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Financial Reports Quality and Discretionary Accruals Management: Evidence from the Latin American Market

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Abstract

Objective: This study investigates the relationship between the quality of financial reports, as assessed by auditors, and quarterly earnings management in publicly traded companies in Latin America.

Method: The analysis was conducted using the Dunn-Bonferroni test on 457 companies from Argentina, Brazil, Colombia, and Mexico between 2015 and 2019. Discretionary accruals served as a proxy for earnings management, estimated using Pae's (2005) model with data from Thomson Reuters®. The indicators proposed by Tang et al. (2016) were used to assess the quality of financial reports.

Results: The findings show that discretionary accruals are significantly higher in the fourth quarter compared to other quarters, while the first quarter differs significantly from the second and third. Brazil, Colombia, and Mexico reported lower levels of earnings management and higher financial reporting quality than Argentina. These results suggest that countries with higher-quality financial reporting, as indicated by auditors' opinions, exhibit lower levels of quarterly earnings management, especially in the fourth quarter.

Contributions: This study provides valuable insights for regulators and auditors and emphasizes the variation in earnings management disclosures across interim periods and national contexts. It supports the development of higher-quality earnings disclosures in emerging markets, potentially attracting more analysts and investors.

Keywords: Earnings management; Discretionary accruals; Financial reporting quality; Auditor's opinion.

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1 Introduction

The output of a company's accounting system is its financial reports. Stakeholders are diverse people who use information for various purposes (Rahman *et al*., 2022). A clear, strong, and reliable financial reporting system is necessary to make accounting information more reliable. High-quality information is crucial for better financial performance and company decisions (Mardessi, 2022).

The auditing process verifies the numbers and explanations used in financial reports to reflect the actual financial situation of a company. In this sense, the auditor's role is essential to ensure compliance with accounting standards since s/he alerts shareholders and regulators about potential fraud or errors in financial statements, promoting more informed decision-making and decreasing statements that use accounting standards to distort a financial context. Hence, auditors can increase the reliability and trustworthiness of financial reports through independent analyses (Silva & Rodrigues, 2016).

High-quality information reduces asymmetry between principals, agents, and suppliers. However, there is no predominant and generally accepted approach to measuring it (Luthan *et al*., 2016), as several social, economic, political, and behavioral factors influence the fact that not everyone has the same qualitative and quantitative information (Moura *et al.,* 2017).

Thus, the quality of information concerns how relevant it is to support users' decisions and the impact of its informative power on a company's financial performance, whether through greater transparency, reliability, and timeliness or less earnings management (Christensen *et al*., 2015). In this regard, to promote a fairer negotiation environment, independent auditors have an essential role in increasing confidence in this information when issuing their opinions on the accounting practices adopted by organizations, ensuring investors greater security (Hu, 2015).

Healy and Wahlen (1999) note that earnings management is when managers use their judgment of financial reports to influence the contractual results derived from the statements disclosed for their benefit. In this context, the literature highlights incentives beyond the remuneration of managers, such as Initial Public Offering (IPO) (Sletten *et al*., 2018), exceeding financial requirements in loan contracts (debt covenants), and reducing the cost of regulation or increasing regulatory benefits (Healy & Wahlen, 1999). From another perspective, Noronha et al. (2008) list these incentives as contractual incentives, regulation, and capital markets.

Many studies analyze the quality of financial reporting and earnings management; however, most use data from European countries or the US. These studies show that cultural, economic, and legal factors affect earnings quality (Dechow *et al*., 2010; Enomoto *et al.,* 2015) and the role of auditing in trying to restrict earnings management (Almarayeh *et al.,* 2020; Choi & Wong, 2007; Choi *et al*., 2022; Lin & Hwang, 2010) and, therefore, the explanation for such behaviors may lie in country-specific factors.

Paulo (2007) reports that adjusting results to meet analysts' forecasts is one incentive for manipulating accounting numbers. The practice of manipulating results is more prevalent in markets with less trading, high capital concentration, and poor enforcement (Mota *et al*., 2017) and, consequently, subject to macroeconomic impacts due to market instability (Viana, 2019), such as Latin American countries.

Given the previous discussion, this study aims to investigate the relationship between the quality auditors assign to financial reports and the management of quarterly results in publicly traded companies in Latin America.

From this perspective, few studies address the association between the quality of financial reports measured from the audit perspective and the level of quarterly earnings management in countries under different macroeconomic contexts. In particular, the significant differences between developed markets and emerging markets characterized by companies with a high level of shareholder concentration and a lower level of legal protection for shareholders (Azevedo *et al.*, 2021; Azevedo *et al.*, 2023; Claessens & Yurtoglu, 2013), exacerbate information asymmetry in such a market environment. Therefore, presenting evidence from the four countries with the highest Gross Domestic Product (GDP) in developing Latin America (i.e., Brazil, Mexico, Argentina, and Colombia) is relevant. According to the World Bank, these countries stand out for their growing participation in the global economy and are classified as emerging countries by the MSCI Emerging Markets Index.

Thus, this study's results contribute to the literature on the quality of financial reporting and earnings management by using data from developing countries with cultural, economic, and social characteristics that differ from those analyzed in previous studies, informing how this can affect the quality of accounting information. Thus, this study is expected to help regulators and auditors to be aware of the variation in earnings management disclosure in interim periods and different national contexts, restrict such practices, support the development of better earnings quality in emerging markets, and to attract more analysts and investors.

2 Literature Review

2.1 Information asymmetry, information quality, and auditing

A type of information asymmetry occurs before proposing and completing a deal, in which managers use their advantage over investors to report biased information, which is called adverse selection. Another type of information asymmetry is moral hazard, which occurs after a contract is signed. Because shareholders cannot observe a manager's behavior, there is a risk that s/he might act opportunistically, contrary to the organization's general objectives (Koetz *et al.*, 2012).

When there is a conflict of interests, in which each party tries to maximize his/her utility for his/her benefit, the so-called agency conflict occurs. Conflicts of interest can harm market operations, especially in countries with high shareholding concentration, as in emerging countries (Azevedo *et al.*, 2023; Balassiano, 2012). From this perspective, even though the global information environment has been improved as a result of the adoption of IFRS, the accounting system is an additional component of a country's institutional system, which, in turn, is composed of companies that receive incentives to disclose/not disclose financial information.

Countries with stricter regulations encourage more reliable information, followed by lower earnings management. This shows that a country's legal environment, combined with the companies' institutional characteristics, can directly influence the quality of accounting information and, consequently, the practice of earnings management (Marques & Ferreira, 2020).

The level of investor protection and the effectiveness of corporate governance mechanisms provided by companies to market participants in developing countries differ from those in developed countries, which encourages earnings management (Almarayeh *et al.,* 2020). Thus, the rise of a country's information asymmetry works as a monetary metastasis, in which the quality of companies' reports decreases, affecting the country's legal and financial system and driving away investors; i.e., information is not sufficiently transparent to ensure investors' confidence.

According to Miko and Kamardin (2015), auditors' ability to uncover irregularities in financial statements and report them to stakeholders can ensure the quality of financial reporting. In this context, auditing ensures the quality of accounting information companies report to external users and promotes an environment of security and transparency for decision-making (Barroso *et al*., 2021; Salehi *et al*., 2017).

2.2 Previous studies and hypotheses development

From the perspective of the quality of financial reporting based on auditing, Doran (1995) presented evidence that managers report higher profits in interim quarters when compared to the results at the end of the fiscal year. In parallel, the results of Bédard and Corteau (2015) suggest that auditors' reviews of interim reports may not be as effective as expected for controlling the quality of interim financial statements. This shows that, managers take advantage of audits in interim quarters not being as rigorous as in the fourth quarter, to manage earnings.

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However, Rodrigues *et al.* (2019) investigated the behavior of the quarterly earnings management level in Brazilian publicly traded companies between 2012 and 2017. They found that the level of accrual management is higher in the fourth quarter than in the first quarter, which shows a behavior of accrual reversal. This finding shows that managers take advantage of the last opportunity to use the discretion of accounting standards and numbers to achieve annual earnings expectations.

Thus, given that the studies previously mentioned present varied evidence of reversals, whether due to operational decisions, investments, or management of interim quarterly profits rather than the fourth quarter, further studies are needed to address the behavior of results during each quarter of the year. Therefore, the following hypotheses are presented:

H1: The level of discretionary accruals in the fourth quarter is significantly different from that in the intervening quarters.

H2: The level of discretionary accruals in the first quarter is significantly different from the second and third quarters.

Although changes in the accounting environment of emerging countries after the adoption of international financial reporting standards (IFRS) have improved the quality of the information (Holtz *et al.*, 2014), stakeholders are still somewhat skeptical about predictive measures due to a concentration of privileged information (Boina & Macedo, 2018). From this perspective, markets with high information asymmetry, such as Latin America, have several tools for managing earnings through accruals, given that their pricing depends on market characteristics.

Thus, La Porta *et al.* (2002) highlighted weak shareholder protection and a poor corporate governance structure as characteristics of these markets that facilitate earnings management. Lopes and Walker (2008) add that because these markets are theoretically underdeveloped, they are less efficient in pricing information.

The literature shows that both company-level and country-level factors influence the role of auditing in constraining earnings management practices (Hung *et al.,* 2023; Mardessi, 2022). In this sense, the possibility that Argentina, Brazil, Colombia, and Mexico present high information asymmetry, which facilitates earnings management through accruals, leads to the analysis of the role of an audit in this context. Therefore, the following hypothesis arises:

H3: Companies in countries with high-quality financial reporting from the auditors' perspective present lower levels of quarterly earnings management.

Therefore, considering an emerging market with fewer monitoring mechanisms, a less developed capital market, and peculiar institutional characteristics, Latin America is a vast field for studies on earnings management and the quality of financial reports.

3 Method

In order to investigate the relationship between the quality auditors attribute to financial reports and quarterly earnings management in publicly traded companies in Latin America, we identified the level of quarterly earnings management by discretionary accruals in publicly traded companies in Argentina, Brazil, Colombia, and Mexico using the model of Pae (2005). Next, the indices proposed by Tang *et al.* (2016) were used to verify the quality of financial reports in each country from an audit perspective. This study focused on these four countries due to the availability of information to perform calculations and subsequent analysis of the dimensions listed.

Quarterly information from 2015 to 2019 from the Thomson Reuters ® database was used to calculate discretionary accruals and information from auditors' reports, supplemented by each company's investor relations reports. The time frame was determined considering the period after 2015 when the companies listed on the stock exchanges adopted the International Financial Reporting Standards (IFRS).

Companies in the financial sector were excluded due to their different characteristics, as well as companies that did not present all the information needed for the calculation. Thus, 457 companies remained after excluding the financial institutions from all the countries addressed in this study (Table 1).

Table 1

Sample description according to country

Country	Argentina	Brazil	Colombia	Mexico
Total Companies	**101**	**414**	**66**	**159**
(-) Companies from the financial sector	15	66	16	27
(-) Companies lacking information	15	108	8	28
(=) Total Companies in the sample	**71**	**240**	**42**	**104**
(*) Number of quarters in the analysis	20			
(=) Total Observations	**9.140**			

Source: study data.

Pae's (2005) model was the most appropriate for achieving this study's objective and analyzing its hypotheses. It uses operating cash flow variables and captures the reversal of accruals from previous periods (Paulo, 2007). After modifying the original Jones (1991) model, Pae's model increased its predictive power. Thus, the predictive power of this model improves by inserting the lagged total accruals (Dechow *et al*., 2012).

Earnings management detection models assume that TA = AD + AND, i.e., total accruals are equal to discretionary accruals plus non-discretionary accruals. In calculating total accruals using the Balance Sheet approach, the variables in Pae's (2005) model seek to identify the non-discretionary nature of accounting choices, with discretionary accruals being deduced using regression residuals, thus appearing as AD = TA - AND.

Thus, the specification model for discretionary accruals proposed by Pae (2005) has the following econometric configuration:

$$TA_{it} = \alpha_{it} + \alpha(1/A_{t-1}) + \beta_1(\Delta R_{it}) + \beta_2(PPE_{it}) + \beta_3(FCO_{it}) + \beta_4(FCO_{it-1}) + \beta_5(TA_{it-1}) + \varepsilon_{it} \quad (1)$$

Where:
TA_{it} = total *accruals* of company *i* in period *t*
ΔR_{it} = variation of net revenues of company *i* in period *t*-1 to period *t*;
PPE_{it} = balance of Fixed Assets of company *i* at the end of period *t*;
A_{it-1} = total assets of the company at the end of period *t*-1;
FCO_{it} = operating cash flow of company *i* in period *t*;
FCO_{it-1} = operating cash flow of company *i* in period *t*-1;
TA_{it-1} = total *accruals* of company *i* in period *t-1*;
ε_{it} = regression error;
All variables are weighted by total assets at the beginning of the period.

In which, total accruals are calculated as follows:

$$TA_{it} = (\Delta AC_{it} - \Delta Disp_{it}) - (\Delta PC_{it} - \Delta Div_{it}) - Depr_{it} \quad (2)$$

Where:

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

ΔAC_{it} = variation of the company's current assets (current) from the end of the period *t*-1 to the end of period *t*;

ΔPC_{it} = variation of the company's current liabilities (current) from the end of period *t*-1 to the end of period *t*;

$\Delta Disp_{it}$ = variation in the company's cash and cash equivalents from the end of period *t*-1 to the end of period *t*;

ΔDiv_{it} = variation in the company's short-term financing and loans from the end of the period *t*-1 to the end of period *t*;

$Depr_{it}$ = amount of the company's depreciation and amortization expenses during period *t*;

All variables are weighted by total assets at the beginning of period t.

In this sense, the estimated value of discretionary accruals is obtained through model residuals (1).

The overall quality index method proposed by Tang *et al.* (2016), which identifies the financial report quality index (FRQI), was used to verify the quality of the countries' financial reports based on the opinions issued by auditors. This index is composed of 3 metrics: Quality of Auditors' Opinion (QAO), Quality of External Auditor (QEA), and Auditors' Fees (AF). The metrics are presented in Table 2.

Table 2
Financial reporting quality variables

Variables	Acronym	Measurement	References
Quality of Auditors' Opinion	QOA	Number of unqualified auditor opinions divided by the total number of companies audited	Tang *et al*. (2016)
Quality of External Auditor	QAE	Total number of companies audited by the Big Four, divided by the total number of companies audited	Tang *et al*. (2016)
Auditors' Fees	HA	Auditor fees divided by total assets	Tang *et al*. (2016)

Source: developed by the authors.

Financial statements are representations made by management. Investors use them to make decisions and rely on auditors to verify the credibility of these statements (Hung *et al.,* 2023). Auditing is expected to reduce information asymmetry and is therefore considered an integral part of the modern financial reporting mechanism.

Auditors' opinions are considered when evaluating an accounting system, as an auditor's analysis may result in an unqualified or qualified opinion. In this sense, the QAO index, following Tang *et al.* (2016), will indicate the number of companies with unqualified opinions in their reports; that is, it will indicate the total number of companies presenting unqualified opinions by the auditors of that country. A qualified opinion, with reservations, may be sufficient evidence indicating low-quality financial reports (Rahman *et al*., 2022); thus, the higher the number of reports with unqualified opinions, the better.

Regarding the QEA index, it assesses how many companies in a given country have had their reports audited by one of the Big Four. Although the Big Four are not immune to risk and failures, large auditing firms are considered to have greater independence, experience, and knowledge of the sector and investments in training and qualifying their auditors (Awuye, 2022). Thus, this class of auditors is assumed to be more prudent in protecting their brand since they have more at stake in the event of audit failures than auditors not belonging to the Big Four (Rahman *et al.*, 2022). Based on this analysis, auditors with these characteristics are expected to positively affect the quality of earnings, restricting the aggressive reporting of accruals and inducing clients to disclose economic losses promptly (Tang *et al.*, 2016).

The AF index measures the proportion of auditors' fees in relation to the company's total assets. More experienced and specialized auditors should be financially compensated for investments in their careers. If the risk in the financial statements is considered high, the audit firm will assign this task to more competent auditors who charge a higher fee (Hung *et al.*, 2023); thus, the greater the auditor's effort to minimize the risk of fraud or error, the higher the fees.

Given the indicators previously presented, we first rank the capital markets individually according to the values of the three FRQI variables. Next, the country with the highest score in each variable is assigned 1. The scores of the other countries are calculated proportionally to the maximum score. Subsequently, the scores of each indicator are equally weighted to calculate the FRQI and thus measure the audit quality index by country. Thus, the FRQI is the arithmetic average of the scores of the three variables for each country. Finally, the higher the score, the higher the quality of a country's financial reporting measured from an audit perspective.

Based on the information obtained after estimating discretionary accruals using Pae's (2005) model, according to regressions (1) and (2) discussed above, the Dunn-Bonferroni multiple comparison test or Dunn test was used to compare the dimensions of discretionary accruals between countries and quarters and, then, between the levels of quality of financial reports in each country. The objective was to better explore data from this study based on previous literature (Call *et al.*, 2014; Martins *et al.*, 2016; Rodrigues *et al.*, 2019).

4 Analysis of Results

4.1 Descriptive analysis

Before verifying the significance of the level of discretionary accruals per quarter and how the quality of each country's financial reports behaves in conjunction with the level of quarterly earnings management, it is important to analyze the descriptive statistics of discretionary accruals per quarter and country on a consolidated basis, as shown in Table 3, and the consolidated and detailed mean for all quarters, as shown in Table 4.

Table 3

Consolidated quarterly discretionary accruals statistics by country

	ADabs	N	Mean	Maximum	Minimum	Standard Deviation
Brazil	1T	1203	0,04163	1,14267	0,00001	0,06612
	2T	1203	0,04302	1,74860	0,00002	0,09422
	3T	1203	0,04604	1,49947	0,00003	0,08813
	4T	1203	0,07843	11,48478	0,00006	0,39057
Argentina	1T	355	0,31917	13,52990	0,00178	0,83115
	2T	355	0,31499	16,30925	0,00176	1,13744
	3T	355	0,36723	14,88018	0,00049	1,15761
	4T	355	0,31917	6,45830	0,00026	0,59433
Colombia	1T	210	0,04611	0,78527	0,00014	0,07420
	2T	210	0,03416	0,20520	0,00030	0,03827
	3T	210	0,02958	0,21565	0,00006	0,03651
	4T	210	0,04397	0,38222	0,00009	0,05841
Mexico	1T	520	0,04548	1,60899	0,00000	0,09957
	2T	520	0,04532	3,16265	0,00005	0,15385
	3T	520	0,03918	2,91277	0,00001	0,13200
		520	0,06717	4,34355	0,00004	0,23000

Source: Study data.

Table 3 shows that Brazil presents the highest number of observations due to the high number of companies in the sample. Additionally, the highest mean of the absolute values of discretionary accruals is obtained in the fourth quarter (0.07843), which may be a consequence of Brazil's highest maximum value in all periods analyzed in that country, also causing a greater dispersion around the mean in relation to the other quarters.

Additionally, such a behavior is similar to that of Rodrigues *et al.* (2019). They also reported the highest level of discretionary accruals in the fourth quarter, followed by the first quarter (0.04163), second quarter (0.04302), and the third quarter (0.04604) when analyzing the level of accruals in the Brazilian market. Such a behavior is aligned with Hypothesis 1.

Regarding Argentina, its means of discretionary accruals are higher than the other countries, with the third quarter (0.36723) being the period with the highest mean. The highest maximum value corresponds to Argentina. However, it is present in the second quarter (16.30925), though, contrary to Brazil's behavior, the highest dispersion of the mean is in the third quarter (1.15761).

Colombia's highest means of discretionary accruals are in the first and fourth quarters, 0.04611 and 0.04397, respectively. This behavior may represent a reversal of discretionary accruals, in which the values of previously managed periods are reversed in the following period, as verified by Rodrigues *et al.* (2019) and Awuye (2022). Additionally, the standard deviation of both quarters follows their means, at its highest in the first (0.07420) and then in the fourth quarter (0.05841).

In Mexico, discretionary accrual is similar to Brazilian accrual, in which the highest value is found in the fourth quarter (0.06717). However, the second highest value is found in the first quarter (0.04548), which is also higher than the second (0.04532) and third quarters (0.03918). This behavior is aligned with Hypothesis 2.

Table 4 shows in detail the mean discretionary accruals for each country and all specific quarters of all years covered in this study to better analyze the behavior of these quarters.

Table 4

Mean discretionary accruals for all quarters by country

ADabs	Brazil	Argentina	Colombia	Mexico
2015q1	0,05230	0,21570	0,07600	0,06123
2015q2	0,03200	0,17100	0,04000	0,04897
2015q3	0,06890	0,21340	0,04043	0,04253
2015q4	0,05170	0,31650	0,05190	0,09667
2016q1	0,03890	0,29057	0,03117	0,05168
2016q2	0,04280	0,25137	0,02795	0,07465
2016q3	0,03870	0,28385	0,02134	0,06391
2016q4	0,05680	0,31573	0,04046	0,05984
2017q1	0,03740	0,28114	0,04275	0,04339
2017q2	0,04600	0,26712	0,04170	0,03821
2017q3	0,04450	0,35668	0,02531	0,03376
2017q4	0,04930	0,42843	0,03709	0,05052
2018q1	0,03740	0,37449	0,04127	0,04060
2018q2	0,05570	0,50113	0,03673	0,03167
2018q3	0,03800	0,56955	0,02122	0,03259
2018q4	0,04820	0,31597	0,05047	0,03349
2019q1	0,04190	0,43394	0,03932	0,03050
2019q2	0,03830	0,38424	0,02442	0,03308
2019q3	0,04000	0,41259	0,03957	0,02308
2019q4	0,18670	0,21916	0,03992	0,09529

Source: Study data.

Table 4 shows that the fourth quarter totaled 12 appearances during the entire period; i.e., the fourth quarter showed the highest level of accruals in the study period for all countries, which is aligned with the findings of Das *et al.* (2009) and Gu *et al.* (2005). However, it is noteworthy that the highest mean of all periods is that of the third quarter of 2018 in Argentina (0.56955). This finding may explain the highest consolidated mean in Argentina, which is that of the third quarter and not the fourth quarter (see Table 3).

Note that the period between 2015 and 2019 coincides with Argentina's economic crisis. According to the International Monetary Fund (IMF), the peso (the Argentine currency) lost 40% of its value in 2018, which might explain the high level of accruals in the period.

Notably, with the exception of 2018 to 2019, the years 2015, 2016, and 2017 showed a decline from the fourth period of each year to the first period of the following year in all countries. This finding is aligned with the notion concerning the reversal of discretionary accruals presented by Collins *et al.* (1984), Jeter and Shivakumar (1999), Rodrigues *et al.* (2019), and Choi *et al.* (2022).

4.2 Analysis of quarterly earnings management and the quality of financial reporting

The Dunn test was first used to compare all countries and all quarters, analyzing the level of quarterly earnings management through discretionary accruals and the quality of financial reports in each country (Table 5). This test was chosen because it enables the comparison of various samples. Additionally, as it is a non-parametric method, it is suitable for analyzing data not normally distributed.

Table 5
Comparison of quarterly discretionary accruals

EM x Quarter	1	2	3	4
1	-			
2	2,68 (0,0036) **	–		
3	1,36 (0,0867) *	- 1,32 (0,09299) *	–	
4	- 2,99 (0,0014) ***	- 5,68 (0,0000) ***	- 4,36 (0,0000) ***	–

Note: Significant at *10%, **5%. ***1%. P-values between parentheses. The general P-value of the Dunn test was 0.0001.
Legend: EM – Earnings management.
Source: Study data..

Table 5 shows that the overall p-value indicated by the Dunn test is significant, indicating that all quarters are significantly different. Analysis of the significance of each quarter separately shows evidence not to reject Hypothesis 1, which proposes that the fourth quarter presents a different level from the remaining.

Regarding Hypothesis 2, the first quarter was significantly different from the second. Furthermore, the second and third quarters presented the smallest difference between the levels of earnings management.

These results corroborate the results of Rodrigues *et al.* (2019) regarding the significance of the fourth quarter and indicate that incentives are most significant in the last quarter. Regarding the first quarter, these results corroborate those of Jeter and Shivakumar (1999) by being statistically different from the intermediate quarters.

These findings highlight how, in the fourth quarter, companies are generally under more pressure to meet the financial targets set at the beginning of the year. Additionally, executives' variable compensation, linked to annual financial performance, might create a personal incentive to inflate fourth-quarter results through discretionary accruals. Given these factors, earnings management can be a device used to achieve the desired performance and can have an impact on stock prices (Wang & Ding, 2021) and profit distribution (Dichev & Owens, 2024).

By dealing with financial reports, Table 6 shows the level of quality of these reports, according to indicators proposed by Tang *et al.* (2016), separately by country and variable. Next, the mean for each country (FRQI) from 2015 to 2019 is presented.

Table 6

Financial reporting quality level by country

Country	QAO	QEA	AF	Mean
Brazil	0,97	0,83	0,14	0,65
Argentina	0,99	0,34	0,06	0,46
Colombia	1	0,52	0,06	0,53
Mexico	0,99	0,56	0,15	0,57

Source: Study data

Table 6 shows that the QAO index shows slight variation between the markets in each country and a good quality index of the reports. All the companies in Colombia present reports with auditors' unqualified opinions; that is, the financial reports are according to the accounting principles and, possibly, for this reason, do not present reservations. Even though it is the lowest index among the countries, Brazil's representation of 97% of unqualified opinions is considerably high for the universe of 240 companies addressed here.

Regarding the QEA index, the representation of Big Four firms in the Latin American market varies. One of the Big Four audits 87% of the Brazilian companies included in this study, while only 34% of the Argentinean companies addressed in this study are audited by the Big Four. As previously discussed, the period analyzed here encompasses the severe economic crisis faced by Argentina, which led to an increase in audit risks and reduced the presence of the Big Four in the country.

A comparison of the proportion of unqualified audit opinions (99%) and the representation of the Big Four in Argentina (34%) compromised the QAO. According to the results of Huguet and Gandia (2016), an auditor not belonging to the Big Four may issue an unqualified opinion (without reservations) without having performed rigorous tests or having sufficient technical knowledge to detect any deviation from accepted accounting practices that affect the quality of earnings.

The AF column indicates that Mexico has the highest mean fees in relation to the companies' total assets, followed by Brazilian auditors' fees, which represent 14% of the companies' total assets. However, this index is complementary to the QEA, given that Brazil (83%) and Mexico (56%) have the highest QEA and, consequently, the highest AF. When verifying the mean overall quality of the financial report of each country, Brazil obtained the highest mean (65%), followed by Mexico (57%), Colombia (53%), and Argentina (43%).

Thus, each variable was ranked and compared using the Dunn test to assess the significance of the results and compare the quality of financial reports in each country. In the case of the QAO variable, Brazil was ranked third, as it scored 3. Argentina and Mexico scored 2; hence, they were ranked second, and finally, Colombia scored 1. Table 7 presents the results.

Table 7
Qualified and unqualified opinion

QOA	1 C	2 A and M
2 – A and M	- 1,58 (0,0000) ***	–
3 – B	- 3,25 (0,0006) ***	21,79 (0,0000) ***

Note: Significant at *10%, **5%, ***1%. P-values between parentheses. General p-value from the Dunn test was 0.0001.

Legend: A – Argentina; B – Brazil; C – Colombia, and M – Mexico.

Source: Study data.

Table 7 shows that this study corroborates with the results of Tang *et al.* (2016) by showing both the overall p-value (0.0001) and the comparison of the rankings between the countries, which are all statistically different with 1% significance. However, the results diverge when it comes to data related to Brazil, as "qualified" opinions were less frequent than "unqualified" ones.

Table 8 shows a comparison between countries with companies audited by the Big Four and non-Big Four:

Table 8
Audited by the Big Four and Non-Big Four

QAE	1 B	2 M	3 C
2 – M	1,88 (0,0298) **	–	–
3 – C	3,25 (0,0006) ***	1,76 (0,0389) **	–
4 – A	- 4,19 (0,0000) ***	- 3,82 (0,0000) ***	- 3,19 (0,0000) ***

Note: Significant at *10%, **5%, ***1%. P-values between parentheses. General p-value of the Dunn test was 0.0001.

Legend: A – Argentina; B – Brazil; C – Colombia, and M – Mexico.

Source: Study data

Based on the overall p-value, the results indicate that the quality of financial reporting in all countries is statistically different at a 1% significance level when audited by the Big Four. Thus, this result corroborates the findings of Marques and Ferreira (2020), in which the country's legal environment and institutional characteristics can mean that the same auditing company in different countries can provide different levels of report quality.

Table 9 shows a comparison between auditors' fees across countries as a proportion of companies' total assets:

Table 9
Fees according to country

AF	1 M	2 B	3 A and C
2 - B	- 1,88 (0,0298) **	-	-
3 – A e M	- 2,63 (0,0000) ***	- 2,94 (0,0000) ***	-

Note: Significant at *10%, **5%, ***1%. P-values between parentheses. General p-value of the Dunn test was 0.0001.

Legend: A – Argentina; B – Brazil; C – Colombia, and M – Mexico.

Source: Study data..

The results show that the auditors' fees are statistically different in all countries, complementing the results of the QAO and QEA variables. This indicates that the three financial reporting quality variables are statistically different at 5% significance among all the countries addressed here, corroborating the results of Tang *et al.* (2016).

The indicators previously mentioned show differences in the quality of financial reports in the markets included in the sample. To the extent that these indicators are considered proxies for the result of the application of national accounting and auditing standards and systems, they suggest that there are substantial variations in the accounting and auditing practices of the emerging countries analyzed here. Given all the results presented, both by the information on quarterly earnings management by discretionary accruals and the multiple comparisons made by the Dunn test and by the results concerning the quality of financial reports and compared by the Dunn test, Hypothesis 3 failed to be rejected.

5 Conclusion

This study investigated the relationship between the quality auditors assign to financial reports and quarterly earnings management in publicly traded companies in Latin America. Hence, discretionary accruals for all quarters from 2015 to 2019 and the overall quality index of financial reports were estimated for 457 companies from Brazil, Argentina, Colombia, and Mexico.

The results indicated that Hypothesis 1 failed to be rejected, and The Dunn test showed that discretionary accruals in the fourth quarter significantly differed from those in the intermediate quarters. Additionally, the fourth quarter presented the highest mean of discretionary accruals.

The results indicated that Hypothesis 1 failed to be rejected, and The Dunn test showed that discretionary accruals in the fourth quarter significantly differed from those in the intermediate quarters. Additionally, the fourth quarter presented the highest mean of discretionary accruals.

These findings shed light on how factors related to pressure to meet financial targets and variable executive compensation linked to annual financial performance might create incentives to inflate fourth-quarter results through discretionary accruals. In such a context, fourth-quarter earnings management can be a device used to achieve the desired performance.

The results also indicated that Hypothesis 2 failed to be rejected, given that discretionary accruals in the first quarter were significantly different from those in the second and third quarters. The non-rejection of Hypothesis 2 points to evidence of a reversal behavior of accruals in the first quarter as a result of management in the fourth quarter. It is important to emphasize that this study discussed the level of earnings management rather than the direction of management.

An analysis of the countries revealed that Argentina presented the highest level of earnings management, while Brazil, Colombia, and Mexico presented similar behaviors. Analyzing the quality of financial reports through the QAO, QEA, and AF indexes showed that Argentina presented the worst mean and Brazil the best. The Dunn test was used to rank the statistically different countries with a 95% confidence level.

Thus, Hypothesis 3 failed to be rejected, given that Brazil presented a low level of quarterly earnings management through discretionary accruals and the highest level of financial reporting quality through the average of the QAO, QEA, and AF indexes. In contrast, Argentina presented the highest level of quarterly earnings management and the lowest financial reporting quality index. It is worth mentioning that, according to IMF data, the period of analysis (2015-2019) included an economic crisis in Argentina.

An aspect worth highlighting is that the results suggest that countries with high-quality financial reporting, such as Brazil and Mexico, had the highest level of earnings management through discretionary accruals in the fourth quarter, though overall, they presented low levels of earnings management. On the other hand, Argentina did not show good quality financial reporting and presented the highest level of earnings management overall.

These results lead to two main conclusions. On the one hand, it is clear that an environment with good audit quality will not necessarily eliminate all the factors that lead to a low level of information quality or high levels of discretionary accruals management. On the other hand, it corroborates that the regulatory aspects of each country's formal and informal institutions are relevant in the discussion about the role of auditing in the quality of financial reports and accounting information.

In this sense, this study contributes to academia by demonstrating that earnings management through accruals differs across quarters and countries. Furthermore, it shows that stakeholders must pay attention when analyzing companies, given that both the quality of financial reports and the discretionary behavior of quarterly accounting figures can affect final decision-making. An adequate audit system can be an indicator of high-quality financial reports, and, therefore, ignoring these factors would lead to an incomplete view of the quality of companies' reports.

Despite the aforementioned contributions, some limitations must be acknowledged, such as the proxies used to measure the quality of financial reports, as they do not vary according to the financial data. Additionally, sufficient information for the analyses is also impaired in some countries. Therefore, future studies are suggested to verify the behavior of accruals and the quality of reports according to audit characteristics from the perspective of earnings management based on actual activities and address larger samples from divergent markets, such as the BRICS.

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