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Internal Control Weaknesses, financial restatements, and audit opinion: evidence from Brazilian market

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Abstract

Objective: To analyze associations between Internal Control Weaknesses (ICWs), audit opinion, and Financial Restatements (FR) of companies listed in *Brasil, Bolsa e Balcão B3*, composing the IBrX 100.
Method: This is a descriptive, archival, quantitative study. Data were obtained from Brazilian Security and Exchange Commission's (CVM) website in the 2010-2018 period. Analysis was performed using descriptive statistics, test for differences of average/medians/proportions, Chi-square test, and analysis of correlations.
Results: 23.27% of the observations presented at least one ICW; 35.58% of restatements were found on average, though only 2.73% were required by CVM. Additionally, 1.11% of the audit reports presented a qualified opinion. No association was found between ICW disclosure, reissue of statements, and type of audit opinion. However, an association was found between ICW disclosure and emphasis paragraphs, suggesting the latter can signal weaknesses arising from weaknesses, though did not result in the auditors issuing a modified opinion.
Contributions: This study provides an opportunity to discuss the role of regulators in investigating opinions issued by auditors and the underreporting of reissued financial statements.
Keywords: Internal Control Weaknesses; Financial Restatements; Audit opinion.

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1. Introduction

Given numerous frauds, regulatory authorities, the Government and companies, have adopted strict control measures (Wolfe & Hermanson, 2004). Ge and McVay (2005) note that Sarbanes-Oxley Act (SOX) was an example of such control measures that came into effect in the USA in 2002, which triggered many changes in accounting and auditing standards. In this sense, Hammersley, Myers, and Shakespeare (2008) highlighted SOX's paragraph 302, which requires executive and financial directors to perform quarterly assessments of the effectiveness of internal controls, while paragraph 404 requires an annual audit to assess the management of internal controls and their effectiveness.

In Brazil, the Brazilian Securities and Exchange Commission (CVM), following the same direction, through Instruction No. 480, from 2009, started requiring from Brazilian publicly held companies the disclosure of ICWs through Reference Forms (RF) (Lopes, Marques & Lousada, 2019). The objective is to ensure the disclosure of reliable FS, demanding that an independent auditor provide an opinion and a detailed report assessing the effectiveness of internal controls performed by the board (CVM Instruction 480, 2009).

Given these changes, researchers from the accounting and auditing fields have attempted to understand how the disclosure of such weaknesses affect the informational content of financial reports (Donelson, Ege & McInnis, 2017; Ji, Lu, Qu & Richardson, 2019) in the context of quality auditing (Hammersley, Myers & Zhou, 2012; Habib, 2013). For example, when analyzing companies that reissued their FS to correct distortions linked to underlying material deficiency, Rice and Weber (2012) verified that most companies reported control weaknesses only after restatements. This situation suggests that most of the companies do not report these material weaknesses timely. According to those authors, this issue is related to the auditors' ability to spot control weaknesses and incentives around decisions on whether to disclose these aspects or not.

Wolfe and Hermanson (2004) state that most frauds are committed by experiment, intelligent people with a high level of knowledge of the company's internal controls and vulnerabilities. In turn, Donelson et al. (2017) found strong evidence of an association between control weaknesses and frauds in the future. Hence, we emphasize the importance of identifying weaknesses to develop measures intended to mitigate them.

In the Brazilian context, Lopes, Marques, and Louzada (2019) verified that the types of ICWs reported in RF for the 2010-2015 period were: Training, Technological Failures (TFs), Failures in Subsidiaries (FSs), Specific Accounts (SAs) and Segregation of Duties. However, it is noteworthy that that study revealed that almost half of the observations reported an inexistence of ICWs.

The identification of ICWs on the part of auditors is linked to the risk that these weaknesses represent to the FS reliability because the presence of ICWs may indicate potential distortions or factors that affect the risk of relevant distortion. Consequently, auditors should assess internal controls to be reasonably safe to issue their opinion on FS, that is, to certify that these are free of relevant distortion, whether it is an honest mistake or fraud (NBC TA 315). In this sense, an auditor's attributions include verifying control weaknesses reported in the previous auditing. If no corrective action was taken, communication of this deficiency must be reiterated (NBC TA 265).

An independent auditor's objective is to confer greater reliability to FS (NBC TA 200). Upon obtaining an understanding of internal controls, auditors assess controls weaknesses and weaknesses to identify whether there is a risk of relevant distortion (NBC TA 265), which will guide auditing procedures, and consequently, the auditor's opinion.

Habib (2013) verified that a modified audit opinion depends on the companies' specific variables, such as size, profitability, the quality of internal controls, and ability to manage control weaknesses and/or weaknesses. Evidence suggests that auditors use orderly strategies to manage customer-related control risk, among which modified opinion (Elder, Zhang, Zhou & Zhou, 2009).

Lobo, Wang, Yu, and Zhao (2020) verified that ICWs present less precise financial reports. Meanwhile, ICWs may also signal potential error or fraud in the future, i.e., compromise the quality of FS (Guragai & Hutchison, 2019), as control weaknesses are also related to an opportunity to commit fraud (Adhikari, Guragai & Seetharaman, 2020; Donelson et al., 2017). Hence, one should consider that reissues of financial statements are often used to correct distortions linked to underlying material deficiency (Rice & Weber, 2012).

Considering the responsibility of auditors in the face of the need to identify and disclose ICWs, even though the disclosure of ICWs are mandatory since 2009 (Instrução CVM 480, 2009), as previously reported in international studies, such as Adhikari et al. (2020); Gao, Jia and Li (2020); Lobo et al. (2020); Bauer et al. (2019); Donelson et al. (2017); Lenard et al. (2016); Ge et al. (2007); and Ge and McVay (2005), and Brazilian studies: Teixeira and Cunha (2016a; 2016b); Silva et al. (2018); and Lopes, Marques, and Louzada (2019), there is a research gap in the Brazilian context, thus, it is an opportunity to analyze associations between ICWs, auditors' opinion, and the reissue of financial reports.

In this context, this study sought to answer the following question: **What is the association between internal control weaknesses, auditor opinion, and reissues of financial statements?**

Thus, this study's objective was to analyze associations between ICWs, audit opinion, and reissues of FS among companies composing *Índice Brasil 100* (IBrX 100). This descriptive, documentary and qualitative study analyzed data from 2010 to 2018, extracted from the Reference Forms available at CVM's website, auditors' reports, and FS. Data were analyzed using descriptive statistics, a test for differences between proportions, the Chi-square test for verifying associations, and Spearman's correlation analysis.

This study is intended to anticipate potential mistakes arising from ICWs and correct them. Not adopting measures to remedy previously reported weaknesses has various consequences, such as increases in auditing fees and a higher likelihood of receiving a modified audit opinion (Hammersley et al., 2012). This study is also expected to contribute to the dynamics of associated factors in the Brazilian context that affect audit opinion and the reissuing of financial statements.

Therefore, this study has potential implications for risk assessment on the part of investors, auditors, and managers. According to Adhikari et al. (2020) and Gao et al. (2020), changes in auditing standards may also change investors' perceptions regarding ICWs and how ICWs disclosure impacts financing options. Furthermore, this study also has the potential to evidence potential risks of underreporting and/or ICWs disclosure, modified opinions, and/or reissuing statements on the part of regulators/managers.

2. Literature Review

2.1 Internal Control Weaknesses: Origins and Empirical Evidence

Internal control is the process used to identify and mitigate business risks that threaten an entity's objectives and security, aiming to ensure the effectiveness and efficiency of its operations and the reliability of financial reports, according to law and applicable regulation (NBC TA 315). Internal Control Weaknesses arise when controls cannot timely prevent or detect and remedy distortions in Financial Statements. Significant internal control deficiency refers to a control deficiency or a combination of control weaknesses and likely presents relevant distortion (NBC TA 265).

The regulator's objective when demanding ICWs disclosure is to signal the possibility that problems resulting from such weaknesses may occur. Initially, the disclosure of ICWs became mandatory in the USA due to Sarbanes-Oxley Act (SOX) in 2002. In Brazil, disclosure was imposed on publicly traded companies after CVM Instruction No. 480 in 2009.

Implementing the SOX Act in the USA brought regulatory consequences for Brazil since CVM determined through Normative Instruction No. 480 the disclosure of Reference Forms and information about their content, listed in Annex 24, specifically item 5.3, (d), and (e). In addition, it demands the disclosure of ICWs presented in a detailed report, including directors' comments regarding the weaknesses identified and corrective measures adopted.

The study conducted by Ge and McVay (2005) examined the disclosure of material weaknesses after the SOX Act was implemented to identify the types of weaknesses and the firms' general characteristics. The authors analyzed 261 companies that disclosed at least one deficiency listed in the files sent to the Securities and Exchange Commission (SEC) between 2002 and 2004 and verified: weaknesses in revenue recognition policies; lack of segregation of duties; accounting policy weaknesses in the closing process; inadequate reconciliation of accounts; and specific weaknesses of subsidiaries. Regarding the company's characteristics, this disclosure is positively associated with business complexity and the fact that a large auditing firm audited the companies analyzed.

In turn, Hammersley et al. (2012) identified consequences of not correcting material weaknesses, such as increased auditing fees; increased likelihood of auditors being dismissed; increased likelihood of a modified audit opinion; operational continuity; and an increase in credit risk rating.

In the Brazilian context, Lopes et al. (2019) investigated ICWs disclosed by Brazilian companies in the last quarter of 2015 and identified the types of ICWs using the categories proposed by Ge and McVay (2005). They also showed that the companies declaring no relevant weaknesses comprised 49% of the sample. However, according to CVM, these situations should be rare. The types of ICWs reported were: Training, Technological Failures, Failures in Subsidiaries, Specific Accounts, and Segregation of Duties.

The disclosure of ICWs is linked to three conditions: the existence of ICWs; disclosure identified by auditors; and decisions whether disclosing weaknesses or not (Ashbaugh-Skaife, Collins & Kinney, 2007). For an ICWs disclosure to be meaningful for investors, companies should not report that their internal controls are effective when they are not. Rice and Weber (2012) investigated companies that reissued their financial statements to correct distortions concerning control weaknesses and associated this sample with ICWs reports previously issued, together with the original financial statements. The objective was to verify whether underlying weaknesses were reported in the distortion period, and the results suggest that most of the companies with material weaknesses did not timely report these weaknesses.

Wang (2013) argued that updates in financial statements result from internal control problems, considering this tool is the first barrier to ensuring these statements' quality. The author analyzed associations between reissuing financial statements and internal controls, verifying whether ICWs affect the corrections' level of severity. The findings indicate that different levels of ICWs may cause varying levels of severity in corrections and that ICWs at the company level are more severe and more likely to demand corrections when compared to account-specific material weaknesses.

When demanding the annual disclosure of ICWs (Instruction CVM 480, 2009), CVM understands that independent auditors must take a stand concerning the audited company's internal controls. This procedure signals the market of potential occurrences resulting from such weaknesses (NBC TA 315). This obligation initially originated in the USA after SOX Act was implemented (Hammersley, et al., 2008) and is linked to the potential risk ICWs represent to financial statements in terms of relevant distortions, resulting from errors or frauds (Adhikari, Guragai & Seetharaman, 2020; NBC TA 315; Donelson et al., 2017). Based on these arguments, we may infer a relationship between ICWs, reissuing of financial statements, and auditor opinion, which leads to this study's proposal.

2.2 Determinants of Audit Opinion and the Reissuing of Financial Restatements

Within the scope of the Federal Council of Accounting (CFC), the *Norma Brasileira de Contabilidade Técnica da Auditoria* [Brazilian Standard for Technical Audit Accounting] (NBC TA 700) presents the parameters to be adopted in audit opinion and audit reports. The standard provides for two types of audit reports called unmodified audit opinion and modified audit opinion. Blandón and Bosch (2013) verified that unmodified audit opinion (unqualified) is expressed by auditors when they conclude that a financial statement took into account all relevant aspects according to the applicable financial reporting framework.

Modified opinions are subdivided into three types: qualified, adverse, and disclaimer opinions. A qualified opinion is issued when auditors find evidence of relevant individual or combined misstatements. However, these are not pervasive. An adverse opinion is issued when auditors find evidence that financial statements contain material and pervasive misstatements. Finally, a disclaimer of opinion is issued when auditors find no sufficient evidence to support an opinion. Thus, they cannot express an opinion regarding a given financial statement (NBC TA 705).

According to Habib (2013), the literature on the determinants of audit opinion is far from conclusive. Chen, Cumming, Hou, and Lee (2013) note that auditors work as external mechanisms to decrease a company's tendency to manipulate results. MohammadRezaei, Mohd-Saleh, Jaffar, and Hassan (2016) verified that factors such as the audit market's competitiveness might influence an auditor's opinion. In turn, Moalla (2017) notes that factors that influence auditing risks encourage modified opinions, while Jiang, Rupley, and Wu (2010) evidenced a positive association between ICWs and audit opinion, though this association was significant only for more complex ICWs. Likewise, Munsif, Raghun, and Rama (2012) verified that the reporting of ICWs favors delays in issuing opinions. Despite the adverse effects arising from the disclosure of information that increases investors' risk perceptions regarding companies or increases litigation costs and may cause auditors to lose contracts, auditors may still not issue modified opinions. Instead, auditors can adopt other forms to warn the market of problems not material in the current year, but possibly in the future; e.g., the emphasis of matter paragraphs (Brazel et al., 2011; Ianniello & Galloppo, 2015). Hence, given this context, the following hypothesis is proposed:

H1: There is a positive and significant association between ICWs and modified opinion.

According to NBC TA 706, emphasis paragraphs expose a subject previously disclosed in financial statements that deserves attention because auditors consider it information essential for users' understanding. However, an initial emphasis may later be qualified in subsequent periods (Marques et al., 2018).

From the perspective of Rice and Weber (2012), Wang (2013), and Guragai and Hutchison (2019), ICWs may trigger the reissuing of financial statements. According to these authors, there is a significant relationship between the frequency, number, and type of a company's disclosed ICWs and the reissuing of its financial statements. However, auditors may report an unmodified opinion with one or more emphasis paragraphs (Damascena & Paulo, 2013; Santana, Silva, Dantas & Botelho, 2019). In this sense, Jiang, Rupley, and Wu (2010) verified that more complex ICWs are positively associated with modified opinion. Additionally, Marques, Louzada, Amaral, and Souza (2018) observed that emphasis paragraphs in auditing reports are a way to signal a relevant aspect without incurring a modified opinion. This perspective is coherent with Ianniello and Galloppo (2015), Kelton and Montague (2018), and Czerney, Schmidt, and Thomps (2019), which reported significant effects of the informational content of emphasis paragraphs. Therefore, the second hypothesis is proposed:

H2: There is a positive and significant association between ICWs and emphasis paragraphs.

In addition to auditor opinion and emphasis paragraphs, ICWs may be positively associated with errors and fraud, as they show a greater risk of these events occurring (Donelson, Ege & McInnis, 2017). In turn, these events would result in the reissuing of financial statements. In this context, Li, Park, and Wynn (2018) highlight a positive relationship between ICWs disclosure and the reissuing of financial statements. Cianci, Clor-Proell, and Kaplan (2019) collaborate, highlighting that a decrease in reissues depends, to some extent, on improving internal control systems. Hence, companies with a more significant number of ICWs would be more likely to reissue financial statements. Lawrence, Minutti, and Vyas (2018) and Guragai and Hutchison (2019) confirmed this hypothesis, analyzing a sample of companies listed on the SEC. Krishnan, Krishnan, and Liang (2020) verified that companies with better internal control structures tend to present higher quality financial statements. Given the previous evidence, we seek to assess the third hypothesis:

H3: There is a positive and significant association between ICWs and the reissuing of financial statements

3. Methodological Procedures

3.1. Study design, Sample and Data Collection

This is a descriptive, documentary, and quantitative study. Data were collected from Reference Forms, audit reports, and Financial Statements available on the Brazilian Securities Commission's (CVM) website between 2010 and 2018. Data concerned 96 companies (the theoretical portfolio used refers to the four months from January 7th to May 3rd, 2019) listed on the IBRX 100, *Brasil, Bolsa e Balcão B3.*

This sample was chosen because it represents the Brazilian capital market and, thus, is subject to higher political costs. Initially, the companies that reported ICWs in the period were identified. Then, these ICWs were categorized according to Ge and McVay (2005): specific accounting accounts; training of accounting professionals; end-of-period reporting/accounting policies; revenue recognition; segregation of duties; accounts reconciliation; failures in subsidiaries; senior management; and technology problems.

The audit reports were also analyzed by type: (i) Unqualified opinion; (ii) Qualified opinion; (iii) Adverse Opinion; and (iv) Disclaimer of Opinion. Later, reissued financial statements were analyzed and categorized into mandatory (when the regulator demands restatement) and spontaneous (when the company spontaneously restatement its financial report). Finally, the coding process was guided by the protocol suggested by Saldaña (2014), according to the categories proposed by Ge and McVay (2005).

Table 1 presents the number of observations with Internal Control Weaknesses with Qualified Opinions and reissued financial statements.

Table 1
Frequency and proportion of ICWs, Qualified Opinions, and Reissues from 2010 to 2018 of the companies in the IBRX 100

	fr.	Proporção	Erro padrão	Logit	
				[95% Interval.Conf.]	
Internal Control Weaknesses	185	23.27%	0.0149865	0.2045883	0.2634048
Qualified Opinion	9	1.13%	0.0037522	0.0058947	0.0216327
Reissued Statements	288	35.72%	0.0169949	0.3246065	0.3912385

Source: study's data.

Since the number of modified reports was small, we also identified and categorized audit reports containing emphasis paragraphs. It is useful categorizing emphasis paragraphs because auditors often use them to communicate that specific issues in the current year do not show materiality but may present in the future. A total of 410 (50.74%) observations containing emphasis paragraphs were found, and 504 reasons were distributed into seven categories: (1) Investment Evaluation; (2) Revenue Recognition; (3) Balance Adjustment; (4) Deferred Assets; (5) Affiliate, Associate, or Subsidiary under investigation; (6) Operational Continuity; and (7) Other reasons for issuing an emphasis paragraph.

3.2 Data Analysis Techniques

The following techniques were adopted to meet this study's objective: descriptive statistics; testing for differences between proportions; Chi-square test; and Analysis of Correlations. Descriptive statistics were relevant to present the characteristics of the sample, variables of interest, and groups included in the sample (Levels of Corporate Governance [GC], Type of Auditor, and Economic Segments). The test for difference between proportions was helpful in verify significant differences in the proportions according to the type of ICWs, auditor opinion, and reissues. According to Donelson et al. (2017), the type of ICW is essential to foresee fraud, while the issue of adverse opinion regarding internal controls indicates the possibility of omitted fraud. Additionally, it was helpful to assess significant differences in the proportions between GC levels, type of auditing firm, and economic segments. Finally, the Chi-square test and analysis of correlations were used to verify whether there were significant associations between ICWs, Auditor Opinion, and Reissues.

Testing for differences between proportions consists of evaluating the hypothesis that the difference in proportions between categorical (binary) variables is statically equal to zero. The decision rule consists in rejecting the null hypothesis [) = 0] in which Yes and No refer to the proportions of observations that present a given characteristic or not – as in the cases of verifying the proportion of companies that presented ICWs in the analyzed period and those that did not present ICWs, separated between the group that reissued FS and the group that did not. This analysis enables assessing, for instance, whether there are significant differences in the proportions of ICWs reported for the companies that reissued and did not reissue FS.

Additionally, the Chi-square test was used to verify whether the frequencies of the events of interest (ICWs, Type of Auditor Opinion, and Reissues) are associated with the groups in the sample (GC, type of auditor, economic segment, and combination between the events). The decision rule for the Chi-square test consists in verifying if p-value (x^2)>α (0.05), thus, the null hypothesis (cannot be rejected, i.e., there is no association between ICWs disclosure and the respective groups. Spearman's correlation was also used to assess the statistical significance of the relationships observed between the variables of interest. Table 2 presents the operationalization of the variables used in the study.

Table 2
Variables Operationalization

Variable	Description	Operationalization	Previous Studies
$DCIs_{it}$	Internal Control Weaknesses	Dummy variable takes the value 1 for i^{th} ICW disclosed in year t, 0 for the remaining	Ashbaugh-Skaife et al. (2007); Doyle et al. (2007); Elder et al., (2009)
$TOpin_{it}$	Type of Auditor Opinion	Dummy variable takes the value 1 when the auditor opinion was modified, and 0 otherwise	Serra and Rodriguez (2013); Habib (2016), Marques et al. (2016)
$Repub_{it}$	Reissuing of Financial Statements	Dummy variable corresponding to 1 when the financial statement was reissued, and 0 otherwise	Hee (2011)
$NivGov_{it}$	Level of governance	Dummy variable corresponding to 1 for i^{th} level of governance in year t, 0 for the remaining	DeFond and Lennox (2011); Scott and Gist (2013); Pei and Hamill (2013)
$TipoAud_{it}$	Type of Auditor	Dummy variable corresponding to 1 for i^{th} auditing firm in year t, 0 for the remaining. Dummy variable corresponding to 1 for i^{th} economic segment, 0 for the remaining	Blandon and Bosh (2013); Kryzanowski and Zhang (2013); Comprix e Huang (2015); Krauß et al., (2015)
$SegEcon_{i}$	Economic segment	Dummy variable takes the value 1 for i^{th} ICW disclosed in year t, 0 for the remaining	Habib (2013); Serra and Rodriguez (2013); DeFond and Zhang (2014)

Source: developed by the authors

Variables ICWs, TOpin, NivGov, TipoAudi, and SegEcon were operationalized as binary dummies. The types of ICWs and level of governance, type of auditor, and economic segments were coded as multinomial categorical variables, while each type of ICWs, level of governance, type of auditor, and economic segment were coded as binary dummies.

4. Data Analysis and Results

4.1. Descriptive Statistics

First, we analyzed the frequencies and proportions of the observations per group composing the sample (Table 1). Panel A shows that 66.59% of the observations are concentrated in economic segments of Cyclic Consumption (CC), Financial (FIN), Public Utility (UP), and Basic Materials (MB). In turn, analysis of the frequency and proportion distribution by Level of Governance (Panel B) revealed that observations of the companies listed under New Market predominate and, together with companies classified as Level 1 of Governance (N1), representing 80.42%. Thus, the sample is primarily composed of companies listed in different levels of governance, mainly N1 and New Market (NM). Additionally, Panel C shows that 84.49% of the observations refer to companies audited by the Big4 firms. The frequencies and proportions found here reinforce the characteristics of companies with greater liquidity in the *Brasil, Bolsa e Balcão B3* as noted by Marques et al. (2018) and Lopes et al. (2019) regarding economic segment, governance, and type of auditor.

Table 3

Distribution of frequency and proportion of observations per Economic Segment, Type of Auditor, and Level of Governance in the 2010-2018 period

				Logit	
	N	Fri	Standard error	[95% CI]	
Panel A – Per Economic Segment					
Cycle Consumption	180	22.03%	0.0145	0.1932	0.2501
Financial	153	18.24%	0.0135	0.1573	0.2104
Public Utility	144	16.65%	0.0130	0.1424	0.1936
Basic Material	90	9.67%	0.0103	0.0782	0.1190
Non-Cyclic Consumption	81	7.83%	0.0094	0.0618	0.0989
Industrial Goods	72	7.96%	0.0095	0.0628	0.1002
Health	54	6.61%	0.0087	0.0509	0.0853
Oil, Gas, and Biofuels	45	5.51%	0.0080	0.0414	0.0730
Information Technology	27	3.30%	0.0063	0.0227	0.0478
Communications	18	2.20%	0.0051	0.0139	0.0347
	864	100%			
Panel B – Per Level of Governance					
NM	540	64.14%	0.0168	0.6078	0.6736
N1	153	16.28%	0.0129	0.1390	0.1898
N2	99	11.14%	0.0110	0.0915	0.1349
TRADITIONAL	72	8.45%	0.0097	0.0672	0.1056
	864	100%			
Panel C – Per Type of Auditor					
KPMG	236	28.89%	0.0159	0.2588	0.3210
EY	186	22.77%	0.0147	0.2002	0.2577
PWC	183	22.40%	0.0146	0.1967	0.2539
DTT	167	20.44%	0.0141	0.1781	0.2335
NBIG4	45	5.51%	0.0080	0.0414	0.0730
	817	100%			

Source: Study's data

Next, we analyzed the proportion of ICWs, modified opinions, and reinstatements in the companies listed in the IBRX100 from 2010 to 2018 (Figure 1). Note that 21% of the companies on average presented one or more ICWs and the proportion of ICWs disclosed from 2015 onwards increased significantly. The test for differences between proportions showed that the years 2015 [dif=0.16876 | z=3.5540***], 2016 [dif=0.19224 | z=4.1078***], 2017 [dif=0.11507 | z=2.5046***] and 2018 [dif=0.1469 | z=3.1685***] showed average proportions higher than in the preceding years. Figure 1 graphically presents this distribution of proportions over the years.

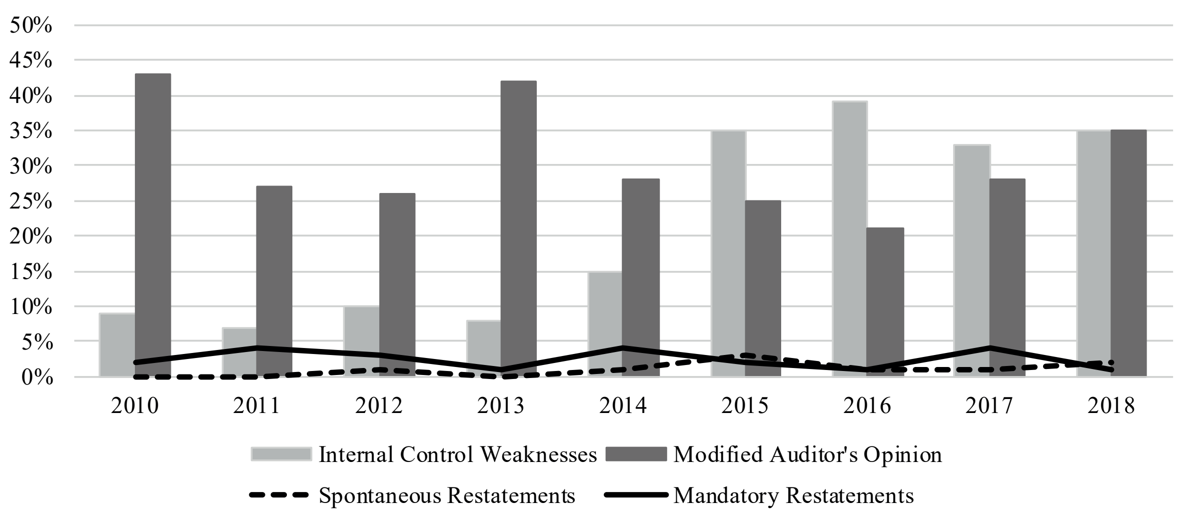

Figure 1. Proportion of ICWs, Reissues, and Modified Opinions Disclosed by the Companies in the IBRX100 in the 2010-2018 period

Source: study's data.

Additionally, 33% of the companies reissued financial statements. However, when we observed mandatory reissues, the average proportion was 3%. This finding is compatible with what Marques et al. (2018) report, in which general reissuing rates were around 25%. On the other hand, the rate of mandatory reissues in that study was 17%. Analysis of the modified opinions shows a low frequency, around 1%, without relevant variations over the period, in line with the results reported by Habib (2013).

Table 4 presents the distribution of frequency of the types of ICWs disclosed by companies in the IBRX100. A total of 368 ICWs were disclosed, while 612 companies declared no ICWs. The most frequent ICWs were Accounting Policy (PC) (126), followed by TFs (96) and Specific Accounts (70).

Table 4

Distribution of frequencies of types of ICWs Disclosed by the Companies listed in IBRX100 in the 2010-2018 period

	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Specific accounts	2	3	4	4	4	15	12	13	13	**70**
Training	0	0	0	0	0	0	1	0	1	**2**
Accounting Policy	7	6	9	5	9	24	29	20	17	**126**
Revenue Recognition	1	1	0	0	2	3	4	2	3	**16**
Segregation of Duties	0	0	0	0	0	2	3	1	1	**7**
Account Reconciliation	1	1	1	1	2	5	3	4	4	**22**
Failures in Subsidiaries	3	2	1	0	4	5	5	4	2	**26**
Senior Management	0	0	0	0	0	0	1	1	0	**2**
Technological Failures	2	3	3	2	6	14	23	19	24	**96**
Other ICWs	0	0	0	0	0	0	0	1	0	**1**
With ICWs	**16**	**16**	**18**	**12**	**27**	**68**	**81**	**65**	**65**	**368**
Without ICWs	**72**	**74**	**77**	**80**	**75**	**55**	**55**	**64**	**60**	**612**
Total	**88**	**90**	**95**	**92**	**102**	**123**	**136**	**129**	**125**	**980**

Source: study's data.

Ge and McVay (2005) highlighted the following weaknesses: Specific Accounts, Training and Accounting Policy, partially confirming what is found in this study, i.e., significant weaknesses were found in Accounting Policy, Technological Failures, and Specific Accounts. According to Ge and McVay (2005), the ICWs that concerned Accounting Policy result from inadequate recognition, measurement, and disclosure of financial statements. In addition, the authors include in Technological Failures problems concerning technological systems, access, maintenance, and safety of data. In turn, Specific Accounts comprise other types of less recurrent weaknesses not categorized in the remaining accounts. Additionally, a high number of companies declared the inexistence of ICWs (62.45%) – which, from the CVM's perspective, should be an exception to the rule. On the one hand, this result shows a need for an in-depth investigation to understand the justifications presented by the companies that declared no relevant ICWs. On the other hand, it sets a precedent to question the extent to which such companies were not involved in case of errors and/or fraud that could be mitigated by an appropriate internal control structure, and which would, therefore, imply a false statement about the adequacy of internal controls.

Chi-square was performed to obtain evidence of associations between ICWs, level of Corporate Governance (GC), type of auditor (Big4 and Not Big4), and economic segments, but no association was found between ICWs disclosure and level of GC [x^2=0.1369 | Pr=0.711]. Likewise, no association was found between the ICWs and the type of auditor [x^2=0.8139 | Pr=0.367]. This result was the same obtained by Doyle, Ge, and McVay (2007) but diverges from that reported by Rice and Weber (2012), in which Big4 clients are less likely to report ICWs. Additionally, an association was found between ICWs and the following economic segments: Cyclic Consumption (CC) [x^2 7.1553 | Pr=0.007], Financial (FIN) [x^2=29.2427 | Pr=0.000], Basic Material (MB) [x^2=4.3756 | Pr=0.036] and Health (SAU) [x^2=23.8749 | Pr=0.000]. Association between these sectors and ICWs disclosure is coherent with the statement of Ge and McVay (2007) that more complex sectors tend to report a higher number of ICWs. Specifically, Financial (FIN) and Health (SAU) are complex due to the segments' nature. In turn, the association between Cyclic Consumption, Basic Materials, and ICWs arises from complex production processes and vulnerability to business risk, which demands more efficient use of resources.

Subsequently, the Chi-square test was performed to assess associations between ICWs, reissued financial statements (H_1), modified opinion (H_2), and the reason for emphasis paragraphs (H_3). No association was found between ICWs and (i) reissued financial statements [x^2=0.4897 | Pr=0.484] and (ii) modified opinion [x^2=1.1564 | Pr=0.561]. On the one hand, the results refute hypotheses 1 and 2; however, reinforce the perspective of Srinivasan, Wahid, and Yu (2015), which show that companies based in countries where the rule of law is weak, as is the case of Brazil, there is a lower tendency to reissue financial statements – which may mean there were no relevant distortions, or these went undetected and were not disclosed. However, an association was found between ICWs and the reasons for issuing emphasis paragraphs [x^2=4.2736 | Pr=0.039], reinforcing hypothesis 3. A detailed analysis of emphases was performed because no association was found between ICWs and auditor opinion. The reason is that the literature shows that auditors often indicate potential reasons for modified opinions by using emphasis paragraphs (Brazel et al., 2011).

Analysis of the paragraphs showed 504 reasons categorized into eight groups, presented in Figure 2. Note that 55% of the reasons refer to Investment Evaluations; 10.32% to Revenue Recognition; and 6.75% refer to Balance Adjustments.

Analysis of association between the reasons of emphases and type of auditor showed that only balance adjustment is associated with Big4 firms. In turn, according to the Chi-square test, emphasis paragraphs accruing from Revenue Recognition (RR) are associated with N1, N2, and TRAD at 1% and 5% levels. Analysis of the paragraphs showed 504 reasons categorized into eight groups, presented in Figure 2. Note that 55% of the reasons refer to Investment Evaluations; 10.32% to Revenue Recognition; and 6.75% refer to Balance Adjustments.

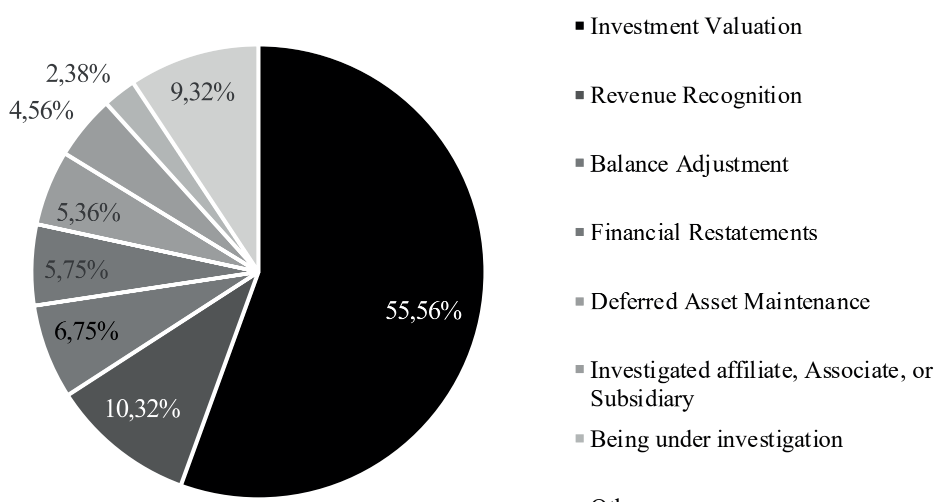

Figure 2. Proportions of Reasons for Emphasis Paragraphs in the Audit Reports of the companies in the IBRX100 in the 2010-2018 Period

Source: Study's data.

Even though Investment Valuation was the primary reason for issuing emphasis paragraphs for companies in the IBRX10, no significant association was found with sector characteristics. However, an association was found between emphasis paragraphs due to Balance Adjustment and the economic segments: Cyclic Consumption [x^2=3.0952 | Pr=0.079] and Non-Cyclic Consumption [x^2=2.8505 | Pr=0.091]. Likewise, a statistically significant association was found between emphasis due to Revenue Recognition and the economic segments: Industrial Goods [x^2=5.0300 | Pr=0.025], [x^2=7.1553 | Pr=0.007], Consumption [x^2=78.5787 | Pr=0.000], Non-Cyclic Consumption [x^2=3.6164 | Pr=0.057], Financial [x^2=11.9065 | Pr=0.001], Basic Material [x^2=6.4337 | Pr=0.011], Oil, Gas and Biofuels [x^2=3.0401 | Pr=0.081], Health [x^2=3.6887 | Pr=0.055] and Information Technology [x^2=36.7635| Pr=0.000]. Emphasis due to Reissuing of Statements are associated to the segments: CNC [x^2=3.1042 | Pr 0.078] and Public Utilities [x^2=6.8578 | Pr=0.009]. Emphases due to Deferred Maintenance are associated with the economic segments: Industrial Goods [x^2=3.7849 | Pr=0.052], Cyclic Consumption [x^2=6.6970 | Pr=0.010], Basic Material [x^2=3.2408 | Pr=0.072], and Public Utility [x^2=3.3720 | Pr=0.066]. According to the Chi-square test, the remaining reasons did not present significant association.

Association between some reasons for Emphasis Paragraphs with various economic segments reinforces a sector contagion effect. Additionally, Big4 firms tend to become specialists in specific economic segments, adopting similar practices for companies in the same segments.

Finally, to present more evidence regarding the hypotheses proposed, Table 5 presents the correlation matrix between ICWs and Economic Segments, Level of Corporate Governance, Type of Auditor, Reissue of Financial Statements, Modified Opinion, and Reasons for Emphasis Paragraphs. Note that the Financial economic segment (FIN) presented weak, however, significant and negative correlations with ICWs related to Specific Accounts, Accounting Policies, FSs, and TFs. Because it is a complex sector with potential risk for the financial system, a negative correlation suggests a lower risk of fraud and/or errors arising from ICWs, i.e., assuming these companies are not underreporting ICWs. In the opposite direction, SAU was positively and significantly correlated with PCs, RRs, FSs, and TFs. In summary, the tendency in this economic segment is that ICWs are more frequent to indicate a greater risk of fraud and/or errors.

Table 5

Correlation Matrix between ICWs and Economic Segments, GC Levels, Type of Auditor, Restatements, Modified Opinion, and Emphasis Paragraphs

		Internal Control Weaknesses						
		CE	TR	PC	RR	FS	GS	FT
Economic Segments	BI	-0.0294	-0.0151	0.0184	-0.0108	-0.0298	-0.0151	-0.0557
	COM	-0.0468	-0.00757	0.00406	-0.0216	-0.0277	-0.00757	-0.0299
	CC	0.0679	-0.0258	0.0628	-0.00803	0.00911	-0.0258	0.0263
	CNC	-0.00558	**0.0711***	-0.0650	-0.0141	0.0400	-0.0158	0.0303
	FIN	**-0.117*****	-0.0227	**-0.177*****	-0.0647	**-0.0830***	-0.0227	**-0.116*****
	MB	-0.0258	-0.0178	-0.0447	0.0623	0.00192	**0.141*****	**-0.0822***
	PGB	0.0329	-0.0113	-0.0178	-0.0322	-0.00860	-0.0113	0.0239
	SAU	0.0307	-0.0114	**0.153*****	**0.0902***	**0.184*****	-0.0114	**0.163*****
	TI	-0.00665	-0.00914	0.0178	0.0243	-0.0335	-0.00914	0.0410
	UP	**0.0742***	0.0418	**0.0929****	0.00304	-0.0122	-0.0234	0.0579
Level of GC	TRAD	-0.0172	**0.0731***	0.0245	**0.114****	-0.0316	-0.0154	-0.0458
	N1	-0.0150	0.0394	-0.00878	-0.00110	**0.0725***	**0.103****	-0.0615
	N2	**0.0911****	-0.0174	0.0479	-0.0497	-0.0411	-0.0174	**0.131*****
	NM	-0.0361	-0.0630	-0.0377	-0.0334	-0.0139	-0.0630	-0.00740
Type of Auditor	NBIG4	-0.0180	-0.0122	-0.00130	0.00388	-0.0447	-0.0122	-0.00668
	DTT	0.00422	0.0359	0.00589	0.0145	0.00993	-0.0257	-0.000379
	EY	0.0556	-0.0270	-0.0357	-0.0128	-0.0312	-0.0270	0.00368
	KPMG	-0.0395	0.0237	0.0147	0.0478	0.0555	**0.0791***	-0.0551
	PWC	-0.00427	-0.0266	0.0189	-0.0543	-0.0123	-0.0266	0.0639
Restatement		0.0180	-0.0373	-0.000642	0.0423	0.0543	-0.0373	-0.0189
Modified Opinion		-0.0509	0.00533	-0.0515	0.0152	0.0195	0.00533	0.00287
Reasons for Emphasis Paragraphs	DVA	-0.0189	-0.0031	-0.0264	-0.0087	**0.1041****	-0.0031	-0.0226
	RR	0.0084	-0.0131	**0.123*****	**0.0711***	0.0376	-0.0131	0.059
	REAPR	0.0135	-0.0095	0.03	**0.0701***	0.0036	-0.0095	-0.0282
	INVESTIG	0.0347	-0.0062	**0.1444*****	-0.0176	**0.0934****	**0.1998*****	0.0179
	CONT	0.0528	**0.1412*****	**0.1928*****	**0.0824***	**0.0951****	-0.0086	0.0518
	AVAINV	**-0.1352*****	-0.0355	**-0.1684*****	-0.0634	**-0.0702***	-0.0355	**-0.2046*****

Source: study's data.

Analysis of the correlations between ICWs with Levels of Governance, Type of Auditor and Reissue and Modified Opinion reinforces what was indicated by the Chi-square test. The relations were not significant in most cases. Hence, the disclosure of ICWs does not depend on these variables to occur. Asare and Wright (2019) highlight that auditors are expected to be judicious when assessing ICWs, implying disclosure is less frequent. However, Elder et al. (2009) report that auditors use ICWs to manage client risk. Therefore, it is important to understand why no significant correlations were found in this study. Nevertheless, Silva et al. (2018) report that the audit committee has the effect of mitigating the occurrence of ICWs. Additionally, emphasis paragraphs arising from events that indicate greater risk tend to be associated with the disclosure of ICWs. In general, hypotheses 1 and 2 were not confirmed; however, some emphasis paragraphs tended to be positively and significantly associated with the disclosure of ICWs, reinforcing hypothesis 3.

5. Final Considerations

This study's objective was to analyze associations between ICWs, auditor opinion, and the reissues of financial statements of 96 companies listed in *Brasil, Bolsa e Balcão B3*, which composed the IBrX100. This descriptive, documentary and quantitative study analyzed data using descriptive statistics, tests for differences of means, medians, and proportions, Chi-square test, and analysis of correlations.

The results showed that 84.49% of the observations refer to companies audited by Big4 firms, and in total, 368 ICWs were reported; accounting policy was the type most frequently reported, while 612 reported no ICWs. On average, 21% of the companies presented one or more ICWs, and a relevant increase was found from 2015 onwards in the proportion of disclosed ICWs. Regarding restatements, 33% on average reported this occurrence. However, the average proportion of mandatory reissues was 3%.

Nevertheless, no association was found between the disclosure of ICWs, reissued statements, and the type of auditor opinion.

On the other hand, the association between ICWs and the reasons why emphasis paragraphs were issued by the companies. The primary reason for emphasis paragraphs refers to Investment Valuation (55%), followed by Revenue Recognition (10.32%). There was no association between the issue of emphasis paragraphs due to Balance Adjustment, Revenue Recognition, and Economic segments.

The results show that even though ICWs signal potential problems in the quality of accounting information, ICWs were not associated with the restatements or with the type of auditor opinion in the context of the Brazilian companies listed in the IBrX100. On the other hand, no association between restatements and the type of auditor opinion may reveal the quality of FS, and disclosed ICWs do not significantly affect the quality of information reported. On the other hand, Brazel et al. (2011) noted that this might also suggest potential underreporting of ICWs, reissues, and/or inadequate auditor opinion.

Unlike previous literature, this study advances in the debate concerning the informational content of ICWs, showing that its components are associated with problems that indicate a greater or lesser quality of the information disclosed (restatements and emphasis paragraphs). Additionally, the results contribute to the debate on the role of ICWs disclosure and their association with reissues, auditor opinion, economic segment, governance level, and type of auditor. Specifically, it enables verifying which types of ICWs are more frequently reported and how they relate with the firms' specific characteristics. From the perspective of external users, the results may help map the firms' most frequently reported weaknesses. From the auditors' perspective, the results can contribute to sectors associated with the firms' specific ICWs. Finally, from the regulators' perspective, they can help develop more consistent monitoring actions to discourage omissions on the part of agents, especially members of governance committees, auditors, and managers.

Despite its contributions, this study presents limitations such as a restricted sample, which may have decreased associations between the type of auditor opinion and reissues. Additionally, we need to understand whether declarations of inexistent ICWs are associated with future problems (error/fraud) observed in the statements. Note that there is a large number of declarations of no ICWs, while this event should be an exception. Another relevant complementary analysis refers to the solution given to ICWs *ex-post*, i.e., whether the reports' content differs over time and which is the impact of restatements in the firms' main economic and financial indexes. These analyses can improve understanding of the phenomenon and mitigate misconduct by those responsible for Corporate Governance, auditors, and improve the quality of internal controls and promote regulators' enforcement. These complementary analyses can be addressed by future studies.

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