The price of caring more about the distant future: evidence from cross-country variations in languages and auditing fees

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Highlights

- FTR strength is negatively associated with auditing fees.
- FTR strength moderates the impact of major events and policy reforms on auditing fees.
- FTR strength moderates the relationship between firm performance and auditing fees.

Abstract

Cultural linguists have long theorised that the way languages are structured and their meanings can affect how speakers behave, make decisions, and plan for the future. In this study, we test this proposition and find that the strength of the future time reference of languages (FTR strength) is associated with cross-country variations in external audit pricing. Specifically, we find that firms operating in countries where future time orientation is emphasized less (*weak-FTR*) tend to pay more for external audit services. This finding aligns with the narrative that speakers of languages with a weaker future time orientation tend to place greater importance on the future and its consequences. Further, difference-in-differences analyses confirm this finding, as FTR strength moderates the changes in external audit fees during the financial crisis, post-IFRS adoption, and post-mandatory board and non-board reforms. Additionally, FTR strength mediates the positive association between firm performance and external audit fees. Our findings are robust to several concerns and suggest that FTR strength is a distinct informal institutional factor that, although overlooked, significantly influences external audit pricing.

Keywords: Languages, audit fees, firm value, IFRS, board and non-board reforms, financial crisis.
JEL classification: M40, M41, G30.

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1 Introduction

According to the Sapir-Whorf hypothesis, also known as the linguistic relativity principle, different languages have varying structures and meanings that can affect how speakers behave, make decisions, and plan for the future. Researchers such as Chen (2013), Chi et al. (2020), He and Zhang (2022) and Osei-Tutu and Weill (2021) have identified two ways in which language structure can influence behaviour and decision making. The first is called "time preference", which refers to how language shapes a person's perception of time and affects their view of the future. The second is "reward-timing uncertainty", which explains how language impacts a speaker's beliefs about when future consequences will arise from present actions. Languages with a strong future time reference (*strong-FTR*), which distinguish between the present and future tense, are particularly influential in how people behave, make decisions, and plan for the future.

On the one hand, some languages have strong future time references (*strong-FTR*), which means that they use specific words to distinguish between present and future events. This creates a greater temporal gap between the present and the future, making future consequences feel further away and less significant. As a result, people who speak these languages may choose immediate rewards even if it means suffering negative future consequences (see Chen, 2013; Chi et al., 2020; Liang et al., 2018). Examples of these languages include French, English, and Spanish. On the other hand, languages with weak future-time reference do not grammatically distinguish between present and future events, so the future feels just as close as the present (see Chen, 2013; Kong et al., 2022). Such a lack of distinction between the future and the present creates a stronger sense of significance and attainability for the future consequences of current actions. German and Japanese are examples of these languages. A seminal study by Chen (2013) confirms these differences. In particular, Chen (2013) reports significant variations in economic behaviour, conditional on the strength of future time reference of languages (FTR strength). Specifically, Chen (2013) finds that speakers of languages that do not distinguish between present and future events (*weak-FTR*) tend to care more about the future as they save more, accumulate more wealth, exercise more, smoke less, and practice

safer sex than those who speak languages that distinguish between present and future events (*strong-FTR*).

Motivated by the literature discussed above, we use a large international firm-level dataset of 181,454 firm-year observations (19,099 firms) from 33 countries for the period 1984—2019 to examine, for the first time, whether FTR strength is associated with cross-country variations in audit fees. We conjecture that firms in *strong-FTR* countries might prioritise short-term benefits over the long-term consequences of such decisions, which could lead to aggressive negotiation for lower audit fees, potentially reducing external scrutiny and impairing audit quality. To test this conjecture, we follow previous studies (see, among others, Chen, 2013; Chen et al., 2017; Kong et al., 2022; Liang et al., 2018; Na and Yan, 2022) and classify countries into two subgroups, namely, *weak-FTR* and *strong-FTR*. Using this classification scheme, we find evidence consistent with our conjecture; firms in *strong-FTR* countries pay approximately 24.16% to 59.71% less audit fees than firms in *weak-FTR* countries. Furthermore, we find a similar significant negative correlation in the aggregate industry-country-year and country-year regressions and propensity score-matched samples. Our findings are robust to controlling for several firm-specific, institutional, cultural, religious and macroeconomic factors and different forms of time-variant and invariant fixed effects. Our results are also consistent when using alternative proxies for FTR strength, such as *Verb Ratio* and *Sentence Ratio*. Additionally, our results also pass a placebo test: the coefficient of *strong-FTR* in the regression models is indistinguishable from zero for the placebo sample of firms randomly assigned to the *weak-FTR* and *strong-FTR* subgroups. Overall, our findings suggest that FTR strength is a distinct informal institutional factor that, although overlooked, significantly influences audit fees in addition to other firm-specific and country-specific determinants.

Next, we use several *quasi-experiments* to allay endogeneity concerns and further explore the association between audit fees and FTR strength. Specifically, we examine this association around the Global Financial Crisis, the adoption of International Financial Reporting Standards (IFRS) and mandatory board and non-board reforms. Using these different events or external shocks enables us to address potential endogeneity concerns

as they are reliably orthogonal to firms' decisions (see Chen et al., 2017; Chi et al., 2020; Machokoto et al., 2021a; Popov and Rocholl, 2018). In the first *quasi-experiment* around the Global Financial Crisis, we find an increase in audit fees post-crisis that is salient for firms in *strong-FTR* countries, suggesting an increase in audit effort and risk aversion. In our second *quasi-experiment*, we find significant post-IFRS adoption increases in audit fees, which are more salient for firms in *strong-FTR* countries in the case of mandatory IFRS adoption, suggesting that financial reporting reforms are more effective if they are legally mandated. Finally, for mandatory board and non-board reforms, we find a significant decrease in audit fees, which is interestingly consistent across different types of board and non-board reforms (i.e. board independence, audit committees, CEO duality, and non-board reforms) and salient for firms in *strong-FTR* countries. Taken together, our findings from *quasi-experiments* suggest that FTR strength is negatively associated with audit fees in all cases and, more importantly, that FTR strength moderates the resultant changes in audit fees.

Finally, we examine whether FTR strength moderates the contentious relationship between audit fees and firm performance. Although the direct relationship between audit fees and firm performance has yet to be widely examined, it is possible to infer the impact of audit fees on firm performance through their association with audit quality. This is because audit fees are widely considered an input-based measure of audit quality, which ultimately affects firm performance (DeFond and Zhang, 2014). Numerous studies documented a positive association between firm value and audit quality (see Chen et al., 2011; Houqe et al., 2017; Karjalainen, 2011; Kim et al., 2015; Kuo et al., 2022; Mali and Lim, 2021). Therefore, it is reasonable to assume that audit fees may indirectly influence firm value by affecting audit quality, which in turn affects firm performance. Despite the positive association between audit quality and performance, prior research has yielded mixed results regarding the relationship between audit fees and audit quality and, therefore, firm performance. Some scholars find high audit fees to be associated with high-quality audits, as they reflect more audit effort (Eshleman and Guo, 2014; Frankel et al., 2002), while others find them to be associated with low audit quality

in line with the economic bonding theory associated with high audit quality (Alhadab, 2018; Asthana and Boone, 2012; Hossain and Wang, 2022). Therefore, our analysis of how language moderates the relationship between audit fees and firm performance not only helps to show the link between audit fees and firm performance but also highlights the importance of FTR strength as a critical factor that has been largely overlooked until now and might help explain the inconsistent findings on the effects of audit quality and firm performance. However, there is no anecdotal evidence to guide us regarding the moderating effect of FTR strength on the relationship between audit fees and firm performance. Nevertheless, we conjecture that FTR strength is likely to strengthen rather than weaken the association between audit fees and firm performance, as external audits are valued more in environments where short-termism is more prevalent and risk-taking is high. These characteristics are commonly associated with speakers of languages with a high FTR strength, who tend to view a larger time gap between the present and the future, which makes future consequences feel less important and distant (see Chen, 2013; He and Zhang, 2022; Osei-Tutu and Weill, 2021).

Our international dataset shows that audit fees are positively linked to firm performance in both the short and long term. We attribute this positive association to improved financial reporting quality and increased compliance with relevant regulatory frameworks, leading to better investor oversight and reduced risks of non-compliance and financial irregularities or fraud. However, we further find a negative correlation between FTR strength and firm performance. This finding contradicts a previous study by Holmstrom and Kaplan (2003), who showed that US and UK firms have higher market values and perform better than those domiciled in non-English speaking countries. Interestingly, our further analyses show that FTR strength moderates the relationship between audit fees and firm performance, with the positive association between firm performance and audit fees being more pronounced in *strong-FTR* countries. This finding suggests that informal institutions, such as languages, although overlooked, may explain the mixed results seen in previous studies and cross-country variations in audit fees.

This study provides new insights into the impact of language on economic decisions.

Specifically, we contribute to the growing body of literature surrounding the linguistic-future-orientation hypothesis, which suggests that speakers of languages with *weak-FTR* tend to prioritise future-oriented behaviours such as exercising, smoking less, practise safe sex and saving more for retirement (Chen, 2013). These findings were further supported by several studies showing that, compared to firms in *strong-FTR* countries, firms in *weak-FTR* countries invest more in corporate social responsibility and research and development (Chi et al., 2020; Kong et al., 2020; Liang et al., 2018), hold more cash reserves (Chen et al., 2017), take lower risks (Osei-Tutu and Weill, 2021), have lower earnings management (Kim et al., 2017; Fasan et al., 2016), have higher current goodwill impairment (Alshehabi et al., 2023), engage less in tax avoidance (Na and Yan, 2022) and pay higher dividends (He and Zhang, 2022). Our study adds to this growing strand of the literature by demonstrating that the linguistic-future-orientation hypothesis also applies to external audit pricing, with firms in *strong-FTR* countries paying more than those in *weak-FTR* countries. In addition, we show for the first time that linguistic features moderate the impact of the financial crisis and major reforms on external audit pricing. In addition, our study suggests that the success of mandated policy reforms, such as IRFS adoption and corporate governance reforms, depends not only on formal institutions, such as institutional quality and economic development but also on informal institutions, as exemplified in this case by FTR strength. Furthermore, our study provides new insights into the relationship between firm performance and auditing fees, indicating that differences in linguistic features between countries, such as FTR strength, may contribute to cross-country variations.

The rest of the paper is organised as follows. Section 2 reviews the literature and develops the empirically testable hypotheses. Section 3 presents the research methodology and dataset. Sections 4 presents and discusses the empirical results. Section 5 presents robustness tests. Section 6 concludes.

2 Literature review and hypotheses development

2.1 Languages and audit fees

2.1.1 Languages and decision making

The linguistic relativity principle (known as the Sapir-Whorf hypothesis) suggests that languages differ in terms of structure and what they convey, which can impact the speakers' behaviour, decision making and intertemporal choices (see Chen, 2013; Na and Yan, 2022). Chen (2013) and Chi et al. (2020) specified two channels through which the language structure influences behaviour and decision-making. The first channel, referred to as the "time preference", explains how language moulds an individual's perception of future events, consequently shaping their perspective on the temporal proximity between the current and the future. This linguistic influence induces speakers to perceive the future as either more or less distant from the present. The second channel, known as the "reward-timing uncertainty", elaborates how language impacts a speaker's beliefs regarding the timing of future consequences arising from present actions.

Languages with *strong-FTR* – those that grammatically distinguish present and future events by using words like "it will" or "going to" – create a sense of a greater temporal gap between the present and the future, which makes the future consequences of present actions to be more distant, insignificant, and perhaps unreachable. Such speakers are inclined towards choices that offer immediate or current rewards, even if it entails suffering possible future negative consequences like monetary loss and reputational damage (see Chen, 2013; Na and Yan, 2022). Examples of such languages include French, English and Spanish. Languages with *weak-FTR* - those that lack a grammatical distinction between the future and the present – create a sense of a future that is equal or close to the present time. This creates a heightened sense of significance and attainability for the future consequences of our current actions, making them feel more tangible and less distant (Chen, 2013). German, Japanese and Chinese are examples of languages that exhibit this feature. They do not have tenses to distinguish the present and future; hence instead of saying "it will rain tomorrow", they say "it rains tomorrow" (see Chi et al.,

2020). Individuals with such patterns place more importance on future benefits, and they are more likely to be futuristic in their decision-making and choices; for example, they are more likely to; invest more resources in research and development (Chi et al., 2020), to be more innovative as evidenced by more patents and citations (Kong et al., 2020), practise safe sex, save and exercise more (Chen, 2013). Furthermore, they are less likely to engage in earnings management (Kim et al., 2017) and tax avoidance (Na and Yan, 2022). A recent study by Alshehabi et al. (2023) documents similar findings using goodwill impairment. They find that speakers of languages with *weak-FTR* are more likely to recognise goodwill impairment in the current period rather than deferring it to the future, unlike speakers of languages with *strong-FTR* who are likely to postpone the accounting as they believe the negative consequences are less severe in future.

2.1.2 Audit fees

Both theoretical and empirical evidence suggests that, among other factors, client characteristics (such as firm size, complexity, inherent risk, leverage, forms of ownership, industry, internal controls, and governance) are significant determinants of audit fees (Costa and Habib, 2023; Hay et al., 2006). In addition, client characteristics determine audit effort ("resource cost factor") and audit risks ("expected loss factor"). High-risk clients – those with weak internal controls and high detection risk – attract more auditor scrutiny and, consequently, higher audit fees to compensate for the increased effort and potential reputational costs (Costa and Habib, 2023; Duong et al., 2022). Client characteristics have been expanded by prior research (e.g., Beck and Mauldin, 2014; Costa and Habib, 2023; Kalelkar and Khan, 2016; Quan et al., 2023) to include management attributes and social norms such as local creative culture (Costa and Habib, 2023).

Management can affect audit fees directly in several ways. First, management can pressure audit firms to charge lower fees (Ettredge et al., 2014). Despite the presence of audit committees, CFOs still significantly influence audit fees (Beck and Mauldin, 2014). Their negotiating power stems from their influential role in the appointment of auditors. Second, management can decrease audit scope, resulting in fewer audit hours and lower fees, even though this may affect audit quality. This is possible because management has

control over the information disseminated to auditors. Auditors rely on the information provided by management to determine the scope and audit fees (Ettredge et al., 2014). Third, management can choose less expensive auditors who may need to gain the requisite experience or industry specialisation. Based on empirical evidence (Cohen et al., 2010; Dhaliwal et al., 2015; Fiolleau et al., 2013; Zengin-Karaibrahimoglu et al., 2021), the CEO and CFO exert the greatest influence over the selection, evaluation, and termination of auditors, followed by the audit committee. Fung et al. (2012) and Huang et al. (2007) find the negotiating power of the executives to be associated with audit fee discounts. Finally, the integrity and values of the management team are key attributes that can affect a client's risk level and ultimately impact audit fees (Hsieh et al., 2020). Cai and Li (2022) find audit fees to be higher in firms with a high likelihood of collusion between the CEO and CFO, Hsieh et al. (2020) find the CFO's "facial trustworthiness" to be associated with lower audit fees.

Although the literature highlights the considerable impact of management on audit fees, there is a dearth of evidence on how social norms, such as language, as a client characteristic, influence audit fees. Previous research has predominantly examined management traits such as perceived facial trustworthiness (Hsieh et al., 2020), the relative power dynamics of management (Beck and Mauldin, 2014), management's military background (Quan et al., 2023), managerial overconfidence, and management's financial expertise (Kalelkar and Khan, 2016). From our review of the extant literature, we find Costa and Habib (2023)'s research to be the most similar to ours. Their focus on social norms was insightful; however, they investigated the influence of the local creative culture. Our contribution to the literature on audit fee determinants and the impact of social norms on corporate behaviour involves investigating the impact of language on audit fees.

2.1.3 The effect of languages on audit fees

Since speakers of languages with *strong-FTR* perceive the negative consequences of present actions as distant, trivial, and perhaps unreachable, they are inclined to choose options that provide immediate benefits even if they potentially attract negative consequences in the future. As a result, speakers of languages with *strong-FTR* are likely to

negotiate or push for lower audit fees without considering the potential long-term repercussions. The immediate benefits of low or discounted audit fees include increased current cash flow and net income (Beck and Mauldin, 2014). However, discounted audit fees can have a negative effect on audit quality and financial reporting (Alhadab, 2018; Asthana and Boone, 2012; Behrend et al., 2020; Ettredge et al., 2014), which ultimately harms firm value. This occurs because auditors may try to offset discounted fees by cutting costs by assigning inexperienced team members and reducing audit hours, which can weaken the overall quality of the audit process (Ettredge et al., 2014). Consequently, discounted audit fees create a conducive environment for management to manipulate earnings (Beck and Mauldin, 2014), which augurs well for *strong-FTR* speakers, who are more likely to engage in such behaviour. According to Kim et al. (2017), speakers of languages with *strong-FTR* are more likely to manipulate earnings than speakers of languages with *weak-FTR*. Considering this, we propose the following hypothesis:

Hypothesis 1: *FTR strength has a negative relationship with audit fees.*

2.2 How language affects the relationship between audit fees and firm value

2.2.1 Audit fees and firm value

The impact of audit fees on firm value is primarily mediated through their effect on audit quality. By mitigating agency problems, higher-quality audits can reduce the cost of capital and increase firm value. In addition, high-quality audits deter earnings manipulation and provide a greater sense of assurance regarding financial reporting quality and credibility. This, in turn, can help reduce the information asymmetry between firms and investors (Barroso et al., 2018).

Numerous studies have corroborated the positive relationship between firm value and audit quality, utilising diverse proxies to measure audit quality. For example, Kim et al. (2015) used office-level industry expertise, while Kuo et al. (2022) used individual auditor-level industry expertise. Both studies find that these measures enhanced the market value of cash holdings, thereby positively affecting firm value. Other studies have examined alternative proxies, such as audit hours (see Mali and Lim, 2021) and the size of the

audit firm (see Chen et al., 2011; Houqe et al., 2017; Karjalainen, 2011), and reported a negative relationship between these measures and the cost of capital. Chen et al. (2011) analysed the top eight auditing firms in China, including the top four international audit firms, to measure the size of the audit firm, while Houqe et al. (2017) and Karjalainen (2011) focused on the big four audit firms in India and Finland, respectively.

Audit fees are commonly considered an input-based measure of audit quality, as they indicate two key drivers of audit quality: economic incentives and the level of audit effort, which include factors such as audit hours, expertise, and experience of the auditors assigned to the client (DeFond and Zhang, 2014). According to limited attention theory, which is supported by empirical evidence, capital providers rely on audit fees as an indicator of the quality and thoroughness of the auditing process (Alrashidi et al., 2021). The theory posits that investors, because of their limited attention and capacity to encode and process financial information, find it convenient to assess the credibility of financial reports using audit fees as a proxy for audit quality (Alrashidi et al., 2021). Audit fees are easier to observe than output-based measures such as financial reporting quality; hence, they have become popular measures of audit quality (DeFond and Zhang, 2014).

While it is acknowledged that audit fees can impact audit quality, the exact nature of this relationship is subject to conflicting arguments and empirical evidence. The nature of the relationship depends on whether the audit fee is due to high audit effort (through more audit hours or deployment of more experienced team members) or economic rent (Mande and Son, 2015). If high audit fees are due to increased audit effort, they imply higher audit quality (Alrashidi et al., 2021; Alzoubi, 2018; Leventis et al., 2013; Srinidhi and Gul, 2007), which is supported by empirical studies that find high audit fees to be associated with high audit quality using proxies such as earnings management (discretionary accruals) (Eshleman and Guo, 2014; Frankel et al., 2002) and the likelihood of beating the consensus analyst estimates (Eshleman and Guo, 2014). However, high positive abnormal audit fees (also known as audit fee premium, measured as the difference between actual fees and normally expected fees) can have a detrimental effect on the quality of the audit. This is because such fees create financial dependence on the client, which can compromise auditor

independence. The economic bond between the auditor and client makes it difficult and sometimes impossible for the auditor to remain objective and unbiased in their assessment of the client's financial statements (economic bonding theory). As a result, the audit firm may be tempted to overlook any potential earnings manipulation and avoid conducting a thorough audit that might cause the firm to upset and lose a cash-cow client (Choi et al., 2010; Hoitash et al., 2007). However, this holds when the gains from positive abnormal fees exceed the losses from audit risks, such as reputational damage, litigation, and penalties (Asthana and Boone, 2012). Empirical studies support economic bonding theory and find that the audit fee premium is associated with a decline in audit quality. Furthermore, they find that positive abnormal fees are associated with an increase in discretionary accruals (Asthana and Boone, 2012), real earnings management (Alhadab, 2018), the probability of meeting or beating earnings forecasts (Asthana and Boone, 2012), and the probability that an auditor will issue misleading opinions on financially distressed companies (Hossain and Wang, 2022).

Low audit fees (discounted fees), which result from reduced audit effort and strong bargaining power on the part of the client, are linked to a decline in audit quality (Kraub et al., 2015). Because audit fees are a product of negotiation with the client, low fees could be a sign of the client's significant bargaining power, forcing the auditor to provide substantial discounts (Asthana and Boone, 2012). However, auditors can offset these discounted audit fees by reducing the number of audit hours, skipping important audit processes, collecting insufficient evidence to substantiate their opinions and utilising personnel with less experience (Eshleman and Guo, 2014). These cost-cutting measures can compromise the audit quality and credibility of financial statements. The International Ethics Standards Board for Accountants Regulators expressed concerns regarding low and inadequate audit fees, which they see as a threat to auditors' fiduciary duty and to the principles of professional competence that should guide the audit process (Hay, 2017). Previous research finds that negative abnormal audit fees are associated with low audit quality proxies, such as discretionary accruals, and a higher likelihood of meeting or beating analysts' earnings forecasts (Asthana and Boone, 2012; Behrend et al., 2020)

and real earnings management (Alhadab, 2018). Furthermore, an increased likelihood of financial statements fraud or misstatement has been observed (Blankley et al., 2012). In addition, Ettredge et al. (2014) find that audit fee reductions were associated with financial misstatements during the 2008 global financial crisis. However, it is worth noting that despite low audit fees, auditors may still be incentivised to maintain audit quality to avoid expected losses from litigation and reputational damage (Choi et al., 2010); hence, low audit fees may not necessarily indicate low-quality audits. Cho et al. (2021) find that audit fee discounts do not impair auditor independence and future audit quality. Kraub et al. (2015) find a statistically insignificant relationship between negative abnormal audit fees and audit quality, suggesting that fee discounts do not necessarily impair audit quality.

2.2.2 Does language moderate the association between firm value and audit fees?

High-quality audits play a critical role in mitigating agency problems and enhancing firm value by providing assurance about the credibility of financial reports. They reduce opportunistic management behaviour and minimise the information asymmetry between firms and investors. As a result, the impact of auditing on firm value is directly related to the level of information risk and the management's propensity to manipulate earnings. Specifically, when information risk is high, the importance of high-quality audits to provide assurance on the quality of financial reporting increases (Chen et al., 2011). The greater the information risk, the greater the impact of high-quality audits. *Strong-FTR* languages are characterised by a high degree of information risk and a greater propensity for earnings manipulation compared to *weak-FTR* languages. Kim et al. (2017) report a higher likelihood of earnings manipulation among firms operating in *strong-FTR* languages relative to those in *weak-FTR* languages. Therefore, the impact of high-quality audits is likely to be greater for firms operating in *strong-FTR* countries than those in *weak-FTR* countries. However, various factors, such as social norms and economic and regulatory conditions, may influence the relationship between audit fees, audit quality, and firm value. Surprisingly, no prior research has examined the moderating effect of social norms, such as language, on the relationship between audit fees and firm value.

Investigating such topics can provide valuable insights for practitioners and policymakers.

Although prior studies provide considerable evidence of the relationship between audit fees and audit quality, the findings and theoretical arguments regarding the nature of this relationship are conflicting. If high audit fees indicate a high level of audit effort, then they are associated with high-quality audits, resulting in high financial reporting quality and low information asymmetry. As a result, higher audit fees will positively affect firm value. Due to their relatively high information risk, we hypothesise that firms operating in *strong-FTR* languages will experience a greater impact from high-quality audits than firms operating in *weak-FTR* languages. Therefore, the positive impact of high audit fees on firm value is more pronounced in firms operating in *strong-FTR* languages than in *weak-FTR* languages.

The economic bonding theory, however, associates high audit fees with low audit quality (poor financial reporting quality and low information asymmetry), which negatively affects firm value. However, given the higher information risk associated with firms operating in *strong-FTR* countries, the impact of low-quality audits is likely to be less pronounced for firms in *weak-FTR* countries, as the former are already factoring in the information risk in their pricing. Therefore, the negative effect of low audit fees on firm value is likely less pronounced for firms operating in *strong-FTR* countries than those in *weak-FTR* countries. In other words, the negative effect of high audit fees on firm value will likely be more pronounced for firms operating in *weak-FTR* countries, which are characterised by lower information risk.

Hypothesis 2a: *Audit fees have a positive effect on firm value that increases (decreases) with FTR strength.*

Hypothesis 2b: *Audit fees have a negative effect on firm value that increases (decreases) with FTR strength.*

3 Methodology and Data

3.1 Methodology

We use the following model to empirically examine the effect of FTR strength on audit fees:[1]

$$y_{ijkt} = \gamma_0 + \gamma_1 strong\text{-}FTR_k + \boldsymbol{\theta} \boldsymbol{X}_{ijkt-1} + \eta_j + \eta_t + \xi_{ijkt} \quad (1)$$

where i, j, k and t are indices for firms, industries, countries, and years, respectively. y is the logarithm of audit fees ($logAF$), γ_0 is a constant. γ_1 and $\boldsymbol{\theta}$ are coefficients to be estimated. *strong-FTR* is a dummy variable that takes the value of one for firms in *strong-FTR* countries and zero otherwise. $\boldsymbol{X}_{ijkt}$ is a vector of lagged sales growth (*Sales Growth*), Tobin's q, long-term debt (*Long-term debt*), cash flow (*Cash flow*), current assets (*Current assets*), current liabilities (*Current liabilities*), a dummy for firms reporting a loss (*Loss*), property, plant and equipment (*PPE*), firm-size (*Size*), research and development (*R&D*), legal institutions (*Legal Institutions*), political institutions (*Political Institutions*), economic institutions (*Economic Institutions*), power distance (*Power Distance*), masculinity (*Masculinity*), uncertainty avoidance (*Uncertainty Avoidance*), Catholicism (*Catholicism*), GDP growth (*GDP growth*) and inflation (*Inflation*). η_j and η_t are industry and year fixed effects, respectively. Finally, ξ_{ijkt} denotes the error term. As our primary variable of interest, *strong-FTR*, is time-invariant and measured at the country level, we cannot include firm or country fixed effects. However, we saturated our models with several control variables to reduce the omitted variable bias. Appendix A lists the definitions of all the variables used in this study.

3.2 Data

Firm-level datasets were drawn from the *Thompson Reuters Datastream*. Datasets for country-level measures of culture, religion, and FTR strength were drawn from Hofstede (2001), Djankov et al. (2003), Djankov et al. (2008), La Porta et al. (1997) and Chen

[1] Our model is in line with studies examining the effect of FTR strength on several corporate decisions such as corporate orientation (Liang et al., 2018), earnings management (Kim et al., 2017), corporate innovation (Chi et al., 2020; Kong et al., 2022), cash holdings (Chen et al., 2017), risk-taking (Osei-Tutu and Weill, 2021), dividends (He and Zhang, 2022) and tax avoidance (Na and Yan, 2022).

(2013). Measures of institutional quality are drawn from Kunčič (2014). Macroeconomic data were obtained from the World Bank. We apply several filters as is standard in the literature (see Gyimah et al., 2020; Machokoto et al., 2022, 2021a). First, we exclude firms and countries with missing data on critical variables and firms in the financial and utility sectors (highly regulated sectors). Second, to mitigate the effect of outliers, we eliminate firms with abnormal growth rates of greater than 100% in assets and sales from the sample. Third, we exclude firms with fewer than five firm-year observations and countries with fewer than twenty firm-year observations. Finally, we winsorise all firm-level variables at the upper and lower percentiles to reduce the influence of extreme observations (which are likely to be outliers). Our final sample consists of 181,454 firm-year observations, representing 19,099 unique non-financial and non-utility firms from 33 countries between 1984 and 2019. Appendix A presents detailed variable definitions and data sources.

4 Empirical results

4.1 Summary statistics and pairwise correlations

Table 1 presents the descriptive statistics. The mean and median audit fees were 7.6425 and 7.4972, respectively. It is interesting to note that based on the mean (median), firms domiciled in *weak-FTR* countries pay approximately 25.2% (25.6%) higher audit fees than those domiciled in *strong-FTR* countries. Figure 1 plotting the mean and median audit fees across countries, illustrates similar differences with firms located in *weak-FTR* countries tending to pay higher audit fees than those in *strong-FTR* countries. The differences in audit fees depicted in Figure 1 and Table 1 are significant at the 1% level and in line with Hypothesis 1. The rest of the summary statistics are comparable to those in the literature examining the determinants of audit fees.[2]

The differences in audit fees between countries are shown in Figure 1. Generally, countries with weak FTR have higher audit fees compared to those with strong FTR.

Please Insert Table 1 Here

Please Insert Figure 1 Here

[2]See, Cameran and Perotti (2014), Chung and Narasimhan (2002) and Cobbin (2002).

Please Insert Table 2 Here

Table 2 presents the Pearson pairwise correlations for the variables used in the audit fees — language regression models. Consistent with Hypothesis 1, Table 2 shows that audit fees are negatively correlated with our three measures of FTR strength of languages, namely, *strong-FTR*, *Verb Ratio*, and *Sentence Ratio*. Furthermore, Table 2 shows that audit fees are positively correlated with long-term debt, size, R&D, the logarithm of the market value *plus* total debt (*logMV*), the logarithm of the market value of equity (*logMVE*), the logarithm of the net profit (*logPROFIT*), cash, short-term debt, legal institutions, political institutions, power distance, masculinity, uncertainty avoidance, private credit to GDP (*PrivateCredit/GDP*), and stock market capitalisation to GDP (*StockMarketCap/GDP*). Additionally, Table 2 shows that audit fees are negatively correlated with sales growth, Tobin's *q*, cash flow, current assets, current liabilities, loss, property, plant and equipment (*PPE*), physical capital expenditure (*CAPEX*), economic institutions, Catholicism, GDP growth, and inflation. These pairwise correlations are consistent with the literature (see Cameran and Perotti, 2014; Chung and Narasimhan, 2002; Cobbin, 2002) and are not very high, suggesting no apparent multicollinearity problems.

4.2 Firm-level and aggregate industry-country and country-level analyses

Table 3 presents the results of estimating Equation (1) for the firm-level and aggregate industry-country-year and country-year-level regressions. Except where otherwise stated, all firm-level regressions include industry- and year-fixed effects. Unfortunately, we cannot include firm- or country-fixed effects as our main variable of interest, and FTR strength is time-invariant and measured at the country level. However, we have included firm- and country-specific control variables in Equation (1), as explained in the methodology section, which helps to address firm- and country-specific heterogeneity in audit fees. Additionally, we have included industry- and year-fixed effects in our regression models to address omitted variable bias.

Please Insert Table 3 Here

Table 3 presents the results of estimating different variants of Equation (1). Col-

umn (1) shows that the coefficient of *strong-FTR* is negative and significant for the model without control variables, except for industry- and year-fixed effects (*coefficient*=-1.2592; *p-value*=0.0000). In terms of economic significance, this estimate suggests that, relative to firms in *weak-FTR* countries, firms in *strong-FTR* countries pay 54.64% ($Coefficient/Mean = -1.2592/7.6425$) lower audit fees. This result provides prima facie evidence that is in line with Tables 1 and 2 and also consistent with Hypothesis 1. However, omitted variable bias is likely to affect the results tabulated in Column (1), which we address in the subsequent columns by progressively saturating our regression models with firm- and country-specific control variables.

To account for heterogeneity at the firm-specific level, Column (2) presents the results for the model that includes firm-specific control variables in our baseline regression model in addition to industry- and year-fixed effects. In this version of our baseline regression model, *strong-FTR* retained a negative and significant coefficient at the 1% level. In Columns (3)—(6), we further address omitted variable bias at the country-specific level by progressively controlling for institutional, cultural, religious, and macroeconomic factors, in addition to firm-specific factors and industry- and year-fixed effects. Again, *strong-FTR* retains a consistently significant negative effect on audit fees, which increase slightly after including a complete set of firm- and country-specific control variables. In terms of the economic magnitude of the differences, our estimates, based on the results tabulated in Column (6), suggest that firms in *strong-FTR* countries pay 55.73% ($Coefficient/Mean = -1.2843/7.6425$) lower audit fees than those in *weak-FTR* countries.

In Columns (7) and (8) of Table 3, we address a common concern that cross-country panel regressions tend to disproportionately weigh countries based on the number of firm-year observations in each country. To address this common concern relating to the uneven distribution of observations across countries, we re-estimate Equation (1) using data aggregated at the industry-country-year and country-year levels. In Column (7), for industry-country-year regressions, we find a negative and significant coefficient of *strong-FTR* (*coefficient*=-0.5306; *p-value*=0.0000). Similarly, Column (8), for country-year regressions, shows that *strong-FTR* retains a significant negative coefficient (*co-*

efficient=-0.6538; *p-value*=0.0000). Although the coefficients of *strong-FTR* based on industry-country-year and country-year regressions are substantially smaller than those based on firm-level regressions, they suggest that our findings are unlikely to be biased by the uneven distribution of firm-year observations across industries and countries. In the robustness section, we further address this common concern by re-estimating our baseline model, Equation (1), for subsamples of firms in major industries and subsamples excluding countries with a disproportionately large number of firm-year observations.

For the control variables tabulated in Columns (2)—(6) of Table 3, we find that audit fees are positively correlated with sales growth (*Sales Growth*), long-term debt (*Long-term debt*), firm-size (*Size*), research and development (*R&D*), legal institutions (*Legal Institutions*), economic institutions (*Economic Institutions*), uncertainty avoidance (*Uncertainty Avoidance*), Catholicism (*Catholicism*), GDP growth (*GDP growth*) and inflation (*Inflation*). At the same time, we also find that audit fees are negatively correlated with sales growth (*Sales Growth*), Tobin's q, cash flow (*Cash flow*), current assets (*Current assets*), current liabilities (*Current liabilities*), a dummy for firms reporting a loss (*Loss*), property, plant and equipment (*PPE*), political institutions (*Political Institutions*), power distance (*Power Distance*) and masculinity (*Masculinity*). It is reassuring to note that the effects of firm- and country-specific control variables on audit fees are mostly consistent across different model specifications, and more importantly, are in line with the literature (see Chung and Narasimhan, 2002; Cobbin, 2002).

To summarise, our research indicates a consistently significant negative correlation between the strength of the future time reference of languages and audit fees at the firm, industry-year, and country-year levels. Next, we conducted a series of *quasi-experiments* to ascertain the robustness of this finding and mitigate any potential endogeneity issues.

4.3 Firm-level difference-in-difference analyses

In this section, we use several identification strategies to address potential endogeneity problems. However, it must be noted that endogeneity, in particular reverse causality, is unlikely to be a major concern in our case because language, our main variable of interest, is time-invariant and inherited from a distant past (see Chen et al., 2017); hence, it is

unlikely to be influenced by corporate decisions.

Nevertheless, we make concerted efforts to address potential endogeneity issues using several *quasi-experiments*, such as the Global Financial Crisis, and the adoption of IFRS and mandatory board and non-baord reforms. These events enable us to estimate causal effects because they are reliably orthogonal to the financing and investment decisions of the firms (see Chen et al., 2017; Chi et al., 2020; Machokoto et al., 2021a; Popov and Rocholl, 2018). In line with prior literature (Agyei-Boapeah et al., 2020; Kim et al., 2023; Machokoto et al., 2021a), we restrict the sample period for our *quasi-experiments* to a 5-year window period [-5,+5] around the events.[3] To conduct our *quasi-experiments*, we estimate the following difference-in-difference models:

$$\begin{aligned} y_{ijkt} =& \gamma_0 + \gamma_1 \textit{strong-FTR}_k + \gamma_2 \textit{Post-GFCrisis}_t \\ &+ \gamma_3 \textit{strong-FTR}_k \times \textit{Post-GFCrisis}_t \\ &+ \boldsymbol{\theta} \boldsymbol{X}_{ijkt-1} + \eta_j + \eta_t + \xi_{ijkt} \end{aligned} \tag{2a}$$

$$\begin{aligned} y_{ijkt} =& \gamma_0 + \gamma_1 \textit{strong-FTR}_k + \gamma_2 \textit{Post-IFRS Adoption}_{kt} \\ &+ \gamma_3 \textit{strong-FTR}_k \times \textit{Post-IFRS Adoption}_{kt} \\ &+ \boldsymbol{\theta} \boldsymbol{X}_{ijkt-1} + \eta_j + \eta_t + \xi_{ijkt} \end{aligned} \tag{2b}$$

$$\begin{aligned} y_{ijkt} =& \gamma_0 + \gamma_1 \textit{strong-FTR}_k + \gamma_2 \textit{Post-Board Reforms}_{kt} \\ &+ \gamma_3 \textit{strong-FTR}_k \times \textit{Post-Board Reforms}_{kt} \\ &+ \boldsymbol{\theta} \boldsymbol{X}_{ijkt-1} + \eta_j + \eta_t + \xi_{ijkt} \end{aligned} \tag{2c}$$

where i, j, k, and t are indexes for firm, industry, country, and year, respectively. y is the logarithm of audit fees ($logAF$), γ_0 is a constant. γ_1, γ_2, γ_3 and $\boldsymbol{\theta}$ are coefficients to be estimated. *strong-FTR* is a dummy variable that takes the value of one for firms in *strong-FTR* countries and zero otherwise. *Post-GFCrisis* is a dummy variable that takes the value of one from 2008 onwards and zero otherwise. *Post-IFRS Adoption* is a dummy variable that takes the value of one from the year when a country adopts IFRS and zero otherwise.[4] *Post-Board Reforms* is a dummy variable that takes the value of one from the

[3] In untabulated results that are available upon request, we find qualitatively similar results for restricted sample periods of a 4-year window period [-4,+4] around the major events we use as *quasi-experiments*.

[4] The dates for and types of the IFRS Adoption are based on Song and Trimble (2020).

year when a country implements mandatory board and non-board reforms and zero otherwise.[5] $\boldsymbol{X}_{ijkt}$ is a vector of lagged sales growth (*Sales Growth*), Tobin's q, long-term debt (*Long-term debt*), cash flow (*Cash flow*), current assets (*Current assets*), current liabilities (*Current liabilities*), a dummy for firms reporting a loss (*Loss*), property, plant and equipment (*PPE*), firm-size (*Size*), research and development (*R&D*), legal institutions (*Legal Institutions*), political institutions (*Political Institutions*), economic institutions (*Economic Institutions*), power distance (*Power Distance*), masculinity (*Masculinity*), uncertainty avoidance (*Uncertainty Avoidance*), Catholicism (*Catholicism*), GDP growth (*GDP growth*) and inflation (*Inflation*). η_j and η_t are industry and year fixed effects, respectively. Finally, ξ_{ijkt} denotes the error term. Given that our primary variable of interest, *strong-FTR*, is time-invariant and measured at the country level, we cannot include firm and country-fixed effects in our empirical models, which might result in omitted variable bias. We address this limitation by saturating our models with firm-specific and country-specific control variables (as indicated above).

Please Insert Table 4 Here

Table 4 presents the results estimating Equations (2a)—(2c). First, we use the Global Financial Crisis (GFC) as a *quasi-experiment* to examine changes in the relationship between FTR strength and audit fees. As the Global Financial Crisis led to increased uncertainty, we expect an increase in audit fees as auditors become more conservative and risk-averse. As expected, Columns (1) and (2), tabulating the results estimating Equation (2a) for the sample that includes all countries (GFC) and the sample that excludes the US (GFC.Excl.USA), show that *strong-FTR* retains a consistently significant negative coefficient. Furthermore, we find that the coefficients of the *Post-GFCrisis* dummy and the interaction term between *strong-FTR* and post-GFCrisis (*strong-FTR*×*Post-GFCrisis*) are positive and significant at the 1% level, indicating significant increases in audit fees that are salient for firms in *strong-FTR* countries. These findings contrast with Beck and Mauldin (2014), who document decreases in audit fees that are larger in the presence of powerful CFOs but smaller in the presence of more powerful audit committees in the

[5]The dates for and types of the board and non-board reforms are based on Chen et al. (2022) and Fauver et al. (2017).

post-financial crisis period. Instead, our findings align with the narrative of audit fees increasing following increases in uncertainty and risk aversion during the financial crisis. More importantly, our results indicate significant moderating effects of FTR strength on audit fees during the financial crisis.

Second, for our *quasi-experiment* around IFRS adoption, we expect audit fees to increase post-IFRS adoption because of the increased audit complexity arising from the need to comply with IFRS. This prediction is in line with Cameran and Perotti (2014), De George et al. (2013) and Kim et al. (2012), all of whom documented a marked increase in audit fees post-IFRS adoption. Furthermore, we conjecture that the increase in audit fees post-IFRS adoption is more pronounced for firms domiciled in *strong-FTR* countries, which, as previously indicated, operate in countries most associated with short-term and high-risk taking. Columns (3), (4), and (5) of Table 4 present the results estimating Equation (2b) for the entire sample (Full Sample), mandatory and non-mandatory IFRS adoption, respectively. As expected and in line with the findings from the other *quasi-experiments*, Column (3) shows that *strong-FTR* is negatively associated with audit fees. However, the coefficient of *Post-IFRS Adoption* is negative and indistinguishable from zero, implying no significant change in audit fees post-IFRS adoption. This finding contrasts with our conjecture and prior studies that report a significant increase in audit fees post-IFRS adoption (see Cameran and Perotti, 2014; De George et al., 2013; Kim et al., 2012). In Column (3), we find that the coefficient of the interaction term, *strong-FTR*×*Post-IFRS Adoption*, is positive and significant at the 1% level. This finding might help explain the surprising result we reported and the mixed results in the literature, as the post-IFRS adoption increase in audit fees is only observed in *strong-FTR* countries. These countries are associated with short-termism and risk-taking behaviours, which are attributes most likely to require significantly more audit effort and, in turn, higher audit fees. Columns (4) and (5), contrasting the changes between legally mandated IFRS adoption (Mandatory) and not legally mandated IFRS adoption (Non-mandatory), show that the increase in audit fees is significant in both cases (as the coefficients of *Post-IFRS Adoption* are positive and significant at the 1% level]. However, the interaction

term, *strong-FTR*×*Post-IFRS Adoption*, is positive and significant only for mandatory IFRS adoption (see Column (4)), highlighting that IFRS is more effective when legally mandated. More importantly, our findings also indicate that FTR strength significantly moderates the impact of reporting regulations on audit fees. This finding is of interest, as it suggests that informal institutions such as language, although overlooked, might affect the efficacy of financial reporting reforms and help explain the mixed results in the literature.[6]

Finally, for the fourth *quasi-experiment*, we conjecture that board and non-board reforms strengthen shareholder oversight (corporate governance) in ways that might reduce the role of auditing (culminating in a reduction in audit fees). In addition, as previously indicated, we expect the decrease in audit fees post-board and post-non-board reforms to be higher for firms in *strong-FTR* countries associated with high short-termism and risk-taking. Interestingly, our prediction of decreases in audit fees after the reforms contrasts with Kim et al. (2023), who documented increases in audit fees and audit quality that are salient for firms that switched up to Big N auditors and those in countries beleaguered by weak institutions. These contrasting findings and predictions highlight the ongoing debate on whether different forms of monitoring managers are complements or substitutes (see Ben-Nasr et al., 2021; Black and Khanna, 2007; Chau and Leung, 2006; Oh et al., 2016; Xue and O'Sullivan, 2023). Column (6) of Table 4 reports the results estimating Equation (2c). Consistent with our previous findings, *strong-FTR* retains a significant negative coefficient at the 1% level. Interestingly, the coefficient of *Post-Board Reforms* is negative and significant at the 1% level, suggesting a decrease in audit fees. This finding contrasts with Kim et al. (2023), who find a positive association between board reforms and audit fees. Furthermore, we find that the coefficient of the interaction term, *strong-FTR*×*Post Board Reforms*, is negative and significant (*coefficient*=-0.6707, *p-value*=0.0000), suggesting a salient decrease in audit fees for firms in *strong-FTR* countries ($-0.8455 = -0.6707 - 0.1748$) where short-termism and risk-taking are higher.

[6]Some studies report positive effects of IFRS adoption on corporate decisions (see Daske et al., 2008; Houqe et al., 2016; Li et al., 2021), whereas others report negative or no effects (see Brüggemann et al., 2013).

Next, we examine whether different types of board and non-board reforms have heterogeneous effects on audit fees. Specifically, we compare the changes in audit fees across countries that have implemented board independence, audit committees, CEO duality, and non-board reforms. Columns (7)—(10) of Table 4 present the results estimating Equation (2c) for the subsample of the countries implementing different types of board and non-board reforms. Interestingly, the coefficients of *Post-Board Reforms* are consistently negative and significant at the 1% level, indicating a decrease in audit fees post-board reforms. Except for non-board reforms, the interaction terms, *strong-FTR*×*Post-Board Reforms*, are negative and significant at the 1% level, highlighting a consistent salient decrease in audit fees post-board reforms for firms in *strong-FTR* countries. Taken together, our difference-in-difference analyses around board reforms suggest that monitoring mechanisms, in our case of auditing and the board of directors, are substitutes rather than complements. More importantly, our findings suggest FTR strength amplifies the impact of board reforms on audit fees.

In sum, an important and cross-cutting takeaway from our analyses is that, although overlooked, FTR strength is an important distinct informal institutional factor that influences auditing fees and moderates the impact of the Global Financial Crisis and the adoption of IFRS and mandatory board and non-board reforms on audit fees.[7]

[7]Several studies have used the 1997 Handover of Hong Kong from the UK to China to tease out the effects of the transition from *strong-FTR* (English) to *weak-FTR* (Mandarin) (see, among others Chen et al., 2017; Kong et al., 2022; Na and Yan, 2022). However, in our case of audit fees the results are inconsistent as we find an increase rather than a decrease in audit fees in the aftermath of the 1997 Handover of Hong Kong from the UK to China. This increase in audit fees is surprising as contradicts the expected change in audit fees due to the transition from *strong-FTR* (English) to *weak-FTR* (Mandarin). However, it is worthy noting that firms in Hong Kong on average pay higher audit fees during this period than firms in other Asian Tigers and countries affected by the 1997–98 Asian Crisis. In addition, any decreases in audit fees following the 1997 Hong Kong handover, if they subsequently occur, may take a while as Behrend et al. (2020) and Cho et al. (2017) have shown that audit fees tend to be persistent or sticky over time. Also, the 1997 Handover of Hong Kong, which has been widely used in previous studies as a *quasi-experiment*, unfortunately, coincides with the 1997–98 Asian Crisis, making it challenging to disentangle the effects of the transition from those induced by the crisis. It is also worth noting that our results are consistent with Gul et al. (2002), who document similar increases in audit fees in the aftermath of the 1997-1998 Asian crisis, which was mainly attributed to the lack of effective corporate governance in the Asian countries (see Chau and Leung, 2006).

4.4 The moderating effect of FTR strength on the relationship between firm value and audit fees

This section builds on and extends our analysis by examining whether FTR strength moderates the relationship between firm value and external audit fees. This part of our analysis is crucial because the connection between firm value and audit fees is tenuous. On the one hand, Kim et al. (2015) and Kuo et al. (2022) document a positive correlation between firm value or performance and audit fees, attributing this to the essential role played by external audits in reducing information asymmetry and preventing opportunistic management behaviour. However, on the other hand, higher external audit fees may have negative effects. According to the economic bonding theory, high external audit fees might create financial dependence on the client, potentially compromising auditor independence and, consequently, the quality of external audits and shareholder value (Choi et al., 2010; Hoitash et al., 2007). Several studies provide supporting evidence, as positive abnormally high audit fees are associated with an increase in discretionary accruals (Asthana and Boone, 2012), real earnings management (Alhadab, 2018), the probability of meeting or beating earnings forecasts (Asthana and Boone, 2012), and the probability of an auditor issuing misleading opinions on financially distressed companies (Hossain and Wang, 2022). Therefore, it is *a priori* unclear whether audit fees affect firm value and, if so, how?

As previously mentioned, there is no anecdotal evidence to guide us on how FTR strength may affect the tenuous relationship between firm value and audit fees. On one hand, we conjecture that external audits may be more valuable in environments characterised by short-termism and risk-taking. This is often associated with individuals who speak languages with high FTR strength (see Chen, 2013; Osei-Tutu and Weill, 2021), making the relationship between firm performance and audit fees more pronounced for firms in countries with *strong-FTR*. However, on the other hand, a *strong-FTR* may cause individuals to prioritise short-term gains over long-term benefits (see Chen, 2013; Chi et al., 2020; Kong et al., 2020; Liang et al., 2018). This may lead firms in *strong-FTR* countries to advocate for lower audit fees, which can boost cash flow and net profit in the

short term but can be detrimental in the long term by compromising the audit process (auditing firms tend to assign inexperienced team members or reduce audit hours in an effort to cut costs). As a result, this may result in FTR strength dampening rather than strengthening the relationship between firm performance and audit fees.

To test these contrasting predictions briefly summarised above and posited in Hypotheses 2a and 2b, we, therefore, estimate the following empirical model:

$$\begin{aligned} y_{ijkt} =& \gamma_0 + \gamma_1 \textit{strong-FTR}_k + \gamma_2 \textit{logAF}_{ijkt-1} \\ &+ \gamma_3 \textit{strong-FTR}_k \times \textit{logAF}_{ijkt-1} \\ &+ \boldsymbol{\theta} \boldsymbol{X}_{ijkt-1} + \eta_j + \eta_t + \xi_{ijkt} \end{aligned} \tag{3}$$

where i, j, k and t are indices for firms, industries, countries, and years, respectively. y proxy for several measures of firm value in the short and long run. To measure firm value, we use the logarithm of the market value of equity *plus* total debt ($logMV$) in the short-run and the average of the logarithm of the market value of equity *plus* total debt ($logMV$) for the periods $t+1$ and $t+2$ $[t+1; t+2]$, $t+1$ and $t+3$ $[t+1; t+3]$, $t+1$ and $t+4$ $[t+1; t+4]$, and $t+1$ and $t+5$ $[t+1; t+5]$ in the long-run. The latter proxies enable us to gauge the robustness of our findings and, more importantly, examine the effects of FTR strength and audit fees on firm value in the long run. This approach to capturing long-run effects is in line with the extant literature (see Bena and Li, 2014; Chan et al., 2001; Machokoto et al., 2021b). To ensure the robustness of our findings, we also use the logarithm of the market value of equity ($logMVE$) and the logarithm of the net profit ($logPROFIT$) as alternative measures of firm value and firm performance, respectively. γ_0 is a constant. γ_1, γ_2, γ_3 and $\boldsymbol{\theta}$ are coefficients to be estimated. *strong-FTR* is a dummy variable that takes the value of one for firms in *strong-FTR* countries and zero otherwise. *logAF* is the logarithm of audit fees. $\boldsymbol{X}_{ijkt}$ is a vector of lagged firm-specific and country-specific control variables that include sales growth (*Sales Growth*), capital expenditure ($CAPEX$), cash holdings ($\Delta Cash$), research and development ($R\&D$), long-term debt, short-term debt, property, plant and equipment (PPE), size ($Size$), legal institutions (*Legal Institutions*), political institutions (*Political Institutions*), economic institutions (*Economic Institutions*), power distance (*Power Distance*), masculinity (*Masculinity*),

uncertainty avoidance (*Uncertainty Avoidance*), Catholicism (*Catholicism*), GDP growth (*GDP growth*) and inflation (*Inflation*). η_j and η_t are industry- and year-fixed effects, respectively. Finally, ξ_{ijkt} is the error term.

Please Insert Table 5 Here

Table 5 tabulates the regression results estimating Equation (3). Columns (1)—(9) of Table 5 consistently show that the coefficient of *strong-FTR* is negative and significant at the 1% level. These findings are robust to controlling for several firm-specific and country-specific determinants of firm value and performance and suggest that, when compared to firms in *weak-FTR* countries, firms in *strong-FTR* countries have relatively lower firm value and performance in both the short-run and long-run. These cross-sectional differences in firm value and performance condition on FTR strength are inconsistent with Holmstrom and Kaplan (2003), who find that firms in the US and UK have, on average, comparatively better stock market performance than those in non-English speaking countries such as France, Germany and Japan.[8] Further, we find, in Columns Columns (1)—(9) of Table 5, that the coefficient of *logAF* is consistently positive and significant at the 1% level. The positive relationship between audit fees and firm performance suggests that higher audit fees are indicative of greater effort on the part of the auditor, reflected in additional audit hours, expertise, and experience, which leads to higher-quality audits. This perspective is supported by several previous studies, including Alrashidi et al. (2021), Alzoubi (2018) and Srinidhi and Gul (2007). On the other hand, lower audit fees are associated with low firm value, indicating lower audit effort and ultimately lower audit quality as suggested by Kraub et al. (2015). While prior studies have not extensively examined the direct relationship between audit fees and firm performance, we can infer it from research that investigates audit fees and audit quality, which in turn affect firm performance (Chen et al., 2011; Houqe et al., 2017; Karjalainen, 2011; Kim et al., 2015; Kuo et al., 2022; Mali and Lim, 2021). Therefore, our findings are consistent with those of several authors (for example, Eshleman and Guo, 2014; Frankel et al., 2002), who find

[8] In untabulated results available upon request, we find that firms in *weak-FTR* countries consistently have had higher market values and profitability with less variation than those in *strong-FTR* countries throughout the sample period. This finding indicates that the differences we observed thus far are not limited to a particular period.

a positive correlation between audit fees and proxies of audit quality. Our findings do not necessarily contradict the economic bond theory or support the client bargaining theory because they are not based on abnormal audit fees.

Our main interest in this part of the study is on how FTR strength moderates the relationship between firm value and audit fees. This moderating effect is captured by the interaction term between *strong-FTR* and audit fees (*strong-FTR*×*logAF*) in Equation (3). Interestingly, we find, in Columns (1)—(9) of Table 5, that the coefficient of the interaction term, *strong-FTR*×*logAF*, is consistently positive and significant at the 1% level, implying that the positive effect of audit fees on firm value and firm performance is salient for firms domiciled in *strong-FTR* countries. The results are consistent in the short-run [for $logMV_{t+1}$, $logMVE_{t+1}$ and $logPROFIT_{t+1}$] and long-run [for $logMV_{t+3}$—$logMV_{t+5}$, $logMVE_{t+3}$—$logMVE_{t+5}$ and $logPROFIT_{t+3}$—logPROFIT_{t+5}]. The results are in contrast to Hypothesis 2b, which suggests that auditing fees have a negative impact on the value of a company. However, these findings confirm Hypothesis 2a, which predicts that auditing fees have a positive effect on the value of a company. Furthermore, the results also suggest that external audits have a greater impact on firm value and firm performance in *strong-FTR* countries, which are, relative to *weak-FTR* countries, characterised by high-risk taking and more short-term orientation. In such environments, increased transparency, as is often associated with higher audit fees (which are mostly linked to higher audit quality), adds more value to shareholders by reducing information asymmetry between managers and shareholders. This, in turn, helps prevent irresponsible or opportunistic management practices, increases investor monitoring, and lowers the risks of non-compliance, financial irregularities or fraud.

To summarize, the strength of FTR significantly moderates the relationship between audit fees and firm value/performance. This highlights the significant influence of the overlooked informal institutions such as languages in explaining cross-country differences in external audit pricing and the mixed findings in the previous studies.

5 Robustness

In this section, we allay any concerns about our empirical design by implementing a battery of robustness tests. These tests involve using different variable definitions, subsamples, estimation techniques, control variables, unwinsorised and trimmed datasets, propensity score matching, falsification tests, and alternative model specifications.

Please Insert Table 6 Here

First, one concern regarding our results is whether they are robust to different measures of audit fees and whether they continue to hold up in the long run. This concern arises as Dang et al. (2018), Lewellen and Lewellen (2016) and Vijh and Yang (2013) have shown that empirical findings in accounting and finance are sensitive to variable definitions. In Table 6, we address this concern by re-estimating Equation (1) using the forward measures of audit fees for periods $t+2$, $t+3$, $t+4$ and $t+5$, and the average audit fees for the periods t and $t+1$ $[t;t+1]$, t and $t+2$ $[t;t+2]$, t and $t+3$ $[t;t+3]$, t and $t+4$ $[t;t+4]$, and t and $t+5$ $[t;t+5]$. As expected and consistent with our main findings, Columns (1)—(9) of Table 6 show that *strong-FTR* retains a negative and significant effect on audit fees. These findings confirm the robustness of our findings to using alternative variable definitions, and more importantly, highlight the persistent effect of FTR strength on audit fees (in the long-run).

Please Insert Table 7 Here

Second, to alleviate further concerns that the way we measure FTR strength, our main variable of interest, might influence our empirical findings, we re-estimate Equation (1) using the *Sentence Ratio* and *Verb Ratio* as alternative measures of FTR strength. Several studies have also used *Sentence Ratio* and *Verb Ratio* as alternative measures of FTR strength (see Chen et al., 2017; Chi et al., 2020; Kim et al., 2017; Kong et al., 2022). Columns (1) and (2), in Panel A of Table 7, show *Verb Ratio* and *Sentence Ratio* have a significant negative effect on audit fees, which is in line with our main findings.

Third, as our findings might be sensitive to outliers and the approach we have used to address outliers (*via* winsorisation), we next assess whether our results are sensitive to using unwinsorised datasets and trimmed rather than winsorised datasets. Columns

(3) and (4) in Panel A of Table 7 show that *strong-FTR* retains a negative coefficient that is significant at the 1% level. In Columns (5) and (6) of Panel A of Table 7, we assess the sensitivity of our findings to the inclusion of initial audit fees and additional control variables. Prior studies show that policies such as external audit pricing (see Behrend et al., 2020; Cho et al., 2017) and capital structure (see Lemmon et al., 2008; Wu and Au Yeung, 2012) are highly persistent; hence, there is an apparent need to account for this persistence in our empirical model (*via* the inclusion of initial audit fees in our case]. In addition, although we saturated our models with several firm-specific and country-specific control variables, our results may still suffer from omitted variable bias. To address this concern, we include private credit to GDP (*PrivateCredit/GDP*) and stock market capitalisation to GDP (*StockMarketCap/GDP*) as control variables to capture cross-country heterogeneity in financial development. Columns (5) and (6), in Panel A of Table 7, show again that *strong-FTR* retains a significant negative coefficient, suggesting that our findings are less likely to be affected by the persistence in audit fees and omitted variable bias.

Fourth, our findings may be sensitive to the choice of the estimation technique (see Machokoto et al., 2021a,b). In Column (7) of Table 7, we alleviate this concern by re-estimating Equation (1) using Fama and MacBeth (1973)'s two-step approach. Fama and MacBeth (1973)'s two-step approach equally weights each year in the regression model even if the observations are unevenly distributed across the years and is often used when the fundamental assumption of the classical linear regression model is violated (e.g., residuals are correlated or not independent and identically distributed).[9] Using Fama and MacBeth (1973)'s two-step approach, we re-estimate Equation (1) year-by-year and report the time-series average of the estimated coefficients in Column (7) of Table 7. In line with our main findings and confirming the robustness of our results to alternative estimation techniques, Column (7), tabulating the estimates based on Fama and MacBeth (1973)'s two-step approach, shows that the coefficient of *strong-FTR* is negative and significant at the 1% level.

[9]This part of our analysis also addresses the concern that our results might be driven by years with disproportionately many observations.

Fifth, we are cognisant that systematic differences in firm-specific attributes unrelated to FTR strength may drive our findings. Furthermore, our results might be biased because some firm-specific characteristics may be closely linked to the firm's geographical location, which is a non-random decision (see Boubakri et al., 2016; Carosi, 2016). To mitigate these concerns, we use propensity score matching (PSM), where we first estimate a probit model based on the firm-specific attributes discussed previously in Equation (1). Using the estimated propensity scores from our probit model, we proceed to closely match each firm domiciled in a *strong-FTR* country to one with the closest propensity score domiciled in a *weak-FTR* country. This approach ensures that the differences in audit fees between the propensity score-matched pairs of firms can be attributed to the differences in FTR strength of the country in which the firms are domiciled. Columns (8) and (9) of Table 7, tabulating the results estimating Equation (1) based on the propensity score matched samples with and without replacement, respectively, show that *weak-FTR* retains a significant negative coefficient, attesting to the robustness of our main findings.

Sixth, we conduct a placebo or falsification test to allay concerns that some non-random unknown factors influencing the location of firms in the *weak-FTR* and *strong-FTR* countries might drive our results. To implement the falsification (*Placebo*) test, we first randomly assign firms to *weak-FTR* and *strong-FTR* countries. Next, we re-estimate Equation (1) based on the dataset of randomly assigned firms. For this falsification test reported in Column (10) of Table 7, we expect the coefficient of *strong-FTR* to be indistinguishable from zero if our empirical findings really capture differences in audit fees conditional on FTR strength. As expected, Column (10) shows that the coefficient of *strong-FTR* is indistinguishable from zero, suggesting that our findings are unlikely to be driven by some non-random unknown factors or events that unrelated to variations in FTR strength.

Seventh, we assess the sensitivity of our findings to alternative subsampling by time and industry. In Panel B of Table 7, we first assess whether our results hold across time by separately re-estimating Equation (1) over three decades, namely, the 1990s [1990—1999], 2000s [2001—2009] and 2010s [2010—2019]. This part of our analysis helps alleviate

concerns that our findings might be driven by some decades with disproportionately many firm-year observations (e.g., the 2010s) and the widely documented changes in firm-specific characteristics as economies transit from predominantly manufacturing sectors (tangible capital) towards technology and service-oriented sectors (intangible capital) (see Buera and Kaboski, 2012; Kahle and Stulz, 2017; Machokoto et al., 2022). Consistent with our main findings, Columns (1)—(3) in Panel B of Table 7 show that *strong-FTR* is significantly negatively associated with audit fees. However, the magnitude of the coefficients appears to be decreasing over time. Further, in Columns (4) and (5), we find that *strong-FTR* retains a negative and statistically significant coefficient at the 1% level in both the pre-crisis [2002—2007] and post-crisis [2008—2012] periods, suggesting that our results are unlikely to be influenced by the increase in uncertainty during the Global Financial Crisis. In Panel B of Table 7, we address a lingering concern that our results might be driven by firms in some industries generally associated with high audit fees. In particular, the non-manufacturing sectors are generally considered risky and have a high proportion of non-physical (intangible capital) assets which are difficult to verify and value (see Chung and Narasimhan, 2002). Interestingly, in Columns (6)—(10), we find that *strong-FTR* has a consistently significant negative effect on audit fees, although the magnitude of the coefficients varies across industries. These findings suggest that our main results are robust to alternative subsampling by decades and major industries.[10]

Please Insert Table 8 Here

Eighth, in Panel A of Table 8, we evaluate whether results hold in sub-samples that exclude multilingual countries (Excl.Mult), Confucian countries (Excl.Confucian), the Global Financial Crisis (Excl.Crisis) and the Global Financial Crisis and the US (Excl.USA.Crisis) and for subsamples excluding economies with disproportionately many firm-year observations e.g., the US (Excl.USA), Hong Kong (Excl.HKG), Japan (Excl.JPN), the UK (Excl.GBR), China (Excl.CHN), Sweden (Excl.SWE) and Malaysia (Excl.MYS).[11]

[10] In untabulated results (available upon request), we find the negative effect of FTR strength on audit fees is salient for firms likely to face binding credit constraints and those facing high product market competition.

[11] The Excl.Mult sub-sample excludes Belgium, Malaysia, Switzerland, Canada, Singapore and Hong Kong. The Excl.Confucian subsample excludes China, Hong Kong, Japan, Korea, Rep., Singapore, Taiwan, and Vietnam (see Chen et al., 2017). Excl.Crisis is a sub-sample that excludes 2008 and 2009.

Panel A of Table 8, tabulating the results based on these subsamples, shows that the coefficient of *strong-FTR* is consistently negative and significant at the 1% level. Taken together, these subsample analyses suggest that our results are unlikely to be driven by multilingual and Confucian countries, the Global Financial Crisis and a few large economies with disproportionately many firm-year observations.

Finally, we evaluate the sensitivity of our results using alternative model specifications. Specifically, we re-estimate Equation (1) in Panel B of Table 8 for models that include different combinations of control variables and year-, industry-, and industry-year-fixed effects. Using different combinations of control variables and fixed effects help alleviate the concerns that our choice of control variables (even though informed by the literature) and omitted time-variant and year-invariant variables might bias our inferences. Specifically, using high-dimensional fixed effects such as industry-year fixed effects to further account for omitted time-variant and time-variant industry-year factors is likely to reduce the power of our empirical tests to detect the significant impact of FTR strength on audit fees; thus representing a stricter empirical test of significance that increases confidence in our findings. In line with our main findings, Panel B of Table 8 shows that the coefficient of *strong-FTR* is consistently negative and significant at the 1% level (the coefficient of *strong-FTR* across all the different specifications and ranges from -1.0897 to -0.6264).

In summary, our study suggests that FTR strength is an additional informal institutional factor that helps explain the cross-country variations in audit fees. More importantly, from a policy perspective, FTR strength moderates the impact of corporate governance and financial reporting reforms in non-negligible ways.

6 Conclusion

Recent research suggests that how we talk about future events in different languages (the strength of the future time reference — FTR strength) can impact several corporate decisions, such as innovation, tax avoidance, investment and corporate social responsibility. However, it is not clear if this also affects external audit pricing, and if so, whether this effect varies across countries. To fill this gap, we investigate whether languages

The Excl.USA.Crisis is a sub-sample that excludes 2008 and 2009 and firms domiciled in the US.

with *strong-FTR* are associated with lower external audit fees. Our presumption is that speakers of languages with a *strong-FTR* view the future consequences of their decisions as more distant and less important and may choose options to reduce external audit fees and avoid scrutiny. As a result, speakers of languages with a *strong-FTR* may negotiate for lower external fees without considering the potential negative long-term impacts of lower audit fees on audit quality.

Consistent with our conjecture, we find evidence that firms located in *strong-FTR* countries pay lower audit fees than those in countries with *weak-FTR*. This finding suggests that the FTR strength is an important factor often overlooked when determining audit fees. Furthermore, we find that FTR strength also influences how external events, such as the Global Financial Crisis, IFRS adoption and mandatory board and non-board reforms, affect audit fees. Specifically, firms in *strong-FTR* countries experienced a salient increase in audit fees during the Global Financial Crisis and after IFRS adoption but a salient decrease in audit fees after the mandatory board reform. These asymmetries demonstrate not only the significant moderating effects of FTR strength on external audit fees but also its impact on the effectiveness of corporate governance and financial reporting reforms. Our findings have several important implications and are robust to various concerns, including using different model specifications and controlling for firm-specific, institutional, cultural, religious, and macroeconomic factors.

Next, we build on and extend our analysis by examining whether FTR strength moderates the contentious association between audit fees and firm performance. This part of our analysis is important as it advances FTR strength as a critical factor that, until now, has been overlooked and might help explain the mixed results on whether audit fees have a positive or negative effect on firm performance. The divided literature highlights the need for further research: some studies report positive effects of audit fees on firm performance, whereas others report negative or no effects. There is no anecdotal evidence to guide us regarding the impact of FTR strength on the association between audit fees and firm performance. However, we conjecture that the value of external audits is higher in environments where short-termism is prevalent and risk-taking is high, features often

associated with speakers of languages with high FTR strength. Consistent with our conjecture, we find a positive association between firm performance and audit fees, which is salient for firms in countries with *strong-FTR*. These findings attest to the value added by external audits in environments characterised by short-termism and high-risk taking. In addition, our findings may help explain the mixed findings in the literature, as the association between firm performance and audit fees varies with FTR strength.

We conclude by rightfully acknowledging some caveats inherent in our empirical analyses, which suggest directions for future research. First, although our sample of listed non-financial and non-utility firms is comprehensive, it excludes private firms and those in the utility and financial sectors. It is worth noting that the private firms excluded from our study are non-trivial, as they constitute approximately 97.5% of the corporate universe and account for more than two-thirds of the global corporate assets (see Bigelli et al., 2014). Therefore, additional research is needed to understand whether and, if so, how FTR strength influences the decisions of private firms and those in the regulated sectors (utility and financial sectors). Second, we focused only on one facet of monitoring mechanisms (external auditing); further research might extend this study by examining other facets, such as internal controls, corporate governance, capital structure, and reporting quality. Third, we examined cross-country variations; future research could extend our study by examining within-country variations, particularly in multilingual countries. Focusing on within-country variations rather than cross-country variations might help allay concerns that the results presented in this study capture cross-country heterogeneity linked to omitted factors unrelated to FTR strength. Fourth, an apparent need arises from our exploratory study to further explore the channels through which FTR strength influences corporate decisions. Fifth, in this study, we only explored cross-country variations; it appears worthwhile to explore time variations as well, given that languages evolve and continuously adapt, as well as the recently observed compositional changes in some countries' populations (organically and through immigration). Finally, although we devoted considerable research effort and used several approaches to address potential endogeneity problems, we must acknowledge that endogeneity problems cannot

923 be completely ruled out.

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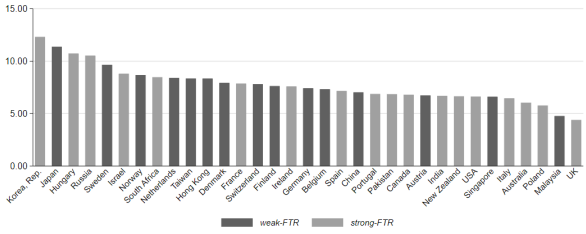
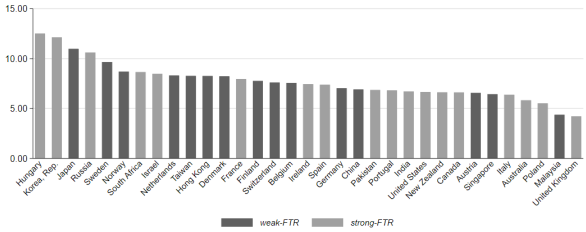


(a) Mean



(b) Median

Figure 1 Cross-country variations in audit fees

The figure plots the mean and median audit fees for each country in the sample, including the classification into *strong-FTR* and *weak-FTR* sub-groups. The sample includes 19,099 non-financial, non-utility firms (181,454 firm-year observations) from 33 countries drawn from *Datastream* over the period 1984—2019. Variable definitions are in Appendix A.

Table 1 Summary statistics

The table presents descriptive statistics for the firm-level and macroeconomic variables. The table presents the summary statistics for *strong-FTR* and *strong-FTR* countries. The sample includes 19,099 non-financial, non-utility firms (181,454 firm-year observations) from 33 countries drawn from *Datastream* over the period 1984—2019. Variable definitions are in Appendix A. ***, **, * indicate significance at the one, five, and ten percent levels, respectively.

		Full Sample				weak-FTR				strong-FTR				strong-FTR *vs* weak-FTR		
#	Variables	N	Mean	Median	Std.Dev	N	Mean	Median	Std.Dev	N	Mean	Median	Std.Dev	Mean	Median	Std.Dev
(1)	logAF	181,454	7.6425	7.4972	2.6200	102,715	8.3745	8.2375	2.4121	78,739	6.6876	6.5566	2.5727	-1.6870***	-1.6809***	0.1606***
(2)	strong-FTR	181,454	0.4339	0.0000	0.4956	102,715	0.0000	0.0000	0.0000	78,739	1.0000	1.0000	0.0000	1.0000***	1.0000***	0.0000***
(3)	Verb Ratio	172,804	0.3191	0.0088	0.3974	94,065	0.0140	0.0000	0.0346	78,739	0.6837	0.7690	0.3180	0.6697***	0.7690***	0.2834***
(4)	Sentence Ratio	172,804	0.3192	0.0093	0.3974	94,065	0.0140	0.0000	0.0346	78,739	0.6838	0.7690	0.3178	0.6698***	0.7690***	0.2832***
(5)	Sales Growth	181,454	0.0704	0.0508	0.1787	102,715	0.0665	0.0459	0.1815	78,739	0.0755	0.0572	0.1747	0.0090***	0.0113***	-0.0068***
(6)	Tobin's q	181,454	1.6153	1.2535	1.1938	102,715	1.5478	1.1764	1.2038	78,739	1.7034	1.3501	1.1748	0.1556***	0.1737***	-0.0291***
(7)	Long-term debt	181,454	0.1271	0.0897	0.1339	102,715	0.1136	0.0768	0.1219	78,739	0.1448	0.1092	0.1463	0.0312***	0.0324***	0.0244***
(8)	Cash flow	181,454	0.1075	0.1016	0.0899	102,715	0.0987	0.0911	0.0802	78,739	0.1191	0.1156	0.1001	0.0204***	0.0245***	0.0198***
(9)	Current assets	181,454	0.4990	0.5045	0.2165	102,715	0.5118	0.5211	0.2084	78,739	0.4823	0.4801	0.2257	-0.0295***	-0.0409***	0.0173***
(10)	Current liabilities	181,454	0.3060	0.2821	0.1580	102,715	0.3091	0.2878	0.1550	78,739	0.3021	0.2736	0.1619	-0.0070***	-0.0142***	0.0069***
(11)	Loss	181,454	0.1219	0.0000	0.3272	102,715	0.1179	0.0000	0.3225	78,739	0.1270	0.0000	0.3330	0.0091***	0.0000***	0.0105***
(12)	PPE	181,454	0.2956	0.2543	0.2163	102,715	0.2896	0.2551	0.2008	78,739	0.3034	0.2525	0.2347	0.0138***	-0.0026*	0.0339***
(13)	Size	181,454	7.9876	7.9447	1.9761	102,715	8.1299	8.0475	1.8091	78,739	7.8020	7.7424	2.1608	-0.3279***	-0.3051***	0.3517***
(14)	R&D	181,454	0.0170	0.0000	0.0376	102,715	0.0147	0.0004	0.0293	78,739	0.0199	0.0000	0.0462	0.0051***	-0.0004***	0.0169***
(15)	logMV	181,454	15.1708	15.3352	3.1329	102,715	16.1575	16.2264	2.5855	78,739	13.8838	13.7932	3.3124	-2.2737***	-2.4332***	0.7270***
(16)	logMVE	181,454	14.5628	14.7869	3.1356	102,715	15.5367	15.6624	2.6070	78,739	13.2924	13.2309	3.3077	-2.2444***	-2.4315***	0.7006***
(17)	logPROFIT	158,418	12.3000	12.4066	3.1084	89,908	13.2202	13.2886	2.6571	68,510	11.0924	11.0828	3.2414	-2.1278***	-2.2057***	0.5844***
(18)	CAPEX	181,454	0.0490	0.0352	0.0477	102,715	0.0452	0.0330	0.0434	78,739	0.0541	0.0385	0.0523	0.0090***	0.0055***	0.0088***
(19)	Cash	181,454	0.1579	0.1159	0.1423	102,715	0.1709	0.1337	0.1369	78,739	0.1409	0.0910	0.1474	-0.0301***	-0.0427***	0.0104***
(20)	Short-term debt	181,454	0.0775	0.0453	0.0933	102,715	0.0902	0.0580	0.0988	78,739	0.0610	0.0300	0.0826	-0.0293***	-0.0280***	-0.0162***
(21)	Legal Institutions	181,454	7.9022	8.2493	1.3070	102,715	7.7984	8.2493	1.5030	78,739	8.0376	8.1511	0.9785	0.2392***	-0.0982***	-0.5244***
(22)	Political Institutions	181,454	7.3195	7.6935	1.4594	102,715	7.0966	7.7320	1.7703	78,739	7.6104	7.6238	0.8189	0.5138***	-0.1083***	-0.9514***
(23)	Economic Institutions	181,454	7.5064	7.7653	1.3285	102,715	7.3704	7.3963	1.4835	78,739	7.6838	7.7653	1.0682	0.3134***	0.3691***	-0.4153***
(24)	Power Distance	181,454	5.3090	5.4000	2.0004	102,715	5.8865	5.8000	2.2358	78,739	4.5557	4.0000	1.3031	-1.3308***	-1.8000***	-0.9327***
(25)	Masculinity	181,454	5.7277	6.2000	2.1373	102,715	5.6653	5.7000	2.7121	78,739	5.8092	6.2000	0.9593	0.1438***	0.5000***	-1.7528***
(26)	Uncertainty Avoidance	181,454	4.9712	4.6000	2.3861	102,715	4.7287	3.0000	2.6569	78,739	5.2875	4.6000	1.9325	0.5588***	1.6000***	-0.7245***
(27)	Catholicism	181,454	0.1310	0.0000	0.3374	102,715	0.0794	0.0000	0.2703	78,739	0.1983	0.0000	0.3987	0.1190***	0.0000***	0.1284***
(28)	GDP Growth	181,454	0.0283	0.0251	0.0288	102,715	0.0325	0.0270	0.0331	78,739	0.0229	0.0249	0.0208	-0.0096***	-0.0022***	-0.0123***
(29)	Inflation	181,454	0.0202	0.0181	0.0262	102,715	0.0143	0.0141	0.0249	78,739	0.0280	0.0199	0.0257	0.0137***	0.0058***	0.0008***
(30)	PrivateCredit/GDP	181,454	1.3999	1.4162	0.4060	102,715	1.4086	1.4476	0.3841	78,739	1.3887	1.3739	0.4327	-0.0199***	-0.0737***	0.0486***
(31)	StockMarketCap/GDP	181,454	1.9242	1.0067	2.7496	102,715	2.5747	0.9387	3.4982	78,739	1.0757	1.0402	0.4321	-1.4991***	0.1015***	-3.0661***

Table 2 Correlations

The table presents the pairwise correlations. The sample includes 19,099 non-financial, non-utility firms (181,454 firm-year observations) from 33 countries drawn from *Datastream* over the period 1984—2019. Variable definitions are in Appendix A. Appendix A defines all variables used. ***, **, * indicate significance at the one, five, and ten percent levels, respectively.

#	Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1)	logAF	1											
(2)	strong-FTR	-0.400***	1										
(3)	Verb Ratio	-0.380***	0.835***	1									
(4)	Sentence Ratio	-0.380***	0.835***	1.000***	1								
(5)	Sales Growth	-0.097***	0.028***	-0.006**	-0.006**	1							
(6)	Tobin's q	-0.138***	0.050***	0.041***	0.041***	0.165***	1						
(7)	Long-term debt	0.085***	0.118***	0.119***	0.119***	-0.040***	-0.167***	1					
(8)	Cash flow	-0.136***	0.162***	0.097***	0.097***	0.180***	0.532***	-0.091***	1				
(9)	Current assets	-0.074***	-0.091***	-0.052***	-0.052***	0.066***	0.156***	-0.493***	0.015***	1			
(10)	Current liabilities	-0.004*	-0.019***	0.001	0.001	0.051***	0.002	-0.227***	-0.091***	0.438***	1		
(11)	Loss	-0.040***	0.006**	0.004*	0.004*	-0.138***	-0.064***	-0.019***	-0.334***	0.025***	0.059***	1	
(12)	PPE	-0.050***	0.062***	-0.031***	-0.031***	-0.017***	-0.149***	0.263***	0.068***	-0.615***	-0.278***	-0.004	1
(13)	Size	0.379***	-0.082***	-0.059***	-0.059***	-0.057***	-0.034***	0.257***	0.040***	-0.234***	0.091***	-0.107***	0.056***
(14)	R&D	0.019***	-0.013***	0.048***	0.048***	0.003	0.233***	-0.146***	0.072***	0.199***	-0.025***	0.077***	-0.224***
(15)	logMV	0.916***	-0.422***	-0.420***	-0.420***	-0.047***	-0.018***	0.124***	-0.083***	-0.145***	-0.027***	-0.079***	0.028***
(16)	logMVE	0.895***	-0.422***	-0.421***	-0.421***	-0.036***	0.051***	0.064***	-0.024***	-0.131***	-0.078***	-0.092***	0.013***
(17)	logPROFIT	0.896***	-0.389***	-0.398***	-0.399***	-0.022***	-0.036***	0.116***	0.023***	-0.139***	-0.045***	-0.145***	0.041***
(18)	CAPEX	-0.102***	0.097***	0.008***	0.008***	0.117***	0.069***	0.111***	0.279***	-0.296***	-0.109***	-0.044***	0.555***
(19)	Cash	0.029***	-0.150***	-0.100***	-0.100***	0.028***	0.249***	-0.358***	0.095***	0.519***	-0.078***	0.015***	-0.336***
(20)	Short-term debt	0.077***	-0.137***	-0.149***	-0.149***	0.013***	-0.150***	-0.010***	-0.219***	0.023***	0.499***	0.083***	0.080***
(21)	Legal Institutions	0.010***	-0.001	0.153***	0.153***	-0.082***	-0.061***	0.128***	0.142***	-0.064***	-0.073***	-0.015***	-0.067***
(22)	Political Institutions	0.015***	0.113***	0.212***	0.212***	-0.104***	-0.066***	0.167***	0.165***	-0.086***	-0.052***	-0.027***	-0.050***
(23)	Economic Institutions	-0.083***	0.050***	0.246***	0.246***	-0.045***	-0.085***	0.078***	0.091***	-0.059***	-0.096***	0.004	-0.041***
(24)	Power Distance	0.162***	-0.251***	-0.296***	-0.296***	0.064***	-0.066***	-0.162***	-0.231***	0.092***	0.065***	0.027***	0.014***
(25)	Masculinity	0.065***	0.018***	-0.037***	-0.037***	-0.019***	-0.103***	-0.159***	-0.092***	0.131***	0.016***	-0.003	0.022***
(26)	Uncertainty Avoidance	0.440***	0.067***	0.067***	0.067***	-0.120***	-0.123***	0.037***	-0.066***	0.005**	0.026***	-0.013***	-0.046***
(27)	Catholicism	-0.034***	0.155***	0.185***	0.185***	-0.060***	0.010***	0.164***	0.007***	-0.104***	0.037***	-0.011***	-0.043***
(28)	GDP Growth	-0.176***	-0.119***	-0.189***	-0.189***	0.190***	0.115***	-0.109***	-0.038***	0.065***	0.037***	-0.023***	0.053***
(29)	Inflation	-0.271***	0.326***	0.099***	0.099***	0.138***	0.041***	0.005**	0.134***	-0.017***	0.049***	-0.040***	0.106***
(30)	PrivateCredit/GDP	0.173***	-0.061***	0.043***	0.043***	-0.003	0.006**	-0.035***	-0.056***	0.055***	-0.116***	0.018***	-0.103***
(31)	StockMarketCap/GDP	0.094***	-0.265***	-0.250***	-0.251***	0.068***	-0.065***	-0.084***	-0.072***	0.054***	-0.036***	0.014***	-0.037***

Table 2 Correlations (continued)

The table presents the pairwise correlations. The sample includes 19,099 non-financial, non-utility firms (181,454 firm-year observations) from 33 countries drawn from *Datastream* over the period 1984—2019. Variable definitions are in Appendix A. Appendix A defines all variables used. ***, **, * indicate significance at the one, five, and ten percent levels, respectively.

#	Variables	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
(13)	Size	1											
(14)	R&D	-0.035***	1										
(15)	logMV	0.463***	-0.004*	1									
(16)	logMVE	0.442***	0.029***	0.988***	1								
(17)	logPROFIT	0.461***	-0.026***	0.967***	0.959***	1							
(18)	CAPEX	0.044***	-0.091***	-0.037***	-0.031***	-0.018***	1						
(19)	Cash	-0.196***	0.246***	0.016***	0.062***	0.006**	-0.148***	1					
(20)	Short-term debt	-0.004	-0.114***	0.105***	0.051***	0.073***	0.010***	-0.209***	1				
(21)	Legal Institutions	0.035***	0.086***	-0.148***	-0.151***	-0.099***	-0.038***	-0.059***	-0.266***	1			
(22)	Political Institutions	0.056***	0.094***	-0.132***	-0.140***	-0.080***	-0.028***	-0.111***	-0.276***	0.933***	1		
(23)	Economic Institutions	0.002	0.023***	-0.220***	-0.223***	-0.177***	-0.030***	0.005*	-0.217***	0.842***	0.698***	1	
(24)	Power Distance	-0.037***	-0.143***	0.267***	0.257***	0.225***	-0.022***	0.150***	0.269***	-0.710***	-0.765***	-0.420***	1
(25)	Masculinity	-0.125***	-0.027***	0.027***	0.023***	0.030***	-0.038***	0.124***	0.026***	-0.192***	-0.186***	-0.157***	0.206***
(26)	Uncertainty Avoidance	0.016***	0.057***	0.380***	0.360***	0.377***	-0.095***	0.016***	-0.015***	0.035***	0.225***	-0.162***	-0.005*
(27)	Catholicism	0.210***	0.010***	0.004	-0.005**	-0.005**	-0.027***	-0.073***	-0.046***	0.039***	0.190***	0.031***	0.013***
(28)	GDP Growth	-0.068***	-0.071***	-0.060***	-0.048***	-0.080***	0.071***	0.056***	0.153***	-0.460***	-0.518***	-0.317***	0.397***
(29)	Inflation	0.001	-0.076***	-0.227***	-0.226***	-0.197***	0.163***	-0.103***	0.019***	-0.212***	-0.136***	-0.246***	-0.034***
(30)	PrivateCredit/GDP	-0.049***	0.046***	0.099***	0.103***	0.090***	-0.109***	0.165***	-0.055***	0.109***	-0.074***	0.279***	0.051***
(31)	StockMarketCap/GDP	0.039***	-0.104***	0.074***	0.067***	0.079***	-0.007***	0.154***	0.038***	0.094***	-0.093***	0.388***	0.333***

#	Variables	(37)	(38)	(39)	(40)	(41)	(42)	(43)
(25)	Masculinity	1						
(26)	Uncertainty Avoidance	0.375***	1					
(27)	Catholicism	-0.173***	0.368***	1				
(28)	GDP Growth	-0.067***	-0.390***	-0.150***	1			
(29)	Inflation	-0.115***	-0.231***	-0.112***	0.171***	1		
(30)	PrivateCredit/GDP	0.305***	-0.023***	-0.224***	-0.175***	-0.207***	1	
(31)	StockMarketCap/GDP	0.003	-0.324***	-0.130***	0.112***	-0.007***	0.415***	1

Table 3 The firm-level effect of FTR strength on audit fees

The table presents estimation results of Equation (1) that relate audit fees to *strong-FTR* and firm-specific, institutional, cultural, religion and macroeconomic control variables. All regression models include (but are not reported for brevity) industry- and year-fixed effects. Columns (1)—(6) present results based on firm-level regressions. Columns (7) and (8) present results based on aggregate industry-country-year and country-year regressions, respectively. The sample includes 19,099 non-financial, non-utility firms (181,454 firm-year observations) from 33 countries drawn from *Datastream* over the period 1984—2019. Variable definitions are in Appendix A. Robust standard errors reported in parentheses are calculated using the Huber White Sandwich Estimator for the covariance matrix. ***, **, * indicate significance at the one, five, and ten percent levels, respectively, based on robust standard errors.

	Firm-level regressions						Industry -country -year regressions	Country -year regressions
Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
strong-FTR	-1.2592***	-1.1076***	-1.0831***	-1.3784***	-1.2378***	-1.2843***	-0.5306***	-0.6538***
	(0.0113)	(0.0106)	(0.0107)	(0.0108)	(0.0096)	(0.0106)	(0.0644)	(0.1554)
Sales Growth		-0.3259***	-0.1350***	0.1425***	0.0729***	0.0234	-0.5456**	-0.4723
		(0.0269)	(0.0263)	(0.0228)	(0.0214)	(0.0213)	(0.2539)	(0.9369)
Tobin's *q*		-0.2235***	-0.1776***	-0.0990***	-0.0370***	-0.0328***	-0.1542***	0.0220
		(0.0047)	(0.0045)	(0.0043)	(0.0038)	(0.0038)	(0.0422)	(0.1633)
Long-term debt		0.3916***	-0.0926**	0.1088***	0.4044***	0.4080***	-1.0972***	-3.2702***
		(0.0386)	(0.0386)	(0.0346)	(0.0325)	(0.0324)	(0.3472)	(1.1984)
Cash flow		0.1687**	-0.9366***	-0.0595	-0.4065***	-0.4552***	-0.8177	2.3389
		(0.0682)	(0.0694)	(0.0611)	(0.0560)	(0.0557)	(0.6852)	(2.8241)
Current assets		0.1099***	0.2649***	0.0149	-0.1721***	-0.2012***	0.9644***	0.9354
		(0.0310)	(0.0309)	(0.0268)	(0.0251)	(0.0250)	(0.2761)	(1.0257)
Current liabilities		-0.0684*	-0.0221	-0.3131***	-0.1346***	-0.1418***	-1.9367***	-8.3865***
		(0.0364)	(0.0360)	(0.0285)	(0.0254)	(0.0253)	(0.3529)	(1.1344)
Loss		-0.4116***	-0.4827***	-0.2285***	-0.2156***	-0.2209***	-0.9638***	-0.9243*
		(0.0182)	(0.0180)	(0.0149)	(0.0135)	(0.0134)	(0.1925)	(0.5164)
PPE		-0.3459***	0.0592**	-0.1736***	-0.5022***	-0.5313***	-0.7826***	-2.4821***
		(0.0295)	(0.0298)	(0.0260)	(0.0246)	(0.0246)	(0.2608)	(0.6054)
Size		0.4841***	0.4845***	0.4596***	0.5258***	0.5258***	0.5677***	0.5235***
		(0.0028)	(0.0028)	(0.0024)	(0.0023)	(0.0023)	(0.0253)	(0.0587)
R&D		2.2190***	0.5183***	-0.0003	-0.0457	0.0608	-7.9714***	-20.5958***
		(0.1318)	(0.1308)	(0.1224)	(0.1055)	(0.1062)	(1.0300)	(4.5295)
Legal Institutions			0.4516***	1.3146***	0.7216***	0.7605***	0.6620***	0.6122***
			(0.0150)	(0.0180)	(0.0172)	(0.0173)	(0.0568)	(0.1285)
Political Institutions			-0.0436***	-1.3540***	-1.0028***	-1.0223***	-0.7294***	-0.7991***
			(0.0096)	(0.0111)	(0.0102)	(0.0101)	(0.0485)	(0.1057)
Economic Institutions			-0.1391***	0.1512***	0.4314***	0.4732***	0.0174	0.0164
			(0.0074)	(0.0093)	(0.0093)	(0.0099)	(0.0414)	(0.0807)
Power Distance				-0.0738***	-0.0416***	-0.0516***	-0.1270***	-0.1769***
				(0.0045)	(0.0041)	(0.0041)	(0.0172)	(0.0405)
Masculinity				-0.1535***	-0.2537***	-0.2489***	-0.1328***	-0.0712*
				(0.0030)	(0.0029)	(0.0029)	(0.0181)	(0.0401)
Uncertainty Avoidance				0.6384***	0.7855***	0.8156***	0.3432***	0.3492***
				(0.0034)	(0.0034)	(0.0037)	(0.0227)	(0.0495)
Catholicism					-2.4148***	-2.3921***	-1.1165***	-0.4527***
					(0.0194)	(0.0191)	(0.0872)	(0.1616)
GDP Growth						4.6012***	0.9905	-3.1484
						(0.2709)	(1.0972)	(2.2076)
Inflation						4.2618***	1.1385	-2.8089
						(0.2149)	(1.1312)	(2.5784)
Constant	8.1889***	4.6530***	2.3527***	1.3642***	0.8145***	0.0375	4.1124***	7.7464***
	(0.0072)	(0.0348)	(0.0476)	(0.0775)	(0.0679)	(0.0733)	(0.4861)	(1.0826)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of observations	181,454	181,454	181,454	181,454	181,454	181,454	3,685	720
Adj.R^2	0.267	0.417	0.435	0.596	0.656	0.658	0.469	0.378

Table 4 The impact of major events on the relationship between *strong-FTR* and audit fees

The table presents estimation results of Equations (2a)—(2c) that relate audit fees to *strong-FTR* and firm-specific, institutional, cultural, religion and macroeconomic control variables around major events. *Post-GFCrisis* is a dummy variable that takes the value of one from 2008 onwards and zero otherwise. *Post-IFRS Adoption* is a dummy variable that takes the value of one from the year when a country adopts IFRS and zero otherwise. *Post-Board Reforms* is a dummy variable that takes the value of one from the year when a country implements mandatory board and non-board reforms and zero otherwise. All regression models include (but are not reported for brevity) industry- and year-fixed effects. The sample includes 19,099 non-financial, non-utility firms (181,454 firm-year observations) from 33 countries drawn from *Datastream* over the period 1984—2019. Variable definitions are in Appendix A. Robust standard errors reported in parentheses are calculated using the Huber White Sandwich Estimator for the covariance matrix. ***, **, * indicate significance at the one, five, and ten percent levels, respectively, based on robust standard errors.

	Global Financial Crisis		IFRS Adoption			Board and Non-Board Reforms				
	Full Sample	Excl.USA	Full Sample	Mandatory	Non-Mandatory	Full Sample	Board.Indep	Audit.Com	CEO.Dul	Non-Board
Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
strong-FTR	-2.1198***	-2.0698***	-2.1761***	-0.9031***	-0.3976*	-1.3073***	-1.3249***	-2.2760***	-2.3539***	-1.1778***
	(0.0233)	(0.0270)	(0.0302)	(0.0708)	(0.2144)	(0.0590)	(0.0653)	(0.0757)	(0.2041)	(0.0705)
Post-GFCrisis	0.5510***	0.5714***								
	(0.0184)	(0.0184)								
strong-FTR×Post-GFCrisis	0.4079***	0.6017***								
	(0.0249)	(0.0323)								
Post-IFRS Adoption			-0.0206	0.3794***	0.7379***					
			(0.0236)	(0.0331)	(0.0666)					
strong-FTR×Post-IFRS Adoption			0.3478***	0.2871***	-0.0522					
			(0.0383)	(0.0410)	(0.1044)					
Post Board Reforms						-0.6707***	-0.4118***	-0.3652***	-0.3410***	-0.7342***
						(0.0298)	(0.0305)	(0.0316)	(0.1068)	(0.0481)
strong-FTR×Post Board Reforms						-0.1748***	-0.5594***	-0.4967***	-0.6573***	0.1392**
						(0.0513)	(0.0515)	(0.0566)	(0.1254)	(0.0683)
Constant	3.8553***	3.6297***	5.9955***	9.1598***	0.8166	6.8512***	5.9981***	4.8440***	-0.6668	3.3827***
	(0.1377)	(0.1481)	(0.1923)	(0.3109)	(1.0338)	(0.1942)	(0.2257)	(0.2683)	(1.3706)	(0.3030)
Firm-specific controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Institutional quality controls	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cultural controls	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Religion controls	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Macroeconomic controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of observations	78,058	61,567	52,841	36,109	17,267	39,665	38,249	36,321	20,055	22,541
# of firms	12,960	10,476	10,476	6,620	6,620	7,604	7,156	6,888	3,405	4,694
# of countries	32	31	31	23	23	26	18	19	8	15
Adj.R^2	0.649	0.635	0.703	0.667	0.858	0.793	0.808	0.839	0.916	0.852

Table 5 The moderating effect of FTR strength

The table presents estimation results of Equation (3) that relate firm value to *strong-FTR*, audit fees to *strong-FTR*, the interaction term between *strong-FTR* and audit fees, and firm-specific, institutional, cultural, religion and macroeconomic control variables. All regression models include (but are not reported for brevity) industry- and year-fixed effects. The sample includes 19,099 non-financial, non-utility firms (181,454 firm-year observations) from 33 countries drawn from *Datastream* over the period 1984—2019. Variable definitions are in Appendix A. Robust standard errors reported in parentheses are calculated using the Huber White Sandwich Estimator for the covariance matrix. ***, **, * indicate significance at the one, five, and ten percent levels, respectively, based on robust standard errors.

Dependent Variables	$logMV_{t+1}$	$logMV_{t+3}$	$logMV_{t+5}$	$logMVE_{t+1}$	$logMVE_{t+3}$	$logMVE_{t+5}$	$logPROFIT_{t+1}$	$logPROFIT_{t+3}$	$logPROFIT_{t+5}$
Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
strong-FTR	-1.3299***	-1.2210***	-1.3112***	-1.4639***	-1.3478***	-1.4367***	-1.2314***	-1.1198***	-1.2238***
	(0.0274)	(0.0247)	(0.0247)	(0.0295)	(0.0268)	(0.0266)	(0.0332)	(0.0298)	(0.0293)
logAF	0.7548***	0.7902***	0.7732***	0.7460***	0.7813***	0.7626***	0.7602***	0.7960***	0.7804***
	(0.0031)	(0.0028)	(0.0028)	(0.0033)	(0.0030)	(0.0029)	(0.0036)	(0.0032)	(0.0031)
strong-FTR×logAF	0.0852***	0.0800***	0.0865***	0.1005***	0.0942***	0.1006***	0.0855***	0.0811***	0.0890***
	(0.0034)	(0.0031)	(0.0031)	(0.0037)	(0.0034)	(0.0033)	(0.0041)	(0.0037)	(0.0036)
Sales Growth	0.7642***	0.6412***	0.4507***	0.9217***	0.8271***	0.6149***	1.0931***	0.7792***	0.5760***
	(0.0171)	(0.0149)	(0.0148)	(0.0189)	(0.0167)	(0.0164)	(0.0225)	(0.0196)	(0.0190)
CAPEX	1.3244***	1.1073***	0.8065***	1.9802***	2.1070***	1.8741***	1.7152***	1.9801***	1.9766***
	(0.0764)	(0.0722)	(0.0724)	(0.0851)	(0.0807)	(0.0803)	(0.0956)	(0.0894)	(0.0885)
Cash	0.6967***	0.6642***	0.6472***	1.0235***	0.9709***	0.9533***	0.7796***	0.7826***	0.7783***
	(0.0253)	(0.0230)	(0.0229)	(0.0275)	(0.0253)	(0.0251)	(0.0324)	(0.0293)	(0.0287)
R&D	-0.7631***	-0.5934***	-0.4575***	-0.0642	0.1214	0.2940***	-1.8504***	-1.6216***	-1.8252***
	(0.0818)	(0.0727)	(0.0718)	(0.0902)	(0.0811)	(0.0795)	(0.1246)	(0.1145)	(0.1102)
Long-term debt	0.8209***	0.8109***	0.8426***	-0.4337***	-0.4349***	-0.3220***	0.2580***	0.2310***	0.3081***
	(0.0247)	(0.0226)	(0.0226)	(0.0282)	(0.0259)	(0.0256)	(0.0304)	(0.0278)	(0.0275)
Short-term debt	-0.4016***	-0.3522***	-0.2809***	-2.3095***	-2.3061***	-2.1326***	-1.0840***	-1.1474***	-1.1032***
	(0.0337)	(0.0298)	(0.0298)	(0.0386)	(0.0348)	(0.0341)	(0.0454)	(0.0400)	(0.0385)
PPE	0.5642***	0.5925***	0.6328***	0.6467***	0.6354***	0.6604***	0.6634***	0.6577***	0.6532***
	(0.0189)	(0.0171)	(0.0171)	(0.0211)	(0.0193)	(0.0191)	(0.0234)	(0.0212)	(0.0207)
Size	0.3381***	0.3251***	0.3278***	0.3260***	0.3141***	0.3171***	0.3336***	0.3192***	0.3295***
	(0.0021)	(0.0019)	(0.0019)	(0.0023)	(0.0021)	(0.0021)	(0.0026)	(0.0024)	(0.0023)
Legal Institutions	0.1939***	0.1601***	0.1959***	0.1930***	0.1560***	0.1949***	0.1210***	0.0583***	0.1049***
	(0.0129)	(0.0125)	(0.0126)	(0.0143)	(0.0139)	(0.0140)	(0.0151)	(0.0144)	(0.0143)
Political Institutions	-0.4197***	-0.3800***	-0.4253***	-0.4531***	-0.4171***	-0.4711***	-0.2077***	-0.1483***	-0.1918***
	(0.0085)	(0.0078)	(0.0079)	(0.0093)	(0.0087)	(0.0087)	(0.0100)	(0.0092)	(0.0091)
Economic Institutions	0.0096	-0.0133**	-0.0107*	-0.0187***	-0.0374***	-0.0305***	0.0294***	0.0125*	0.0113
	(0.0064)	(0.0061)	(0.0062)	(0.0071)	(0.0068)	(0.0068)	(0.0077)	(0.0072)	(0.0071)
Power Distance	-0.0014	-0.0159***	-0.0211***	-0.0477***	-0.0611***	-0.0648***	0.0422***	0.0294***	0.0230***
	(0.0032)	(0.0027)	(0.0027)	(0.0035)	(0.0031)	(0.0031)	(0.0039)	(0.0034)	(0.0033)
Masculinity	-0.0912***	-0.0924***	-0.0979***	-0.0922***	-0.0940***	-0.1003***	-0.0687***	-0.0729***	-0.0751***
	(0.0019)	(0.0017)	(0.0018)	(0.0021)	(0.0019)	(0.0019)	(0.0023)	(0.0021)	(0.0021)
Uncertainty Avoidance	0.2535***	0.2223***	0.2330***	0.2301***	0.1968***	0.2063***	0.2345***	0.2019***	0.2128***
	(0.0032)	(0.0029)	(0.0029)	(0.0034)	(0.0031)	(0.0031)	(0.0037)	(0.0033)	(0.0033)
Catholicism	-0.4307***	-0.3361***	-0.3449***	-0.3436***	-0.2487***	-0.2619***	-0.6035***	-0.5277***	-0.5346***
	(0.0137)	(0.0124)	(0.0125)	(0.0147)	(0.0134)	(0.0134)	(0.0159)	(0.0144)	(0.0141)
GDP Growth	4.9198***	6.8902***	6.1139***	5.5939***	7.3557***	6.3030***	4.3761***	6.3222***	5.7747***
	(0.2256)	(0.1860)	(0.1863)	(0.2463)	(0.2069)	(0.2053)	(0.2579)	(0.2143)	(0.2109)
Inflation	6.5868***	3.8197***	4.3020***	5.9958***	3.3914***	4.0009***	9.1123***	5.9797***	6.3480***
	(0.1751)	(0.1544)	(0.1540)	(0.1887)	(0.1690)	(0.1675)	(0.2104)	(0.1844)	(0.1787)
Constant	7.1597***	7.2804***	7.4031***	7.7185***	7.8677***	8.0037***	2.7323***	2.9269***	2.8574***
	(0.0542)	(0.0491)	(0.0491)	(0.0606)	(0.0555)	(0.0550)	(0.0682)	(0.0620)	(0.0606)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of observations	181,454	162,355	162,355	181,454	162,355	162,355	158,418	143,570	149,241
Adj.R^2	0.855	0.895	0.894	0.822	0.866	0.867	0.806	0.856	0.855

Table 6 Alternative variable definitions

The table presents estimation results of Equation (1) that relate audit fees to *strong-FTR* and firm-specific, institutional, cultural, religion and macroeconomic control variables. All regression models include (but are not reported for brevity) industry- and year-fixed effects. The sample includes 19,099 non-financial, non-utility firms (181,454 firm-year observations) from 33 countries drawn from *Datastream* over the period 1984—2019. Variable definitions are in Appendix A. Robust standard errors reported in parentheses are calculated using the Huber White Sandwich Estimator for the covariance matrix. ***, **, * indicate significance at the one, five, and ten percent levels, respectively, based on robust standard errors.

Dependent Variables	$\log AF_{t+2}$	$\log AF_{t+3}$	$\log AF_{t+4}$	$\log AF_{t+5}$	$\log AF_{t;t+1}$	$\log AF_{t;t+2}$	$\log AF_{t;t+3}$	$\log AF_{t;t+4}$	$\log AF_{t;t+5}$
Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Strong-FTR	-1.2876***	-1.3192***	-1.2829***	-1.3384***	-1.2221***	-1.2467***	-1.2655***	-1.2764***	-1.2923***
	(0.0112)	(0.0118)	(0.0127)	(0.0139)	(0.0107)	(0.0105)	(0.0105)	(0.0104)	(0.0104)
Constant	0.0086	0.4293***	0.7443***	1.2014***	0.0170	-0.1100	-0.0700	-0.0695	-0.0953
	(0.0780)	(0.0846)	(0.0912)	(0.1003)	(0.0756)	(0.0744)	(0.0740)	(0.0738)	(0.0738)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of observations	162,355	143,256	124,157	105,058	162,355	162,355	162,355	162,355	162,355
Adj.R^2	0.655	0.646	0.638	0.636	0.679	0.689	0.694	0.696	0.697

Table 7 Alternative variables, datasets, estimation techniques and subsamples

The table presents estimation results of Equation (1) that relate audit fees to *strong-FTR* and firm-specific, institutional, cultural, religion and macroeconomic control variables. All regression models include (but are not reported for brevity) industry- and year-fixed effects. The regression models include the initial audit fees (Initial audit fees) as an additional control variable. The sample includes 19,099 non-financial, non-utility firms (181,454 firm-year observations) from 33 countries drawn from *Datastream* over the period 1984—2019. Variable definitions are in Appendix A. Robust standard errors reported in parentheses are calculated using the Huber White Sandwich Estimator for the covariance matrix. ***, **, * indicate significance at the one, five, and ten percent levels, respectively, based on robust standard errors.

Panel A: Alternative variables, datasets, estimation techniques and models

	Alternative Variables		Unwinsorised	Trimmed	Initial Audit Fees	Further Controls	Fama-McBerth	Matched - With Replacement	Matched -Without -Replace	Placebo Sample
Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Verb Ratio	-1.8315***									
	(0.0126)									
Sentence Ratio		-1.8318***								
		(0.0126)								
strong-FTR			-1.2860***	-1.2672***	-0.2370***	-1.1713***	-0.9591***	-0.6799***	-1.3018***	-0.0001
			(0.0107)	(0.0109)	(0.0085)	(0.0110)	(0.2426)	(0.0419)	(0.0120)	(0.0075)
Initial audit fees					0.6510***					
					(0.0025)					
PrivateCredit/GDP						0.0849***				
						(0.0174)				
StockMarketCap/GDP						0.1107***				
						(0.0025)				
Constant	-0.1728**	-0.1721**	0.0021	0.1376*	-1.0670***	1.5055***	2.1443*	-3.0663***	0.9535***	-3.5237***
	(0.0729)	(0.0729)	(0.0736)	(0.0765)	(0.0500)	(0.0911)	(1.1305)	(0.2678)	(0.0919)	(0.0710)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of observations	172,804	172,804	181,454	165,355	181,454	181,454	181,454	21,508	123,620	181,454
Adj.R^2	0.673	0.673	0.654	0.640	0.827	0.663		0.757	0.632	0.625

Panel B: Time variations and industry-based sub-samples

Sub-samples	1990s	2000s	2010s	Pre-Crisis	Post-Crisis	IND	Non-IND	CDGS	TTT	OTHERS
Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
strong-FTR	-2.6724***	-1.9340***	-0.8946***	-1.6720***	-1.3490***	-1.5746***	-1.1919***	-1.6243***	-1.1502***	-0.6475***
	(0.0921)	(0.0209)	(0.0145)	(0.0420)	(0.0190)	(0.0200)	(0.0127)	(0.0208)	(0.0283)	(0.0204)
Constant	6.2264***	5.7606***	-1.8294***	10.2295***	-0.9360***	-0.0470	0.0291	1.4473***	0.3770*	-0.6444***
	(0.3135)	(0.1642)	(0.1079)	(0.2339)	(0.1963)	(0.1423)	(0.0860)	(0.1360)	(0.2097)	(0.1384)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of observations	14,837	57,073	108,819	33,793	47,967	49,256	132,198	57,592	30,113	44,493
Adj.R^2	0.759	0.664	0.622	0.691	0.664	0.726	0.636	0.684	0.686	0.583

Table 8 Alternative sub-samples and model specifications

The table presents estimation results of Equation (1) that relate audit fees to *strong-FTR* and firm-specific, institutional, cultural, religion and macroeconomic control variables. All regression models include (but are not reported for brevity) industry- and year-fixed effects. The sample includes 19,099 non-financial, non-utility firms (181,454 firm-year observations) from 33 countries drawn from *Datastream* over the period 1984—2019. Variable definitions are in Appendix A. Robust standard errors reported in parentheses are calculated using the Huber White Sandwich Estimator for the covariance matrix. ***, **, * indicate significance at the one, five, and ten percent levels, respectively, based on robust standard errors.

Panel A: Alternative sub-samples

Sub-samples	Excl.Mult	Excl.Crisis	Excl.USA.Crisis	Excl.USA	Excl.HKG	Excl.JPN	Excl.GBR	Excl.CHN	Excl.SWE	Excl.MYS
Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
strong-FTR	-0.9782***	-1.2847***	-1.2907***	-1.1062***	-1.2116***	-0.4238***	-0.8934***	-1.5185***	-1.1282***	-1.3100***
	(0.0175)	(0.0112)	(0.0107)	(0.0123)	(0.0124)	(0.0113)	(0.0114)	(0.0107)	(0.0108)	(0.0107)
Constant	0.4820***	0.2501***	0.0275	0.2790***	0.1833*	3.5477***	-0.1444**	6.5343***	-0.9704***	-0.3082***
	(0.1202)	(0.0765)	(0.0740)	(0.0796)	(0.0957)	(0.0757)	(0.0735)	(0.1332)	(0.0741)	(0.0722)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of observations	137,913	162,946	177,790	155,659	159,248	161,457	161,602	170,073	172,674	172,804
Adj.R^2	0.709	0.660	0.658	0.653	0.668	0.613	0.594	0.676	0.678	0.660

Panel B: Alternative model specifications

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
strong-FTR	-1.6870***	-1.5146***	-1.4835***	-1.7182***	-1.5419***	-1.4698***	-1.2517***	-1.0920***	-1.3009***	-1.2487***	-1.0989***	-1.2752***
	(0.0119)	(0.0110)	(0.0103)	(0.0119)	(0.0111)	(0.0103)	(0.0112)	(0.0106)	(0.0106)	(0.0113)	(0.0107)	(0.0106)
Constant	8.3745***	5.5176***	2.5642***	8.3881***	5.5997***	2.3198***	8.1856***	4.5883***	0.2564***	8.1844***	4.6759***	0.0075
	(0.0075)	(0.0381)	(0.0717)	(0.0075)	(0.0384)	(0.0719)	(0.0072)	(0.0346)	(0.0731)	(0.0072)	(0.0349)	(0.0738)
Firm-specific controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Institutional quality controls	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Culture controls	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Religion controls	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Macroeconomic controls	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Industry fixed effects	No	No	No	Yes	Yes	Yes	No	No	No	No	No	No
Year fixed effects	No	No	No	No	No	No	Yes	Yes	Yes	No	No	No
Industry-year fixed effects	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes
# of observations	181,454	181,454	181,454	181,454	181,454	181,454	181,454	181,454	181,454	181,454	181,454	181,454
Adj.R^2	0.102	0.279	0.611	0.110	0.287	0.615	0.260	0.414	0.655	0.275	0.423	0.662

Appendix A Variable definitions

The table lists the definitions of all variables used. All firm-level variables are drawn from *Thomson Reuters Datastream*. Data for institutional quality, religion and macroeconomic conditions is drawn from the World Bank (WBC) and academic articles such as Djankov et al. (2003), Djankov et al. (2008), La Porta et al. (1997) and Kunčič (2014). Cultural dimensions are based on Hofstede (2001). FTR strength is drawn from Chen et al. (2017).

Variables	**Definitions**
LogAF	The logarithm of audit fees.
strong-FTR	The dummy for countries with Weak Future Time Reference (FTR) (see Chen et al., 2017).
Verb Ratio	Verb ratio (see Chen et al., 2017).
Sentence Ratio	Sentence ratio (see Chen et al., 2017).
Sales Growth	The change in total sales.
Tobin's q	Market value of equity *plus* total debt to total assets.
Long-term debt	Long-term debt to total assets.
Cash flow	Net income *plus* depreciation to total assets.
Current asset	Current assets to total assets.
Current liabilities	Current liabilities to total assets.
Loss	The dummy for firms reporting a loss and zero otherwise.
PPE	Property, plant and equipment to total assets.
Size	The logarithm of total employees.
R&D	Research and development to total assets.
LogMV	The logarithm of market value of equity *plus* total debt.
LogMVE	The logarithm of market value of equity.
LogPROFIT	The logarithm of net income.
CAPEX	Physical capital expenditure to total assets.
Cash	Cash and cash equivalent to total assets.
Short-term debt	Short-term debt to total assets.
Legal Institutions	A composite index of the quality of a country's legal institutions based on (Kunčič, 2014). This dataset is available from https://sites.google.com/site/aljazkuncic/.
Political Institutions	A composite index of the quality of a country's political institutions based on (Kunčič, 2014). This dataset is available from https://sites.google.com/site/aljazkuncic/.
Economic Institutions	A composite index of the quality of a country's economic institutions based on (Kunčič, 2014). This dataset is available from https://sites.google.com/site/aljazkuncic/.
Power Distance	Hofstede's cultural dimension for power distance (see Hofstede, 2001).
Masculinity	Hofstede's cultural dimension for masculinity (see Hofstede, 2001).
Uncertainty Avoidance	Hofstede's cultural dimension for uncertainty avoidance (see Hofstede, 2001).
Christianity	A dummy variable that takes the value of one if a country has more than majority of the population surveyed identify as Catholics and zero otherwise.
GDP Growth	The growth rate of real GDP.
Inflation	The inflation rate based on the consumer price index (CPI).
PrivateCredit/GDP	Private credit to GDP.
StockMarketCap/GDP	Stock market capitalisation to GDP

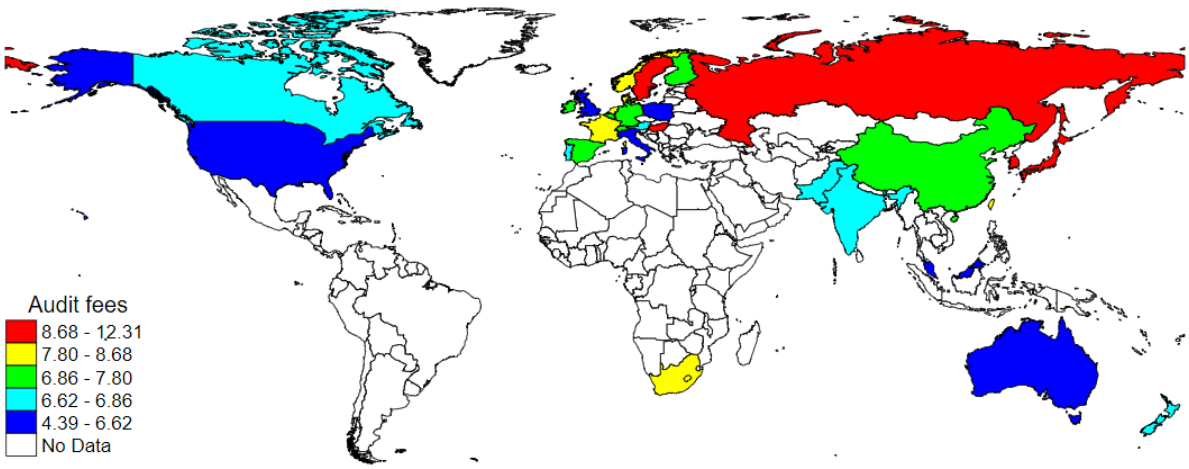
Appendix B Summary statistics by country

The table presents the summary statistics across the countries in the sample. The sample includes 19,099 non-financial, non-utility firms (181,454 firm-year observations) from 33 countries drawn from *Datastream* over the period 1984—2019. Variable definitions are in Appendix A.

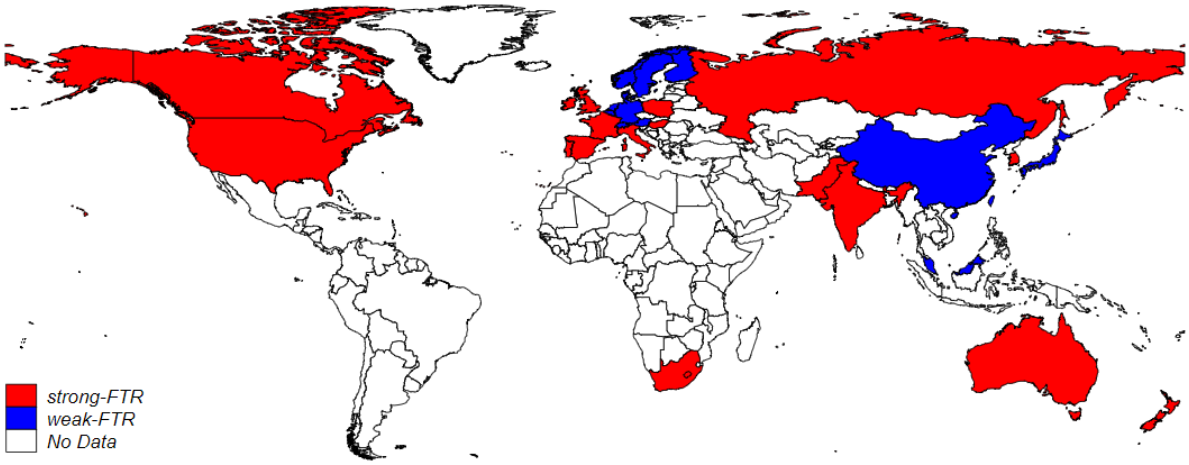
#	Country/Province	N	Firms	logAF	*strong-FTR*	Verb Ratio	Sentence Ratio
(1)	Australia	325	2,945	6.0421	1	0.0088	0.0093
(2)	Austria	74	665	6.7372	0	0.0000	0.0000
(3)	Belgium	106	865	7.3271	0	0.0036	0.0037
(4)	Canada	179	1,320	6.7996	1	0.0077	0.0087
(5)	China	1,646	11,381	7.0236	0	0.0000	0.0000
(6)	Denmark	219	2,825	7.9306	0	0.1000	0.1000
(7)	Finland	160	1,586	7.6197	0	0.0000	0.0000
(8)	France	763	6,773	7.8643	1	0.9580	0.9580
(9)	Germany	733	7,074	7.4120	0	0.0000	0.0000
(10)	Hong Kong	2,140	22,206	8.3408	0	0.0000	0.0000
(11)	Hungary	21	192	10.7312	1	0.2500	0.2500
(12)	India	362	3,146	6.6901	1	0.0097	0.0100
(13)	Ireland	72	1,005	7.5907	1	1.0000	1.0000
(14)	Israel	31	282	8.7986	1	1.0000	1.0000
(15)	Italy	40	291	6.4532	1	0.9000	0.9000
(16)	Japan	2,220	19,997	11.3747	0	0.0000	0.0000
(17)	Korea, Rep.	759	4,890	12.3064	1	0.8220	0.8220
(18)	Malaysia	762	8,650	4.7647	0		
(19)	Netherlands	244	2,493	8.4001	0	0.0000	0.0000
(20)	New Zealand	76	767	6.6446	1	0.0082	0.0100
(21)	Norway	338	3,469	8.6769	0	0.1530	0.1530
(22)	Pakistan	39	313	6.8525	1	0.0072	0.0074
(23)	Poland	72	517	5.7747	1	0.2820	0.2820
(24)	Portugal	37	366	6.8642	1	0.8500	0.8500
(25)	Russia	34	187	10.5240	1	0.7220	0.7220
(26)	Singapore	611	6,371	6.6025	0	0.0088	0.0093
(27)	South Africa	390	4,946	8.4685	1	0.0088	0.0093
(28)	Spain	421	5,152	7.1556	1	0.7160	0.7160
(29)	Sweden	742	8,780	9.6504	0	0.0490	0.0490
(30)	Switzerland	373	4,129	7.8049	0	0.0026	0.0026
(31)	Taiwan	387	2,224	8.3459	0	0.0000	0.0000
(32)	United Kingdom	1,757	19,852	4.3870	1	0.8810	0.8810
(33)	United States	2,966	25,795	6.6182	1	0.7690	0.7690

Online Appendices

Not For Publication



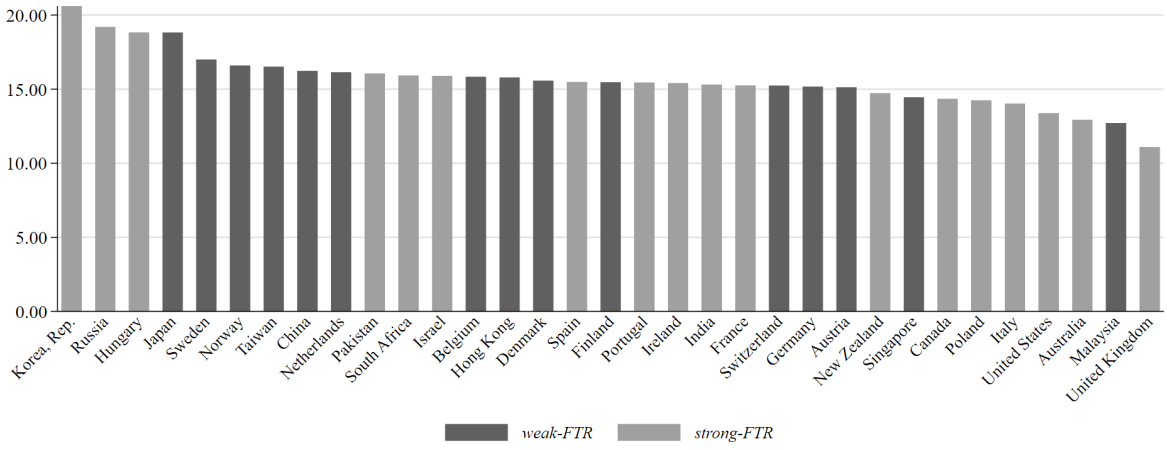
(a) Audit Fees



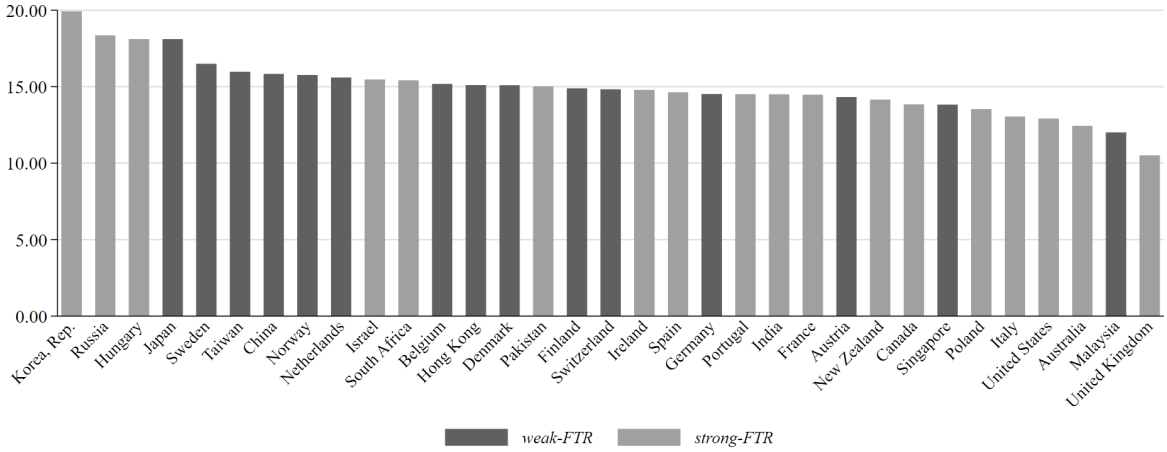
(b) FTR strength

Figure A.1 Cross-country variations in audit fees and FTR strength

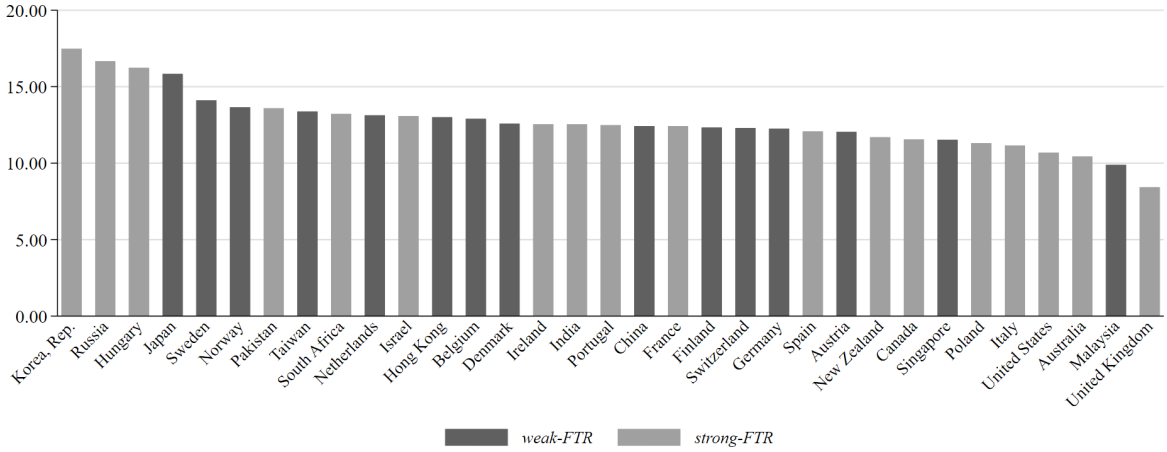
The figure plots the mean audit fees and FTR strength for each country in the sample. The sample includes 19,099 non-financial, non-utility firms (181,454 firm-year observations) from 33 countries drawn from *Datastream* over the period 1984—2019. Variable definitions are in Appendix A.



(a) logMV



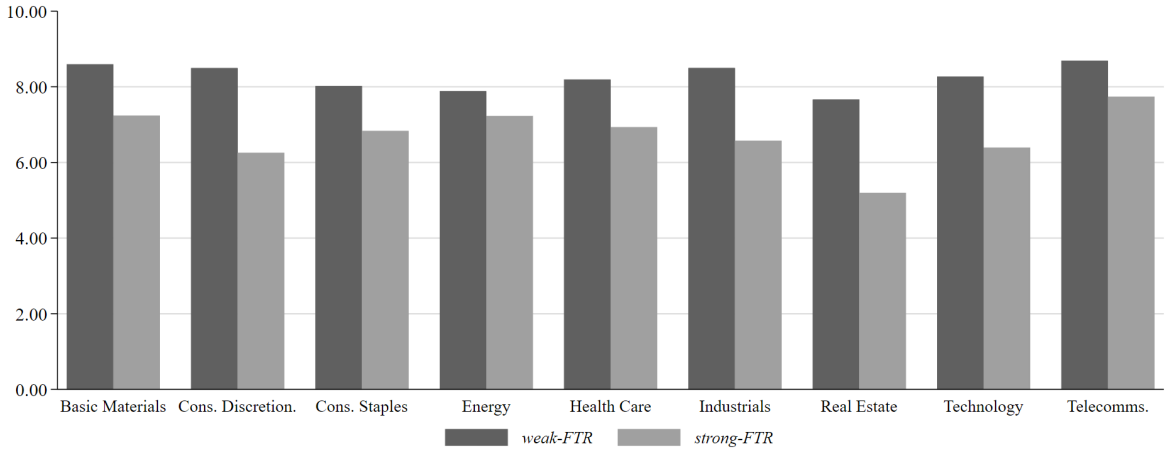
(b) LogMVE



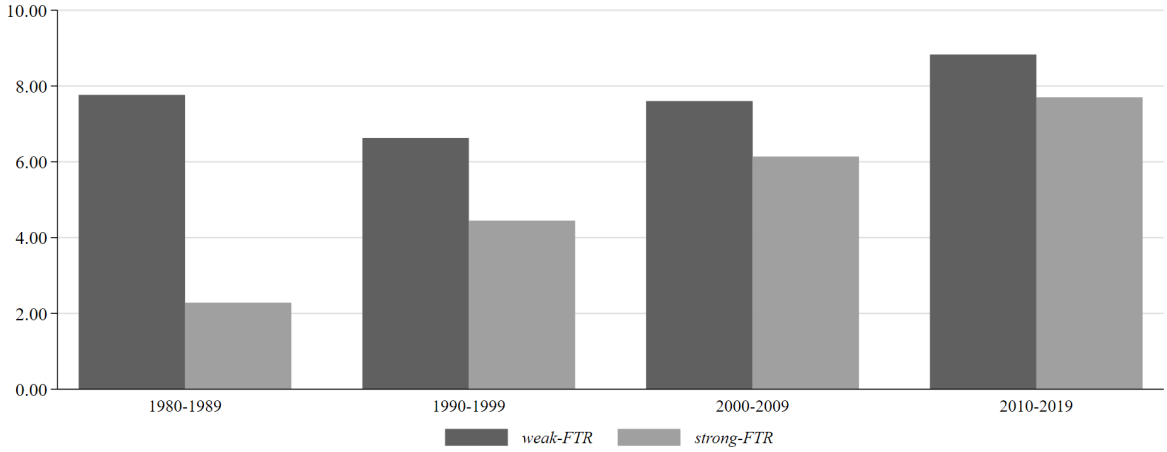
(c) logPROFIT

Figure A.2 Cross-country variations in firm value and firm performance

The figure plots the average firm value and firm performance for each country in the sample, including the classification into *strong-FTR* and *strong-FTR* sub-groups. logMV is the logarithm of the market value *plus* total debt. logMVE is the logarithm of the market value of equity. logPROFIT is the logarithm of the net profit. The sample includes 19,099 non-financial, non-utility firms (181,454 firm-year observations) from 33 countries drawn from *Datastream* over the period 1984—2019. Variable definitions are in Appendix A.



(a) Industrial variations



(b) Times variations

Figure A.3 Industrial and time variations in audit fees

The figure plots the mean audit fees across industries and decades in the sample. The industries are defined based on the Industry Classification Benchmark Sub-Sector Code (ICBSUC) as follows: Basic Materials, Consumer Discretionary (Cons. Discretion.), Consumer Staples (Cons. Staples), Energy, Health Care, Industrials, Real Estate, Technology and Telecommunications (Telecomms.). The decades are defined as follows: the 1990s [1990—1999], 2000s [2001—2009] and 2010s [2010—2019]. The sample includes 19,099 non-financial, non-utility firms (181,454 firm-year observations) from 33 countries drawn from *Datastream* over the period 1984—2019. Variable definitions are in Appendix A.

Appendix A.1 Alternative analyses of the impact of major events on the relationship between *strong-FTR* and audit fees

The table presents estimation results of Equations (2a)—(2c) that relate audit fees to *strong-FTR* and firm-specific, institutional, cultural, religion and macroeconomic control variables around major events. *Post-GFCrisis* is a dummy variable that takes the value of one from 2008 onwards and zero otherwise. *Post-IFRS Adoption* is a dummy variable that takes the value of one from the year when a country adopts IFRS and zero otherwise. *Post-Board Reforms* is a dummy variable that takes the value of one from the year when a country implements mandatory board and non-board reforms and zero otherwise. All regression models include (but are not reported for brevity) industry- and year-fixed effects. The sample includes 19,099 non-financial, non-utility firms (181,454 firm-year observations) from 33 countries drawn from *Datastream* over the period 1984—2019. Variable definitions are in Appendix A. Robust standard errors reported in parentheses are calculated using the Huber White Sandwich Estimator for the covariance matrix. ***, **, * indicate significance at the one, five, and ten percent levels, respectively, based on robust standard errors.

	Global Financial Crisis		IFRS Adoption			Board and Non-Board Reforms				
	Full Sample	Excl.USA	Full Sample	Mandatory	Non-Mandatory	Full Sample	Board.Indep	Audit.Com	CEO.Dul	Non-Board
Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
strong-FTR	-2.0680***	-2.0508***	-2.2234***	-1.1560***	-0.3600	-1.3458***	-1.5133***	-2.6058***	-2.9312***	-1.3764***
	(0.0252)	(0.0293)	(0.0315)	(0.0724)	(0.2449)	(0.0649)	(0.0777)	(0.0960)	(0.2045)	(0.0776)
Post-GFCrisis	0.5393***	0.5597***								
	(0.0197)	(0.0197)								
strong-FTR×Post-GFCrisis	0.3370***	0.5263***								
	(0.0262)	(0.0339)								
Post-IFRS Adoption			0.0012	0.3776***	0.7548***					
			(0.0246)	(0.0346)	(0.0730)					
strong-FTR×Post-IFRS Adoption			0.3138***	0.4476***	-0.0208					
			(0.0400)	(0.0426)	(0.1090)					
Post Board Reforms						-0.7174***	-0.4468***	-0.3099***	0.1576	-0.5747***
						(0.0322)	(0.0339)	(0.0354)	(0.1322)	(0.0521)
strong-FTR×Post Board Reforms						-0.1811***	-0.5253***	-0.4820***	-0.3246**	0.1520**
						(0.0539)	(0.0545)	(0.0595)	(0.1337)	(0.0730)
Constant	3.3859***	3.0994***	6.0177***	8.7836***	0.1733	6.6975***	5.7765***	4.7212***	2.4575*	2.7695***
	(0.1391)	(0.1487)	(0.1942)	(0.3232)	(1.1042)	(0.2005)	(0.2347)	(0.2898)	(1.4598)	(0.3283)
Firm-specific controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Institutional quality controls	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cultural controls	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Religion controls	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Macroeconomic controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of observations	72,376	57,341	49,139	33,361	16,247	37,733	36,480	34,642	19,096	21,612
Adj.R^2	0.652	0.638	0.699	0.660	0.854	0.797	0.811	0.844	0.920	0.854

Appendix A.2 Within-country heterogeneity in the effect of FTR strength on audit fees

The table presents estimation results of Equation (1) that relate audit fees to *strong-FTR* and firm-specific, institutional, cultural, religion and macroeconomic control variables. All regression models include (but are not reported for brevity) industry- and year-fixed effects. The sub-samples are based on terciles. The sample includes 19,099 non-financial, non-utility firms (181,454 firm-year observations) from 33 countries drawn from *Datastream* over the period 1984—2019. Variable definitions are in Appendix A. Robust standard errors reported in parentheses are calculated using the Huber White Sandwich Estimator for the covariance matrix. ***, **, * indicate significance at the one, five, and ten percent levels, respectively, based on robust standard errors.

Panel A:

Proxy	KZ Index		WW Index		Dividend Payout		Cash	
Categorisation	Low	High	Low	High	Low	High	Low	High
Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
strong-FTR	-1.2277***	-1.3699***	-1.3271***	-1.4663***	-1.4337***	-1.1801***	-1.3644***	-1.2118***
	(0.0189)	(0.0190)	(0.0175)	(0.0188)	(0.0179)	(0.0182)	(0.0180)	(0.0195)
Constant	-0.1255	-0.0355	2.2749***	0.6995***	0.0861	-0.4260***	-0.1390	0.1718
	(0.1274)	(0.1332)	(0.1280)	(0.1291)	(0.1199)	(0.1270)	(0.1221)	(0.1320)
Equality Test		4,707.00***		5,942.00***		5,299.00***		4,820.00***
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of observations	58,494	55,753	61,957	59,402	69,639	58,847	61,879	59,136
Adj.R^2	0.639	0.681	0.602	0.667	0.657	0.660	0.673	0.652

Panel B:

Proxy	logSALES		Market Share		Lerner Index		Boone Index	
Categorisation	Low	High	Low	High	Low	High	Low	High
Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
strong-FTR	-1.4599***	-1.3439***	-1.3853***	-1.2021***	-1.4660***	-1.1157***	-1.2343***	-1.2593***
	(0.0185)	(0.0180)	(0.0185)	(0.0187)	(0.0186)	(0.0182)	(0.0166)	(0.0213)
Constant	0.7503***	2.6382***	0.2471**	0.4539***	1.5486***	-1.3628***	-0.4901***	1.1381***
	(0.1250)	(0.1351)	(0.1239)	(0.1314)	(0.1334)	(0.1234)	(0.1088)	(0.1463)
Equality Test		5,876.00***		4,873.00***		4,995.00***		4,512.00***
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of observations	61,887	58,978	62,119	59,051	61,931	59,175	75,170	47,948
Adj.R^2	0.638	0.627	0.658	0.622	0.636	0.677	0.630	0.712

Appendix A.3 Further within-country heterogeneity of the effect of FTR strength on audit fees

The table presents estimation results of Equation (1) that relate audit fees to *strong-FTR* and firm-specific, institutional, cultural, religion and macroeconomic control variables. All regression models include (but are not reported for brevity) industry- and year-fixed effects. The sub-samples are based on quartiles. The sample includes 19,099 non-financial, non-utility firms (181,454 firm-year observations) from 33 countries drawn from *Datastream* over the period 1984—2019. Variable definitions are in Appendix A. Robust standard errors reported in parentheses are calculated using the Huber White Sandwich Estimator for the covariance matrix. ***, **, * indicate significance at the one, five, and ten percent levels, respectively, based on robust standard errors.

Panel A: Financial constraints

Proxy	KZ Index		WW Index		Dividend Payout		Cash	
Categorisation	Low	High	Low	High	Low	High	Low	High
Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
strong-FTR	-0.7479***	-0.9096***	-0.8409***	-1.0102***	-0.9326***	-0.6438***	-0.9462***	-0.6910***
	(0.0196)	(0.0197)	(0.0168)	(0.0196)	(0.0177)	(0.0193)	(0.0181)	(0.0206)
Constant	1.1554***	1.0851***	3.8621***	1.7843***	1.1495***	0.4679***	1.1004***	1.5339***
	(0.1308)	(0.1346)	(0.1258)	(0.1313)	(0.1184)	(0.1324)	(0.1237)	(0.1370)
Equality Test		1,796.00***		2,583.00***		1,942.00***		1,923.00***
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of observations	44,282	41,579	46,977	44,395	58,392	44,110	46,817	44,137
Adj.R^2	0.611	0.673	0.577	0.647	0.642	0.634	0.671	0.632

Panel B: Product market competition

Proxy	logSALES		Market Share		Lerner Index		Boone Index	
Categorisation	Low	High	Low	High	Low	High	Low	High
Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
strong-FTR	-0.9871***	-0.8602***	-0.8657***	-0.6417***	-0.9938***	-0.6081***	-0.7572***	-0.6648***
	(0.0189)	(0.0178)	(0.0187)	(0.0193)	(0.0187)	(0.0188)	(0.0168)	(0.0233)
Constant	1.8983***	4.4393***	1.1030***	1.4929***	2.8083***	-0.1675	0.4473***	1.6957***
	(0.1275)	(0.1328)	(0.1246)	(0.1314)	(0.1364)	(0.1272)	(0.1068)	(0.1512)
Equality Test		2,522.00***		1,627.00***		1,938.00***		1,422.00***
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of observations	46,516	43,898	46,736	43,947	46,835	44,014	59,579	33,745
Adj.R^2	0.619	0.604	0.641	0.603	0.623	0.660	0.604	0.712