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THE INFLUENCE OF COUNTRY CULTURE ON EXTERNAL AUDIT MONITORING

Influência da cultura dos países no monitoramento exercido pela auditoria externa

La influencia de la cultura del país en el seguimiento ejercido por la auditoría externa

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ABSTRACT

This paper verifies whether and how the country's cultural dimensions moderate the relationship between the quality of the audit firm and the level of earnings management. The sample is formed by 88,428 observations from 18,842 companies in 23 countries, covering the period from 2011 to 2018 in an unbalanced panel. The dimensions of national culture were based on the GLOBE project, and the level of earnings management was estimated by Dechow et al. (1995). The results show that national culture influences the monitoring of the largest auditing firms and benefits companies in preparing financial statements. Such results suggest a relationship of audit bias due to cultural aspects, which may compromise the quality of accounting information.
Keywords: Big Four, national culture, audit firms, earnings management, monitoring.

RESUMO

Esta pesquisa teve como objetivo verificar se e como as dimensões culturais do país moderam a relação entre a qualidade da firma de auditoria e o nível de gerenciamento de resultados. A amostra foi composta por 88.428 observações de 18.842 empresas localizadas em 23 países, abrangendo o período de 2011 a 2018 em um painel desbalanceado. As dimensões da cultura nacional foram baseadas no projeto GLOBE, e o nível de gerenciamento de resultados foi estimado conforme Dechow et al. (1995). Os resultados apresentam evidências de que a cultura nacional tem influência no monitoramento exercido pelas maiores firmas de auditoria e conferem benefícios às empresas no que tange à elaboração das demonstrações contábeis. Tais resultados sugerem relação de parcialidade da auditoria em virtude de aspectos culturais, o que pode comprometer a qualidade da informação contábil.
Palavras-chave: *big four, cultura nacional, firmas de auditoria, gerenciamento de resultados, monitoramento.*

RESUMEN

La investigación tuvo como objetivo verificar si y cómo las dimensiones culturales del país moderan la relación entre la calidad de la firma de auditoría y el nivel de gestión de ganancias. La muestra estuvo compuesta por 88.428 observaciones de 18.842 empresas ubicadas en 23 países, abarcando el periodo de 2011 a 2018 en un panel desequilibrado. Las dimensiones de la cultura nacional se basaron en el proyecto GLOBE y el nivel de gestión de resultados se estimó según Dechow et al. (1995). Los resultados presentan evidencia de que la cultura nacional influye en el seguimiento realizado por las mayores firmas auditoras y proporciona beneficios a las empresas en lo que respecta a la preparación de estados financieros. Tales resultados sugieren una relación de sesgo de auditoría debido a aspectos culturales, lo que puede comprometer la calidad de la información contable.
Palabras clave: *cuatro grandes, cultura nacional, firmas de auditoría externa, gestión de resultados, seguimiento.*

INTRODUCTION

The literature presents substantial evidence that independent and higher-quality audits offer companies enhanced monitoring, contributing to various benefits, including reduced risk, better investment choices, greater credit access, and lower debt cost (Ghoul et al., 2016). These benefits are justified as the external monitoring by auditing firms increases the credibility of the financial statements of audited companies and helps reduce discretionary accounting choices used to manage earnings (Ding et al., 2022; Friedrich et al., 2023; Han et al., 2010).

In parallel, other evidence indicates that certain factors, such as financial incentives for auditors, the provision of non-audit services, longer tenure of the audit firm (Nelson et al., 2002), and aspects related to the company's ethical culture (Svanberg & Öhman, 2016), can compromise auditor independence and diminish the quality of monitoring performed by audit firms. Therefore, this research contributes to the literature by examining whether cultural differences moderate the relationship between the quality of the audit firm and the level of earnings management.

Several studies indicate that agents' behavior is influenced by the culture of the country in which they operate (Doupnik & Richter, 2004; Han et al., 2010; Ugrin et al., 2017), impacting the psychological factors linked to the decision-making process (Aren & Hamamci, 2023). Since auditors are also agents whose behavior is sensitive to psychological factors (Bik & Hooghiemstra, 2017), cultural differences may affect the level of monitoring performed by auditors, even if they are branches of the same firm but located in different countries (and thus subject to different cultures).

Culture can be defined as the collective programming of the mind that distinguishes members of different groups (Hofstede et al., 1991), influencing individuals' preferences, justifications, perceptions, and judgments (Lewellyn & Bao, 2017). The impact of culture on interpretations and judgments extends to the understanding of texts and rules (Doupnik & Richter, 2004). Consequently, culture can affect the interpretations of verbal probability terms systematically used in international accounting standards (Doupnik & Richter, 2004) and influence the interpretation of probability expressions in the International Financial Reporting Standards (IFRS), potentially leading to differences in execution procedures (Toumi et al., 2022).

In this context, cultural factors may influence external auditors' decisions to the extent that, although their work is technical, it requires judgment in interpreting accounting standards (Acar, 2023). Consequently, culture can impact auditors' behavior and the development of audit services while applying concepts and standards, thereby affecting the level of external monitoring and the quality of audits (Chen & Zhang, 2023). This, in turn, may influence the extent of companies' earnings management (Han et al., 2010; Lewellyn & Bao, 2017; Ugrin et al., 2017; Viana et al., 2021).

This research studies how cultural dimensions moderate the relationship between the quality of audit firms and the level of earnings management, examining data from 18,842 companies

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in 23 countries (11 developed economies and 12 emerging economies) for the period from 2011 to 2018. Accounting and auditing firm data were sourced from Thomson Reuters Eikon®, while the variables measuring national cultural dimensions were based on the GLOBE project, following the study by House et al. (2004). The results were analyzed using multivariate analysis techniques, with models tested via multiple regression analysis, incorporating fixed effects for sector and year.

The findings indicate that in countries with greater aversion to uncertainty and higher assertiveness, the Big Four audit firms enhance monitoring and contribute to a reduction in companies' earnings management. Conversely, in countries with higher levels of institutional collectivism, group collectivism, development orientation, future orientation, and human orientation, the Big Four reduce monitoring, leading to an increase in earnings management. Overall, the evidence suggests that national culture influences the monitoring performed by the largest auditing firms and affects companies' financial statement preparation, indicating a partial relationship between auditing practices and cultural aspects.

This research extends previous studies that focused on the effect of cultural aspects on agents' judgment, particularly managers' behavior (Doupnik & Richter, 2004; Han et al., 2010; Ugrin et al., 2017), by investigating the influence of national cultural dimensions on auditors' decision-making. We demonstrate that the same audit firms (Big Four) can exhibit varying monitoring levels depending on the country in which they operate, where reduced monitoring may facilitate increased earnings management and potentially compromise the quality of accounting information.

Furthermore, the results raise significant practical considerations, highlighting the need to understand how auditors' cultural differences, personality traits, and psychological factors influence normative processes and audit reports. As auditors are agents whose behavior is sensitive to psychological and cultural influences, regulatory bodies are now addressing and discussing critical issues related to the individual assessment of auditors.

THEORETICAL FRAMEWORK

Quality of the audit firm and the level of earnings management

Individual factors influence managers in achieving their goals, as do aspects of the external environment, including a country's legal and regulatory conditions (Han et al., 2010; Leuz et al., 2003). Consequently, managers often exercise their power to make judgments and decisions in handling accounting information (Han et al., 2010). This practice, known as earnings management, reflects the managers' discretion level and willingness to use such discretion when preparing financial statements (Dechow & Skinner, 2000).

In this context, an external audit serves as the primary agent responsible for detecting incorrect accounting procedures, playing a crucial role as an external monitor for the

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market (Kania & Fitriany, 2019). Auditors employ control and risk procedures, financial and performance indicators, trend analysis, and operating cash flow assessments. They also rely on professional judgment and skepticism to critically evaluate managerial opportunism and identify inappropriate accounting practices (Chowdhury & Eliwa, 2021). Additionally, Big Four auditors tend to recruit clients with higher quality gains who are more conservative (Chen et al., 2022).

Research has shown that high-quality audit firms are better equipped to mitigate the accounting choices made by managers by leveraging the auditor's sector specialization, audit firm rotation, audit fees, and, primarily, the size of the audit firm, as indicated by classification among the Big Four, as measures of audit quality (Ding et al., 2022; Friedrich et al., 2023; Kharuddin et al., 2021; Kyriakou & Tsoktouridou, 2021).

Companies that hire Big Four auditing firms typically experience better audit and profit quality (Francis & Wang, 2008; Jain & Agarwalla, 2022) and are less likely to engage in earnings management through accruals and real activities (Choi et al., 2018; Debnath et al., 2022; Dee et al., 2021; Kharuddin et al., 2021; Viana et al., 2022). However, auditor monitoring may be influenced by external factors, particularly related to the country where their clients are located (Choi et al., 2018; Francis & Wang, 2008). Therefore, the country's cultural factors are expected to influence the monitoring conducted by large auditing firms.

Cultural dimensions and their influence on managers' and auditors' behavior

Culture can be defined as the collective programming of the mind that distinguishes members of different groups (Hofstede et al., 1991). It influences individuals' preferences and justifications, playing a significant role in managerial perceptions regarding ethical decisions and the level of discretion managers can exercise within organizations (Lewellyn & Bao, 2017). This, in turn, impacts the extent of companies' earnings management (Han et al., 2010; Lewellyn & Bao, 2017; Ugrin et al., 2017; Viana et al., 2021).

Cultural dimensions influence managers' decisions and affect independent auditors' interpretations of financial statements (Chen & Zhang, 2023). In this context, culture can impact the interpretations and execution mechanisms of audit firms (Karaibrahimoglu & Cangarli, 2016) and the likelihood of hiring external audit services (Diallo, 2021), thus affecting accounting and auditing practices (Khlif, 2016).

As a result, national culture can influence the interpretation of probability terms used in IFRS and the understanding of accounting standards (Acar, 2023; Chen & Zhang, 2023; Doupnik & Richter, 2004). This affects auditors' behavior (Bik & Hooghiemstra, 2017) and the development of audit services, ultimately impacting audit quality (Acar, 2023; Chen & Zhang, 2023; Khlif, 2016). The hypotheses developed in the next subsection seek to explore these relationships.

Development of hypotheses

Power Distance

In cultures with greater power distance, powerful individuals are privileged, and other members of society may overlook their rule violations (House et al., 2004; Lewellyn & Bao, 2017). Consequently, in such environments, the monitoring carried out by audit firms can be influenced to benefit the majority shareholders (Blodgett et al., 2001).

Furthermore, managers of companies in countries with high levels of power distance are more likely to engage in earnings management (Chaney et al., 2021; Viana et al., 2022). This occurs because audit deficiencies tend to be smaller, and the involvement of responsible auditors in audit quality is greater in countries with lower power distance (Bik & Hooghiemstra, 2017; Knowles & Paredes, 2023). Therefore, it is expected that auditors in countries with greater power distance will provide lower-quality audit services, leading to the first research hypothesis:

> H1: Companies audited by the Big Four in countries with greater power distance present a higher level of earnings management.

Uncertainty aversion

Uncertainty aversion refers to the degree to which members of a society feel uncomfortable with uncertainty and ambiguity (Hofstede, 2001). In societies with greater uncertainty aversion, people tend to be more emotional, intolerant, and less accepting of personal risk (House et al., 2004; Karaibrahimoglu & Cangarli, 2016).

In this context, managers of companies in countries with high uncertainty aversion are less likely to make aggressive accounting choices (Viana et al., 2021). Additionally, auditors in these countries tend to be more involved in ensuring audit quality, and audit firms are less likely to have deficiencies (Bik & Hooghiemstra, 2017; Knowles & Paredes, 2023). Therefore, it is expected that in countries with greater uncertainty aversion, audit firms will provide higher-quality services, leading to the second research hypothesis:

> H2: Companies audited by the Big Four in countries with greater uncertainty aversion have a lower level of earnings management.

Institutional collectivism

In collectivist societies, group goals take precedence over individual achievements, and people's actions are oriented toward what is best for the group through sharing and cooperation (Alas,

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2006; Parboteeah et al., 2005). Consequently, there is less involvement of the responsible auditor in audit quality in countries with higher levels of collectivism (Bik & Hooghiemstra, 2017).

Therefore, it is believed that auditors in countries with higher levels of institutional collectivism are more likely to prioritize compliance with audit objectives and standards for the benefit of the institution, potentially reducing the quality of the audit (Lewellyn & Bao, 2017). This leads to the third research hypothesis:

> H3: Companies audited by the Big Four in countries with higher levels of institutional collectivism have a higher level of earnings management.

Group collectivism

Group collectivism refers to the degree to which individuals express pride, loyalty, and cohesion within their immediate groups, such as family and work teams (House et al., 2004). In such societies, the institution also safeguards the interests of individuals but expects unquestioning loyalty in return. Consequently, in environments with high group collectivism, individuals tend to perceive themselves as reliant on the groups they belong to rather than making independent judgments (Karaibrahimoglu & Cangarli, 2016).

Therefore, individuals residing in societies with higher levels of group collectivism are more likely to partially interpret the legal system, auditing, and accounting standards when making ethical decisions to protect the interests of their groups (Karaibrahimoglu & Cangarli, 2016). Additionally, the involvement of auditors responsible for audit quality tends to be lower in countries with greater collectivism (Bik & Hooghiemstra, 2017), leading to the fourth research hypothesis:

> H4: Companies audited by the Big Four in countries with higher group collectivism have a higher level of earnings management.

Development orientation

Developmental orientation refers to the degree to which high performance is encouraged and rewarded (House et al., 2004). Societies with a high-performance orientation consist of individuals who believe they control their own destiny and value reward policies and professional success (Karaibrahimoglu & Cangarli, 2016).

Conversely, cultures with less developmental orientation tend to be more consensus-oriented, placing greater importance on general well-being (House et al., 2004). Thus, in societies oriented toward high development, managers are more inclined to interpret auditing standards liberally to present financial information in a manner that reflects high performance, leveraging

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the flexibility allowed within the standards (House et al., 2004). Consequently, it is expected that in societies oriented toward high development, auditors may be influenced by managers to the extent that it impacts the quality of services (Lawrence et al., 2011), leading to the fifth research hypothesis:

> H5: Companies audited by the Big Four in countries with greater developmental orientation presemt a higher level of earnings management.

Future orientation

In societies with greater future orientation, individuals focus on long-term planning and investment, exhibiting greater flexibility and adaptability (House et al., 2004), albeit potentially weaker ethical behavior (Alas, 2006).

Consequently, individuals in such societies may be more inclined to interpret legal frameworks and accounting standards when preparing financial statements (Karaibrahimoglu & Cangarli, 2016). Additionally, audit firms may delay their services in countries with a stronger long-term orientation (Toumi et al., 2022), which can lead to a higher level of earnings management in companies delaying the release of audited reports (Singh et al., 2022). Given these dynamics, it is anticipated that in societies with a greater orientation toward the future, auditors may be influenced by managerial decisions, leading to the sixth research hypothesis:

> H6: Companies audited by the Big Four in countries with a stronger orientation toward the future present a higher level of earnings management.

Human orientation

In societies characterized by high human orientation, people prioritize the interests of others (House et al., 2004). Conversely, in societies with low human orientation, individuals focus more on their own interests, comfort, and pleasure (House et al., 2004). Research indicates that audit deficiencies are smaller, and skepticism and auditor professionalism are greater in countries with cultures of greater individualism (Endrawes et al., 2023; Knowles & Paredes, 2023). Therefore, auditors are expected to exhibit less individualism in societies with higher human orientation (Nelson et al., 2002; Parboteeah et al., 2005), leading to the formulation of the seventh research hypothesis:

> H7: Companies audited by the Big Four in countries with higher human orientation have a higher level of earnings management.

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Assertiveness

In societies characterized by high assertiveness, the admiration of the strongest members, the value placed on competition, and the direct and aggressive nature of relationships are prominent (House et al., 2004). Moreover, individuals in such societies are more inclined to utilize regulations, such as auditing and accounting standards, to benefit themselves or the more powerful members of society, showing less concern for protecting weaker members (Karaibrahimoglu & Cangarli, 2016). Therefore, in societies with a higher level of assertiveness, auditors are expected to adhere strictly to regulations when performing services, leading to the formulation of the eighth and final research hypothesis:

> H8: Companies audited by the Big Four in countries with higher assertiveness present a lower level of earnings management.

METHODOLOGY

Research sample

The sample data were obtained from three sources: i) Thomson Reuters Eikon® provided company-level variables; ii) The GLOBE Project supplied national culture variables; and iii) the International Monetary Fund (IMF) delineated developed and emerging countries. Table 1 encapsulates the selection and treatment process of the sample extracted from Thomson Reuters Eikon®, spanning the period from 2011 to 2018 to mitigate the effects of the COVID-19 pandemic.

Table 1. Sample Treatment Process

Treatment process (in number of observations)	Exclusion	Subtotal
Number of observations in Thomson Reuters Eikon®		199,765
Exclusions:		
Companies in the financial sector	-2,531	197,234
Companies without sector information	-30,076	167,158
Companies from excluded countries	-240	166,918
Companies with missing data	-78,490	88,428
Total observations		**88,428**

Note: This table presents the process of processing observations collected in the Thomson Reuters Eikon database, demonstrating the number of observations excluded at each stage.

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The sample comprises 18,842 companies listed across 23 countries, with 11 nations classified as developed economies and 12 as emerging economies, as per the IMF's categorization. Canadian firms were excluded from the sample due to significantly disparate accruals compared to others, while Venezuelan companies were omitted due to a dearth of observations. Additionally, other companies were excluded due to missing data, rendering their information insufficient for calculating discretionary accruals.

Table 2. Number of Observations by Country

Country	Quantity	Percentage	Country	Quantity	Percentage
Colombia	122	0.10%	Indonesia	2,236	2.50%
Argentina	159	0.20%	Germany	2,689	3.00%
Mexico	327	0.40%	France	2,850	3.20%
Finland	546	0.60%	Thailand	3,061	3.50%
Philippines	815	0.90%	Singapore	3,097	3.50%
Italy	900	1.00%	Australia	4,576	5.20%
Brazil	1,016	1.10%	Malaysia	4,655	5.30%
Turkey	1,171	1.30%	UK	4,903	5.50%
Israel	1,225	1.40%	USA	14,137	16.00%
Sweden	1,875	2.10%	India	15,043	17.00%
Russia	2,173	2.50%	China	18,653	21.10%
Poland	2,199	2.50%	**Total**	**88.428**	**100.00%**

Note: This table presents the number of observations per country and their participation in the sample as a percentage.

Table 2 delineates the number of observations by country, illustrating that although Europe boasts more represented countries in the sample, China, the USA, and India contribute the highest percentages in terms of observations. Despite Brazil being the Latin American country with the most significant participation in the sample, it ranks only 17th in the number of observations, representing approximately 1.1% of the total.

National culture

The cultural dimensions of the GLOBE Project, developed by House et al. (2004), were employed to assess the cultural levels of the countries, encompassing power distance, uncertainty aversion,

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gender egalitarianism, institutional collectivism, group collectivism, development orientation, future orientation, human orientation, and assertiveness. These cultural levels are determined by scores ranging from 1 to 7 – the higher the score, the more pronounced the cultural characteristic in the country (House et al., 2004). Notably, the dimension of gender egalitarianism was excluded from this study due to its limited usage in the literature (Karaibrahimoglu & Cangarli, 2016).

The GLOBE Project stands as a prominent global leadership and organizational behavior effectiveness research initiative that delves into the impact of culture on leadership behavior (House et al., 2004). Regarded as more recent and comprehensive, it boasts a methodology of greater validity and reliability compared to the study conducted by Hofstede (2001) (Karaibrahimoglu & Cangarli, 2016).

Empirical design

Equation (1) was employed to assess the research hypotheses using the multiple linear regression technique, incorporating robust standard errors and unbalanced panel data within the ordinary least squares method while controlling for the fixed effects of year and sector (Acar, 2023).

$$|DA|_{it} = \beta_0 + \beta_1 Big\ Four_{it} + \beta_2 Culture^{j}_{it} + \beta_3 (Big\ Four * Culture)_{it} + \beta_4 Size_{it} + \beta_5 ROA_{it} + \beta_6 Indebtedness_{it} + \beta_7 Developed_{it} + \beta_8 IFRS_{it} + \beta_9 Fixed\ effect\ year_{it} + \beta_{10} Fixed\ effect\ sector_{it} + \varepsilon_{it} \quad (1)$$

Where $|DA|_{it}$ represents the variable quantifying the level of earnings management estimated by discretionary accruals (DA) for companies *i* in year *t*, as per the metric proposed by Dechow et al. (1995).$Big\ Four_{it}$ is a dummy variable assigned a value of 1 for companies *i* that contracted one of the four largest audit firms – Ernst & Young Terco (EY), Deloitte Touche Tohmatsu (DTT), KPMG, or PricewaterhouseCoopers (PwC) – for audit services in year *t*, and 0 otherwise.

The variable $Culture^{j}_{it}$ is a dummy variable created based on the sample median of each cultural dimension from the GLOBE Project. To construct the dummy variable, countries *j* with a score equal to or higher than the median of the observations for each cultural dimension were assigned a value of 1, while countries *j* with a score below the median were assigned a value of 0.

The variable $(Big\ Four * Culture)_{it}$ represents the focal variable of interest in the research, depicting the interaction between the variables $Big\ Four_{it}$ and $Culture^{j}_{it}$. Its purpose is to discern the moderating effect of national culture on the monitoring conducted by audit firms (Big Four) on the level of earnings management.

According to Equation (1), the coefficient β_1 gauges the increase or decrease in the level of earnings management influenced by Big Four firms. Thus, the hypothesis analysis

will center on the coefficients β_1 and β_3 in two ways. Firstly, it is expected that coefficients β_1 and β_3 are negative and statistically significant, with the coefficient β_3, contingent upon each cultural dimension, exhibiting an absolute value either smaller or greater than the coefficient β_1 . This suggests that cultural dimensions moderate the effects of audit firm quality on the level of discretionary accruals.

Alternatively, a negative and statistically significant coefficient β_1 and a positive and statistically significant coefficient β_3 may suggest that auditors operating within different cultural contexts curtail the level of financial statement monitoring, resulting in a heightened level of earnings management.

Control variables

The variables $Size_{it}$, ROA_{it} were utilized to control the tests at the company level. $Size_{it}$ was measured by the natural logarithm of total assets, owing to studies demonstrating either a positive or negative association with the level of earnings management (Acar, 2023; Ugrin et al., 2017; Viana et al., 2022). Meanwhile, ROA_{it}, calculated by dividing net profit by total assets, was employed due to the potential correlation between a company's performance and earnings management (Acar, 2023; Ugrin et al., 2017; Viana et al., 2022).

The variable $Inebtedness_{it}$, computed as the ratio between total liabilities and net equity, was chosen because companies that frequently leverage debt for capital-raising purposes tend to engage in opportunistic profit management (Acar, 2023; Han et al., 2010; Viana et al., 2022).

At the country level, control variables $Developed_{it}$ and $IFRS_{it}$ were employed. The first is a dummy variable identifying developed and emerging countries, assigning a value of 1 to developed countries and 0 otherwise. This variable was included due to prior research revealing disparities in earnings management among companies in developed and emerging nations (Viana et al., 2021).

Lastly, the variable $IFRS_{it}$ is a dummy variable for countries that have adopted international accounting standards. Studies indicate a lower prevalence of discretionary accruals in companies situated in countries that have adopted IFRS (Acar, 2023; Ugrin et al., 2017; Viana et al., 2022). Continuous variables were winsorized at 1% in each tail to mitigate the influence of outliers on the results.

RESULTS AND DISCUSSION

Descriptive statistics

Level of earnings management

Table 3 presents descriptive statistics by country for the dependent variable modulated discretionary accruals.

Table 3. Descriptive Statistics of the Modulated Discretionary Accruals Variable

Country	Number of observations	Standard deviation	Mínimum	Mean	Maximo
Germany	2,689	0.2688	0.0007	0.3151	1.6060
Argentina	159	0.2488	0.0037	0.2948	1.2080
Australia	4,576	1.1721	0.0100	0.5543	12.8873
Brazil	1,016	0.1359	0.0029	0.2518	0.8292
China	18,653	0.2338	0.0000	0.3434	1.5201
Singapore	3,097	0.2903	0.0006	0.3148	1.6581
Colombia	122	0.1195	0.0021	0.2319	0.5590
USA	14,137	0.9125	0.0057	0.5267	7.0137
Philippines	815	0.2950	0.0007	0.3212	4.2638
Finland	546	0.2374	0.0006	0.2930	1.3942
France	2,850	0.1750	0.0002	0.2507	0.8707
India	15,043	0.8668	0.0001	0.4528	8.1423
Indonesia	2,236	0.3492	0.0002	0.3447	2.0589
Israel	1,225	0.2686	0.0002	0.3001	2.9844
Italy	900	0.1471	0.0005	0.2404	0.7877
Malaysia	4,655	0.2152	0.0000	0.2639	1.3399
Mexico	327	0.1596	0.0038	0.2921	0.8782
Poland	2,199	1.4597	0.0008	0.6125	14.7575
UK	4,903	0.5017	0.0000	0.3640	5.3462
Russia	2,173	0.2898	0.0004	0.3475	1.5868
Sweden	1,875	1.0004	0.0002	0.5673	7.6571
Thailand	3,061	0.2745	0.0000	0.3101	1.5329
Turkey	1,171	0.2292	0.0001	0.2908	1.1768
Total/Mean	88,428	0.4283	0.0015	0.3515	3.5678

Note: This table presents the descriptive statistics of the modulated discretionary accruals, accumulated by country, of the companies included in the sample.

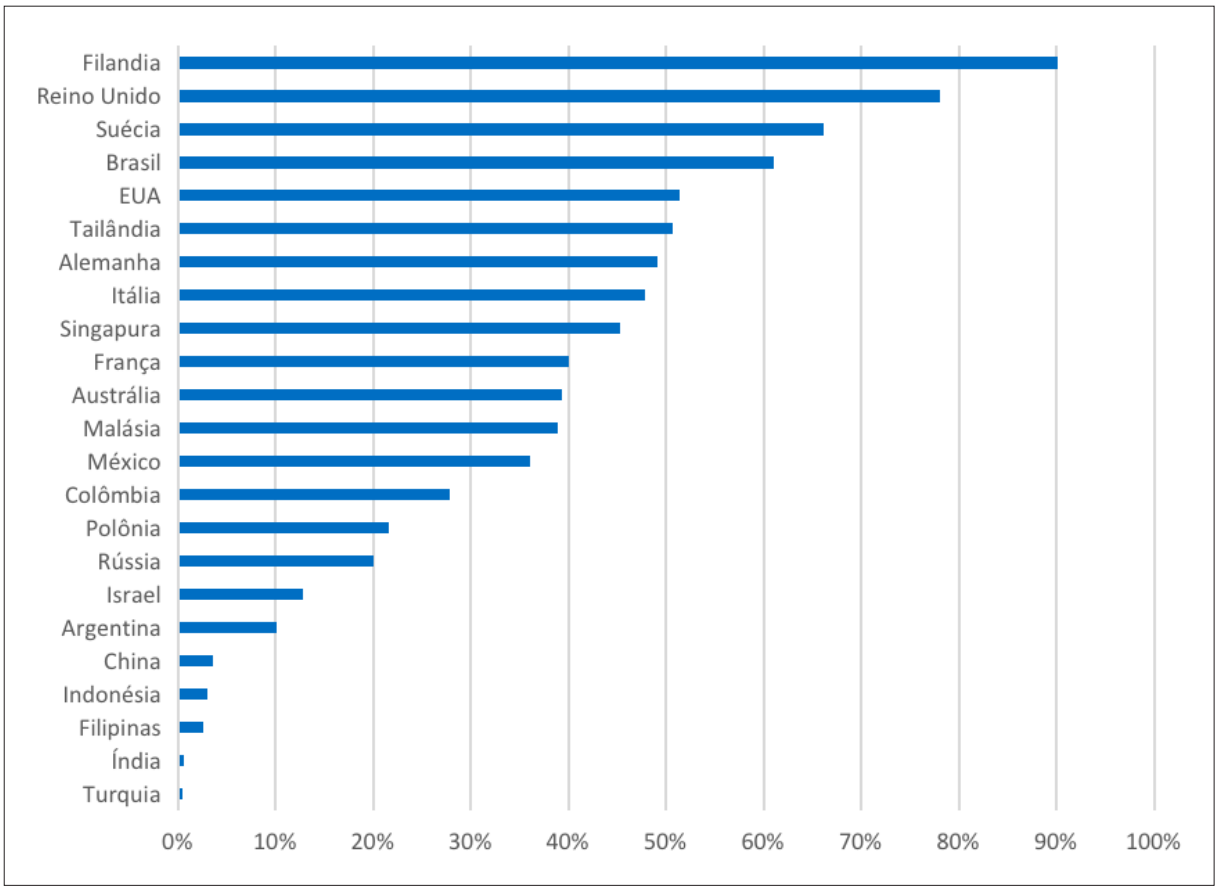
Based on Table 3, the average level of modulated discretionary accruals among the sample companies was 0.3515. Notably, companies in Poland, Sweden, Australia, and the USA stood out, exhibiting average accruals exceeding 0.5. These findings align with those of Kharuddin et al. (2021).

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Big Four

Figure 1 shows the percentages of companies audited by one of the Big Four, separated by country.

Figure 1. Percentage of Companies Audited by Big Four by Country



Note: This figure shows the percentage, by country, of companies in the sample that contracted the auditing services of one of the Big Four (Ernst & Young Terco, Deloitte Touche Tohmatsu, KPMG, or PricewaterhouseCoopers).

Figure 1 shoes that the countries with the highest percentage of companies audited by the Big Four are Finland (90%), Sweden (66%), and Brazil (61%), while the countries with the lowest percentage are the Philippines (2.6%), India (0.2%), and Turkey (0.2%).

Analysis of regression results

Table 4 displays the results of the linear regressions estimated for the eight cultural dimensions, as outlined in Equation (1). Firstly, it is noteworthy that the F-statistics results indicate the validity of all models at a significance level of 1%, with an explanatory power of approximately 12.7% in explaining the variation in discretionary accruals.

Table 4. Results of the Regressions using the Model by Dechow et al. (1995)

Dependent variable: Modulated discritionary accruals estimated using the model by Dechow et al. (1995)								
Independent variables	**Power distance (H1)**	**Uncertainty aversion (H2)**	**Institutional Collectivism (H3)**	**Group Collectivism (H4)**	**Development Orientation (H5)**	**Future Orientation (H6)**	**Human Orientation (H7)**	**Assertiveness (H8)**
Big Four	-0.0262***	-0.0176***	-0.0247***	-0.00489	-0.00381	0.00319	-0.0377***	0.0101*
Culture	0.0717***	-0.0224***	-0.151***	0.0141**	0.0307***	0.0523***	-0.0712***	-0.123***
Big Four * Culture	-0.0341***	-0.0369***	0.0677***	0.0167**	0.0146*	0.0268***	0.0681***	-0.0274***
Size	-0.0686***	-0.0669***	-0.0646***	-0.0654***	-0.0648***	-0.0684***	-0.0660***	-0.0667***
ROA	-0.701***	-0.7050***	-0.688***	-0.704***	-0.703***	-0.703***	-0.712***	-0.698***
Indebtedness	0.00545***	0.0038**	0.00369**	0.00338**	0.00247	0.00474***	0.00295*	0.00286*
Developed	0.0116*	-0.0271***	-0.0598***	0.0159***	0.0227***	0.0269***	0.0612***	-0.0550***
IFRS	-0.0217**	-0.0576***	-0.0820***	-0.0615***	-0.0518***	-0.0842***	-0.0473***	-0.114***
Constant	1.677***	1.6799***	1.782***	1.657***	1.637***	1.748***	1.685***	1.801***
Observations	88,428	88,428	88,428	88,428	88,428	88,428	88,428	88,428
R^2	12.7%	12.6%	13.0%	12.6%	12.6%	12.7%	12.7%	12.8%
Fixed effect year/sector	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F Statistics	113.6	116.38	120.3	115.3	114.6	119.5	114.6	114.4
Average VIF	1.74	1.55	1.69	1.83	1.64	1.71	2.14	1.74

Note: The table shows the moderating effect of each cultural dimension on the Big Four in relation to the modulated discretionary accruals estimated using the model by Dechow et al. (1995). The Big Four variable is a dummy that identifies with 1 the companies audited by the firms Ernst & Young Terco, Deloitte Touche Tohmatsu, KPMG, or PricewaterhouseCoopers, and 0 otherwise. The Culture variable is a dummy based on the sample median of each cultural dimension of the GLOBE Project. The Big Four * Culture variable represented the interaction between the variables Big Four and Culture. The variable Size represents the natural logarithm of total assets. The ROA variable represents the division of net profit by total assets. The Indebtedness variable represents the ratio between total liabilities and net equity. The Developed variable is a dummy that identifies developed countries with 1 and emerging countries with 0. The IFRS variable is a dummy that identifies the countries that have adopted the international standardization of accounting standards with 1 and 0 otherwise. The symbols ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

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The table shows that the coefficient of the Big Four variable was negative in six of the eight regressions, with the coefficients of hypotheses H1, H2, H3, and H7 being statistically significant. This illustrates that the quality of the audit firm, measured by the firm's size, can mitigate managers' discretionary choices, leading to a decreased level of earnings management, as indicated in the literature (Debnath et al., 2022; Dee et al., 2021; Kharuddin et al., 2021; Viana et al., 2022).

The Culture variable was statistically significant at the 1% level in seven of the eight regressions. In these regressions, the cultural dimensions of power distance, group collectivism, development orientation, and future orientation were positive in relation to discretionary accruals, while the dimensions of uncertainty aversion, institutional collectivism, human orientation, and assertiveness were negative. This suggests the influence of national culture on the level of companies' earnings management (Acar, 2023; Han et al., 2010; Lewellyn & Bao, 2017; Ugrin et al., 2017; Viana et al., 2022).

Moreover, these findings are consistent with the conclusions drawn by Chaney et al. (2021) and Viana et al. (2022), who demonstrated that managers of companies located in countries with high levels of power distance are more inclined to engage in earnings management, while those in countries with a high level of uncertainty aversion are less inclined to make accounting choices.

The coefficient of the Big Four * Culture variable (variable of interest of the research) was significant in all eight regressions, being positive or negative depending on each cultural dimension. Notably, the coefficient for the power distance dimension of hypothesis H1 was negative, contrary to our expectations, indicating that companies situated in societies with a high level of power distance and audited by the Big Four experience a reduced level of earnings management.

This result can be justified through a signaling mechanism. In cultures characterized by higher power distance, powerful individuals enjoy privileges, and other members of society may turn a blind eye to their rule violations (Lewellyn & Bao, 2017; House et al., 2004). The reduction in earnings management levels by companies audited by the Big Four within countries with greater power distance may signal impartiality by auditing firms. This mechanism emphasizes the notion that the oversight conducted by major audit firms is not geared toward favoring majority shareholders (Blodgett et al., 2001).

Therefore, the impartiality of auditors' behavior in cultures with higher power distance may correlate with fraud risk, given that managers of companies in such environments are more inclined to engage in results management (Chaney et al., 2021; Viana et al., 2022). Increased earnings management heightens the likelihood of fraud (Ettredge et al., 2010), prompting high-quality audit firms to curtail managers' accounting choices (Choi et al., 2018; Debnath et al., 2022; Dee et al., 2021; Kharuddin et al., 2021; Viana et al., 2022).

Conversely, the repercussions of failing to detect fraud can be severe, as litigation from fraud committed by senior management poses a risk for auditors. This prompts them to exercise professional skepticism in cultures characterized by higher power distance, aiming to mitigate

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the fraud risk (Endrawes et al., 2023). Moreover, fraud risk assessment procedures are part of audit methodologies, and audit firms in countries with higher power distance are more likely to adhere strictly to these procedures (Bik & Hooghiemstra, 2017), owing to investor protection measures inherent in the country's culture (Pacheco-Paredes & Wheatley, 2017).

As a consequence, auditors' incentives shift as investor protection regimes become more stringent and the likelihood of their clients' misstatements being detected and the auditors being penalized increases (Francis & Wang, 2008; Leuz et al., 2003). In such scenarios, big four auditors are more attuned to their clients' misreporting and its impact on their reputation. They are inclined to enforce higher earnings quality as investor protection regimes strengthen. Conversely, non-Big Four auditors are less affected as they have lower reputational capital at stake and are less likely to risk losing clients by imposing a higher standard of earnings quality (Francis & Wang, 2008).

When analyzing the magnitude of the coefficient and noting that the coefficient of the Big Four * Culture variable for the uncertainty aversion cultural dimension was negative, it could be argued that cultural factors bolster the monitoring endeavors of Big Four firms, culminating in decreased levels of earnings management, thus not refuting hypothesis H2. This finding aligns with the theory, indicating that individuals in societies with greater uncertainty aversion are less accepting of personal risk (House et al., 2004; Karaibrahimoglu & Cangarli, 2016). Consequently, managers are less likely to make accounting choices (Viana et al., 2021), leading to greater involvement of responsible auditors in audit quality (Knowles & Paredes, 2023) and fewer deficiencies in audit firms operating in countries with a high level of uncertainty aversion (Bik & Hooghiemstra, 2017), enabling these firms to enhance service quality in such environments.

Moreover, the positive coefficient of the variable Big Four * Culture for cultural dimensions encompassing institutional collectivism, group collectivism, development orientation, future orientation, and human orientation suggests that the Big Four are influenced by cultural factors to the extent of reducing monitoring. This leads to an increase in the level of earnings management in companies located in societies with a higher level of institutional collectivism, group collectivism, development orientation, future orientation, and human orientation, thereby not refuting hypotheses H3, H4, H5, H6, and H7 of this research.

These results demonstrate that auditors are more inclined to diminish audit quality for the benefit of the institution (Lewellyn & Bao, 2017) because group goals outweigh individual goals in collectivist societies (Alas, 2006; Parboteeah et al., 2005). Individuals in societies with greater group collectivism express pride, loyalty, and cohesion within their immediate groups, such as family and work teams (House et al., 2004), impartially interpreting the legal system and auditing standards, making decisions to safeguard group interests (Karaibrahimoglu & Cangarli, 2016), with less involvement of the auditor responsible for audit quality (Bik & Hooghiemstra, 2017).

Furthermore, in societies with a high development orientation, individuals value reward policies and professional success (Karaibrahimoglu & Cangarli, 2016), leading auditors to be

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influenced by managers' reward policies to the extent of negatively impacting service quality (Lawrence et al., 2011). Individuals in societies with greater future orientation focus on the long term, are more flexible and adaptable (House et al., 2004), tend to exhibit weaker ethical behavior (Alas, 2006), and interpret legal and accounting standards for preparing financial statements (Karaibrahimoglu & Cangarli, 2016), causing auditors to be swayed by managers' decisions.

It was also possible to observe that auditors are less individualistic in societies with greater human orientation (Nelson et al., 2002; Parboteeah et al., 2005). In such societies, the interests of others are more important than the auditors' interests (House et al., 2004). Additionally, audit deficiencies are lower, and auditor professional skepticism is greater in countries with cultures of higher individualism (Endrawes et al., 2023; Knowles & Paredes, 2023). This dynamic leads to a higher level of earnings management to meet the interests of managers in societies with greater human orientation.

When observing the negative coefficient of the Big Four * Culture variable for the assertiveness cultural dimension, it becomes evident that the Big Four firms are influenced by this cultural factor to the extent that they increase their monitoring efforts and reduce the level of discretionary accruals, thereby not rejecting hypothesis H8. This result indicates that Big Four auditing firms resort to rigorous auditing and accounting standards in societies with a higher level of assertiveness, thereby mitigating earnings management and enhancing service quality. This is because individuals in such societies are more likely to adhere to regulations (Karaibrahimoglu & Cangarli, 2016).

Overall, the results highlight the effect of national culture on auditors' behavior (Acar, 2023; Bik & Hooghiemstra, 2017) and show that cultural dimensions can influence the interpretations and execution mechanisms of independent audit firms (Karaibrahimoglu & Cangarli, 2016). They also affect the professional skepticism of external auditors (Endrawes et al., 2023) and audit deficiencies (Knowles & Paredes, 2023).

When analyzing the results of the control variables, it appears that larger companies with higher profitability and those in countries that have adopted international standards exhibit lower levels of earnings management. Conversely, managers of indebted companies in developed economies are more likely to make discretionary choices. These results align with the expectations set forth in studies by Acar (2023), Ugrin et al. (2017), and Viana et al. (2021).

Robustness tests

The Pae model (2005) was used as an alternative proxy for earnings management, and a balanced panel sample was employed for robustness tests. The choice of the Pae model, as outlined in Equation (2), was based on its evolution over previous models. This model considers the reversal of accruals from the previous period and incorporates variables based on operational cash flow (Fernandes & Machado, 2023). Doing so increases the predictive power of the Jones (1991) and

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Dechow et al. (1995) models, which are poorly specified when sample firms exhibit extreme financial performance (Pae, 2005).

$$TA_{it} = a\left(\frac{1}{A_{t-1}}\right) + \beta_1(\Delta R_{it}) + \beta_2(PPE_{it}) + \beta_3(FCO_{it}) + \beta_4(FCO_{it-1}) + \beta_5(TA_{it-1}) + \varepsilon_{it} \quad (2)$$

TA_{it} = total accruals of firm *i* in period *t*;

ΔR_{it} variation in net revenue of firm *i* in period *t-1* to period *t*;

PPE_{it} = balance of fixed and intangible assets accounts of firm *i* in period *t*;

A_{t-1} = total asset of firm *i* in period *t-1*;

FCO_{it} = operating cash flow of firm *i* in period *t*;

FCO_{it-1} = operating cash flow of firm *i* in period *t-1*;

TA_{it-1} = total accruals of firm *i* in period *t-1*;

ε_{it} = regression error.

Table 5 presents the results of the regressions estimating discretionary accruals based on the Pae (2005) model, as shown in Equation (1). Firstly, it is observed that the results of the F statistics indicate that all models are valid at 1% significance, with an explanatory power of 28.5% of the variation in discretionary accruals.

Table 5. Results of Regressions using the Model by Pae (2005)

Dependent Variable: Modulated discretionary accruals estimated by Pae's (2005) model								
Independent variables	Power distance (H1)	Uncertainty aversion (H2)	Institutional Collectivism (H3)	Group Collectivism (H4)	Development Orientation (H5)	Future Orientation (H6)	Human Orientation (H7)	Assertiveness (H8)
Big Four	-0.00404***	-0.00518***	-0.00526***	-0.00627***	-0.000676	-0.000359	-0.00474***	-0.000907
Culture	0.0108***	-0.0241***	-0.0234***	0.00601***	0.00108	-0.00144	-0.00567***	-0.0179***
Big Four * Culture	-0.0107***	-0.00634***	0.00586***	0.00479***	-0.00225	-0.00172	0.00454**	-0.00742***
Size	-0.0116***	-0.0114***	-0.0110***	-0.0110***	-0.0111***	-0.0112***	-0.0112***	-0.0113***

Continue

Table 5. Results of Regressions using the Model by Pae (2005) Concludes

Dependent Variable: Modulated discretionary accruals estimated by Pae's (2005) model								
Independent variables	**Power distance (H1)**	**Uncertainty aversion (H2)**	**Institutional Collectivism (H3)**	**Group Collectivism (H4)**	**Development Orientation (H5)**	**Future Orientation (H6)**	**Human Orientation (H7)**	**Assertiveness (H8)**
ROA	-0.260***	-0.261***	-0.258***	-0.261***	-0.261***	-0.261***	-0.262***	-0.260***
Indebtedness	-0.00208***	-0.00231***	-0.00237***	-0.00237***	-0.00243***	-0.00236***	-0.00243***	-0.00250***
Developed	0.00564***	-0.0767***	-0.00647***	0.00428***	0.00672***	0.00701***	0.00990***	-0.00477***
IFRS	-0.0110***	-0.0144***	-0.0180***	-0.0154***	-0.0150***	-0.0164***	-0.0139***	-0.0229***
Constant	0.328***	0.328***	0.344***	0.321***	0.324***	0.328***	0.327***	0.346***
Observations	88,428	88,428	88,428	88,428	88,428	88,428	88,428	88,428
R^2	28.4%	29.3%	28.6%	28.3%	28.3%	28.3%	28.3%	28.4%
Fixed effect year/sector	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F Statistics	259.8	262.3	266.9	263.1	266.6	259.6	259.1	261.2
Average VIF	1.72	1.53	1.67	1.82	1.62	1.69	2.13	1.72

Note: The table shows the moderating effect of each cultural dimension on the Big Four in relation to the modulated discretionary accruals estimated using the model by Pae (2005). The Big Four variable is a dummy that identifies with 1 the companies audited by the firms Ernst & Young Terco, Deloitte Touche Tohmatsu, KPMG, or PricewaterhouseCoopers, and 0 otherwise. The Culture variable is a dummy based on the sample median of each cultural dimension of the GLOBE Project. The Big Four * Culture variable represented the interaction between the variables Big Four and Culture. The variable Size represents the natural logarithm of total assets. The ROA variable represents the division of net profit by total assets. The Indebtedness variable represents the ratio between total liabilities and net equity. The Developed variable is a dummy that identifies developed countries with 1 and emerging countries with 0. The IFRS variable is a dummy that identifies the countries that have adopted the international standardization of accounting standards with 1 and 0 otherwise. The symbols ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

The results using the alternative earnings management proxy are consistent with the findings presented in Table 4, reinforcing hypotheses H2, H3, H4, H7, and H8. The coefficients for the cultural dimensions of development orientation and future orientation diverged from the hypotheses and the findings using the Dechow et al. (1995) proxy; however, these coefficients were not statistically significant for the alternative earnings management proxy.

Table 2 demonstrates that the sample is unbalanced by country, and the results may be influenced by the effect of the most representative countries. Therefore, a robustness test was carried out with a balanced panel, in which a certain number of companies were randomly chosen for each country. The balanced sample consisted of 10,272 observations from companies located in 12 countries, with 107 companies from each country. The results of this test are presented in Table 6.

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Table 6. Results of Regressions Based on Balanced Panel

Dependent Variable: Modulated discretionary accruals estimated based on a balanced panel								
Independent variables	**Power distance (H1)**	**Uncertainty aversion (H2)**	**Institutional Collectivism (H3)**	**Group Collectivism (H4)**	**Development Orientation (H5)**	**Future Orientation (H6)**	**Human Orientation (H7)**	**Assertiveness (H8)**
Big Four	-30.064***	-26.179***	-62.307***	-26.162***	-24.038***	-56.029***	-34.106***	-29.870***
Culture	-604.9	-63.540***	-41.008***	37.214***	44.920***	-43.766***	21.120**	64.712***
Big Four * Culture	-31.244***	-28.957**	33.275***	-22.677***	-44.364***	27.730***	-22.652**	-37.043***
Size	-0.0206***	-0.0210***	-0.0217***	-0.0195***	-0.0196***	-0.0225***	-0.0200***	-0.0213***
ROA	-0.395	-0.39	-0.389	-0.389	-0.392	-0.391	-0.393	-0.389
Indebtedness	0.00305	0.00322*	0.00292	0.00332*	0.00328*	0.00282	0.00322*	0.00309*
Developed	34.043***	-13.100	25.063***	32.299***	25.943***	16.095**	26.677***	46.256***
IFRS	-51.550***	-50.624***	-41.213***	-37.906***	-40.037***	-49.455***	-41.425***	528.4
Constant	99.485***	162.023***	123.733***	74.871***	77.254***	137.446***	89.656***	40.234*
Observations	10,272	10,272	10,272	10,272	10,272	10,272	10,272	10,272
R^2	1.70%	1.80%	1.90%	1.90%	2.00%	1.90%	1.70%	1.90%
Fixed effect year/sector	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F Statistics	5.31	4.90	5.19	4.96	5.18	5.32	4.92	5.56
Average VIF	1.77	1.86	1.57	1.6	1.61	1.61	1.66	1.83

Note: The Big Four variable is a dummy that identifies with 1 the companies audited by the firms Ernst & Young Terco, Deloitte Touche Tohmatsu, KPMG, or PricewaterhouseCoopers, and 0 otherwise. The Culture variable is a dummy based on the sample median of each cultural dimension of the GLOBE Project. The Big Four * Culture variable represented the interaction between the variables Big Four and Culture. The variable Size represents the natural logarithm of total assets. The ROA variable represents the division of net profit by total assets. The Indebtedness variable represents the ratio between total liabilities and net equity. The Developed variable is a dummy that identifies developed countries with 1 and emerging countries with 0. The IFRS variable is a dummy that identifies the countries that have adopted the international standardization of accounting standards with 1 and 0 otherwise. The symbols ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

The results from the balanced panel are consistent with the findings presented in Table 4, reinforcing hypotheses H2, H3, H4, H6, H7, and H8. This highlights the influence of national culture on the monitoring conducted by the Big Four, suggesting an audit bias due to cultural aspects. Higher cultural levels can strengthen or weaken the monitoring of earnings management, impacting the quality of accounting information and benefiting companies in the preparation of financial statements.

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CONCLUSION

The research aimed to examine how the cultural dimensions of a country moderate the relationship between the quality of audit firms and the level of earnings management. Overall, the results indicate that companies audited by the Big Four exhibit varying degrees of earnings management depending on the cultural context.

Specifically, in countries with higher uncertainty aversion and assertiveness, the Big Four tend to increase monitoring, leading to a lower level of earnings management. Conversely, in countries characterized by higher levels of institutional collectivism, group collectivism, development orientation, future orientation, and human orientation, the Big Four reduce monitoring, resulting in an increase in earnings management by managers.

These findings reveal that, despite adhering to international standards and professing neutrality, the behavior of the Big Four auditing firms – considered the largest in the world – can be influenced by cultural dimensions, leading to either heightened or diminished monitoring. Consequently, higher cultural dimensions may either bolster or weaken the oversight exercised over earnings management, suggesting an interplay of audit bias influenced by cultural factors, potentially compromising the quality of accounting information.

Furthermore, these results pose pertinent practical questions, emphasizing the necessity for a deeper understanding of how cultural disparities, along with auditors' personality traits and psychological factors, impact the normative process and audit reports. Given that auditors are also susceptible to the influences of psychological and cultural factors, crucial considerations regarding the individual evaluation of auditors are currently being deliberated and addressed by regulatory bodies.

The limitations of the research lie in solely relying on proxies for earnings management, estimated by discretionary accruals, without considering other indicators of audit firm quality. Consequently, these limitations could serve as springboards for future research endeavors, involving alternative proxies for earnings management based on real activities, the quality of accounting information gauged by restatement, and the incorporation of measures such as auditor specialization, firm rotation, audit fees, and fee structures to assess audit firm quality.

REFERENCES

Acar, M. (2023). Who affects whom? Impact of the national culture of international audit firms and their affiliates on the financial reporting quality of audit clients. *Borsa Istanbul Review*, *23*(1), 113-135. https://doi.org/10.1016/j.bir.2022.09.011

Alas, R. (2006). Ethics in countries with different cultural dimensions. *Journal of Business Ethics*, *69*, 237-247. https://doi.org/10.1007/s10551-006-9088-3

Aren, S., & Hamamci, H. N. (2023). The effect of individual cultural values and phantasy on risky investment intention. *Journal of Economic and Administrative Sciences*, 39(4), 847-866. https://doi.org/10.1108/JEAS-06-2021-0111

 CC BY

Bik, O., & Hooghiemstra, R. (2017). The effect of national culture on auditor-in-charge involvement. *Auditing: A Journal of Practice & Theory*, *36*(1), 1-19. https://doi.org/10.2308/ajpt-51487

Blodgett, J. G., Lu, L. C., Rose, G. M., & Vitell, S. J. (2001). Ethical sensitivity to stakeholder interests: A cross-cultural comparison. *Journal of the Academy of Marketing Science*, *29*(2), 190-202. https://doi.org/10.1177/03079459994551

Chaney, P. K., Lodh, S., & Nandy, M. (2021). How does culture impinge upon managers' demeanor of earnings management? Evidence from cross-country analysis. *The International Journal of Accounting*, *56*(2), 2150009. https://doi.org/10.1142/S1094406021500098

Chen, S., Krishnan, G. V., Li, W., & Zhang, Y. (2022). Do Big 4 auditors enhance audit quality in China? A "behind the scenes look". *Journal of International Accounting Research*, *21*(2), 31-56. https://doi.org/10.2308/JIAR-2020-056

Chen, Y., & Zhang, Y. (2023). Do regional cultural differences affects the effect of accounting firms' merger: Evidence from China. *SAGE Open*, *13*(2), 21582440231179198. https://doi.org/10.1177/21582440231179198

Choi, A., Choi, J. H., & Sohn, B. C. (2018). The joint effect of audit quality and legal regimes on the use of real earnings management: International evidence. *Contemporary Accounting Research*, *35*(4), 2225-2257.https://doi.org/10.1111/1911-3846.12370

Chowdhury, S. N., & Eliwa, Y. (2021). The impact of audit quality on real earnings management in the UK context. *International Journal of Accounting & Information Management*, *29*(3), 368-391. https://doi.org/10.1108/IJAIM-10-2020-0156

Debnath, N. C., Chowdhury, S. P., & Khan, S. (2022). The impact of audit quality on real earnings management: Evidence from Bangladesh. *International Journal of Disclosure and Governance*, *19*(2), 218-231. https://doi.org/10.1057/s41310-021-00137-x

Dechow, P. M., & Skinner, D. J. (2000). Earnings management: Reconciling the views of accounting academics, practitioners, and regulators. *Accounting Horizons*, *14*(2), 235-250. https://doi.org/10.2308/acch.2000.14.2.235

Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting earnings management. *Accounting Review*, *70*(2), 193-225. http://www.jstor.org/stable/248303

Dee, C. C., Lulseged, A., & Zhang, T. (2021). Asymmetric monitoring of quarterly financial statements by Big 4 auditors and the SEC's timely review requirement. *Accounting Horizons*, *35*(4), 63-81. https://doi.org/10.2308/HORIZONS-18-016

Diallo, B. (2021). Do national cultures matter for external audits? Evidence from Eastern Europe and the Middle East. *Journal of Business Ethics*, *172*(2), 347-359. https://doi.org/10.1007/s10551-020-04482-9

Ding, F., Qiao, Z., Hu, M., & Lu, M. (2022). Industry specialization and audit quality: Evidence from audit firm switches in China. *Asia-Pacific Journal of Financial Studies*, *51*(5), 657-681. https://doi.org/10.1111/ajfs.12365

Doupnik, T. S., & Richter, M. (2004). The impact of culture on the interpretation of "in context" verbal probability expressions. *Journal of International Accounting Research*, *3*(1), 1-20. https://doi.org/10.2308/jiar.2004.3.1.1

 CC BY

Endrawes, M., Leong, S., & Matawie, K. M. (2023). The moderating effect of culture on the relationship between accountability and professional scepticism. *Meditari Accountancy Research*, *31*(2), 381-399. https://doi.org/10.1108/MEDAR-08-2020-0986

Ettredge, M., Scholz, S., Smith, K. R., & Sun, L. (2010). How do restatements begin? Evidence of earnings management preceding restated financial reports. *Journal of Business Finance & Accounting*, 37(3-4), 332-355. https://doi.org/10.1111/j.1468-5957.2010.02199.x

Fernandes, C. A., & Machado, M. A. V. (2023). Conselho de administração, diversidade de gênero e monitoramento. *RAE-Revista de Administração de Empresas*, *63*(3), e2021-0753. http://dx.doi.org/10.1590/S0034-759020230303

Francis, J. R., & Wang, D. (2008). The joint effect of investor protection and Big 4 audits on earnings quality around the world. *Contemporary Accounting Research*, *25*(1), 157-191. https://doi.org/10.1506/car.25.1.6

Friedrich, C., Pappert, N., & Quick, R. (2023). The anticipation of mandatory audit firm rotation and audit quality. *Journal of International Accounting Research*, 22(1), 59-81. https://doi.org/10.2308/JIAR-2021-095

Ghoul, S. El, Guedhami, O., & Pittman, J. (2016). Cross-country evidence on the importance of Big Four auditors to equity pricing: The mediating role of legal institutions. *Accounting, Organizations and Society*, *54*, 60-81. https://doi.org/10.1016/j.aos.2016.03.002

Han, S., Kang, T., Salter, S., & Yoo, Y. K. (2010). A cross country study on the effects of national culture on earnings management. *Journal of International Business Studies*, *41*(1), 123-141. https://doi.org/10.1057/jibs.2008.78

Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. Sage Publications.

Hofstede, G., Hofstede, G., & Minkov, M. (1991). *Cultures and organizations: Software of the mind*. McGraw:Hill.

House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (Eds.). (2004). *Culture, leadership, and organizations: The GLOBE study of 62 societies.* Sage Publications

Jain, S., & Agarwalla, S. K. (2022). Big-4 auditors and audit quality: A novel firm life-cycle approach. *Meditari Accountancy Research*. Ahead-of-print. https://doi.org/10.1108/MEDAR-06-2021-1344

Jones, J. J. (1991). Earnings Management During Import Relief Investigations. Journal of Accounting Research, 29(2), 193–228. https://doi.org/10.2307/2491047

Kania, J., & Fitriany. (2019). The impact of debt covenants violation on audit fee. *In Business innovation and development in emerging economies* (pp. 47-59). CRC Press.

Karaibrahimoglu, Y. Z., & Cangarli, B. G. (2016). Do auditing and reporting standards affect firms' ethical behaviours? The moderating role of national culture. *Journal of Business Ethics*, *139*(1), 55-75. https://doi.org/10.1007/s10551-015-2571-y

Kharuddin, K. A. M., Basioudis, I. G., & Farooque, O. Al. (2021). Effects of the Big4 national and city-level industry expertise on audit quality in the United Kingdom. *Journal of International Accounting, Auditing and Taxation*, *43*, 100398. https://doi.org/10.1016/j.intaccaudtax.2021.100398

Khlif, H. (2016). Hofstede's cultural dimensions in accounting research: A review. *Meditari Accountancy Research*, *24*(4), 545-573. https://doi.org/10.1108/MEDAR-02-2016-0041

Knowles, R. L., & Paredes, A. A. P. (2023). International culture and audit deficiencies: Evidence from inspection reports of non-US companies listed in the US. *Journal of International Accounting, Auditing and Taxation*, *51*, 100542. https://doi.org/10.1016/j.intaccaudtax.2023.100542

Kyriakou, M. I., & Tsoktouridou, K. (2021). Association between discretionary accruals and audit fees and the role of the size of the audit firm: European Evidence. *International Advances in Economic Research*, *27*, 185-196. https://doi.org/10.1007/s11294-021-09830-7

Lawrence, A., Minutti-Meza, M., & Zhang, P. (2011). Can Big 4 versus non-Big 4 differences in audit-quality proxies be attributed to client characteristics? *The Accounting Review*, *86*(1), 259-286. https://doi.org/10.2308/accr.00000009

Leuz, C., Nanda, D., & Wysocki, P. D. (2003). Earnings management and investor protection: An international comparison. *Journal of Financial Economics*, *69*(3), 505-527. https://doi.org/10.1016/S0304-405X(03)00121-1

Lewellyn, K. B., & Bao, S. R. (2017). The role of national culture and corruption on managing earnings around the world. *Journal of World Business*, *52*(6), 798-808. https://doi.org/10.1016/j.jwb.2017.07.002

Nelson, M. W., Elliott, J. A., & Tarpley, R. L. (2002). Evidence from auditors about managers' and auditors' earnings management decisions. *The Accounting Review*, *77*(1), 175-202. https://doi.org/10.2308/accr.2002.77.s-1.175

Pacheco-Paredes, A. A., & Wheatley, C. M. (2017). The influence of culture on real earnings management. *International Journal of Emerging Markets*, *12*(1), 38-57. https://doi.org/10.1108/IJoEM-12-2014-0218

Pae, J. (2005). Expected accrual models: the impact of operating cash flows and reversals of accruals. *Review of Quantitative Finance and Accounting*, *24*, 5-22. https://doi.org/10.1007/s11156-005-5324-7

Parboteeah, K. P., Bronson, J. W., & Cullen, J. B. (2005). Does national culture affect willingness to justify ethically suspect behaviors? A focus on the GLOBE national culture scheme. *International Journal of Cross Cultural Management*, *5*(2), 123-138. https://doi.org/10.1177/1470595805054489

Singh, H., Sultana, N., Islam, A., & Singh, A. (2022). Busy auditors, financial reporting timeliness and quality. *The British Accounting Review*, *54*(3), 101080. https://doi.org/10.1016/j.bar.2022.101080

Svanberg, J., & Öhman, P. (2016). Does ethical culture in audit firms support auditor objectivity? *Accounting in Europe*, *13*(1), 65-79. https://doi.org/10.1080/17449480.2016.1164324

Toumi, F., Khlif, H., & Khelil, I. (2022). National culture and audit report lag: Cross-country investigation. *Journal of Economic and Administrative Sciences*. Ahead-of-print. https://doi.org/10.1108/JEAS-03-2022-0066

Ugrin, J. C., Mason, T. W., & Emley, A. (2017). Culture's consequence: The relationship between income: Increasing earnings management and IAS/IFRS adoption across cultures. *Advances in Accounting*, *37*, 140-151. https://doi.org/10.1016/j.adiac.2017.04.004

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Viana, D. B. C., Jr., Lourenço, I., & Black, E. L. (2022). Financial distress, earnings management and Big 4 auditors in emerging markets. *Accounting Research Journal*, *35*(5), 660-675. https://doi.org/10.1108/ARJ-06-2021-0165

Viana, D. B. C., Jr., Lourenço, I. M. E. C., Ohlson, M., & Lima, G. A. S. F. (2021). National culture and earnings management in developed and emerging countries. *Journal of Accounting in Emerging Economies*, *12*(1), 150-186. https://doi.org/10.1108/JAEE-12-2020-0323

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare

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