	(24,262)
Less financials, utilities, and missing industries	(1128)
Less firms with missing data on FRQ measures and audit committees	(7978)
Total observations with board and financial information	21,407
Less firms with missing data on other variables in the main model	(7079)
Sample size for the main tests	14,328

where WCA is the working capital accruals, obtained as the change in noncash current assets minus the change in current liabilities other than short-term debt and taxes payable; CFO is cash flow from operations; $\Delta Revenue$ is the annual change in revenue; and PPE is property, plant, and equipment. All variables are scaled by lagged total assets. Further, we multiply the absolute values of the residuals from this regression by -1 (denoting them by *Diswca*) and use them to represent FRQ. A higher *Diswca* represents higher FRQ.

For the second measure of FRQ, we follow Kothari et al. (2005) and estimate the following regression by industry and year and control for country fixed effects, where the industry is the two-digit SIC code.

$$ACCR_{it} = \beta_0 + \beta_1 1/Assets_{t-1} + \beta_2 \Delta Revenue_{it} + \beta_3 PPE_{it} + \beta_4 ROA_{it} + \varepsilon_{it} \quad (2)$$

where ACCR is the total accruals, obtained as the change in non-cash current assets minus the change in current non-interest-bearing liabilities minus depreciation and amortization expenses; Assets is the total book value of assets; $\Delta Revenue$ is the annual change in revenue; PPE is property, plant, and equipment; and ROA is net income before extraordinary items. All variables are scaled by lagged total assets. We then multiply the absolute values of the residuals from this regression by -1 (denoting them by *Disacc*) and use them to represent FRQ. A higher *Disacc* indicates higher FRQ.

For the third and final measure of FRQ, we use the FERC. Following relevant research (Choi et al., 2011, 2019; Lundholm & Myers, 2002), we employ the FERC to evaluate the ability of stock returns to reflect future earnings, estimating the following regression:

$$Return_{it} = \beta_0 + \beta_1 X_{it-1} + \beta_2 X_{it} + \beta_3 X_{it+1} + \beta_4 Return_{it+1} + \varepsilon_{it} \quad (3)$$

where *Return* is the cumulative buy-and-hold return over 12 months for the given fiscal year and *X* is earnings before extraordinary items that are scaled by the beginning market value of equity. Based on findings in previous studies, we expect β_2 (i.e., the ERC) and β_3 (i.e., the FERC) to be positive and β_1 and β_4 to be negative. A higher value of the FERC represents higher FRQ.

3.2 | Main explanatory variable: FDs on audit committee

Our main explanatory variable is *FD_Audit*, which is the ratio of the number of FDs⁵ on the audit committee to the committee's overall size.⁶ *FD_Audit* is a continuous variable that has a distribution ranging from zero to one, with one showing that the entire audit committee is composed of FDs and zero showing that no FDs serve on the audit committee of the firm. In a robustness test, we use two additional measures of FDs on the audit committee. Specifically, we use an indicator variable (*FD_Audit_Dummy*) that equals one if a firm has at least one FD on its audit committee in the given year and zero otherwise.

As our second alternative measure in the robustness test, we use the number of FDs on the audit committee (*FD_Audit_Number*).

3.3 | Control variables

When estimating the relation between FDs on the audit committee and FRQ, we follow pertinent research and control for several firm-level performance measures (Badolato et al., 2014; Bills et al., 2016; Caramanis & Lennox, 2008; Dhaliwal et al., 2010). Specifically, we control for size (*Firm_Size*) as larger firms that are more exposed to the media and regulators are expected to preserve higher-quality reporting (Hope et al., 2013). We also control for growth (*MTB*), sales volatility (*SD_Sales*), and cash-flow volatility (*SD_CFO*) because high growth and increased sales and cash-flow volatilities lead to greater earnings variability, which eventually affects FRQ (Hribar & Nichols, 2007; Menon & Williams, 2004).

We further control for corporate financial well-being (*Zscore*), leverage (*Leverage*), and the availability of cash (*Slack*). Firms that are financially stable, are less leveraged, and have access to cash are presumed to have higher-quality reporting. In contrast, firms that are financially distressed are more likely to use earnings misstatements to conceal their performance and as such avoid penalties related to debt covenant violations or other potential consequences (Efendi et al., 2007; Jaggi & Lee, 2002).

Following prior research (Badolato et al., 2014; Bruynseels & Cardinaels, 2014; Goh, 2009; Kusnadi et al., 2016), we control for firm-level governance measures. We control for whether a firm is audited by one of the Big 4 accounting firms (*Big4*), since audits conducted by these firms are regarded as having higher quality and thus a higher possibility of reducing earnings management (Francis et al., 2013). We also control for audit committee characteristics such as size (*AC_Size*), tenure (*AC_Tenure*), and accounting and finance expertise (*AC_Afin*). Tenure is important in explaining FRQ because longer tenures enable the committee members to gain experience on the reporting process, get to know the shortcomings of the reporting, and as such pave the way for higher FRQ (Li & Wahid, 2018). Similarly, accounting and finance expertise gives the committee members ways to use their existing knowledge and previous experience to stall potential sources of fraud and earnings management (Dhaliwal et al., 2010). We also control for busyness (*AC_Busyness*) since serving on many boards may restrain audit committee directors' monitoring capabilities and lead to lower FRQ (Tanyi & Smith, 2015). Finally, we control for the FDs serving on the corporate board but not on the audit committee (*FD_Other*) as such directors may also indirectly affect FRQ. Detailed variable definitions are provided in Appendix B.

3.4 | Main empirical model

To test H1, that FDs on the audit committee have an inverse association with FRQ, we estimate the following regression model:

$$\begin{aligned} \text{FRQ}_{it} = & \beta_0 + \beta_1 \text{FD_Audit}_{it} + \beta_2 \ln(\text{AC_Tenure}_{it}) + \beta_3 \text{AC_Busyness}_{it} \\ & + \beta_4 \text{AC_Size}_{it} + \beta_5 \text{AC_Afin}_{it} + \beta_6 \text{FD_Other}_{it} + \beta_7 \text{Big4}_{it} \\ & + \beta_8 \text{MTB}_{it} + \beta_9 \text{Leverage}_{it} + \beta_{10} \text{Loss}_{it} + \beta_{11} \text{Firm_Size}_{it} \\ & + \beta_{12} \text{Foreign_Sales}_{it} + \beta_{13} \text{SD_Sales}_{it} + \beta_{14} \text{SD_CFO}_{it} \\ & + \beta_{15} \text{Zscore}_{it} + \beta_{16} \text{PPE}_{it} + \beta_{17} \text{Slack}_{it} + c_{it} + u_{it} + v_{it} + \varepsilon_{it} \end{aligned} \quad (4)$$

where FRQ is one of the two measures of FRQ: *Diswca*—McNichols (2002) or *Disacc*—Kothari et al. (2005). The explanatory variable of interest, *FD_Audit*, is measured as the ratio of the number of FDs on the audit committee to the committee's overall size. Further, *c* is a country dummy in the equation, *u* is an industry dummy, and *v* is a year dummy. Detailed variable definitions are provided in Appendix B. A negative β_1 would be consistent with the idea that FDs on the audit committee are associated with lower FRQ.

3.5 | The FERC test

We next expand Equation 4 to test whether the lower FRQ that is induced by FDs on the audit committee affects the ability of the stock return to incorporate future earnings. The FERC model demonstrates that current returns are determined by unexpected earnings in the period, changes in the expectations about future earnings, and random noise. We follow prior research (Choi et al., 2019; Lundholm & Myers, 2002) and estimate the following regression:

$$\begin{aligned} \text{Return}_{it} = & \beta_0 + \beta_1 X_{it-1} + \beta_2 X_{it} + \beta_3 X_{it+1} + \beta_4 \text{Return}_{it+1} + \beta_5 \text{FD_Audit}_{it} \\ & + \beta_6 \text{FD_Audit}_{it} \times X_{it-1} + \beta_7 \text{FD_Audit}_{it} \times X_{it} + \beta_8 \text{FD_Audit}_{it} \\ & \times X_{it+1} + \beta_9 \text{FD_Audit}_{it} \times \text{Return}_{it+1} + \beta_n \text{Controls}_{it} + \varepsilon_{it} \end{aligned} \quad (5)$$

where *Return* is the cumulative buy-and-hold return over 12 months for the given fiscal year, which follows Choi et al. (2011); *X* is earnings before extraordinary items that are scaled by the beginning market value of equity; and *FD_Audit* is the ratio of the number of FDs on the audit committee to the committee's overall size. We also follow prior studies (Choi et al., 2011, 2019) in controlling for a set of variables that comprises the size (*Firm_Size*), growth (*MTB*), stock return volatility (*SD_Return*), and earnings persistence (*Persistence*) of firms. A negative β_8 would be consistent with the idea that the stock return of a firm with FDs on its audit committee incorporated less information about its future earnings.

4 | RESULTS

4.1 | Descriptive statistics and univariate analysis

Table 2 presents the descriptive statistics for our final sample. The mean (median) of *FD_Audit* is 0.111 (0.000), which indicates that about 11% of the audit committees of the sample firms, on average, is made up of FDs. The table further demonstrates that firms, on

TABLE 2 Descriptive statistics

Variable	Observations	Mean	Std. dev.	P25	Median	P75
<i>Diswca</i>	14,328	-0.048	0.060	-0.060	-0.028	-0.012
<i>Disacc</i>	14,328	-0.053	0.063	-0.067	-0.032	-0.014
<i>FD_Audit</i>	14,328	0.111	0.209	0.000	0.000	0.200
<i>ln (AC_Tenure)</i>	14,328	1.660	0.459	1.381	1.740	2.144
<i>AC_Busyness</i>	14,328	1.951	0.871	1.333	1.750	2.400
<i>AC_Size</i>	14,328	3.113	0.971	2.000	3.000	4.000
<i>AC_Afin</i>	14,328	0.133	0.193	0.000	0.000	0.333
<i>FD_Other</i>	14,328	0.068	0.117	0.000	0.000	0.125
<i>Big4</i>	14,328	0.633	0.482	0.000	1.000	1.000
<i>MTB</i>	14,328	2.797	4.071	1.035	1.825	3.196
<i>Leverage</i>	14,328	0.117	0.142	0.000	0.066	0.193
<i>Loss</i>	14,328	0.307	0.461	0.000	0.000	1.000
<i>Firm_Size</i>	14,328	5.032	2.084	3.506	5.004	6.495
<i>Foreign_Sales</i>	14,328	0.244	0.328	0.000	0.000	0.522
<i>SD_Sales</i>	14,328	0.300	0.429	0.078	0.160	0.336
<i>SD_CFO</i>	14,328	0.136	0.317	0.029	0.054	0.107
<i>Zscore</i>	14,328	4.182	7.396	1.602	2.726	4.452
<i>PPE</i>	14,328	0.202	0.207	0.042	0.127	0.295
<i>Slack</i>	14,328	0.168	0.184	0.045	0.105	0.219
<i>FD_Audit_Dummy</i>	14,328	0.268	0.443	0.000	0.000	1.000
<i>FD_Audit_Number</i>	14,328	0.352	0.651	0.000	0.000	1.000
<i>X</i>	11,646	-0.006	0.220	-0.033	0.045	0.083
<i>IX</i>	11,646	-0.007	0.031	-0.013	-0.001	0.010
<i>FX</i>	11,646	-0.040	0.216	-0.061	0.004	0.041
<i>Return</i>	11,646	0.108	0.518	-0.177	0.112	0.376
<i>MADJ_Return</i>	11,646	0.050	0.475	-0.205	0.039	0.284
<i>Persistence</i>	11,646	0.203	0.463	-0.085	0.191	0.479
<i>CFO</i>	11,646	0.053	0.174	0.017	0.079	0.134
<i>RLE</i>	12,234	1.696	0.136	1.649	1.705	1.764
<i>RLR</i>	12,234	93.456	2.266	92.488	93.301	94.313
<i>Mgov_Rank</i>	12,234	3.291	0.274	3.193	3.266	3.384
<i>Mgov_Est</i>	12,234	3.601	0.368	3.456	3.607	3.801
<i>Gscore</i>	12,234	4.818	0.450	4.645	4.822	5.002
<i>Similar Language</i>	13,326	0.026	0.158	0.000	0.000	0.000
<i>ln (Audit_Fees)</i>	7530	12.090	1.421	11.041	12.002	13.063
<i>Audit_Delay</i>	7060	4.390	0.339	4.159	4.369	4.644

Notes: Variables are winsorized at the 1st and 99th percentiles to adjust for potential outliers. All variables are defined in Appendix B.

average, have three audit committee members, with an average tenure of 5.6 years. In addition, about 63% of the firms are audited by the Big 4 auditing firms. On average, about 12% of the capital structure of the sample firms is made up of debt.

Table 3 displays the correlation matrix. As expected, the FRQ measures are positively correlated with each other. *FD_Audit* is negatively correlated with both measures of FRQ (*Diswca* and *Disacc*), which supports H1. The table also shows a positive correlation between firm size and FDs on audit committees. No multicollinearity

issues are present, as all variance inflation factors (VIFs) are below four.

4.2 | Multivariate analysis of foreign audit committee directors and FRQ

Using Equation 4, we test H1 and report the regression results for the relation between *FD_Audit* and the FRQ measures in Columns 1 and

TABLE 3 Correlation analysis

Variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	
[1] Diswca	1.00																			
[2] Disacc	0.79*	1.00																		
[3] FD_Audit	-0.03*	-0.02*	1.00																	
[4] ln (AC_Tenure)	0.09*	0.08*	-0.09*	1.00																
[5] AC_Busyness	0.04*	0.04*	0.02	-0.10*	1.00															
[6] AC_Size	0.11*	0.12*	0.10*	-0.02*	0.07*	1.00														
[7] AC_Afn	0.00	0.01	0.03*	-0.09*	0.04*	-0.06*	1.00													
[8] FD_Other	0.01	0.03*	0.32*	-0.05*	0.04*	-0.03*	0.03*	1.00												
[9] Big4	0.14*	0.15*	0.02	-0.05*	0.13*	0.25*	0.01	0.06*	1.00											
[10] MTB	-0.06*	-0.04*	0.03*	-0.08*	0.03*	0.01	0.01	0.03*	0.01	1.00										
[11] Leverage	0.08*	0.09*	0.02	-0.03*	0.05*	0.16*	-0.03*	0.10*	0.15*	-0.04*	1.00									
[12] Loss	-0.19*	-0.18*	0.09*	-0.16*	-0.02*	-0.15*	0.00	0.04*	-0.16*	0.00	-0.06*	1.00								
[13] Firm_Size	0.24*	0.26*	0.02*	-0.02	0.19*	0.42*	0.00	0.15*	0.43*	0.20*	0.25*	-0.39*	1.00							
[14] Foreign_Sales	0.09*	0.10*	0.07*	0.08*	0.02*	0.13*	-0.01	0.16*	0.14*	0.01	0.06*	-0.12*	0.29*	1.00						
[15] SD_Sales	-0.23*	-0.23*	-0.06*	-0.13*	0.00	-0.08*	-0.01	-0.07*	-0.11*	0.03*	-0.08*	0.09*	-0.20*	-0.11*	1.00					
[16] SD_CFO	-0.24*	-0.24*	0.05*	-0.17*	-0.01	-0.12*	-0.02*	0.03*	-0.17*	0.08*	-0.07*	0.27*	-0.24*	-0.10*	0.40*	1.00				
[17] Zscore	0.07*	0.08*	0.04*	-0.04*	0.03*	-0.06*	0.01	-0.01	-0.07*	0.29*	-0.27*	0.04*	0.06*	-0.02	-0.06*	0.05*	1.00			
[18] PPE	0.14*	0.15*	0.00	0.05*	0.02*	0.08*	-0.06*	0.06*	0.11*	-0.09*	0.30*	-0.09*	0.10*	0.02	-0.15*	-0.13*	1.00			
[19] Slack	-0.15*	-0.18*	0.08*	-0.12*	-0.02	-0.12*	0.00	0.04*	-0.11*	0.18*	-0.28*	0.27*	-0.16*	-0.04*	0.07*	0.32*	0.35*	-0.30*	1.00	

Notes: Variables are winsorized at the 1st and 99th percentiles to adjust for potential outliers. * indicates the 1% level of significance. All variables are defined in Appendix B.

2 of Table 4.⁷ The model fit is adequate for all the regressions, and the coefficients for the control variables are consistent with those in previous research.

The significantly negative coefficients for *FD_Audit* in Column 1 ($\beta = -0.014^{***}$, t -value = -3.47) and Column 2 ($\beta = -0.013^{***}$, t -value = -3.42) indicate that *FD_Audit* is negatively related to FRQ, which supports H1. The results are also economically meaningful because a one-standard-deviation increase in *FD_Audit* results in a -0.048 and a -0.042 standard-deviation change in *Diswca* and *Disacc*, respectively. As expected, the results for our control variables show that the size (*Firm_Size*), financial stability (*Zscore*), tenure of audit committee directors (*AC_Tenure*), and being audited by a Big 4 auditing firm (*Big4*) are all positively associated with FRQ. However, growth (*MTB*) and operating losses (*Loss*) are negatively related to FRQ.

4.3 | Controls for endogeneity

It is possible that our results in Columns 1 and 2 of Table 4 are subject to an omitted variable bias. Unobservable time-invariant firm characteristics that are determinants of *FD_Audit* may at the same time influence that firm's FRQ. For example, the level of competence of top management and the corporate culture of a firm could influence both the financial reporting and the recruitment of FDs to the audit committee. In such a case, the results from our baseline model would suffer from omitted variable bias.

To address this endogeneity concern, we reestimate the models in Columns 1 and 2 of Table 4 and control for firm and year fixed effects. This approach enables us to control for firm characteristics that do not often change over time, such as management quality, corporate culture, and so forth, and to provide more consistent results.

TABLE 4 Foreign directors on audit committees and financial reporting quality

Dependent variable	Baseline model		Firm fixed effects		PSM	
	(1) <i>Diswca</i>	(2) <i>Disacc</i>	(3) <i>Diswca</i>	(4) <i>Disacc</i>	(5) <i>Diswca</i>	(6) <i>Disacc</i>
<i>FD_Audit</i>	-0.014 ^{***} (-3.47)	-0.013 ^{***} (-3.42)	-0.019 ^{**} (-2.28)	-0.017 ^{**} (-2.27)	-0.016 ^{***} (-3.81)	-0.015 ^{***} (-3.64)
<i>In (AC_Tenure)</i>	0.004 ^{**} (2.25)	0.003 [*] (1.67)	0.006 ^{**} (2.51)	0.002 (1.02)	0.003 (1.64)	0.002 (1.15)
<i>AC_Busyness</i>	0.001 (0.97)	0.000 (0.22)	-0.001 (-0.75)	-0.003 (-1.37)	0.003 (1.57)	0.001 (0.64)
<i>AC_Size</i>	0.000 (0.36)	0.000 (0.48)	0.001 (1.40)	0.002 [*] (1.79)	-0.000 (-0.18)	-0.001 (-0.98)
<i>AC_Afin</i>	-0.002 (-0.52)	0.003 (0.79)	0.002 (0.31)	0.005 (0.80)	-0.008 (-1.45)	-0.001 (-0.14)
<i>FD_Other</i>	0.027 (0.79)	0.068 ^{**} (2.08)	-0.000 (-0.00)	0.023 (0.47)	0.030 (0.66)	0.076 [*] (1.71)
<i>Big4</i>	0.005 ^{***} (2.76)	0.005 ^{***} (3.08)	0.004 [*] (1.70)	0.006 ^{**} (2.37)	0.004 [*] (1.93)	0.006 ^{***} (2.69)
<i>MTB</i>	-0.002 ^{***} (-7.22)	-0.002 ^{***} (-7.00)	-0.001 ^{***} (-4.58)	-0.001 ^{***} (-2.94)	-0.001 ^{***} (-5.00)	-0.001 ^{***} (-4.55)
<i>Leverage</i>	-0.021 ^{**} (-2.46)	-0.017 ^{**} (-2.08)	-0.019 [*] (-1.74)	-0.024 ^{**} (-2.09)	-0.022 ^{***} (-2.59)	-0.022 ^{**} (-2.29)
<i>Loss</i>	-0.007 ^{***} (-4.23)	-0.004 ^{**} (-2.39)	-0.004 ^{**} (-2.09)	-0.003 (-1.63)	-0.006 ^{***} (-2.85)	-0.003 (-1.43)
<i>Firm_Size</i>	0.004 ^{***} (8.72)	0.005 ^{***} (10.09)	0.002 [*] (1.74)	0.002 [*] (1.94)	0.004 ^{***} (5.80)	0.005 ^{***} (6.90)
<i>Foreign_Sales</i>	-0.003 (-1.06)	-0.001 (-0.34)	-0.002 (-0.64)	-0.001 (-0.30)	-0.002 (-0.71)	0.002 (0.71)
<i>SD_Sales</i>	-0.013 ^{***} (-4.84)	-0.013 ^{***} (-4.82)	-0.008 ^{**} (-2.27)	-0.009 ^{***} (-2.70)	-0.017 ^{***} (-4.73)	-0.019 ^{***} (-4.60)
<i>SD_CFO</i>	-0.025 ^{***} (-4.51)	-0.023 ^{***} (-4.92)	-0.012 (-1.35)	-0.013 (-1.49)	-0.022 ^{***} (-3.22)	-0.022 ^{***} (-3.83)
<i>Zscore</i>	0.001 ^{***} (7.35)	0.001 ^{***} (9.67)	0.001 ^{***} (3.17)	0.001 ^{***} (3.70)	0.001 ^{***} (5.17)	0.001 ^{***} (6.92)
<i>PPE</i>	0.028 ^{***} (6.45)	0.031 ^{***} (7.37)	0.046 ^{***} (3.91)	0.045 ^{***} (3.83)	0.028 ^{***} (5.16)	0.031 ^{***} (5.76)
<i>Slack</i>	-0.024 ^{***} (-3.96)	-0.039 ^{***} (-6.62)	0.010 (1.08)	-0.013 (-1.48)	-0.019 ^{***} (-2.71)	-0.034 ^{***} (-4.48)
Intercept	-0.071 ^{***} (-6.11)	-0.083 ^{***} (-6.80)	-0.096 ^{***} (-8.70)	-0.092 ^{***} (-7.70)	-0.081 ^{***} (-4.60)	-0.093 ^{***} (-5.04)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	No	No	Yes	Yes
Country FE	Yes	Yes	No	No	Yes	Yes
Firm FE	No	No	Yes	Yes	No	No
Adjusted R ²	0.162	0.172	0.325	0.305	0.160	0.176
Observations	14,328	14,328	14,328	14,328	6910	6910

Notes: The dependent variable is one of the measures for financial reporting quality (FRQ). Columns 1 and 2 present the baseline version of Equation 4 in which we regress FRQ measures on *FD_Audit*. In Columns 3 and 4, we reestimate the regressions in the previous two columns and add firm fixed effects. In Columns 5 and 6, we use PSM and match firms with and without foreign directors (FDs) on their audit committees based on several firm-level performance and governance measures and then we reestimate the previous regression models. *FD_Audit* is the ratio of the number of FDs on the audit committee to the committee's overall size. The sample consists of publicly listed European firms for the period from 2000 to 2018. The standard errors are clustered at the firm level, and t -values are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. All variables are defined in Appendix B.

The coefficients for *FD_Audit* after controlling for firm and year fixed effects in Column 3 ($\beta = -0.019^{**}$, t -value = -2.28) and Column 4 ($\beta = -0.017^{**}$, t -value = -2.27) of Table 4 are still negative and statistically significant. The qualitatively similar results confirm our earlier findings that FDs on the audit committee are negatively related to FRQ.

Further, to overcome issues of selection bias that may be present in our data, we use PSM. We create a closely matched sample and check whether firms with and without FDs on their audit committees differ from one another in terms of FRQ. We match firms based on all the control variables in the baseline model. The PSM results in Columns 5 and 6 of Table 4 show that firms with FDs on their audit committees, on average, have lower FRQ than their counterparts without FDs on their audit committees, which confirms the results previously discussed. In an analysis⁸ not reported here, we find that the use of Abadie and Imbens' (2006) nearest-neighbor matching or bias-corrected estimator for average treatment effects supports the conclusions reached using PSM.

The results in Columns 2 and 6 of Table 4 show that *FD_Other*, which is the proportion of FDs on committees other than the audit committee, is positively related to FRQ. Our further analysis shows that *FD_Other* is higher in larger firms that also have higher foreign sales and less volatile revenue. *FD_Other* is also higher in firms whose audits are carried out by the Big 4 accounting firms. It is likely that

these factors or some other firm-specific characteristics have driven the positive relation between *FD_Other* and FRQ in our analysis because the relation becomes insignificant when we use regressions with firm fixed effects in Columns 3 and 4.

4.4 | The FERC and FDs on the audit committee

Using Equation 5, we test whether the lower FRQ induced by FDs on the audit committee (*FD_Audit*) affects the incorporation of future earnings into stock prices (FERC). The regression results in Column 1 of Table 5 show that the coefficient for X_{it-1} is negative and statistically significant ($\beta = -0.095^{***}$, t -value = -4.12), while, as expected, the coefficient for X_{it} is positive and statistically significant ($\beta = 0.149^{***}$, t -value = 4.42). The results further show that the coefficient for X_{it+1} is also positive and statistically significant ($\beta = 0.303^{***}$, t -value = 12.17). The signs and magnitudes of these coefficients indicate that the market may treat earnings as if they follow a random walk. The results in Column 1 are consistent with the findings of prior research (e.g., Choi et al., 2019; Collins et al., 1994; Lundholm & Myers, 2002). In Column 2, we have added *FD_Audit*, its interaction term with the underlying explanatory variables, and control variables. The coefficient for *FD_Audit* $\times X_{it+1}$ is negative and statistically significant ($\beta = -0.260^{***}$, t -value = -2.89), indicating

TABLE 5 Foreign directors on audit committees and the informativeness of stock prices about future earnings

Dependent variable	(1) <i>Return_t</i>	(2) <i>Return_t</i>	(3) <i>Return_t</i>	(4) <i>Return_t</i>
X_{t-1}	-0.095 ^{***} (-4.12)	0.306 ^{***} (5.07)	-0.082 ^{***} (-2.84)	0.341 ^{***} (4.26)
X_t	0.149 ^{***} (4.42)	0.489 ^{***} (6.13)	0.158 ^{***} (3.94)	0.371 ^{***} (4.04)
X_{t+1}	0.303 ^{***} (12.17)	0.072 [*] (1.68)	0.316 ^{***} (10.23)	0.155 ^{**} (2.50)
<i>Return_{t+1}</i>	-0.045 ^{***} (-3.97)	-0.058 ^{***} (-5.29)	-0.125 ^{***} (-9.59)	-0.034 ^{**} (-2.56)
<i>FD_Audit</i>		-0.080 ^{***} (-3.44)		-0.067 (-1.33)
<i>FD_Audit</i> $\times X_{t-1}$		-0.162 (-1.64)		-0.186 (-1.38)
<i>FD_Audit</i> $\times X_t$		0.060 (0.53)		0.053 (0.43)
<i>FD_Audit</i> $\times X_{t+1}$		-0.260 ^{***} (-2.89)		-0.267 ^{***} (-3.25)
<i>FD_Audit</i> $\times Return_{t+1}$		0.043 (1.04)		0.019 (0.41)
Intercept	0.318 ^{***} (3.44)	-0.406 ^{***} (-3.69)	0.309 ^{***} (3.56)	-1.329 ^{***} (-14.50)
Controls	No	Yes	No	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	No	No
Country FE	Yes	Yes	No	No
Firm FE	No	No	Yes	Yes
Adjusted R^2	0.218	0.377	0.206	0.434
Observations	11,646	11,646	11,646	11,646

Notes: The dependent variable is the buy-and-hold 12-month stock return for the given fiscal year (*Return*); X is income before extraordinary items scaled by the lagged market value of equity; *FD_Audit* is the ratio of the number of FDs on the audit committee to the committee's overall size; the controls are the size (*Firm_Size*), growth (*MTB*), stock return volatility (*SD_Return*), and earnings persistence (*Persistence*) of firms. Columns 1 and 2 present the regression of the stock return on earnings, and Columns 3 and 4 are extensions of the earlier two columns in which we add firm fixed effects. The sample consists of publicly listed European firms for the period from 2000 to 2018. The standard errors are clustered at the firm level, and t -values are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. All variables are defined in Appendix B.

that FD_Audit negatively affects the incorporation of future earnings into stock prices. It is possible that the adverse effect of FD_Audit on the FERQ is driven by the lower FRQ induced by FDs on the audit committee.

To control for unobservable time-invariant firm characteristics, we incorporate firm fixed effects. The results from the regression presented in Column 4 confirm our results in Column 2 of the table. The general conclusion holds that FDs on the audit committee lead to lower FRQ that impedes investors from appropriately interpreting financial statement information to properly estimate future earnings.

In instances where firm-specific information becomes less relevant, such as is shown in Table 5, investors tend to rely more on information related to the wider economy. To further explore this issue, we predict that the FD_Audit -induced lower FRQ will make firm-level information less important and thus lead the capital market to instead

incorporate more industry-level future earnings into stock prices. To examine this prediction, we decompose X_{it} into IX_{it} (the industry component of firm i 's earnings) and FX_{it} (the firm-specific component of firm i 's earnings).

Consistent with prior research (Ayers & Freeman, 1997; Choi et al., 2019), the regression results in Column 1 of Table 6 show that the coefficient for IX_{it+1} is significantly larger than the coefficient for FX_{it+1} .⁹ The results indicate that stock prices incorporate the industry-level component of future earnings sooner than the firm-specific component of future earnings. In Column 2, we have added the controls and interactions between FD_Audit and the earnings components. The positive and significant coefficient for $FD_Audit \times IX_{it+1}$ shows that a higher FD_Audit leads to an increase in the incorporation of industry-level future earnings into current stock prices. The negative and statistically significant coefficient for

TABLE 6 Foreign directors on audit committees and the incorporation of future industry-level earnings and firm-specific earnings into stock prices

Dependent variable	(1) $MADJ_Return_t$	(2) $MADJ_Return_t$	(3) $MADJ_Return_t$	(4) $MADJ_Return_t$
IX_{t-1}	-1.473** (-2.40)	0.496 (0.33)	-1.452** (-2.07)	1.069 (0.61)
IX_t	0.541 (0.75)	5.552** (2.56)	0.517 (0.67)	3.677 (1.56)
IX_{t+1}	3.314*** (5.48)	1.639 (0.95)	3.491*** (4.95)	2.114 (1.11)
FX_{t-1}	-0.088*** (-3.88)	0.241*** (4.17)	-0.076*** (-2.65)	0.284*** (3.56)
FX_t	0.145*** (4.27)	0.474*** (6.33)	0.153*** (3.82)	0.372*** (4.24)
FX_{t+1}	0.292*** (12.17)	0.045 (0.97)	0.299*** (10.19)	0.120** (1.99)
$MADJ_Return_{it+1}$	-0.041*** (-3.76)	-0.072** (-2.09)	-0.125*** (-9.88)	-0.037 (-0.95)
FD_Audit		-0.097*** (-4.02)		-0.097* (-1.90)
$FD_Audit \times IX_{t-1}$		-3.227 (-1.14)		-2.868 (-0.93)
$FD_Audit \times IX_t$		-1.342 (-0.39)		-2.153 (-0.65)
$FD_Audit \times IX_{t+1}$		4.020** (2.34)		4.464** (2.48)
$FD_Audit \times FX_{t-1}$		-0.158* (-1.77)		-0.181 (-1.46)
$FD_Audit \times FX_t$		0.067 (0.62)		0.071 (0.59)
$FD_Audit \times FX_{t+1}$		-0.278*** (-3.33)		-0.278*** (-3.57)
$FD_Audit \times MADJ_Return_{it+1}$		0.067 (1.59)		0.053 (1.08)
Intercept	0.275*** (2.89)	-0.377*** (-3.29)	0.243*** (2.80)	-1.275*** (-13.94)
Controls	No	Yes	No	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	No	No
Country FE	Yes	Yes	No	No
Firm FE	No	No	Yes	Yes
Adjusted R^2	0.102	0.297	0.089	0.358
Observations	11,646	11,646	11,646	11,646

Notes: The dependent variable is the market-adjusted return for the given fiscal year ($MADJ_Return$); X is income before extraordinary items scaled by the lagged market value of equity; IX is the industry component of firm i 's earnings measured as the median annual earnings (X) for all firms in firm i 's two-digit SIC code in the given year less the market component of earnings (MX), measured as the median annual earnings (X) for all firms in all industries in the given year; FX is a firm-specific component of firm i 's earnings that is measured as $X - IX - MX$; FD_Audit is the ratio of the number of FDs on the audit committee to the committee's overall size. The controls are the size ($Firm_Size$), growth (MTB), stock return volatility (SD_Return), and earnings persistence ($Persistence$) of firms. Columns 1 and 2 present the regression of the stock return on earnings, and Columns 3 and 4 are extensions of the earlier columns in which we add firm fixed effects. The sample consists of publicly listed European firms for the period from 2000 to 2018. The standard errors are clustered at the firm level, and t-values are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. All variables are defined in Appendix B.

$FD_Audit \times FX_{t+1}$ further confirms that firm-specific future earnings are incorporated into current stock prices to a lesser extent when FD_Audit is higher. The results from the regression with firm fixed effects in Column 4 support the findings in Column 2 of the table, which indicates that FDs on an audit committee lead to a significant increase in the reliance on industry-level future earnings. To put it differently, in the presence of a higher proportion of FDs on the audit committee of a firm, the stock market will doubt the quality of the financial reports that the firm provides about its current and future performance, and thus, the market will rely more on the industry-level information. Hence, the results support H1.

4.5 | The role of linguistic differences

All the results so far confirm that FD_Audit is negatively associated with FRQ. We now turn to the explanation of this result and argue that communication between the parties involved in the financial reporting process plays a critical role in shaping FRQ. In H2, we predict that FDs on the audit committee who speak a similar language to that spoken in the firm's home country will likely mitigate the negative relation between FD_Audit and FRQ. The rationale for this prediction is that the continued language similarity of audit committee members following the recruitment of an FD will help the committee avoid aggravating communication problems that would otherwise arise from the recruitment of an FD who speaks a different language.

To empirically test H2, we consider firms that have either one or no FDs on their audit committees and classify these members according to the languages they speak, such as English, French, German, and Scandinavian. We create an indicator variable, $Similar_Language$, that equals one if the FD on the audit committee speaks the same language as or a similar language to that spoken in the firm's home country, and zero otherwise. $Similar_Language$, for example, equals one when an Austrian director serves on the audit committee of a German firm, where we are assuming that the director speaks German.¹⁰ The interaction term between $Similar_Language$ and FD_Audit will indicate whether the negative association between FD_Audit and the FRQ measures is affected if the FD does not speak a different language to the rest of the committee.

In Table 7, the results show that the relation between FD_Audit and FRQ depends on whether the FD speaks the language spoken in the firm's home country. Specifically, the marginal effect of FD_Audit is $\delta Y/\delta X = \hat{\beta}_1 + \hat{\delta}_2 Z$ or $\delta Y/\delta X = -0.017 + 0.069 \times Similar_Language$. The marginal effect of FDs on the audit committee is -0.017 when $Similar_Language$ is zero and 0.052 when $Similar_Language$ is one. The results show that appointing to the audit committee FDs who speak the language spoken in the host country does not negatively affect FRQ, but instead improves the firm's FRQ. The results hence lend support to the argument that non-native-speaking audit committee directors likely create weaker communication and less coordination among all of the directors, leaving more room for executives to practice earnings management.

TABLE 7 Language similarity in a nationality-diversified audit committee and financial reporting quality

Dependent variable	(1) <i>Diswca</i>	(2) <i>Disacc</i>
<i>FD_Audit</i>	-0.017** (-2.21)	-0.015*** (-2.64)
<i>Similar_Language</i>	-0.016 (-1.40)	-0.011* (-1.76)
<i>FD_Audit × Similar_Language</i>	0.069** (1.96)	0.050*** (2.83)
<i>ln (AC_Tenure)</i>	0.011*** (4.75)	0.003* (1.65)
<i>AC_Busyness</i>	0.002 (1.39)	0.000 (0.36)
<i>AC_Size</i>	0.001 (1.01)	0.000 (0.19)
<i>AC_Afin</i>	0.000 (0.00)	0.003 (0.73)
<i>FD_Other</i>	0.103** (2.29)	0.064* (1.93)
<i>Big4</i>	0.008*** (3.77)	0.006*** (3.46)
<i>MTB</i>	-0.001*** (-3.76)	-0.002*** (-6.76)
<i>Leverage</i>	-0.040*** (-3.23)	-0.017* (-1.89)
<i>Loss</i>	-0.005** (-2.05)	-0.005*** (-2.85)
<i>Firm_Size</i>	0.004*** (6.54)	0.005*** (9.41)
<i>Foreign_Sales</i>	-0.002 (-0.53)	-0.003 (-1.06)
<i>SD_Sales</i>	-0.021*** (-5.39)	-0.012*** (-4.74)
<i>SD_CFO</i>	-0.046*** (-5.59)	-0.023*** (-4.69)
<i>Zscore</i>	0.001*** (4.37)	0.001*** (9.34)
<i>PPE</i>	0.031*** (5.26)	0.031*** (7.11)
<i>Slack</i>	-0.038*** (-4.46)	-0.038*** (-6.15)
Intercept	-0.127*** (-6.98)	-0.083*** (-6.41)
Year FE	Yes	Yes
Industry FE	Yes	Yes
Country FE	Yes	Yes
Adjusted R ²	0.173	0.172
Observations	13,326	13,326

Notes: The dependent variable is one of the two FRQ measures. FD_Audit is the ratio of the number of FDs on the audit committee to the committee's overall size; $Similar_Language$ is an indicator variable that equals one if the FD of an audit committee speaks the same language as or a similar language to that spoken in the firm's home country and zero otherwise. The sample consists of publicly listed European firms for the period from 2000 to 2018. The standard errors are clustered at the firm level, and t-values are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. All variables are defined in Appendix B.

4.6 | On the influence of investor protection

In testing H3, we follow the research (e.g., Dou et al., 2013; Huang et al., 2020; Yu & Wahid, 2014) and use the corporate governance and rule-of-law measures developed by Kaufmann et al. (2004, 2005) as country-level proxies for investor protection. In Table 8, we report the interaction terms between FD_Audit and the investor protection variables to test whether investor protection mitigates the negative relation between FD_Audit and FRQ. To represent FRQ, we use $Diswca$ (McNichols, 2002) and $Disacc$ (Kothari et al., 2005). As expected, we observe statistically significant and positive coefficients on all the

TABLE 8 The relation between *FD_Audit* and *FRQ* in the presence of investor protection mechanisms

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	<i>Diswca</i>	<i>Diswca</i>	<i>Diswca</i>	<i>Diswca</i>	<i>Diswca</i>	<i>Disacc</i>	<i>Disacc</i>	<i>Disacc</i>	<i>Disacc</i>	<i>Disacc</i>
<i>FD_Audit</i>	-0.081** (-2.42)	-0.189** (-2.05)	-0.090*** (-3.03)	-0.071*** (-2.75)	-0.080*** (-2.91)	-0.070*** (-2.93)	-0.140* (-1.84)	-0.078*** (-2.60)	-0.062** (-2.38)	-0.069** (-2.51)
<i>RLE</i>	-0.021* (-1.82)					-0.016* (-1.94)				
<i>FD_Audit</i> × <i>RLE</i>	0.039** (2.00)					0.034** (2.42)				
<i>RLR</i>		-0.001 (-1.28)					-0.000 (-1.06)			
<i>FD_Audit</i> × <i>RLR</i>		0.002* (1.91)					0.001* (1.67)			
<i>Mgovr</i>			-0.019*** (-2.83)					-0.013** (-2.05)		
<i>FD_Audit</i> × <i>Mgovr</i>			0.023*** (2.68)					0.019** (2.25)		
<i>Mgove</i>				-0.013** (-2.54)					-0.010** (-2.07)	
<i>FD_Audit</i> × <i>Mgove</i>				0.016** (2.31)					0.014* (1.94)	
<i>Govs</i>					-0.011*** (-2.68)					-0.008** (-2.10)
<i>FD_Audit</i> × <i>Govs</i>					0.014** (2.51)					0.011** (2.11)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R ²	0.165	0.165	0.165	0.165	0.165	0.174	0.174	0.174	0.174	0.174
Observations	12,362	12,362	12,362	12,362	12,362	12,362	12,362	12,362	12,362	12,362

Notes: The dependent variable is one of the two *FRQ* measures. We use the investor protection indicators developed by Kaufmann et al. (2004, 2005). *FD_Audit* is the ratio of the number of FDs on the audit committee to the committee's overall size; *RLE* is the estimated rule of law; *RLR* is the percentile rank rule of law; *Mgovr* is the percentile rank governance score; *Mgove* is the estimated governance score; *Govs* is the governance score. Controls refer to all the control variables in the baseline model in Table 4. The sample consists of publicly listed European firms for the period from 2000 to 2018. The standard errors are clustered at the firm level, and *t*-values are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. All variables are defined in Appendix B.

interaction terms between *FD_Audit* and the investor protection variables, indicating that the negative association between *FD_Audit* and FRQ is mitigated by those mechanisms. Hence, we find support for H3.

4.7 | Robustness tests

The lower-quality reporting induced by FDs on the audit committee could increase audit risk, requiring the auditor to pay more attention to the audits of the client to reduce the audit risk to an acceptable level. We predict that a greater degree of professional skepticism shown by the auditor will decrease audit risk and likely lead to higher fees and longer delays for audits. The regression results in Panel A of Table 9 are in line with our prediction that FDs on the audit committee lead to higher fees and longer delays for audits. In (*Audit_Fees*) is the natural logarithm of audit fees, and *Audit_Delay* is the natural logarithm of the number of calendar days from a firm's fiscal year-end to the date the auditor's report is signed off.¹¹

The literature on audit committees shows a positive relation between the accounting and finance expertise of audit committee directors and FRQ (Badolato et al., 2014; Bédard et al., 2004; Chychyla et al., 2019; Cohen et al., 2014). We test whether the accounting and finance expertise of FDs on the audit committee mitigates the negative relation between *FD_Audit* and the FRQ measures. The regression results in Panel B of Table 9 show that the accounting and finance expertise of FDs alleviates the previously reported results.

Next, we examine whether a decrease in the number of FDs on the audit committee increases reporting quality. Therefore, we take the following steps: First, we limit our sample to firms that have only one FD on their audit committee during the entire sample period and experience the departure of that FD. Second, we create a variable (*Post_Leave*) that equals one for all the years after the only FD has departed from the audit committee and zero otherwise. Panel C of Table 9 presents the results. The coefficients for *Post_Leave* in both columns (1 and 2) of the panel are positive and statistically significant, showing that firms do experience improved FRQ in the period after their only FD has departed.

To further eliminate unmeasured and unchanging causes of FRQ that may be associated with FDs on the audit committee, we use a changes specification and regress the changes in the FRQ measures ($\Delta Diswca$ and $\Delta Disacc$) on the change in the ratio of FDs on the audit committee (ΔFD_Audit) while simultaneously controlling for changes in all control variables used in the baseline model. We report the results in Panel D of Table 9. Consistent with H1, we continue to find a negative and statistically significant coefficient for ΔFD_Audit in both column 1 ($\beta = -0.023^{**}$, $t\text{-value} = -2.19$) and column 2 ($\beta = -0.028^*$, $t\text{-value} = -1.87$) of the panel.

Given the unbalanced geographical composition of our sample, we use a subsample analysis to ensure our results are not driven by the inclusion of a specific country. In Panel E of Table 9, we divide our sample into non-UK and UK subsamples. The non-UK subsample

contains publicly listed European firms but excludes those headquartered in the United Kingdom for the period of 2000–2018. The UK subsample contains only those firms headquartered in the United Kingdom over the mentioned period. The results show that *FD_Audit* is negatively related to FRQ in both subsamples, demonstrating that our results do not depend on the exclusion or inclusion of a specific country.

To verify that our results are also robust over different periods, we consider the financial crisis of 2008 and split our sample into the periods from 2000 to 2008 and from 2009 to 2018. The results in Panel F of Table 9 are consistent with those reported in Table 4, which indicates that our previously reported results are not driven by a particular period. The p -values of the coefficient tests reported at the end of the table show that the relation between FDs on the audit committee and FRQ during 2000–2008 is not significantly different from that during 2009–2018. Finally, we validate the robustness of our findings to two alternative measures of *FD_Audit*. First, *FD_Audit_Dummy* is an indicator variable that equals one if a firm has at least one FD on its audit committee in a given year and zero otherwise. Second, *FD_Audit_Number* is the number of FDs on the audit committee. The regression results obtained using the two alternative measures of *FD_Audit*, across the FRQ measures, are qualitatively similar to those presented in the earlier tables. The results are presented in Panel G of Table 9.

5 | CONCLUSION

In this paper, we have addressed the call from prior research to help “... enhance our understanding of board committees' role in corporate governance” (Kolev et al., 2019, p. 1184). Specifically, we have examined whether the internationalization of a firm's audit committee relates to the quality of the firm's financial reporting. We have provided evidence that FDs on a corporate audit committee are negatively associated with FRQ. To find the underlying explanation for the negative association, we have analyzed the role of language. In the light of findings from prior work, we have argued that language differences create communication difficulties that lead to a lack of social integration between FDs and the other parties involved in overseeing financial reporting (i.e., management, internal control, and the audit firm), hampering their ability to monitor effectively. We have further argued that the top management of the firm—knowing that the parties overseeing financial reporting lack proper communication and coordination abilities due to linguistic differences—will likely exploit this opportunity to manipulate earnings, eventually resulting in lower FRQ. Consistent with this argument, we have shown that the relation between FDs on the audit committee and FRQ depends on whether the FDs speak the same language as or a similar language to that spoken in the firm's home country. Specifically, we have shown that FDs who speak the same or a similar language instead improve reporting quality. The improvement in FRQ might partially be driven by the fact that the recruited FDs are more independent of the firm and do not introduce any communication

TABLE 9 Robustness tests

<i>Panel A: Audit fee and audit delay in the presence of FDs on audit committee</i>		
Dependent variable	(1) <i>ln (Audit_Fees)</i>	(2) <i>Audit_Delay</i>
<i>FD_Audit</i>	0.280*** (3.14)	0.055* (1.89)
Controls	Yes	Yes
Year FE	Yes	Yes
Industry FE	Yes	Yes
Country FE	Yes	Yes
Adjusted R ²	0.687	0.431
Observations	7530	7060
<i>Panel B. The mitigating role of foreign audit committee director's accounting expertise</i>		
Dependent variable	(1) <i>Diswca</i>	(2) <i>Disacc</i>
<i>FD_Audit</i>	-0.014*** (-3.52)	-0.014*** (-3.60)
<i>FD_Audit_Afin</i>	-0.021 (-1.22)	-0.010 (-0.61)
<i>FD_Audit × FD_Audit_Afin</i>	0.105** (2.53)	0.060* (1.80)
Controls	Yes	Yes
Year FE	Yes	Yes
Industry FE	Yes	Yes
Country FE	Yes	Yes
Adjusted R ²	0.162	0.188
Observations	14,328	14,328
<i>Panel C. The effect of the only FD's departure from the audit committee on FRQ</i>		
Dependent variable	(1) <i>Diswca</i>	(2) <i>Disacc</i>
<i>FD_Audit</i>	-0.003 (-0.33)	-0.000 (-0.05)
<i>Post_Leave</i>	0.006** (2.13)	0.008** (2.44)
Controls	Yes	Yes
Year FE	Yes	Yes
Industry FE	Yes	Yes
Country FE	Yes	Yes
Adjusted R ²	0.248	0.276
Observations	1305	1305
<i>Panel D. Change analysis</i>		
Dependent variable	(1) Δ <i>Diswca</i>	(2) Δ <i>Disacc</i>
Δ <i>FD_Audit</i>	-0.023** (-2.19)	-0.028* (-1.87)
Δ Controls	Yes	Yes
Year FE	Yes	Yes
Industry FE	Yes	Yes
Country FE	Yes	Yes
Adjusted R ²	0.005	0.010
Observations	11,265	10,887

TABLE 9 (Continued)

<i>Panel E. Subsample analysis: non-UK (Columns 1 and 2) and UK (Columns 3 and 4) firms</i>				
Dependent variable	(1) <i>Diswca</i>	(2) <i>Disacc</i>	(3) <i>Diswca</i>	(4) <i>Disacc</i>
<i>FD_Audit</i>	-0.009* (-1.66)	-0.012** (-2.21)	-0.017*** (-2.95)	-0.014*** (-2.62)
Controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	No	No
Adjusted R^2	0.135	0.150	0.160	0.167
Observations	4607	4607	9721	9721
<i>Panel F. Before and during 2008 (Columns 1 and 2) and after 2008 (Columns 3 and 4)</i>				
Dependent variable	(1) <i>Diswca</i>	(2) <i>Disacc</i>	(3) <i>Diswca</i>	(4) <i>Disacc</i>
<i>FD_Audit</i>	-0.022*** (-3.35)	-0.022*** (-3.17)	-0.009*** (-3.41)	-0.009*** (-3.01)
Controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Adjusted R^2	0.123	0.138	0.197	0.197
Observations	6082	6082	8246	8246
Wald χ^2 test for FRQ measures			0.184	0.182
<i>Panel G. Alternative measures of <i>FD_Audit</i></i>				
Dependent variable	(1) <i>Diswca</i>	(2) <i>Disacc</i>	(3) <i>Diswca</i>	(4) <i>Disacc</i>
<i>FD_Audit_dummy</i>	-0.005*** (-2.91)	-0.005*** (-3.03)		
<i>FD_Audit_number</i>			-0.004*** (-3.42)	-0.004*** (-3.25)
Controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Adjusted R^2	0.161	0.171	0.161	0.171
Observations	14,328	14,328	14,328	14,328

Notes: This table presents the robustness checks on the relation between FDs on the audit committee and FRQ. In Panel A, we examine whether FDs on the audit committee affect the fees and delays of audits. In Panel B, we test the mitigating role of FDs' accounting expertise, while using all the control variables in Table 4. In Panels C and D, we perform robustness checks to further test the relation between *FD_Audit* and FRQ. In the rest of the panels, we check the relation between FDs on the audit committee and FRQ while splitting the sample based on the time period and countries and using alternative measures of FRQ. Controls refer to all the control variables included in the baseline model in Table 4. The sample consists of publicly listed European firms for the period from 2000 to 2018. The standard errors are clustered at the firm level, and t-values are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. All variables are defined in Appendix B.

hurdles within the committee. Further, using country-level governance and rule of law as investor protection proxies, we have found that the presence of more mechanisms for country-level investor protection significantly mitigates the negative association between FDs on the audit committee and FRQ.

To mitigate the potential endogeneity effects related to the recruitment of FDs to audit committees, we have controlled for firm fixed effects, used PSM, and applied a changes specification. Consistently, across the different analytical techniques, we have found a

negative association between FDs on the audit committee and FRQ. Our findings are in line with the research on earnings management by Hooghiemstra et al. (2019) that is based on a narrower Nordic sample. In this study, we were able to go one step further by giving a more nuanced explanation through the analysis at the audit committee level on a broader Pan-European dataset. Our study also supports the findings in Firoozi et al. (2019) by showing that familiarity with a firm's institutional environment is essential in shaping a corporate board's monitoring quality.

Overall, our findings support the argument that the composition of the audit committee is vital to the quality of reporting. At the policy level, our results stress that firms may recruit FDs to their audit committees as a means to gain more independence. However, our research indicates that such FDs on the audit committee could come at the “cost” of lower FRQ—unless the FDs speak the language spoken in the host country or one similar to it.

There are limitations to our study. First, we used the FD's citizenship as a proxy for their native language when creating our language similarity measure; this was a simplification. Second, the sample firms considered in this study are headquartered in Europe, where English is widely taught in schools and the level of diversity of accounting practices is lower than in a global setting. Consequently, we would expect the effect of FDs on FRQ to be even stronger when FDs are recruited between countries with large differences in languages and accounting standards. For example, we would expect the effect on the FRQ of a Chinese firm from having European FDs on its audit committee to be even larger than the effects observed in this study.

CONFLICT OF INTEREST

None declared.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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NOTES

- ¹ Distribution of observations by country is reported in Appendix A.
- ² Article 39, §3, of Directive 2014/56/EU has a summary of the duty of an audit committee: informing the corporate board of the outcome of the statutory audit; overseeing the financial reporting process; monitoring the effectiveness of internal control; reviewing and monitoring the statutory audit of financial reports and the auditor's independence; and recommending the auditor and taking accountability for their selection process (The European Parliament and the Council of the European Union, 2014).
- ³ With the working hypothesis (H_0) that there is no relationship or a positive one.
- ⁴ We find no systematic relation between missing observations and the result.
- ⁵ We define FDs as directors who are citizens of countries other than the firm's home country.
- ⁶ We also use a measure where we relate the number of FDs on the audit committee to the total number of members of the board. Since the results are qualitatively similar to those where we use *FD_Audit*, we do not—for space reasons—report them here.
- ⁷ To decide on the use of regression models, we first performed an *F*-test that helped us choose between pooled and fixed effects regressions. The *F*-statistics from the test were 4.142 (p -value = 0.000) and 4.395 (p -value = 0.000) in Columns 1 and 2, respectively, and rejected the pooled model. We then ran a Hausman test. The chi-square statistics of the test were 93.71 (p -value = 0.000) and 88.11 (p -value = 0.000) in

Columns 1 and 2 of Table 4, respectively. The test results in both columns enabled us to reject the null hypothesis that industry, country, and year effects were random. We therefore applied a fixed effects analysis.

- ⁸ Available on request.
- ⁹ Untabulated tests show that the difference between the coefficients for IX_{it+1} and FX_{it+1} is significant at the 1% level.
- ¹⁰ We acknowledge that using the official and dominating language in the home country of the FD as a proxy for the language the FD speaks is a limitation of this study.
- ¹¹ Our sample for this particular analysis starts from 2009 because Audit Analytics does not provide sufficient audit data for the early years.

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APPENDIX A: FREQUENCY DISTRIBUTION BY COUNTRY

Distribution of observations by country

Country	Observations	Percent	Cumulative
Belgium	55	0.38	0.38
Denmark	8	0.06	0.44
Finland	85	0.59	1.03
France	2017	14.08	15.11
Germany	908	6.34	21.45
Greece	34	0.24	21.68
Italy	11	0.08	21.76
Luxembourg	14	0.10	21.86
Netherlands	73	0.51	22.37
Norway	109	0.76	23.13
Ireland	30	0.21	23.34
Spain	33	0.23	23.57
Sweden	735	5.13	28.70
Switzerland	495	3.45	32.15
United Kingdom	9721	67.85	100.00

APPENDIX B: VARIABLE DEFINITIONS

Variable	Definition
<i>AC_Afin</i>	Number of audit committee members with accounting, auditing, and finance expertise divided by the committee's overall size
<i>AC_Busyness</i>	Mean of total number of corporate boards the audit committee members sit on
<i>AC_Size</i>	Number of directors sitting on a firm's audit committee
<i>Audit_Delay</i>	Natural logarithm of the number of calendar days from a firm's fiscal year-end to the date the auditor's report is signed off
<i>Big4</i>	Indicator that equals one if a firm is audited by one of the four largest accounting firms, that is, Deloitte, KPMG, PWC, or Ernst & Young, and zero otherwise
<i>Disacc</i>	Discretionary total accruals obtained following Kothari et al. (2005)
<i>Diswca</i>	Discretionary working capital accruals estimated following McNichols (2002)
<i>FD_Audit</i>	Number of foreign nationality directors on the audit committee divided by the committee's size
<i>FD_Audit_Dummy</i>	Indicator variable that equals one if a firm has at least one foreign director on its audit committee in a given year and zero otherwise
<i>FD_Audit_Number</i>	Number of foreign directors on the audit committee
<i>FD_Other</i>	Number of foreign directors serving on the corporate board but not on the audit committee, divided by the total number of directors sitting on the company's board
<i>Firm_Size</i>	Natural logarithm of the market value of equity
<i>Foreign_Sales</i>	Percentage of total sales derived from countries other than the firm's home country
<i>FX</i>	Firm-specific component of firm <i>i</i> 's earnings, measured as $X - IX - MX$
<i>IX</i>	Industry component of firm <i>i</i> 's earnings, measured as the median annual earnings (X) for all firms in firm <i>i</i> 's two-digit SIC code in a given year less the market component of earnings (MX), measured as the median annual earnings (X) for all firms in all industries in a given year
<i>Leverage</i>	Long-term debt divided by total assets
<i>ln (AC_Tenure)</i>	Natural logarithm of average number of years that directors serve on a firm's audit committee
<i>ln (Audit_Fees)</i>	Natural logarithm of audit fees
<i>Loss</i>	Indicator variable that equals one if a firm reports a loss in terms of income before extraordinary items in the given year and zero otherwise
<i>MADJ_Return</i>	Market-adjusted return for the given fiscal year
<i>Mgove</i>	Estimated governance score
<i>Mgovr</i>	Percentile rank governance score
<i>Mgovs</i>	Governance score
<i>MTB</i>	Total market value of equity divided by the total book value of equity
<i>Persistence</i>	Slope coefficient from a regression of this year's operating income (scaled by lagged total assets) on last year's operating income over the fiscal years $t-4$ to t , which requires a minimum of five years of data to estimate and follows Drake et al. (2015)
<i>PPE</i>	Property, plant, and equipment divided by total assets
<i>Return</i>	The buy-and-hold 12-month stock return for the given fiscal year
<i>RLE</i>	Estimated rule of law
<i>RLR</i>	Percentile rank rule of law
<i>SD_CFO</i>	Standard deviation of cash flow from operations (divided by total assets) over the fiscal years $t - 4$ to t , which requires a minimum of 5 years of data to estimate
<i>SD_Return</i>	Standard deviation in the stock return over the fiscal years $t - 4$ to t , which requires a minimum of 5 years of data to estimate
<i>SD_Sales</i>	Standard deviation in sales (divided by total assets) over the fiscal years $t - 4$ to t , which requires a minimum of 5 years of data to estimate
<i>Similar_Language</i>	Indicator variable that equals one if a foreign audit committee director speaks the same language as or a similar language to that spoken in the firm's home country and zero otherwise
<i>Slack</i>	Cash and short-term investments divided by total assets
<i>X</i>	Income before extraordinary items scaled by the lagged market value of equity
<i>Zscore</i>	Probability of bankruptcy, following Altman (1993)