Related-party transactions: evidence of audit fees in publicly companies in the brazilian market

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Abstract

Purpose: The study aimed to identify the influence of related party transactions (RPTs) on audit fees (HonAud) of publicly traded companies in the Brazilian market.
Method: AudFee was applied as a dependent variable. As for transactions with related parties, an independent variable, it was decided to use the RPTs in their logarithmic form (Habib et al., 2015; Pratama, 2018; Ali et al., 2021). The collection of economic and financial data was carried out at Economática database and the audit information was taken from the Reference Form, finally, the data referring to the RPTs were collected from the individual statements of the companies in the sample.
Results or Discussion: The results suggest that the RPTs of sales, purchases and totals contribute to the increase of the audit risk, being possibly more complex to be verified than transactions with third parties. And, therefore, they are associated with higher amounts of audit fees charged when providing external audit services.
Contributions: The research contributes to the literature by suggesting that sales and purchasing RPTs act as determinants for the increase in audit fees. It has implications for auditors, as RPTs constitute potential audit risks and require a more specific investigation during the assurance work. Finally, the findings provide guidance for regulators to establish standards for the disclosure of RPTs, as this type of operation can be used to obscure accounting information.

Keywords: Audit Fees; Related-party transactions; Audit.

How to cite:
Introduction

Companies are continually look for ways to reduce expenses in order to obtain more advantageous profits and one of the ways is to make use of the relationship between interconnected parties. Related party transactions (RPTs) occur between a company and individuals or connected organizations with the company, such as managers, boards of directors, major shareholders and affiliates (Al-Dhamari et al., 2018).

On the one hand, RPTs are recognized as genuine efforts by managers, these operations are considered as solid business exchanges meeting the economic needs of companies (Gordon et al., 2004). The advantages arising from transactions with related parties include sharing internal resources, reducing transaction costs and, ultimately, financial profitability (Pizzo, 2013).

However, Anastasia and Onuora (2019) argue that RPTs are conceived as an area of recurring concern, since in corporate scandals RPTs are included as means of managing earnings and diversion of company resources. Therefore, due to opportunistic behavior, controlling shareholders and managers can channel benefits from one company to another related company or to their accounts through improper trading (Fooladi & Farhadi, 2019).

Kohlbeck and Mayhew (2017) admit that management can engage in RTPs with the aim of seeking benefits for controlling shareholders or for themselves through loan operations, guarantees and consulting agreements with a director, executives or majority shareholders. Shareholders involved in extracting benefits through RPTs may also be interested in manipulating the financial statements. Therefore, RPTs are linked to the material risk of financial statements (Kohlbeck & Mayhew, 2017). In this respect, it is possible that, within the audit procedure, the RPTs require more time and effort on the part of the auditors.

In determining audit fees, some characteristics of the clients (size, profitability, complexity and sector of operations), of the audit firms (size and mandate), in addition to corporate governance factors (board size, board independence, diligence of the board, independence of the auditor, audit committee) may affect the amounts charged (Urhoghide & Emeni, 2014).

Castro et al. (2015) conducted a national study to analyze the determinants of audit fees paid by companies listed on B3 (Brasil, Bolsa, Balcão). The findings indicated that the fees are positively related to the size, the level of governance, the fact that the auditor is a large firm and the complexity of the clients, measured by the remuneration of the administrators, since more complex companies tend to spend more with administrators, as require a larger and more qualified number of these professionals. Therefore, clients with greater complexity require more effort and higher audit fees.

Corroborating to the idea above, audit fees according to Zhang (2018) are linked to the auditor’s effort corresponding to the level of audit risk, therefore, the complexity of the work affects the amount of effort required to be spent on the audit service, which results in at higher fees. Because RPTs can involve multiple parties and transactions, they are representative of complex transactions that will require more effort in the audit assessment and will result in a higher fee.

Al-Dhamari et al. (2018) warn that the analysis of RPTs is important for auditors because there is always the risk that they will not be valued at the same value as transactions with an independent third party. Auditors assess a high inherent risk for a company’s transactions with its related parties, due to the lack of independence between the parties involved and the possibility of providing ease of involvement in fraudulent actions (Al-Dhamari et al., 2018).

Based on the understanding that RPTs vary from normal commercial terms and conditions, increasing the company’s risk (Anastasia & Onuora, 2019) and the potential involvement in financial statement scandals (Fang et al., 2018). The following research question arises: What is the influence of transactions with related parties on the audit fees of public companies in the Brazilian market? The general objective of the study is to identify the influence of these operations on the audit fees of public companies in the Brazilian market.

This research is relevant due to the implications of RPTs on financial statements, as they can be an indication of transfers of wealth at the expense of minority shareholders and, still, be a potential mechanism for manipulation of information by managers (Kohlbeck & Mayhew, 2017). In this sense, it is important to investigate whether these transactions affect audit costs and, consequently, audit fees in a national context, given that it is a market with concentration of ownership and conducive to conflicts of interest (Moraes et al., 2019).

In addition, the study extends the discussions raised in the work of Habib et al. (2015) and Al-Dhamari et al. (2018),
especially regarding the influence of sales and purchase RPTs on audit fees in a developing country that implemented the disclosure standard on related parties in 2010.

This study contributes to the literature by expanding previous research that demonstrates the influence of RPTs on audit fees, bringing evidence of an environment in which the ownership structure is often concentrated and which can encourage conflicts of interest between controllers and non-controllers. It brings contributions to auditors who, aware of the nature of RPTs, demand greater efforts in the audit, resulting in higher fees. The survey also can be used as a warning that disclosure rules for standardizing RTPs are designed with the intention of protecting non-controlling shareholders.

2 Literature Review

2.1 Transactions with related parties

RPTs can be carried out through purchase or sale of properties and services, purchase or sale of assets or equity and loans (Lo & Wong, 2016). These operations take place between a company and individuals or organizations related to the company, such as managers, boards of directors, mainly shareholders and affiliates (Al-Dhamari et al., 2018).

The related party relationship can have an effect on the performance of a business entity, due to the possibility of carrying out transactions that third parties would not. Even if transactions with related parties do not occur, they can still have effects on the income statement and balance sheet just because of the relationship between the parties (CPC, 2010).

Diab et al. (2019) clarify that RPTs arise when related companies do business with each other. This way, because a company is in a position to influence the decisions of the other party, through its control or power, RPTs can promote implications on corporate value or performance. A holding company, for example, may ask an affiliate to reduce its research and development activity or terminate its relationship with another company (Diab et al., 2019).

The standard prescribes the mandatory disclosure of the relationship between the parent company and its subsidiaries, as such information provides interested parties with an understanding of the effects of these relationships (CPC, 2010). CPC 05 (R1) also lists examples of transactions with related parties that must be released, such as purchases or sales of properties; purchases or sales of property and other assets; provision or receipt of services; leases among others.

Therefore, because of the influence of the existing relationship between the company and the related party, the transactions do not follow the market price and the terms of the transactions are different from normal commercial terms (Anastasia & Onuora, 2019). Therefore, RPTs are diverse and often complex commercial negotiations (Gordon & Henry, 2005).

In terms of efficient transactions, according to Gordon et al. (2004) the RPTs play the role of meeting the demands of the related companies, since there is a relationship of trust and the sharing of private information. Thus, when a company that is part of the group is in financial trouble, the controlling shareholder is likely to provide temporary support to that company (Peng et al., 2011) boosting its performance (Chen et al., 2009).

On the other hand, from the perspective of conflict of interests, supported by the Agency Theory (Jensen & Meckling, 1976), directors, managers and shareholders have a private interest in RPTs, as they are personally favored by these operations via loans to directors or managers, for example (Di Carlo, 2014). Therefore, RPTs are likely to cause implications for the misuse of company resources in order to expropriate shareholders’ wealth, in addition, the potential bias in financial statements is likely to have a negative impact on their reliability and relevance (Huang & Liu, 2010).

One concern regarding the potential of RPTs is to distort a company’s results and analysis when these trades are not properly disclosed in financial statements (Gallery et al., 2008). In addition, each type of RPT has a different nature and complexity, resulting from the way managers and majority shareholders use these negotiations (Kohlbeck & Mayhew, 2010).

Fang et al. (2018) investigated how the independent auditor responds to the potentially high risk of RPTs and the effectiveness of the auditor’s response. The survey was carried out with companies listed on the Shanghai and Shenzhen stock exchanges from 2001 to 2014. The study revealed that the auditor is more likely to issue a modified audit opinion for companies that carry out sales of goods/services and loans with related parties, but not for companies reporting more RPTs in other categories. The result suggests that the auditor alerts investors to the possibility of earnings management and/or risk of expropriation of sales and related loans through the audit
opinion.

Bearing in mind that auditing is used as an information quality factor (Moura et al., 2017) and RPTs are considered difficult to audit due to the difficulty of being identified and because they are dependent on information provided by management, in addition to being associated with the material risk of financial statements (Kohlbeck & Mayhew, 2017), RPTs are likely to require more effort on the part of auditors, resulting in higher audit fees.

Therefore, this research is directed through the conception of conflicts of interest, since the Brazilian capital market is an environment of concentrated ownership marked by the existence of conflicts of interest between majority and minority shareholders, managers and board of directors (Moraes et al., 2019).

2.2 Audit fees and related party transactions

Accounting statements are used by companies to present information to external users corresponding to the performance, position and equity evolution of the year (Sousa, 2020). As the companies' management is responsible for both the preparation and disclosure of the financial statements, in order to attest to the reliability of the information provided, it is necessary to analyze them by an independent professional, that is, the external auditor (Silva & Silva, 2017).

Independent auditing is one of the mechanisms used as a solution to increase transparency in the manager-investor relationship. The objective is to support the financial statements through impartial verification and adequate technical capacity (Bortolon et al., 2013). The performance of external auditors is basically based on information intermediation, interfering in the flow of information with the aim of mitigating asymmetry and reducing agency costs (Healy & Palepu, 2001).

The study by Simunic (1980) was one of the first to deal with the determination of audit fees, bringing an economic analysis, the sample comprised 397 observations of publicly traded companies in the United States in 1977. The author found that there is a relationship between audit complexity, risk and audit fee.

Regarding the determinants of audit fees, several studies have been carried out (Joshi & Bastaki, 2000; Gonthier-Besacier & Schatt, 2007; Mayoral & Segura, 2007; Hallak & Silva, 2012). The results revealed that audit fees are associated with the size of the client, risk, profitability, complexity of operations and also the size of the audited company and governance practices.

Several factors are crucial in determining audit fees, including audit complexity and risk. Thus, some studies on RPTs and audit fees were developed, as operations with related parties represent a challenge for auditors (Kohlbeck & Mayhew, 2017).

For example, in China, Habib et al. (2015) found that related parties of sales and purchases meet the perspective of efficient contracting of RPTs, leading to lower audit costs. In contrast, loans from related parties result in higher audit fees. Al-Dhamari et al. (2018) investigated RPTs and audit fees in Malaysia. The authors concluded that audit fees are higher for companies that carry out RPTs involving the purchase and sale of assets, goods and services. In addition, external auditors reduce the audit values for companies that, even though performing RPTs, have made a large investment in internal auditing.

Kohlbeck & Mayhew (2017) in the United States documented that the presence of RPTs in general is associated with low audit fees. The authors emphasize that related parties of sales and purchases represent a challenge for auditors do not see RPTs as an audit risk, however, from another perspective, companies that engage with RPTs are more focused on price than on audit quality, hiring specialized auditors with less regularity. Furthermore, a positive relationship was found between RPTs for financing and consulting contracts with administrators, managers and majority shareholders and audit fees. Therefore, for these operations, the authors recognize a greater risk of distortion in operations of this type.

This survey only addresses sales and purchases of products and/or services from related parties for the following reasons. First, net income is immediately affected by manipulation occurring on related sales, and although net income is not affected at the time of related purchases, it may still be manipulated when products and/or services are sold which may occur during the period current accounting (Fang et al., 2018).

Second, related purchase and sale transactions are more likely to be used to transfer wealth within a business group and expropriate minority shareholders’ wealth for the benefit of the group’s controlling shareholders (Black et al., 2015). Furthermore, RPTs of sales and purchases are recurrent, where manipulations through these transactions are less likely to be detected (Wang & Yuan 2012; Wong
Finally, related sales and purchases can increase audit risk, since operational transactions can be carried out at different prices from those practiced in the market and the relationship between related parties can influence this type of transaction (McCahery & Vermeulen, 2005).

When it comes to sales RPTs, Marchini et al. (2018) reveal a positive association with earnings manipulation, measured by discretionary accruals. This type of transaction also affects earnings quality, impairing the representational fidelity and verifiability of accounting data (Wang & Yuan, 2012). Based on the arguments presented above, and considering that in Brazil, as well as in most emerging countries, investor protection and the effectiveness of corporate governance mechanisms is lower (La Porta et al., 2000; Aguilera & Crespi-Cladera, 2016), the following research hypothesis is raised:

H1: The higher the value of RPTs, the higher the audit fees.

The hypothesis was measured from two proxies, purchase and sales operations, as shown below:

- Sales RPTs increase audit fees.
- Purchasing RPTs increase audit fees.
- Joint purchase and sale RPTs increase audit fees.

3.2 Dependent Variable

Audit fees, a dependent variable in this study, were measured using the natural logarithm, in accordance with the research by Habib et al. (2015) and Al-Dhamari et al. (2018). The necessary information for this variable was collected in the Reference Form in items 2.1. (Information on independent auditors) and 2.2 (Remuneration of independent auditors) available on the B3 website.

3.3 Independent Variable

In this research the independent variables, i.e. RPTs of purchases and sales of goods and services; and the emotion of purchases + sales (total RPTs) were measured in logarithmic form, based on studies by Habib et al. (2015), Pratama (2018) and Ali et al. (2021) who used the same measure for related transactions. The data collection of the independent variables was done in the explanatory notes of the companies that reported sales and purchases RPTs.

3.4 Empirical Models

In defining the models for this research, auditor fees (HonAud) were used as the dependent variable. As independent variables, the three measures of RPTs: LnRPTV (sales), LnRPTC (purchases) and LnRPTT (sales+purchases) respectively presented in Equations 1, 2 and 3. The independent control variables include size, return on total assets, leverage, market to book, non-audit services, audit company, audit exchange, audit committee, type of shareholding, year and sector, as indicated in Table 2.

\[
\text{HonAud}_{it} = \alpha + \beta_1 \text{LnRPTV} + \text{Control variables}, \\
\text{HonAud}_{it} = \alpha + \beta_1 \text{LnRPTC} + \text{Control variables}, \\
\text{HonAud}_{it} = \alpha + \beta_1 \text{LnRPTT} + \text{Control variables},
\]

Equation (1)  
Equation (2)  
Equation (3)

Table 1: Description of Sample Selection

<table>
<thead>
<tr>
<th>Sample selection step</th>
<th>Nº companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+) Companies with shares traded on B3</td>
<td>479</td>
</tr>
<tr>
<td>(+) Exclusion of financial companies</td>
<td>90</td>
</tr>
<tr>
<td>(+) Exclusion of companies that did not have related purchases and sales transactions</td>
<td>226</td>
</tr>
<tr>
<td>(+) Final Sample</td>
<td>163</td>
</tr>
</tbody>
</table>

Source: Survey data.

Economic and financial data were collected from the Economática® database and information related to the independent audit was collected from the Reference Form available on the B3 website. It should be noted that the Reference Form was implemented through Normative Instruction CVM (Comissão de Valores Mobiliários) nº 480/09 of this, the period of the research covers the year of 2010 to 2020.

When the financial statements are consolidated, data on related transactions are eliminated (assets, liabilities, equity, income, expenses and cash flows), therefore, data related to RPTs were collected from individual statements, following the methodology used by Gonçalves (2021).
The ALAV control variable refers to the potential consequence of a company’s leverage over management discretion in financial reporting (DeFond & Jiambalvo 1994; Sweeney 1994). Research indicates that highly leveraged companies with a high level of debt are more likely to use practices that are harmful to information quality (Bao & Lewellyn, 2017; Ribeiro & Colauto, 2016). Therefore, a positive relationship with audit fees is expected.

The market to book (MB) was included in the model in order to control the possible growth of the company (Collins & Kothari 1989). According to Klein (2002) it is likely that growing companies experience greater discretion over earnings. Companies that are growing will require greater efforts on the part of the audit, thus, a positive relationship with audit fees is expected.

The ROA variable represents the profitability of the company’s total assets. Kikhia (2015) states that ROA is another factor that explains the variation in audit fees. The expectation is that companies with greater profitability will have higher expenses with audit fees.

The HonNAud variable represents fees paid for non-audit services. This variable exposes that the greater the non-audit services, the greater the auditor’s knowledge about the audited company and, as a result, less time can be spent on the audit work itself (Firth, 1997; Jaramillo et al., 2012).

The AUD variable corresponds to the Big four (PwC, Deloitte, Ernst Young and KPMG). According to studies by Mayoral and Segura (2007) and Jaramillo et al. (2012) fees are higher when companies are audited by a Big four audit firm. It is expected that this variable has a positive association with audit fees in this research.

Related to the variable audit exchange (TrocAud), Castro et al. (2015) emphasize that the competition exercised between auditing firms tends to lead the client, when switching auditing firms, to opt for the best price. In this case, a negative relationship with the amounts charged by the audit is sought.

### Table 2: Research Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Description</th>
<th>Collection</th>
<th>Measure</th>
<th>Reference</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HonAud</td>
<td>Fees paid to independent audit</td>
<td>Form of reference - item 2.1 and 2.2</td>
<td>Natural logarithm of the total amount paid of audit fees</td>
<td>Habibi et al. (2015); Al-Pratama et al. (2018)</td>
</tr>
<tr>
<td>Independent Variables of Interest</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LnTPR</td>
<td>Sales between related parties</td>
<td>Explanatory note</td>
<td>Natural logarithm of the value related to transactions</td>
<td>Habibi et al. (2015); Pratama et al. (2018); Al et al. (2021)</td>
</tr>
<tr>
<td>LnTPRC</td>
<td>Purchases between related parties</td>
<td>Explanatory note</td>
<td>Natural logarithm of the value of related purchase transactions</td>
<td>Habibi et al. (2015); Pratama et al. (2018); Al et al. (2021)</td>
</tr>
<tr>
<td>LnTPRT</td>
<td>Total RPT of related parties</td>
<td>Explanatory note</td>
<td>Natural logarithm of the value of related total transactions (sales + purchases)</td>
<td>Habibi et al. (2015); Pratama et al. (2018); Al et al. (2021)</td>
</tr>
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<td>Control Independent Variables</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>TAM</td>
<td>Size</td>
<td>Econometrica 9</td>
<td>Econometrica</td>
<td>Nasha et al. (2000); Mayoral &amp; Segura (2015); Habibi et al. (2019)</td>
</tr>
<tr>
<td>ALAV</td>
<td>Leverage</td>
<td>Econometrica 9</td>
<td>Market Value / Accounting for shareholders' Equity</td>
<td>Kolbbeck et al. (2010); Lee et al. (2016)</td>
</tr>
<tr>
<td>MB</td>
<td>Measures of the expected growth of the business for the market</td>
<td>Econometrica 9</td>
<td>Net Income/Total Assets</td>
<td>Habibi et al. (2015); Pratama et al. (2018)</td>
</tr>
<tr>
<td>ROA</td>
<td>Return on Total Assets</td>
<td>Econometrica 9</td>
<td>Market Value</td>
<td>Habibi et al. (2015); Pratama et al. (2018)</td>
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<tr>
<td>HonNAud</td>
<td>Non-Audit Services</td>
<td>Form of reference - item 2.1 and 2.2</td>
<td>Dummy: 1 for audited companies that paid for non-audit services and 0 otherwise</td>
<td>Firth (1997); Jaramillo et al. (2012)</td>
</tr>
<tr>
<td>AUD</td>
<td>Audit Company</td>
<td>Form of reference - item 2.1 and 2.2</td>
<td>Dummy: 1 when audit switching occurs and 0 for other cases</td>
<td>Castro et al. (2015); Dittus e Raman (2019)</td>
</tr>
<tr>
<td>TrocAud</td>
<td>Audit Exchange</td>
<td>Form of reference - item 2.1 and 2.2</td>
<td>Dummy: 1 for companies that have higher expenses with audit fees and 0 otherwise</td>
<td>Castro et al. (2015); Dittus e Raman (2019)</td>
</tr>
<tr>
<td>CAud</td>
<td>Audit Committee</td>
<td>Form of reference - item 12.5/8</td>
<td>Dummy: 1 for companies that have higher expenses with audit fees and 0 otherwise</td>
<td>Jaramillo et al. (2012); Bright et al. (2016)</td>
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<tr>
<td>CONTR</td>
<td>Type of Share Control</td>
<td>Reference form - item 13.1 and 13.2</td>
<td>Dummy: 1 if company control is private and 0 if public</td>
<td>Camargo et al. (2011); Dittus e Raman (2019)</td>
</tr>
<tr>
<td>ANO</td>
<td>Annual Period</td>
<td>Econometrica 8</td>
<td>Dummy: 1 if company control is private and 0 if public</td>
<td>Ribeiro et al. (2019); Sampaio et al. (2020); Sonaa (2020)</td>
</tr>
<tr>
<td>SETOR</td>
<td>Sector of each company</td>
<td>Econometrica 8</td>
<td>Dummy: 1 if company control is private and 0 if public</td>
<td>Ribeiro et al. (2014); Ribeiro et al. (2016); Sampaio et al. (2020)</td>
</tr>
</tbody>
</table>

Source: Prepared by the authors.
It was decided to use the audit committee (CAud) as a control variable, because according to Brighenti et al. (2016) companies that have this body verify the operation of internal controls, with regard to ensuring the integrity and effectiveness of controls in the preparation of financial statements. Thus, it appears that the audit committee influences the fees charged by the independent audit.

In the case of the variable type of shareholding control (CONTR), a negative relationship with audit fees is sought, since, as suggested by Camargo et al. (2011) the fact that the company has state share control influences the reduction of expenses with independent audit fees.

Additionally, control is carried out by sectors, as each sector has its own particularities in relation to the activities carried out; and per year, since the internal and external characteristics of companies may change over time (Sousa et al., 2020).

Data were analyzed using three statistical techniques: univariate, bivariate and multivariate. The univariate technique was used to describe the behavior of the sample through the mean, median, standard deviation, minimum and maximum value. While the bivariate analysis was performed using Spearman’s correlation in order to verify the association between the research variables.

To carry out the multivariate analysis of the influence of RPTs on audit fees, the Multiple Linear Regression technique estimated by Ordinary Least Squares (OLS) was used. In this sense, following the guidelines of Fávero and Belfiore (2017), the basic assumptions for the use of this technique were verified, such as the test of normality of the residues, multicollinearity, heteroscedasticity and autocorrelation of the residues, in addition to the specification of the model. Furthermore, the data were winsorized at 1% to correct outliers. It is noteworthy that the data recording was done using Stata 16®.

### 4 Results Analysis

#### 4.1 Univariate Analysis

In order to understand the behavior of the variables in this research, the data were submitted to descriptive analysis, the results are shown in Table 3.

The descriptive results clarify that the scale used (natural logarithm) for the HonAud variable has minimum (3.8362) and maximum (12.6412) discrepant values, as the scale is made from the payment made to the audit, it is noted that the companies of the sample vary in relation to the amounts paid in audit fees. When it comes to the related transaction variables of purchases, sales and totals, it is observed that the averages are close (10.7663, 10.573, 11.3764), in the same way the minimum and maximum numbers between them are similar, suggesting that the...

<table>
<thead>
<tr>
<th>Variável</th>
<th>Obs.</th>
<th>Média</th>
<th>Mediana</th>
<th>Desvio padrão</th>
<th>Mínimo</th>
<th>Máximo</th>
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<td>HonAud</td>
<td>1.355</td>
<td>6.6917</td>
<td>6.4849</td>
<td>1.5861</td>
<td>3.8362</td>
<td>12.6412</td>
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<td>10.7663</td>
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<td>LnTPRC</td>
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<td>2.8094</td>
<td>-1.7561</td>
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<td>0.0530</td>
<td>0.1013</td>
<td>-0.4069</td>
<td>0.2357</td>
</tr>
</tbody>
</table>

*Fonte: Dados da pesquisa.*

Legenda: HonAud= honorários pagos a auditoria independente; LnTPRV= transações de venda entre partes relacionadas; LnTPRC= transações de compra entre partes relacionadas; LnTPRT= total de transações entre partes relacionadas; TAM= tamanho da empresa; ALAV= alavancagem; MB= expectativa de crescimento do negócio para o mercado; ROA= rentabilidade sobre o ativo; HonNAud= serviços de não auditoria; AUD= auditada por BIG4; TracAud= troca de auditoria; CAud= comitê de auditoria; CONTR= controle acionário 0= ausência dos eventos indicados nas variáveis dummies; 1= presença dos eventos indicados nas variáveis dummies.
volume of these operations is analogous.

Related to size, the average is 14,8905 and the minimum (10,8903) and maximum (19,4866) numbers confirm that the sample is composed of companies with different sizes. In turn, ALAV proves that companies have little leverage, ranging from 0.0020 (minimum) to 2.6466 (maximum). The MB oscillates between business growth and loss, as the minimum value is negative, while the maximum is positive.

About the ROA, it appears that the minimum value is negative (-10.9494) which may be an indication that the companies obtained losses in the studied period. The HonNAud variable shows that, in general, companies pay for non-audit services. As for the AUD variable, most companies (1,100) are audited by the Big Four to the detriment of other audit firms.

Regarding the audit change, it is noticed that the companies in the sample remain with the same audit firms for consecutive periods, since during the analyzed period there were only 299 (22.07%) audit changes. Regarding the CAud variable, despite being similar, the number of companies that have an audit committee (556) is lower than those that do not (799). Finally, regarding the type of shareholding control (CONTR), in general, companies have private control.

### 4.2 Bivariate Analysis

The sample was submitted to the Spearman correlation test, with the aim of verifying the relationship between the studied variables. Table 4 presents the results.

<table>
<thead>
<tr>
<th></th>
<th>HonAud</th>
<th>LnTPRV</th>
<th>LnTPRC</th>
<th>LnTPRT</th>
<th>TAM</th>
<th>ALAV</th>
<th>MB</th>
<th>ROA</th>
</tr>
</thead>
<tbody>
<tr>
<td>HonAud</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LnTPRV</td>
<td>0.3113</td>
<td>1</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>LnTPRC</td>
<td>0.3926</td>
<td>0.5209</td>
<td>1</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>LnTPRT</td>
<td>0.3782</td>
<td>0.8386</td>
<td>0.8558</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAM</td>
<td>0.6384</td>
<td>0.3926</td>
<td>0.4718</td>
<td>0.4739</td>
<td>1</td>
<td></td>
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</tr>
<tr>
<td>ALAV</td>
<td>-0.0169</td>
<td>0.1083</td>
<td>0.1441</td>
<td>0.1571</td>
<td>0.1021</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MB</td>
<td>0.2155</td>
<td>0.0001</td>
<td>0.1228</td>
<td>0.0553</td>
<td>0.2259</td>
<td>0.0594</td>
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<td></td>
</tr>
<tr>
<td>ROA</td>
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<td>-0.0545</td>
<td>-0.0486</td>
<td>-0.0426</td>
<td>0.0198</td>
<td>-0.4092</td>
<td>0.4128</td>
<td>1</td>
</tr>
</tbody>
</table>

Fonte: Dados da pesquisa.

Legenda: * indica significância a 10%, ** indica significância a 5% e *** indica significância a 1%.

A partir do teste de correlação de Spearman pode-se perceber que as transações de vendas, de compras e totais, embora exponham relações fracas, causam impacto positivo nos honorários de auditoria a um nível de significância estatística de 1% respectivamente.

In addition, in the relationship between the dependent variables (LnRPTV, LnRPTC and LRPTT) there are positive and significant associations at a 1% level for all of them, this may be an indication of multicollinearity, but this relationship does not harm the models, since data were rotated separately.

Related to the control variables, as suggested by Fávero and Belfiore (2017), it is observed that there is no multicollinearity, because despite being significant, they are much lower than 0.70.

### 4.3 Multivariate analysis

For the sample, three multiple linear regressions estimated by Ordinary Least Squares (OLS) were run. Data were estimated based on the independent variables: related sales, purchases and total transactions (sales+purchases), as the objective was to verify the impact of each of the proxies on the audit fees.

The residuals did not show multicollinearity and are heteroscedastic according to the VIF, Breusch Pagan/ CookWeisberg and White tests respectively. To solve the problem of heteroscedasticity, the regressions were estimated with a robust standard error.

Based on the tests for adequacy of the regression models (Chow test, LM by Breusch Pagan and Hausman test), regressions with random effect were run for the variables LnRPTV and LnRPTC, while for LnRPTT a fixed effect was used. It is noteworthy that for correction of outliers, data were winsorized at 1%. Table 5 shows the results of the multivariate analysis.

The variables for transactions with related parties for sales, purchases and totals have positive and significant coefficients with audit fees. The positive relationship...
between these variables suggests that auditors are exposed to significant audit risks, therefore, the related transactions appear as an indication that higher fees are required to compensate for the additional efforts expended to verify them. The evidenced result is similar to that found by Al-Dhamari et al. (2018).

From the proxy of related sales transactions, it is possible to infer that companies involved in this type of operation demand greater caution from auditors in the process of auditing these items, since the profits of companies that carry out related sales are less informative (Wang & Yuan, 2012). Requiring greater scrutiny when verifying related sales will increase audit fees.

It should be noted that RPTs for sales and purchases are common among interconnected companies (Wong et al., 2015) and therefore the volume of operations of this nature practiced with prices different from those found in the market (McCahery & Vermeulen, 2005) increases the amount of items that will be verified in the audit process, causing a significant impact on your fees.

The results also suggest that due to the RPTs being conducted through complicated processes, causing an implication of a reduction in the quality of accounting information (Kohlbeck & Mayhew, 2017), the occurrence of expropriation of resources via related transactions to the detriment of minority shareholders is likely. since the context of emerging countries is more opportune for the emergence of conflicts of interest (La Porta et al., 2000; Aguilera & Crespi-Cladera, 2016).

Thus, based on the results of this study, H1 - RPTs increase audit fees - was proven, therefore, the research hypothesis was not rejected.

According to the previous studies (Hallak & Silva, 2012; Dantas & Ramos, 2019), the variable size (TAM) is positive and significant, confirming the premise that the larger the audited company, the higher the audit fees, which are charged according to the complexity and dimension of the work undertaken by the auditor.

Concerning the ALAV control variable, a negative and significant relationship is evident only for model 2. This result may be linked to the low leverage of the research sample, which, in turn, contributes to the reduction of audit fees. This finding is in line with research by Habib et al. (2015) and Al-Dhamari et al. (2018).

Regarding the Market to book, it appears that this variable is not statistically significant for any of the examined models (LnRPTV, LnRPTC and LnRPTT), it is possible that the result was impacted by the fact that the companies in the sample fluctuated between loss and growth. This evidence is consistent with Kohlbeck and Mayhew (2010).

Related to ROA, unlike results found in the literature (Simunic, 1980; Kikha, 2015; Habib et al., 2015), a negative and significant relationship is noted only for model 2. A likely explanation for this result is that the sample companies oscillate between losses and gains in asset profitability. It is assumed that the effect of losses occurred more consistently for most companies, resulting in
in a negative association with audit fees.

The dummy variable that indicates the presence of non-audit services (HonNAud), has a negative, but not significant, relationship with audit fees, however, it shows evidence that when additional services provided by the auditor are performed, there may be a reduction of time in providing audit services and consequently there is a reduction in the collection of these amounts. This finding is in line with Jaramillo et al. (2012) and Brighenti et al. (2016).

Regarding the dummy variable AUD, the coefficient is positive and significant for the three models (LnRPTV, LnRPTC, LnRPTT) analyzed, proving that when the audit is performed by a Big four, fees tend to be higher, since these large Auditing firms have specialized knowledge and reputations to uphold, so they charge a premium on their fees. This result reinforces studies such as Camargo et al. (2011), Bortolon et al. (2013) and Castro et al. (2015).

Regarding the dummy variable audit exchange (TrocAud), a negative and statistically relevant relationship is recorded with the dependent variable - audit fees - in the three estimations carried out. Thus, this evidence indicates that when performing the audit exchange, companies are interested in reducing expenses, as they will opt for those that charge lower values (Dantas & Ramos, 2019). On the other hand, in order to acquire new clients, audit firms intend to reduce their initial fees (Castro et al., 2015).

As for the variable CAud, dummy indicative of the existence of an audit committee, it is verified in all models that the coefficient is positive, however, only in model 3 is it significant. A likely explanation for this finding lies in the fact that companies with an established audit committee tend to demand greater effort in audit work (Camargo et al., 2011).

The dummy CONTR, on the other hand, points out whether the shareholding control is private or state-owned, the result shows a negative and significant association with audit fees in model 3. A possible explanation is that controlling shareholders obtain personal benefits with RPTs (Ali et al., 2021) and often because they are part of the company's management, they can influence audit hiring and changes, leading to choices that minimize audit costs.

The findings in this study support the conception of conflicts of interest and correspond to the results found in the literature (Al-Dhamari et al., 2018), indicating that sales and purchase RPTs present greater challenges for auditors, resulting in higher charges in audit fees. On the other hand, it differs from studies such as those by Kohlbeck and Mayhew (2017) and Habib et al. (2021), as local characteristics, such as culture and politics, seem to influence the regulation of RPTs, possibly due to differences between countries in the application of corporate governance and investor protection mechanisms (La Porta et. al., 2000; Aguilera & Crespi-Cladera, 2016).

5 Conclusion

This study aimed to identify whether there is influence of transactions with related parties on audit fees of public companies in the Brazilian market. To measure the RPTs, three proxies were used: sales, purchases and totals.

The results provide evidence that RPTs are compatible with the concept of conflict of interest and result in the compromise of the quality of accounting information, being viewed as a potential determinant for increasing the amounts charged when providing assurance services. Evidence also indicates that RPTs can be used as a means to manipulate earnings (Al-Dhamari et al., 2018). In this sense, auditing companies, in order to protect themselves, charge higher amounts for clients who carry out related transactions.

In addition, the findings see the related transactions as possibly causing material misstatements in the financial statements (Kohlbeck & Mayhew, 2017). This discovery may be linked to the volume of RPTs carried out by companies, therefore, auditors make greater efforts to monitor the risks arising from this type of operations, resulting in higher values in audit fees.

This research contributes to the existing literature in several ways. This is the first national study that associates RPTs and audit fees and provides evidence that related sales and purchase transactions increase audit fees. Second, it provides implications for auditors by indicating that related transactions are potential audit risks and may make it difficult to see material risk in financial statements. In a third aspect, it promotes guidance for standard-setters to create regulations that better standardize the disclosure of RPTs in order to improve the protection of minority shareholders. Finally, for companies it demonstrates that RPTs increase the cost of auditing, however, the results do not cover the conception that when analyzing all types of related transactions, although with an increase in audit fees, the company obtains some reduction in the total transaction cost.
In terms of limitations of this study, it should be noted that only RPTs for sales, purchases and totals (sales+purchases) were used. Another restriction corresponds to the non-generalization of the results because it is a non-probabilistic sample. For future investigations, it is suggested to analyze the association of audit fees in relation to other types of RPTs for loans or transactions between the company and shareholders, managers or others, also taking into account different levels of corporate governance. And yet other metrics can be applied to measure related transactions.

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