

# THE MODERATING ROLE OF ACCOUNTING INFORMATION OPACITY IN THE RELATIONSHIP BETWEEN CEO DUALITY AND AUDIT FEES

**SUYLANNE MATOS LIMA<sup>1</sup>**

*Federal Rural University of the Semi-Arid Region, Center for Applied Social Sciences, Mossoró, RN, Brazil.*

● <https://orcid.org/0009-0002-8224-9370>

[suyllanne.lima@alunos.ufersa.edu.br](mailto:suyllanne.lima@alunos.ufersa.edu.br)

**KLÉBER FORMIGA MIRANDA**

*Federal Rural University of the Semi-Arid Region, Center for Applied Social Sciences, Mossoró, RN, Brazil.*

● <https://orcid.org/0000-0002-9164-6709>

[mirandakf@ufersa.edu.br](mailto:mirandakf@ufersa.edu.br)

**YURI GOMES PAIVA AZEVEDO**

*U Federal Rural University of the Semi-Arid Region, Center for Applied Social Sciences, Mossoró, RN, Brazil.*

● <https://orcid.org/0000-0002-0830-0214>

[yuri.azevedo@ufersa.edu.br](mailto:yuri.azevedo@ufersa.edu.br)

**MARIANA CÂMARA GOMES E SILVA**

*Federal University of Ceará, College of Economics, Administration, Actuarial Science and Accounting, Department of Accounting, Fortaleza, CE, Brazil.*

● <https://orcid.org/0000-0002-9771-8021>

[mariana\\_mcgs@hotmail.com](mailto:mariana_mcgs@hotmail.com)

## ABSTRACT

This study examines the moderating role of financial opacity in the relationship between CEO duality and audit fees in publicly traded Brazilian companies. The sample consists of 179 publicly traded firms, with data collected from the Economatica database and the Brazilian Securities and Exchange Commission (CVM), covering the period from 2010 to 2024. Based on panel data regression estimates, the results indicate that the CEO duality variable does not significantly influence audit fees. Furthermore, we found that the accounting information opacity level does not affect audit fees in the Brazilian context, even after we combined the accounting information opacity level with CEO duality. The findings suggest auditors do not consider potential risks associated with financial opacity and CEO duality when determining their fees. The results are robust to relative remuneration as an alternative proxy for audit fees. This finding contributes to the national literature investigating the determinants of audit fees by providing, according to our knowledge, the first evidence that accounting information opacity does not moderate the relationship between audit fees and CEO duality.

**Keywords:** CEO Duality. Audit Fees. Financial Opacity.

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<sup>1</sup> **Correspondence Address:** Rua Francisco Mota, 572 | Presidente Costa e Silva | 59.625-900 | Mossoró/RN | Brazil.

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## 1 INTRODUCTION

The Chief Executive Officer (CEO) is responsible for guiding the company, and implementing actions that lead to its success, given that the organizational and strategic perspectives adopted by the CEO will impact the organization's financial performance (Adams et al., 2005). CEO duality arises when the CEO also serves as the Chair of the Board of Directors (BoD), whose primary role is to monitor and safeguard organizational objectives. This practice is generally not recommended in corporate governance, as it may generate internal conflicts of interest within the organization (Salehi et al., 2021; Bliss, 2011; Bassett et al., 2007; Goyal & Park, 2002; Jensen, 1993).

The influence of CEO duality on corporate governance mechanisms has been extensively studied due to the importance of governance as an instrument for protecting the interests of minority shareholders (Adrian et al., 2017). Prior studies suggest that CEO power is a measure of CEO duality, highlighting potential implications when a single individual concentrates authority. This empowerment occurs because CEO duality reduces the monitoring capacity of the board of directors and complicates the removal of CEOs, even when the firm demonstrates poor performance over a given period (Lin et al., 2014; Goyal & Park, 2002).

From the Agency Theory perspective (Jensen & Meckling, 1976), CEO duality can exacerbate agency conflicts, as it weakens monitoring mechanisms and increases the likelihood of opportunistic behavior by the CEO. This situation may conflict with investors' interests, as the dual CEO's objectives may override those of the principals (investors), potentially compromising organizational performance (Yu, 2023). Thus, CEO duality can increase agency costs, affecting the company's negotiations with service providers, such as external auditors (Bliss, 2011).

Consequently, when the CEO also serves as the Chair of the Board, this practice is considered to increase the risk of concealing relevant accounting information, thereby raising the complexity of auditing, since auditors will need to exercise greater diligence in identifying errors and potential fraud (Messier et al., 2017). From this perspective, we expect the charging of higher audit fees to such organizations (Garcia et al., 2021; Tsui et al., 2001).

Determining the amount of audit fees is a task that requires attention to multiple factors by the independent auditor, including technical aspects, ethical principles, market dynamics, and the level of existing competition (Silveira & Dantas, 2020). Litigation and compliance risks also influence audit quality and, consequently, the fees charged for the services provided (Weber et al., 2008). Therefore, we expect the association between higher auditor effort and higher audit fees (Silveira & Dantas, 2020).

However, there is no consensus in the literature regarding the relationship between CEO duality and audit fees. On one hand, studies have shown that CEO duality positively affects audit fees, potentially generating additional agency costs for the organization due to the increased complexity of audit procedures (Farooq et al., 2018; Jizi & Nehme, 2018; Bliss, 2011; Simunic, 1980). Additionally, there is evidence that CEO duality may not constitute a determining factor for audit fees (Kuang, 2011; Dwekat, 2014). On the other hand, in the Brazilian context, evidence suggests that CEO duality negatively influences audit fees (Santos, 2019).

International studies have also shown that financial opacity is a factor that contributes to higher audit fees, given the increased complexity and risk associated with auditing firms with higher levels of opacity (Abbott et al., 2006; Choi et al., 2018; Greiner et al., 2017). Financial opacity can thus be understood as the lack of transparency in financial reporting, allowing managers to conceal negative information, and it can be measured using discretionary accruals (Kim & Zhang, 2014). Centralized power in the hands of a dual CEO grants managers the autonomy to reallocate resources as they see fit, even if such decisions disregard potential effects on corporate cost dynamics (Ibrahim, 2018). Consequently, the concentration of power enables higher managerial discretion (Bhaskar et al., 2024), making financial information less clear (opaque) if relevant data is left out or manipulated (Kim & Zhang, 2014).

In this context, we expect external auditors to increase their fees for firms with higher levels of accounting information opacity. The presence of CEO duality will amplify this relationship. To address the gap regarding the effect of CEO duality and financial opacity on audit fees in the Brazilian context, this study investigates the moderating role of financial opacity in the relationship between audit fees and CEO duality, as the Brazilian stock market offers low protection for minority shareholders (Bueno et al., 2018; Crisostomo & López-Iturriaga, 2020).

Accordingly, this study contributes to the literature on auditing and corporate governance in Brazil, responding to the research suggestion by Santos (2019), who proposed investigating the relationship between CEO duality and audit fees over a broader period than 2013 to 2016. This study covered the period from 2010 to 2024, allowing the identification that the effect of CEO duality on audit fees is not negative but relatively neutral.

Furthermore, considering that analyzing moderating effects enables a better understanding of existing relationships (Plöckinger et al., 2016), this study contributes to the literature by providing evidence relevant to national research on the determinants of audit fees (Borges et al., 2017; Kaveski & Cunha, 2016; Castro et al., 2015; Hallak & Silva, 2012). To date, this study is the first to show that accounting information opacity does not moderate the relationship between audit fees and CEO duality.

From a practical perspective, the results of this study are helpful for financial analysts, indicating that audit fees charged by external auditors in the Brazilian context do not reflect financial opacity arising from the discretionary actions of dual CEOs, thereby informing their recommendations. Additionally, the findings may be relevant for potential investors, based on the assumption that, since duality generates additional costs, managers may find alternative ways to allocate profits obtained in a given period, such as increasing dividends paid to themselves, to managers, or to members of the board of directors.

## **2 THEORETICAL FRAMEWORK**

### **2.1 Audit Fees**

Independent auditing emerged in organizations as a response to the expansion of firms and the consequent separation between ownership and control, with its role becoming more prominent during periods of instability caused by accounting scandals affecting large companies worldwide at the beginning of the 20th century (Saleh & Ragab, 2023). In this context, Agency Theory (Jensen & Meckling, 1976) provides the fundamental theoretical framework for understanding the governance mechanisms used to align the interests of resource owners (principals) and managers (agents). From this point of view, independent auditing represents a tool to ensure the quality of information reported in financial statements, supporting organizational objectives (Rahman et al., 2019).

Additionally, independent auditing is perceived, within the organizational context, as a monitoring instrument that forms part of optimal corporate governance practices, creating value for the organization by enhancing investors' confidence in the reported information, considering the auditor's independence from the audited firm (Castro et al., 2015). The cost of hiring this professional creates a dilemma for managers, who must balance the pursuit of service quality with the ongoing search for professionals who represent a lower financial burden for the organization. However, reducing audit fees may compromise the auditor's independence and the quality of the services provided, making it necessary to find a balance in determining this value (Saleh & Ragab, 2023).

Empirical evidence shows that factors beyond the volume of work influence the pricing of audit services, as the structure and characteristics of the audited organizations, such as firm size (Naser & Hanssan, 2016), liquidity level (Saleh & Ragab, 2023), leverage (Jaramillo et al., 2012; Brighenti et al., 2016), material risk associated with the audited company's activities (Naser &

Nuseibeh, 2008), independence of the audit committee (Ghafran & O'Sullivan, 2017; Saleh & Ragab, 2023), and the size of the board of directors (Jizi & Nehme, 2018) affect audit fees.

On the other hand, factors intrinsic to the auditor or the audit firm also tend to impact the pricing of the services offered, such as the audit firm's status, that is, whether it is one of the Big Four, and the timeliness of the audit report (Saleh & Ragab, 2023).

According to Yang et al. (2023), climate-related risks also tend to influence the fees charged for audit services, considering that the risks associated with climate change can directly or indirectly affect the profits of impacted companies. The authors emphasize that this unstable scenario may often encourage managers to engage in earnings management practices to smooth the effects of these fluctuations on financial results (Yang et al., 2023). In this way, the opportunistic behavior of managers in manipulating accounting information can compromise the determination of audit fees, as higher risk is associated with the audited firms (Choi et al., 2018; Greiner et al., 2017).

## 2.2 CEO Duality

The corporate governance field widely discusses CEO duality topic, given the significance of the CEO and the board's chairman in the organizational management (Yu, 2023; Zelechowsk & Bilimoria, 2004). The CEO performs an operational management function within the organization, while the chairperson of the board is responsible for overseeing the activities carried out by the company (Yu, 2023). However, CEO duality occurs when the same individual holds both positions (Dalton & Dalton, 2011; Salehi et al., 2021; Yu, 2023).

Empirical evidence indicates that the concentration of power in the hands of a single individual can generate a range of implications for the organization, as the role of the board of directors, acting as a monitoring body, is weakened, compromising the impartial assessment of the CEO's performance (Jensen, 1993; Lin et al., 2014). It is important to note that corporate governance literature debates CEO duality into two distinct perspectives. The first adopts a Stewardship Theory approach, arguing that the concentration of power in the CEO's hands can enhance decision-making agility and implement strategies that drive organizational performance (Donaldson & Davis, 1991; Krause et al., 2014). In contrast, from the Agency Theory perspective, there is an association between duality and a higher likelihood of opportunistic behavior by managers, which, combined with weak oversight and control mechanisms, can compromise shareholders' interests and negatively affect the organization (Yu, 2023).

Supporting the Agency Theory, studies in the field express concern regarding the practice of CEO duality, considering that it limits monitoring (Goyal & Park, 2002), constrains the board's work (Bliss, 2011), reduces compliance levels (Soares et al., 2024), diminishes corporate social responsibility practices (Bhaskar et al., 2024), and represents an intense concentration of power and opportunism (Fama & Jensen, 1983; Salehi et al., 2021). Furthermore, companies with CEO duality exhibit lower performance than companies that separate the CEO and chairperson roles when measuring performance using accounting-based indicators. Consequently, organizations with a leadership structure that separates these positions achieve significantly higher performance than firms with CEO duality (Dalton & Rechner, 1989).

Finally, it is worth noting that the discussion on the effects of CEO duality in the Brazilian context is particularly relevant, given that the Brazilian Code of Corporate Governance Best Practices (IBGC, 2023) advises against the accumulation of these roles by the CEO. Therefore, we expect companies that adopt the separation of these positions to exhibit a stronger corporate governance structure (Bhaskar et al., 2024).

## 2.3 Research Hypotheses

Auditing requires greater effort to mitigate the damages caused by poor corporate governance and earnings management (Bedard & Johnstone, 2004). When the CEO also serves as the chairman of the board of directors, monitoring their activities tends to be weakened, which may result in material changes to the entity's financial statements (Messier et al., 2017), specially because the power concentration may increase the opportunistic behavior of this individual (Bliss, 2011; Goyal & Park, 2002; Fama & Jensen, 1983).

Audit fees have been widely addressed in the literature as an indicator of the quality of audit services (Dwekat, 2014). However, empirical evidence has presented divergent results regarding the impact of CEO duality on the determination of audit fees. Some studies suggest that the concentration of functions in the CEO does not significantly influence the increase in audit fees (Kuang, 2011; Dwekat, 2014). Conversely, Santos (2019) found that CEO duality reduces audit fees, especially when firms are exempt from specific regulatory requirements regarding the segregation of duties, implying that the pricing of audit fees ignores the risk associated with the CEO's concentrated function.

On the other hand, other studies have identified CEO duality as a factor that positively influences audit fees (Bliss, 2011; Farooq et al., 2018; Jizi & Nehme, 2018) due to increased agency costs and greater complexity in carrying out audit procedures, which require additional effort from auditors (Bliss, 2011; Simunic, 1980). Thus, CEO duality may signal higher risk for audit services, given that the accumulation of functions can imply a greater potential for omission of negative information (Amin et al., 2025).

Additionally, empirical evidence supports the view that firms led by dual CEOs are more prone to material accounting errors due to lower levels of monitoring (Azhari et al., 2020). Therefore, auditors may consider auditing firms with CEO duality to involve higher risk, including reputational risk, since material errors not detected in audits can result in widely publicized scandals, impacting the reputation of audit firms.

These conflicting approaches highlight the complexity of the topic and reinforce the relevance of investigating how CEO duality influences auditors' risk perception in the Brazilian context, which, in turn, reflects on the audit fees charged to firms. Assuming that in the CEO duality context, the absence of robust managerial control requires greater auditor effort (Goergen et al., 2020), it is reasonable to expect increased agency costs, reflected in higher audit fees. Based on this reasoning, the first research hypothesis is defined as follows:

**H<sub>1</sub>:** CEO duality positively influences audit fees.

Financial statement opacity refers to opaque reports that may conceal financial information, allowing managers to hide or accumulate negative information about the firm (Kim & Zhang, 2014). This practice undermines confidence in the company and raises concerns among third parties, such as auditors, regarding potential financial misconduct or fraud.

In this line, international studies have investigated whether auditors consider financial opacity, proxied by the level of earnings management, for example, an important factor when assessing the engagement risk, resulting in higher audit fees (Abbott et al., 2006; Choi et al., 2018; Greiner et al., 2017). These studies generally indicate a positive association between audit fees and earnings management, suggesting that independent audits charge higher fees due to the greater complexity involved in auditing firms with more opaque information.

Considering that the concentration of power in a dual CEO increases managerial discretion (Bhaskar et al., 2024), research shows that the combination of the two roles may lead auditors to perceive audit failure risk as higher than initially expected, since this concentration of



responsibilities increases the likelihood of omission, distortion of relevant information, or even fraudulent practices (Amin et al., 2025). Additionally, evidence indicates that compliance levels are lower in firms with CEO duality, signaling weakness in the firm's monitoring and accountability structure to the market (Soares et al., 2024). Based on this reasoning, the second research hypothesis assumes a positive relationship between audit fees and financial statement opacity:

**H<sub>2</sub>:** The opacity of accounting information positively impacts audit fees.

To better understand the influence of CEO duality on audit fees in the Brazilian context, this study sought to examine whether this relationship holds in a setting characterized by opaque accounting information because the increased opportunistic behavior of managers, resulting from the concentration of power inherent in the accumulation of roles, is one of the implications of duality (Salehi et al., 2021). Therefore, duality amplifies executives' power and decision-making autonomy, especially in weak governance and oversight structures contexts (Bhaskar et al., 2024).

Based on Agency Theory, CEO duality, by exacerbating informational asymmetry, intensifies agency conflicts, potentially leading to the predominance of individual interests over organizational objectives (Jensen, 1993; Salehi et al., 2021). Thus, if the CEO's opportunistic behavior compromises the quality of accounting information, abnormal audit fees are expected to be charged (Li & Liu, 2024).

Given their risk, companies with greater CEO concentration power require more auditing time (Amin et al., 2025). Accordingly, external auditors charge higher fees when auditing companies with high levels of accounting information opacity and in the presence of CEO duality. Therefore, the third research hypothesis is defined:

**H<sub>3</sub>:** Accounting information opacity positively moderates the relationship between CEO duality and audit fees.

### 3 METHODOLOGICAL PROCEDURES

#### 3.1 Sample Composition and Data Collection

This study examines the moderating effect of accounting information opacity on the relationship between audit fees and CEO duality. Accordingly, the study is characterized as descriptive and quantitative research, using secondary data from databases. The initial sample comprised 482 publicly traded companies in Brasil, Bolsa, Balcão (B3). We have excluded 81 companies from the financial sector due to their specific operational characteristics, which directly impact the control variables included in the econometric model and observations with missing data. Therefore, the final sample consists of 179 companies, as shown in Table 1.

**Table 1**  
*Sample Selection*

	Companies
Initial sample	482
(-) Financial companies	(81)
(-) Missing data	(222)
(=) Final sample	179

Source: Own elaboration.

We collected data from the Economatica database and the Brazilian Securities and Exchange Commission (CVM), covering the period from 2010 to 2024. This time frame marks the complete convergence of Brazilian publicly traded companies to the IFRS standard, which led to changes in the disclosure structure of several accounting accounts, enhancing the quality of

reported information (Silva & Nardi, 2017; Azevedo et al., 2024). To avoid survivorship bias, we did not require companies to have data available for all years to be included in the sample, resulting in an unbalanced panel.

### 3.2 Econometric Model and Variables

We employed a panel data regression to address the research hypotheses and comprehensively analyze this relationship by incorporating longitudinal information. Accordingly, Equation 1 presents the multiple regression model.

$$AuditFees_{i,t} = \beta_0 + \beta_1 DualCEO_{i,t} + \beta_2 Opacity_{i,t} + \beta_3 DualCEO_{i,t} * Opacity_{i,t} + \sum Controls_{i,t} + \mu_{i,t} \quad (1)$$

Regarding data collection, we obtained audit fees (AuditFees) data from the Reference Forms (FR) made available by the Brazilian Securities and Exchange Commission (CVM). For analysis purposes, we used the logarithm of audit fees (Brighenti et al., 2016; Garcia et al., 2021). The amount of audit fees is related to the complexity of the audit, as more complex audits tend to command higher fees (Garcia et al., 2021).

The CEO duality and financial opacity are independent variables in this study. We used the combination of the positions of Chief Executive Officer (CEO), who holds authority over the organization and whose strategic decisions affect the firm's financial performance (Adams et al., 2005), and Chair of the Board of Directors, whose role is to supervise the corporate governance of the company as a proxy to CEO duality. These positions are available in the FRs on the CVM database by identifying the individuals holding these offices.

Following previous studies (Abbott et al., 2006; Kim & Zhang, 2014), discretionary accruals are a proxy to capture the opacity of accounting information. According to Greiner et al. (2017), opportunistic practices by managers through earnings management tend to increase organizational risk, leading to higher audit fees. Thus, as managers conceal accounting information, the financial statements become more opaque (Kim & Zhang, 2014).

The discretionary accruals represent the results estimation by using the model proposed by Kothari et al. (2005), according to Equation 2:

$$\frac{TA_{i,t}}{At_{i,t-1}} = \beta_0 + \beta_1 \left( \frac{1}{At_{i,t-1}} \right) + \beta_2 \left( \frac{\Delta Sales_{i,t}}{At_{i,t-1}} \right) + \beta_3 \left( \frac{Imob_{i,t}}{At_{i,t-1}} \right) + \beta_4 ROA_{i,t} + \mu_{i,t} \quad (2)$$

Where TA consists of total accruals, obtained from the difference between earnings before extraordinary items and operating cash flows.  $At_{i,t-1}$  represents the total assets of firm  $i$ , in period  $t-1$ .  $\Delta Sales$  comprises the difference between the change in net revenues and net accounts receivable.  $Imob$  represents the value of net property, plant, and equipment of firm  $i$ , in year  $t$ .  $ROA$  reflects the return on total assets of firm  $i$ , in year  $t$ . Finally,  $\mu$  consists of discretionary accruals, serving as a proxy for earnings management.

Table 2 presents the study variables incorporated into the econometric model. Based on previous studies' evidence, we used the control variables that indicate a significant influence on the pricing of audit fees, aiming to mitigate potential biases in the results and ensure greater robustness of the empirical analysis.

**Table 2**  
*Variable Description*

Type	Description	Definitions	Previous Studies
Dependent	<i>Audit fees</i>	Natural logarithm of audit fees.	Joshi e Bastaki (2000); Köhler e Ratzinger-Sakel (2012); Castro et al. (2015); Brighenti et al. (2016); e Garcia et al. (2021).
Independent	<i>DualCEO</i>	Represented by a dummy variable, where 1 indicates companies with CEO duality and 0 otherwise.	Adams et al. (2005); e Krause et al. (2014).
	<i>Opacity</i>	Discretionary accruals, proxy for earnings management.	Kothari Leone e Wasley (2005); Abbott et al. (2006); e Kim e Zhang (2014).
Controls	<i>AuditBigFour</i>	Represented by a dummy variable, where 1 indicates companies audited by a Big Four firm and 0 otherwise.	Palmrose (1986); Hallak e Silva (2012); e Borges et al. (2017).
	<i>ROA</i>	Net Income/Total Assets.	Mello e Valentim (2018); Borges et al. (2017); Kaveski e Cunha (2016); e Whisenant et al. (2003).
	<i>Leverage</i>	Liabilities/Total Assets.	Jensen (1986); Datta, Jha e Kulchani (2020); Naser e Nuseibh (2008); e Brighenti et al. (2016).
	<i>Size</i>	Natural Logarithm of Assets.	Joshi e Al-Bastaki (2000); Simunic, (1980); Hallak e Silva (2012); e Borges et al. (2017).
	<i>Tangibility</i>	Fixed Assets/Total Assets.	Leventis et al. (2011).

Source: Research data.

The large auditing firms globally known as the Big Four (AuditBigFour) are highlighted in studies for their superior quality of services (Palmrose, 1986; Brighenti et al., 2016). Supporting this view, research indicates that smaller auditing firms charge lower fees than Big Four firms (Saleh & Ragab, 2023). This fee difference occurs because the large firms have a highly qualified team and implement more rigorous and advanced auditing procedures (Hallak & Silva, 2012; Brighenti et al., 2016).

We used Return on Assets (ROA) to analyze the influence of the company's profitability ratios on audit fees, considering that studies in the field indicate that entities with higher profitability tend to pay higher fees due to the requirement for more sophisticated tests to recognize better revenues and expenses (Kaveski & Cunha, 2016). Conversely, in cases of low profitability, the company may exhibit more opportunistic behavior, which also increases the effort required from the auditor (Whisenant et al., 2003).

Empirical evidence also shows that leverage (Leverage) tends to influence the determination of audit fees, as the more indebted an organization is, the higher the financial risk and the difficulty in obtaining credit, which, in turn, may motivate managers to adopt opportunistic strategies, making the audit more costly (Jensen, 1986; Jaramillo et al., 2012; Brighenti et al., 2016). Regarding size (Tam), the literature suggests that the combination of audit complexity and



firm size is one of the main determinants of fees charged by auditors (Joshi & Al-Bastaki, 2000; Naser & Hanssan, 2016). Thus, we expect that the larger the company, the greater the effort required to perform the audit and, consequently, the higher the fees charged for the work (Brighenti et al., 2016; Naser & Hansan, 2016). Finally, tangibility (Tang) may influence audit fees, since auditors may charge higher fees due to larger material amounts recorded under fixed assets (Leventis et al., 2011).

After data collection, we used Microsoft Excel to organize data and Stata for statistical analysis. We winsorized quantitative continuous variables at the 1% level to reduce the influence of outliers. Subsequently, to define the most appropriate model and, thus, address the research hypotheses, we conducted validation tests on the entire sample. The Breusch-Pagan, Chow, and Hausman tests indicated that the fixed-effects model is the most suitable for this study. Additionally, among the tests performed, the Breusch-Pagan test identified the presence of heteroskedasticity in the fixed-effects regression data, converging to the null hypothesis rejection, suggesting robust standard errors in the estimation.

## 4 RESULTS AND DISCUSSIONS

### 4.1 Descriptive Analysis

Table 3 presents the behavior of the variables in relation to the sample used in this study. On average, auditors charge BRL 1,735,086.40 to audit publicly traded Brazilian companies. It is also noteworthy that the fees charged by these professionals vary significantly, ranging from a minimum of BRL 3,729.60 to a maximum of BRL 48,739,000.00. It is relevant to highlight that various elements can influence the auditor's assessment in setting fees, encompassing technical and ethical aspects as well as market factors and the level of competition in the environment in which they operate (Silveira & Dantas, 2020).

We also observed that, on average, the four largest global audit firms (Deloitte, Ernst & Young, KPMG, and PwC) audit 70% of the companies in the sample, contributing to the variation in fees, given that smaller firms, which tend to charge lower fees than the Big Four, audit the remaining companies (approximately 30%). The fact that large audit firms generally have more specialized professionals and adopt more sophisticated audit procedures may explain this difference (Saleh & Ragab, 2023; Brighenti et al., 2016; Hallak & Silva, 2012).

**Table 3**  
*Descriptive Statistics*

Variable	Obs	Mean	Standard Deviation	Minimum	Maximum
<i>AuditFees (in R\$)</i>	1890	1,735,086.40	3,949,874.80	3,729.60	48,739,000.00
<i>AuditFees (in log)</i>	1890	13.194	1.449	9.160	17.377
<i>DualCEO</i>	1890	0.124	0.330	0.000	1.000
<i>Opacity</i>	1890	-0.005	0.083	-0.268	0.381
<i>AuditBigFour</i>	1890	0.705	0.456	0.000	1.000
<i>ROA</i>	1890	0.026	0.101	-0.411	0.462
<i>Leverage</i>	1890	0.325	0.272	0.001	2.762
<i>Size</i>	1890	21.236	2.453	0.001	25.823
<i>Tangibility</i>	1890	0.261	0.218	0.001	0.837

Source: Research data.

Complementarily, it is noteworthy that, on average, only 12% of the companies in the sample have CEO duality, indicating adherence to the recommendations issued by the Brazilian Institute of Corporate Governance (IBGC), which advises in its Code of Best Practices of Corporate Governance against the accumulation of the roles of CEO and chairman of the board

(IBGC, 2023), considering that duality tends to weaken the monitoring structure proposed by corporate governance (Azhari et al., 2020).

Regarding company size, it stands out that, on average, the firms are large, given the proximity between the mean (21.236) and the maximum observed value (25.823). We emphasized that, in large companies, auditing plays a fundamental role in aligning the interests between the agent and the principal, contributing mitigating potential agency conflicts inherent in large firms (Rahman et al., 2019). On the other hand, the companies in the sample, although mostly large, present, on average, less opaque information, considering the mean value (-0.005).

Additionally, we proceed with the correlation between the variables included in the econometric model. Table 4 presents the results of the Spearman correlation, as the Shapiro-Wilk normality test indicated that the quantitative variables did not follow a normal distribution (p-values below 5%).

Overall, the results of the correlation matrix indicate a negative and significant, yet weak, relationship between the variables DualCEO and AuditFees. This correlation provides initial evidence that contrasts with the perspective that CEO duality is positively associated with audit fees (Farooq et al., 2018; Jizi & Nehme, 2018; Bliss, 2011; Simunic, 1980), aligning instead with the view that, in the Brazilian context, auditing firms tend to reduce their fee levels in the presence of CEO duality (Santos, 2019).

**Table4**  
*Spearman Correlation Results*

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) <i>AuditFees</i>	1.000							
(2) <i>DualCEO</i>	<b>-0.210</b>	1.000						
(3) <i>Opacity</i>	<b>-0.095</b>	<b>0.084</b>	1.000					
(4) <i>AuditBigFour</i>	<b>0.537</b>	<b>-0.210</b>	-0.053	1.000				
(5) <i>ROA</i>	0.022	-0.013	<b>-0.175</b>	<b>0.114</b>	1.000			
(6) <i>Leverage</i>	<b>0.270</b>	<b>-0.113</b>	-0.032	<b>0.191</b>	<b>-0.221</b>	1.000		
(7) <i>Size</i>	<b>0.634</b>	<b>-0.141</b>	<b>-0.073</b>	<b>0.432</b>	<b>0.065</b>	<b>0.135</b>	1.000	
(8) <i>Tangibility</i>	-0.053	<b>-0.065</b>	<b>-0.074</b>	<b>-0.081</b>	<b>-0.078</b>	0.042	<b>-0.060</b>	1.000

Note. Correlation coefficients in bold indicate significance at the 5% level.

Source: Research data.

We also observed that financial opacity shows a negative and significant coefficient concerning audit fees, suggesting initial evidence that audit fees are negatively associated with financial opacity. On the other hand, when combining financial opacity with CEO duality, the sign of the relationship changes, indicating that the accumulation of functions by the CEO, by weakening monitoring mechanisms, may favor discretionary decisions and make opaque information (Salehi et al., 2021). Moreover, the results indicate no high correlation among the control variables, suggesting the absence of multicollinearity in the estimated econometric model.

## 4.2 Econometric Model Analysis

Considering the regression results presented in Table 5, we observe that the CEO duality variable does not have significantly influence audit fees. Consequently, this finding rejects the first research hypothesis, indicating that CEO duality does not generate an additional cost for organizations.

This result corroborates the studies by Kuang (2011) and Dwekat (2014), which point out that a CEO holding both positions does not affect audit fees. On the other hand, this finding diverges from the results of Bliss (2011), Farooq et al. (2018), and Jizi and Nehme (2018), who indicate that CEO duality is associated with higher audit fees.

The fact that only 12.4% of the sample observations present CEO duality may explain the lack of significance of CEO duality on audit fees, reflecting progress in corporate governance in the Brazilian context, as CEO duality is among the practices not recommended in corporate governance. Furthermore, this finding can be understood based on the theoretical framework of duality from the perspective of Stewardship Theory (Donaldson & Davis, 1991), which contrasts with the conflictual relationship proposed by Agency Theory. Therefore, these results challenge the fundamentals of Agency Theory, suggesting that CEO duality may not be a factor capable of increasing specific agency costs in the Brazilian context, since whether or not the CEO holds both positions does not impact the determination of audit fees.

Moreover, the CEO's power concentration may provide greater speed in decision-making processes and favor the efficient implementation of strategies aimed at improving organizational performance (Krause et al., 2014), meaning that CEO duality would not constitute an imminent risk for audit activities, nor a relevant factor in setting audit fees. Thus, this finding contributes to the literature debate by reinforcing the lack of consensus on the topic and highlighting that the effect of duality may vary across different contexts and periods.

**Table 5**  
*Regression Results*

	Dependent Variable
	<i>AuditFees</i>
<i>DualCEO</i>	-0.141 (0.110)
<i>Opacity</i>	0.311 (0.297)
<i>DualCEO * Opacity</i>	-0.447 (0.562)
<i>AuditBigFour</i>	0.308*** (0.118)
<i>ROA</i>	-0.077 (0.230)
<i>Leverage</i>	0.129 (0.215)
<i>Size</i>	-0.004 (0.016)
<i>Tangibility</i>	-0.392 (0.299)
<i>Constant</i>	13.160*** (0.417)
Observations	1.890
Companies	179
Prob F <sup>2</sup>	2.05**
R2 within	0.019

Note. \*p<10%; \*\*p<5%; \*\*\*p<1%. Standard errors are reported in parentheses.

Source: Research data.

In addition, Table 5 shows that external auditors do not tend to charge higher fees in the presence of opaque accounting information, since the relationship between Opacity and AuditFees is not statistically significant. We observed that, although international studies indicate that auditors tend to charge higher fees when dealing with companies with high levels of opaque accounting information (Abbott et al., 2006; Kim & Zhang, 2014; Greiner et al., 2017), this relationship does not hold in the Brazilian context.

In this context, based on the premise that the auditor's role is to ensure the compliance of financial statements, the results indicate that earnings management practices, a proxy for Opacity,

when conducted within legal limits and at lower levels, may not be perceived as a significant threat to audit quality. From this perspective, audit quality will likely be preserved if the auditor does not perceive litigation or reputational risks (Weber et al., 2008). Therefore, such practices would not constitute a determining factor in setting audit fees in the Brazilian context, rejecting the second research hypothesis.

This finding also presents another view that opaque information resulting from earnings management practices does not necessarily compromise the quality of the disclosed information. According to Vargas et al. (2021), the impact of earnings management on information quality depends on the conduct of earnings management, potentially being beneficial or harmful to users of accounting information. In some cases, moderate use may reflect legitimate management decisions, whereas excessive use causes significant distortions in financial statements, compromising their usefulness and reliability.

Furthermore, we observed that Opacity does not significantly moderate the relationship between CEO duality (DualCEO) and audit fees (AuditFees). Therefore, we do not infer that the joint presence of companies with opaque accounting information and CEO duality influences audit fees in the Brazilian context. In this sense, this finding advance previous Brazilian studies investigating the determinants of audit fees (Borges et al., 2017; Castro et al., 2015; Hallak & Silva, 2012; Kaveski & Cunha, 2016) by showing that the Opacity of accounting information does not significantly influence audit fees, either individually or in combination with CEO duality. Consequently, we reject the third research hypothesis.

Additionally, the results identified that the Big Four variable was the only control variable that showed statistical significance in the model. The positive and significant relationship between the Big Four and audit fees converges on the premise that audits conducted by this group stand out compared to other firms, since Big Four firms are generally known for providing higher quality services, an expert team, and advanced auditing techniques, which consequently increases audit fees. Thus, the status of the audit firm is a determining factor in setting fees, considering that the prestige of a Big Four firm can enhance the reputation of the audited company in the market, attracting investors' attention.

Finally, the results show that the variables ROA, Leverage, Size, and Tangibility were not significant, contrary to previous studies that identify these variables as determinants of audit fees (Brighenti et al., 2016; Borges et al., 2017; Datta et al., 2020; Joshi & Al-Bastaki, 2000; Hallak & Silva, 2012; Kaveski & Cunha, 2016; Mello & Valentim, 2018).

### 4.3 Robustness Test

Additionally, to confirm the findings that CEO duality and financial opacity are not factors capable of increasing the fees charged by auditors in the execution of their activities, a robustness test was applied using an alternative measure for audit fees, referred to as relative compensation. For this purpose, relative compensation was measured based on the ratio between the fees paid to external auditors and total assets (Santo et al., 2023). Normalizing audit fees by total assets allows for more appropriate comparisons across companies of different sizes, based on the assumption that the fee amount is related to the quantity of auditable assets (Simunic, 1980), as larger firms presents the greater quantity of assets, which implies higher complexity and time required by the auditor to carry out their activities (Naser & Hanssan, 2016).

Table 6 presents the robustness test results, indicating that the relationship between CEO duality and financial opacity with audit fees remained consistent, even when using an alternative proxy for audit fees. Thus, the findings confirm that the potential risks associated with CEO duality and financial opacity are not considered in determining audit fees in the Brazilian context, even when both CEO duality and financial opacity are present simultaneously.

**Table 6**  
*Robustness Test Results*

	Dependent Variable
	<i>RelativeFee</i>
	0.064
<i>DualCEO</i>	(0.192)
<i>Opacity</i>	0.043
	(0.691)
<i>DualCEO * Opacity</i>	-0.580
	(0.145)
<i>AuditBigFour</i>	0.071*
	(0.068)
<i>ROA</i>	-0.290**
	(0.014)
<i>Leverage</i>	0.028
	(0.647)
<i>Size</i>	0.001
	(0.795)
<i>Tangibility</i>	-0.038
	(0.648)
<i>Constant</i>	0.259**
	(0.027)
Observations	1.890
Companies	179
Prob F <sup>2</sup>	0.009
R-squared	0.027

Nota. \*p<10%; \*\*p<5%; \*\*\*p<1%. Standard errors reported in parentheses.  
Source: Research data.

Complementarily, corroborating the findings from the first model, we observed that if one of the Big Four performs audit services, audit fees arise, which points to the perspective that these firms enjoy greater market prestige due to the qualifications of their teams (Hallak & Silva, 2012; Brighenti et al., 2016). On the other hand, the control variable ROA became statistically significant, indicating that the higher the return on assets, the lower the fees charged, since low profitability may signal greater opportunistic behavior by managers, increasing the audit risk (Hallak & Silva, 2012; Brighenti et al., 2016).

## 5 FINAL CONSIDERATIONS

This study aimed to investigate the moderating role of Opacity in the relationship between CEO duality and audit fees in Brazilian publicly traded companies. In this regard, it contributes to the literature in auditing and corporate governance by analyzing whether the presence of opaque information and CEO duality increases auditors' risk perception, thereby influencing the determination of audit fees. To this end, the study's final sample comprised 179 publicly traded companies, whose data were analyzed using panel data regression from 2010 to 2024.

The main results showed that the CEO duality variable was not significant for the expected relationship in this study. Thus, this finding implies the rejection of the first research hypothesis, which expected a positive relationship between CEO duality and audit fees. The results showed, therefore, that CEO duality, although an undesirable corporate governance practice, does not generate additional costs for the organization regarding audit fees. Complementarily, this finding



reinforces the lack of consensus on the topic, considering that the impact of CEO duality may take different forms depending on the context and the period analyzed.

Additionally, we evidenced that the accounting information opacity does not significantly influence audit fees, leading to the rejection of the second research hypothesis. From the perspective that opportunistic practices adopted by managers, we interpreted that when conducted moderately and within legal limits, may not represent a relevant risk to the auditor's work and, consequently, would not justify an increase in audit fees. Thus, the finding supports the notion that earnings management, as a proxy for financial Opacity, does not necessarily threaten the organization, considering that it may merely reflect legitimate managerial decisions when not used excessively.

Regarding the moderating effect of financial Opacity on the relationship between audit fees and CEO duality, the results indicate that, in the Brazilian context, audit fees are not influenced by the simultaneous presence of companies with opaque accounting information and the presence of CEO duality, leading to the rejection of the third research hypothesis. In this sense, this finding contributes to the national literature investigating the determinants of audit fees by providing, to date, the first evidence that the Opacity of accounting information is not a factor that significantly affects audit fees, either individually or when combined with CEO duality.

Complementarily, we conducted a robustness test using relative remuneration as an alternative proxy for audit fees to confirm the initial findings. As in the main model, the results were not statistically significant, confirming that CEO duality and financial Opacity are not determining factors for audit fees, and that financial Opacity does not moderate the relationship between duality and audit fees. Therefore, the audit fee pricing process is not associated with the potential risks of financial Opacity and CEO duality.

Thus, the findings provide practical contributions for potential investors, based on the premise that, by not generating this additional cost, CEO duality allows managers to allocate this capital in other ways, such as increasing the dividends paid to themselves, the board of directors, and company executives. This result is relevant as it indicates that the auditor does not perceive and/or associate duality as a company's risk. Furthermore, the findings may be helpful for financial analysts, signaling that the fees charged by external auditors do not incorporate potential risks inherent to CEO duality and financial Opacity. Finally, the study contributes to the literature by reinforcing that the relationship between CEO duality and audit fees may vary across contexts and periods, given the lack of consensus.

It is important to emphasize that the study presents limitations, given the measurement of financial Opacity of accounting information, which is proxied by discretionary accruals. Therefore, we suggest that future research include other proxies for financial Opacity, such as earnings management through real activities. In addition, we recommend using relative remuneration as a second measure of audit fees. Finally, future studies could also examine the effect of other moderating variables that may influence the investigated relationship, such as periods of crisis, board of directors' characteristics, including ownership control, expertise, or diversity, or executives' behavioral aspects.

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## CONFLICT OF INTERESTS

The authors declare that there is no conflict of interest regarding this submitted work.

## AUTHOR CONTRIBUTIONS

Roles	1 <sup>a</sup> author	2 <sup>o</sup> author	3 <sup>o</sup> author	4 <sup>o</sup> author
Conceptualization	♦			♦
Data Curation	♦	♦	♦	
Formal Analysis	♦	♦	♦	♦
Funding Acquisition				
Investigation	♦			
Methodology	♦	♦		
Project Administration	♦	♦		
Resources				
Software	♦	♦	♦	♦
Supervision		♦	♦	♦
Validation		♦	♦	♦
Visualization				
Writing – Original Draft	♦			
Writing – Review and Editing		♦	♦	♦