RMC

Revista Mineira de Contabilidade
Journal of Accounting of Minas Gerais

Uma publicação do
CRCMG
CONSELHO REGIONAL DE CONTABILIDADE DE MINAS GERAIS

V. 26, nº. 3, september/december 2025
RMC, Revista Mineira de Contabilidade,
Belo Horizonte, http://revista.crcmg.org.br
ISSN: 2446-9114

The Effect of COVID-19 on the Distribution of Dividends and Interest on Equity in the B3 Subsector: Apparel, Textiles, and Footwear

Accounting information quality and systematic risk in emerging countries

Influence of income smoothing and responsible corporate behavior on the cost of capital

The predominance of positivism in accounting: reflections on research in Brazil

What does the market seek? Competencies and skills required in controller job postings for remote work

Abundance paradox theory: an analysis of healthcare companies' economic and financial indicators during the pandemic

Incentives, motivation, and performance of employees: a case study in a garment manufacturing firm

Publication date: December 26, 2025

JOURNAL OF ACCOUNTING OF MINAS GERAIS
Quarterly publication
Volume 26, n.3, september/december 2025
ISSN 2446-9114
CRCMG
Conselho Regional de Contabilidade de Minas Gerais
Rua Cláudio Manoel, 639, Savassi – Zip Code 30140-105
BH/MG – Telephone: (31) 3269-8400 - E-mail: crcmg@crcmg.org.br
Desk Editor: Fernanda Oliveira – MG 06296 JP
Content Editor: Déborah Arduini – MG 15468 JP
Editorial Assistent: Suélen Teixeira de Paula
Journal layout: Phábrica de Produções
Cover: Ketley Costa Silva Brito
E-mail: revista@crcmg.org.br

Journal of Accounting of Minas Gerais, Volume 26, Number 3, Third Quarter of 2025.
Belo Horizonte: Conselho Regional de Contabilidade de Minas Gerais.
Quarterly journal
ISSN 1806-5988

2– Accounting – Journal

CDU657 (051)

CRCMG
CONSELHO REGIONAL DE CONTABILIDADE DE MINAS GERAIS

Editor's Note

Editor's Note

Dear Readers,

In 2025, we can highlight the fact that the Revista Mineira de Contabilidade (RMC) maintained its Q2 classification in the 2024 Journal Impact indicator, based on the 5-year impact criterion without self-citation, published by the Scientific Periodicals Electronic Library (SPELL®), which is maintained by the National Association of Postgraduate Studies and Research in Administration (Anpad). Furthermore, all articles that are published in the RMC editions are available in Portuguese and English. This context leads us to celebrate the publication of our latest edition, number 3, volume 26, of the 3rd quarter of 2025.

In addition to the editor's statement, this edition of RMC begins by discussing a relevant topic: "The Impacts of Financialization on Accounting," written by Professor Ednei Morais Pereira. The main focus of the guest editorial is to discuss the extensive literature on the effects of adopting International Financial Reporting Standards (IFRS) on the contribution to the financialization process of the real economy, addressing hypotheses and research perspectives in accounting concerning the topic.

Subsequently, Valéria Lobo Archete Boya, Pedro Artur Campos do Amaral, Maria Eduarda Maia Vidal Gonçalves, Ana Clara Fonseca do Amaral, and José Roberto de Souza Francisco developed the study called "The Effect of Covid-19 on the Distribution of Dividends and Interest on Equity in the B3 Subsector: Apparel, Textiles, and Footwear". This article analyzes the effect of the Covid-19 pandemic on the distribution of dividends and interest on equity (JCP) in companies listed on the B3 in the textiles, footwear and apparel subsector.

The article "The quality of accounting information and systematic risk in emerging countries" was written by Victorya Maria dos Santos Gomes and Diane Rossi Maximiano Reina, whose general objective is to analyze how the interaction between the country's informational environment and the quality of accounting information is associated with the sensitivity to systematic risk of companies based in emerging countries. The next article was prepared by Camila Ascari, Sady Mazzioni, Cristian Baú Dal Magro and Simone Leticia Raimundini Sanches and it is called "Influence of income smoothing and responsible corporate behavior on the cost of capital". The main objective of the article is to analyze the influence of earnings smoothing and responsible corporate behavior on the weighted average cost of capital (WACC) in publicly traded companies listed on the B3.

With the aim of reflecting on the methodological possibilities for Brazilian accounting research, in order to enrich the scientific debate and strengthen the development of the area, the authors Jomar Miranda Rodrigues, Mariana Pereira Bonfim and Sheyla Veneziani Braga prepared an essay that addresses four topics: reflections on accounting research in Brazil, positivism in accounting according to Auguste Comte, critiques of positivist research in accounting and a section focused on understanding critical and interpretative approaches. The essay is called "The Predominance of positivism in accounting: reflections on research in Brazil".

The next study sought to analyze the professional competencies, as well as the social and personal skills required in controller positions advertised in Brazil for remote work. The authors Tatiane Cheremeta, Antônio Nadson Mascarenhas Souza, Alison Martins Meurer and Rayane Camila da Silva Sousa called the study "What does the market seek? Competencies and skills required in controller job postings for remote work".

The research "Abundance paradox theory: an analysis of healthcare companies' economic and financial indicators during the pandemic" aims to analyze the behavior of liquidity ratios, capital structure, and profitability of healthcare companies listed on the B3 stock exchange before, during, and after the Covid-19 pandemic, in light of the Theory of the Paradox of Abundance. The authors of the research are Thiago Callado Kobayashi, Cleidiane Gomes de Souza, Daniele Cristina Bernd, and Gilberto José Miranda.

The authors Elias Marinato Abreu, Matheus Ricardo de Almeida, and Ricardo Suave developed the work called "Incentives, motivation, and performance of employees: a case study in a garment manufacturing firm". The objective of the study is to analyze which factors influence motivation and evaluate the effect of providing incentives on the performance of employees in the operational sector of a clothing industry.

Finally, we thank the authors for their vote of confidence, for submitting their research to RMC and believing in the quality of its evaluation process, and the reviewers for their dedication in carrying out a valuable job. We congratulate the authors whose articles were approved and whose researches were published in RMC - researches that contribute to the knowledge in the field of Accounting Sciences.

We wish everyone an excellent reading!

Prof. Dr. Nálbia de Araújo Santos

RMC, Revista Mineira de Contabilidade, Belo Horizonte, V. 26, nº. 3, september/december 2025
Disponível *online* em https://revista.crcmg.org.br/rmc / DOI:https://doi.org/10.51320/rmc.v26i3.1810 ISSN: 2446-9114

Editorial

THE IMPACTS OF FINANCIALIZATION ON ACCOUNTING

Ednei Morais Pereira
ednei@ufg.br
Currículo Lattes: http://lattes.cnpq.br/2936584630498357
Orcid ID: 0000-0002-1295-8676

THE CONTEXT OF FINANCIALIZATION

Financialization can be defined as an accumulation regime under the hegemony of finance (Duménil & Lévy, 2001) or characterized as an asset-based growth regime—a financialized accumulation regime—in which asset markets take center stage, institutional investors become increasingly important, and corporate governance serves as a regulatory instance (Martins, 2024). Finance achieved a hierarchically superior position in terms of power (the State) and through its articulation with other institutional forms. The financialization process solidified primarily in the 1970s and continues to reshape contemporary capitalism (Martins 2024).

This accumulation regime shifted the locus of value creation from the productive sphere to the financial sphere (Müller, 2014), turning capital into an instrument of speculation rather than a productive investment (Dourados, 2019; Centeno et al., 2024). Previously structured around industrial profit and labor expansion, capitalism now orients itself toward the calculation of rents, dividends, and capital gains—modes of financial appropriation premised on the promise of permanent liquidity. This shift, described by Boyer (2018) and Palley (2021), reconfigures the balance between the real economy and the financial economy, introducing a new rationality: rentier rationality.

Globally, financialization materialized as the political-economic project of constructing a stable international financial system architecture, promoted by the Financial Stability Forum and later by the Financial Stability Board (FSB) (Burlaud & Colasse, 2011; Arnold, 2012). Under the banner of creating 'global governance' and 'regulatory cooperation,' institutions such as the IMF and the World Bank enforce the international financial standards issued by the FSB, subordinating national economic policies to financial guidelines that cater to investor expectations and market risk metrics (Chiapello, 2005). This transnationalization of financial regulation has produced diffuse sovereignty: states now regulate their economies according to parameters constructed outside their territories, operating at a distance through technical standards presented as neutral (Burlaud, 2018, 2020).

The impact of financialization on nation-states can be observed in the transformation of the mediation space between public and private interests. The State becomes a partner in private and financial interests, acting through its own agencies as a central player in promoting financial market expansion (Pagliari & Young, 2020). Under this model, public policies are structured according to profitability and financial efficiency, turning citizens into clients and rights into tradable assets —"assetization" (Paulani, 2024). As Dardot and Laval (2017) observe, the financialized State is simultaneously an instrument and object of accumulation: it regulates in favor of the market while being regulated by it. Through the deregulation of public services, institutional conditions are created for extracting private rents from public resources, pushing the public interest out of economic policy decisions.

In this context, corporate governance is imposed as the ideological framework of new public administration, transforming accountability into investor reporting and efficiency into market value maximization. Thus, the State becomes an indirect profit center (Ferguson, 2009). In Brazil, this is manifested in legislation such as the State-Owned Enterprises Law, Central Bank autonomy, Spending Cap, labor and pension reforms, and the Sanitation Framework.

The logic of financialization also seeps into non-financial corporations through the rise of shareholder value ideology (Lazonick & O'Sullivan, 2000; Van der Zwan, 2014; Klinge et al., 2021; Dourados, 2019). The productive corporation turns into a share-price booster machine: it buys back stock, pays out dividends that exceed investment, and runs the business solely to maximize the shareholder value. Corporate behavior shifts from 'retain and reinvest' to 'downsize and distribute,' cutting productive investment and the wage share to funnel cash to shareholders or service financial claims (Lazonick & O'Sullivan, 2000). Productive capital is subordinated to financial capital: future income streams are securitized, and funds that once built capacity are now parked in mark-to-market financial assets (Lucarelli, 2012).

Finally, financialization reaches everyday life and households, extending beyond its impact on institutions and organizations. One example is the discourse on financial inclusion, which promotes the figure of the citizen-investor (Van der Zwan, 2014). What presents itself as credit democratization becomes a mechanism for mass indebtedness (Palley, 2021), expanding debt-financed consumption, and straining household incomes (Lavinas, 2020). This largely stems from declining wage shares for workers and the retreat of public services amid privatization in education, healthcare, pensions, and infrastructure (Lavinas, Araújo & Rubin, 2024).

THE IMPACT OF FINANCIALIZATION ON ACCOUNTING

This picture — covering global governance, states, non-financial firms, and households — emerges from a vast body of cross-disciplinary research on topics as varied as health, housing, debt, agriculture, social policy, pensions, and education (Mader et al., 2020; Lavinas et al., 2024). But what about accounting: how does it feed or even drive the spread and dominance of finance?

Our hypothesis is that accounting's role in financialization can fly under the radar because its currently dominant guise — IFRS-based accounting — carries the worldview of finance and metrics designed solely for investors, thereby accelerating the financialization of the real economy (Chiapello, 2016).

The global adoption of IFRS, viewed through the lens of financialization, gained momentum due to the strengthening and legitimization of the International Accounting Standards Board (IASB) as the international accounting standard-setter, which enforced them through political agreements with the Financial Stability Board, the IMF, and the World Bank. These agreements incorporated IFRS into international financial regulatory guidelines, which FSB member nation-states are required to adopt, justified by the need to meet the information needs of foreign investors and creditors and prevent misalignment with the governance arrangements of developing economies (Burlaud, 2020).

The adoption of international accounting standards, as demonstrated by Burlaud and Colasse (2011) and Chiapello (2016), established a global accounting framework oriented toward investors rather than the society. This is explicitly stated in the IASB's 'Conceptual Framework' (Zhang et al., 2012). The Conceptual Framework for Financial Reporting, as noted by Zhang and Andrew (2014; 2022), redefines the purpose of accounting information: no longer to communicate an entity's economic reality but to serve the decision-making needs of investors and creditors. Thus, becomes a, an accounting tool for capital pricing rather than for understanding productive activity.

In this way, accountants, entangled in constructing market realities within organizations (Morgan, 1988), report concepts such as fair value, impairment, and mark-to-market in financial statements — concepts legitimized by efficiency rhetoric. These are, in essence, technologies of financialization (Chahed 2021). Accounting, as a technology of financialization, operates materially through the adoption of mark-to-market measurement (Chahed, 2021). The use of fair value as an exit price institutionalizes shareholder value in accounting practices and tends to hinder long-term strategy (Palea, 2015). When historical cost (the production perspective) is replaced by fair value (the finance perspective), different economic realities are constructed (Nölke & Perry, 2007; Müller, 2014), reinforcing the financialization of profits, accentuated by gains captured through financial transactions and the growing use of financial instruments (Nölke & Perry, 2007).

IFRS legitimizes a company's pursuit of shareholder wealth through means beyond selling products or services (Chiapello, 2016). Profits may also arise from a company's financing structure, financial investment gains, or cash management (Chiapello, 2016). Every asset is reduced to discounted cash flows, and every balance sheet is reduced to projections of future profitability (Chiapello, 2015). This legitimacy is achieved through financial reporting by employing public interest rhetoric, which obscures the true priority of serving private investors' financial interests from the public (Gallhofer & Haslam, 2007; Burlaud, 2018). An example is Brazilian state-owned enterprises, which, after the enactment of Law 13.303/2016, began reporting profits as 'public policy goals' while distributing dividends to private and institutional shareholders.

In this process, financialization has shifted the ethical foundation of accounting. The principle of public interest, the cornerstone of the profession, has been overshadowed by financial interests. This shift presents accounting academia and professionals with the challenge of rethinking the purpose of accounting practice and reclaiming it as public knowledge and a language of accountability for collective life.

RESEARCH PERSPECTIVES IN ACCOUNTING ON FINANCIALIZATION

In this context, accounting research on financialization can play a role that goes beyond technicalities, regulatory compliance, and the conventions and rationalities imposed by the market. To achieve this, it is essential to reclaim accounting's essence as an applied social science, capable of questioning and intervening in the power dynamics that shape the real economy. As Boyer (2018) highlights, financialization isn't just a structural shift in capitalism but a transformation in the institutional forms of regulation and legitimacy. This implies adopting a critical epistemological stance: recognizing that technique is also ideology, that international standards are instruments of hegemony, and that the discourse of global comparability often serves to align the production of accounting information with the logic of financial-capital accumulation.

From these reflections, I suggest three non-exhaustive questions and potential starting points where accounting research can contribute to the financialization debate:

Interdisciplinarity – Reopening dialogue with social, economic, and political theories, as well as other fields of knowledge. Interdisciplinarity is more than a methodological tool; it is an ontological necessity for a science that seeks to understand reality in all its contradictory totality. Contributions from authors such as Chiapello (2015; 2016; 2017), Power (2010), and Burlaud & Colasse (2011) show that accounting is, above all, a social technology of governance. Criti-

cal accounting research must reclaim this political dimension by analyzing how information is produced, who legitimizes it, and to whom it serves. The focus must shift from measurement to meaning for all stakeholders; it is in this space that accounting rediscovers its public vocation.

Political process of deregulation – The financialization of public services relies on rhetoric about efficiency, investment, and governance, where accounting provides arguments for change. Conversely, accounting can reveal the actual outcomes of deregulation's impacts and consequences through financial and non-financial data. Possible research questions include: – Did labor reforms create jobs and/or increase wage share? – Did water and energy privatization reduce tariffs, expand investments, and improve service delivery?

Professional education and practice: Is accounting education, predominantly focused on regulatory compliance and technical training, still sufficient? Is teaching "how to do" adequate? Does the accountant profile promoted by international bodies address the principles of "why do it?", "for whom?" and an understanding of local realities? Assessing whether new curricular guidelines will produce professionals capable of being accountable to all stakeholders is, therefore, crucial.

Ultimately, financialization is not homogeneous; it manifests unevenly and in combined forms, creating new dependencies and asymmetries between the Global North and South. Investigating how accounting participates in this dynamic is essential for building a discipline committed to transformation, not legitimizing the status quo. Accounting that refuses to be an instrument of domination and instead asserts itself as a practice of public enlightenment. The task of academia and professional institutions is to train accountants who know how to question as much as they calculate and to develop an accounting language that serves life again—not just capital. Only then can we reclaim accounting's human and historical dimensions —and perhaps rewrite its role in this financialized world.

REFERENCES

Arnold, P. J. (2012). The political economy of financial harmonization: The East Asian financial crisis and the rise of international accounting standards. Accounting, Organizations and Society, 37(6), 361-381.

Boyer, R. (2018). Do Globalization, Deregulation, and Financialization Imply a Convergence of Contemporary Capitalism? HAL Archives. Available online: https://halshs.archives-ouvertes.fr/halshs-01908095

Brasil (2016). Lei 13.303, de 30 de junho de 2016. Dispõe sobre o estatuto jurídico da empresa pública, da sociedade de economia mista e de suas subsidiárias, no âmbito da União, dos Estados, do Distrito Federal e dos Municípios. Recuperado de http://www.planalto.gov.br/ccivil_03/_ato2015-2018/2016/lei/l13303.htm

Burlaud, A. (2018). Can accounting standardization serve the public interest? Audit Financiar, 16(3 (151)), 365-372.

Burlaud, A. (2020). Evolutions of Accounting Standardization: The Shock of Financialization and Globalization. Audit Financiar, 18(158), 323-338.

Burlaud, A., & Colasse, B. (2011). International accounting standardisation: Is politics back? Accounting in Europe, 8(1), 23-47.

Centeno, V., Fellows, F. & Mantoan, E. (2024). Financeirização de empresas não-financeiras no Brasil: o dilema do investimento produtivo. In: Lavinas, L., Martins, N. M., Gonçalves, G. L., & Van Waeyenberge, E. (2024). Financeirização: crise, estagnação e desigualdade. Editora Contracorrente.

Chahed, Y. (2021). Words and numbers: Financialization and accounting standard setting in the United Kingdom. Contemporary Accounting Research, 38(1), 302-337.

Chiapello, È. (2005). Les normes comptables comme institution du capitalisme. Une analyse du passage aux normes IFRS en Europe a partir de 2005. Sociologie du travail, 47(3), 362-382.

Chiapello, E. (2015). Financialisation of valuation. Human studies, 38(1), 13-35.

Chiapello, E. (2016). How IFRS contribute to the financialization of capitalism. IFRS in a global world: international and critical perspectives on accounting, 71-84.

Chiapello, E. (2017). Critical accounting research and neoliberalism. Critical Perspectives on Accounting, 43, 47-64.

Dardot, P., & Laval, C. (2017). A nova razão do mundo. Boitempo editorial.

Dourados, F., F. (2019). Financeirização das Firmas Não-Financeiras no Brasil: um modelo dinâmico dedados em painel. Dissertação de Mestrado em Economia, 155 fls. Universidade Federal do Rio de Janeiro.

Duménil, G., & Lévy, D. (2001). Costs and benefits of neoliberalism. A class analysis. Review of International Political Economy, 8(4), 578-607.

Ferguson, J. (2009). The uses of neoliberalism. Antipode, 41, 166-184.

Gallhofer, S., & Haslam, J. (2007). Exploring social, political and economic dimensions of accounting in the global context: the International Accounting Standards Board and accounting disaggregation. Socio-Economic Review, 5(4), 633-664.

Klinge, T. J., Fernandez, R., & Aalbers, M. B. (2021). Whither corporate financialization? A literature review. Geography Compass, 15(9), e12588.

Lavinas, L. (2020). The collateralization of social policy by financial markets in the global south. In The Routledge International Handbook of Financialization (pp. 312-323). Routledge

Lavinas, L., Araújo, E., & Rubin, P. (2024). Income transfers and household debt. The advancing collateralization of social policy in the midst of restructuring crises. Brazilian Journal of Political Economy, 44, 298-318.

Lavinas, L., Martins, N. M., Gonçalves, G. L., & Van Waeyenberge, E. (2024). Financeirização: crise, estagnação e desigualdade. Contracorrente.

Lazonick, W., & O'sullivan, M. (2000). Maximizing shareholder value: a new ideology for corporate governance. Economy and society, 29(1), 13-35.

Lucarelli, D. B. (2012). Financialization and global imbalances: prelude to crisis. Review of Radical Political Economics, 44(4), 429-447.

Mader, P., Mertens, D., & Van der Zwan, N. (Eds.). (2020). The Routledge international handbook of financialization. Routledge.

Martins, N. M. (2024). Teorias da financeirização: Instituições, crescimento e crise. In: Financeirização: Crise, estagnação e desigualdade (pp.37-80). Contracorrente.

Morgan, G. (1988). Accounting as reality construction: towards a new epistemology for accounting practice. Accounting, organizations and society, 13(5), 477-485.

Müller, J. (2014). An accounting revolution? The financialisation of standard setting. Critical Perspectives on Accounting, 25(7), 539-557.

Nölke, A., & Perry, J. (2007). The power of transnational private governance: Financialization and the IASB. Business and Politics, 9(3), 1-25.

Pagliari, S., & Young, K. L. (2020). How Financialization is Reproduced Politically. In The Routledge International Handbook of Financialization (pp. 113-124). Routledge.

Palea, V. (2015). The political economy of fair value reporting and the governance of the standards-setting process: Critical issues and pitfalls from a continental European Union perspective. Critical Perspectives on Accounting, 29, 1-15.

Palley, T. (2021). Financialization revisited: the economics and political economy of the vampire squid economy. Review of Keynesian Economics, 9(4), 461-492.

Paulani, L. M. (2024). Sobreacumulação, financeirização, rentismo e assetização. In: Financeirização: Crise, estagnação e desigualdade (pp.81-114). Contracorrente.

Power, M. (2010). Fair value accounting, financial economics and the transformation of reliability. Accounting and business research, 40(3), 197-210.

Van der Zwan, N. (2014). Making sense of financialization. Socio-economic review, 12(1), 99-129.

Zhang, Y., & Andrew, J. (2014). Financialisation and the conceptual framework. Critical perspectives on accounting, 25(1), 17-26.

Zhang, Y., & Andrew, J. (2022). Financialisation and the conceptual framework: An update. Critical Perspectives on Accounting, 88, 102322.

Zhang, Y., Andrew, J., & Rudkin, K. (2012). Accounting as an instrument of neoliberalisation? Exploring the adoption of fair value accounting in China. Accounting, Auditing & Accountability Journal, 25(8), 1266-1289.

SUMMARY

The Effect of COVID-19 on the Distribution of Dividends and Interest on Equity in the B3 Subsector: Apparel, Textiles, and Footwear..... 9

Accounting information quality and systematic risk in emerging countries 24

Influence of income smoothing and responsible corporate behavior on the cost of capital..... 39

The predominance of positivism in accounting: reflections on research in brazil..... 55

What does the market seek? Competencies and skills required in controller job postings for remote work..... 67

Abundance paradox theory: an analysis of healthcare companies' economic and financial indicators during the pandemic 80

Incentives, motivation, and performance of employees: a case study in a garment manufacturing firm..... 92

RMC

The Journal of Accounting of Minas Gerais is an Open Access quarterly journal, published by Conselho Regional de Contabilidade de Minas Gerais - ISSN: 2446-9114
Journal of Accounting of Minas Gerais, Volume 26, Number 3, Article 1, Pages 9 - 23, september/december 2025. Available at: https://revista.crcmg.org.br/rmc
DOI: https://doi.org/10.51320/rmc.v26i3.1723

CRCMG
CONSELHO REGIONAL DE CONTABILIDADE DE MINAS GERAIS

THE EFFECT OF COVID-19 ON THE DISTRIBUTION OF DIVIDENDS AND INTEREST ON EQUITY IN THE B3 SUBSECTOR: APPAREL, TEXTILES, AND FOOTWEAR

O EFEITO DA COVID-19 NA DISTRIBUIÇÃO DE DIVIDENDOS E JCP DO SUBSETOR: VESTUÁRIO, TECIDO E CALÇADOS DA B3

ABSTRACT
This research aimed to analyze the effect of the COVID-19 pandemic on the distribution of dividends and interest on equity (IOE) among companies listed on B3 in the textiles, footwear, and apparel subsector. A descriptive research approach was used, covering the period from 2018 to 2022, with 2018 and 2019 considered as the pre-COVID-19 period and 2020 to 2022 as the post-COVID-19 period, given that the World Health Organization officially declared the end of the pandemic only in May 2023. For data analysis, descriptive statistics, Spearman's correlation, and the Mann-Whitney U test were applied. The results indicated a significant reduction in the distribution of dividends and IOE following the onset of COVID-19, suggesting profit retention to maintain working capital, as well as a significant effect on companies' operating profitability and capital structure.

Keywords: Dividend and IOE distribution, accounting-financial indicators, COVID-19.

RESUMO
Esta pesquisa teve como objetivo analisar o efeito da pandemia do Covid-19 com relação a distribuição de dividendos e juros sobre capital próprio (JCP) nas empresas listadas na B3 do subsetor de tecidos, calçados e vestuário. Foi utilizada uma pesquisa descritiva, abrangendo o período de 2018 a 2022, considerando os anos de 2018 e 2019 como anteriores à Covid-19 e os anos de 2020 a 2022 como período pós-Covid 19, tendo em vista que a Organização Mundial da Saúde declarou oficialmente o fim da pandemia somente em maio de 2023. Para análise de dados foram realizados testes como estatística descrita, Correlação de *Spearman e* Teste de Médias *Mann-Whitney. Os resultados* apontaram que houve uma redução significativa na distribuição de dividendos e JCP a partir do surgimento da COVID-19, indicando uma retenção de lucros para manutenção do capital de giro, além de um efeito significativo na lucratividade operacional e na estrutura de capital das empresas.

Palavras-Chave: Distribuição de dividendos e JCP, indicadores contábeis-financeiros, COVID-19.

Pedro Artur Campos do Amaral
Graduando em Controladoria e Finanças, pela Universidade Federal de Minas Gerais (UFMG). E-mail: paca01.2022@gmail.com. Lattes: http://lattes.cnpq.br/2710667846399824 Orcid: https://orcid.org/0009-0001-4739-3003.

Maria Eduarda Maia Vidal Gonçalves
Graduanda em Controladoria e Finanças, pela Universidade Federal de Minas Gerais (UFMG). E-mail: dudamvg@gmail.com. Lattes: http://lattes.cnpq.br/4825180662895776. Orcid: https://orcid.org/0009-0004-7168-9412.

Ana Clara Fonseca do Amaral
Doutoranda em Ciências Contábeis, Linha de Pesquisa: Contabilidade Financeira, pela Universidade Federal de Minas Gerais (UFMG). Mestre em Ciências Contábeis, Linha de Pesquisa: Tributária, pela Fucape Business School. Especialista em Engenharia de Produção pela Faculdade Iguaçu, Administração Pública pela Faculdade Serra Geral e Ensino da Docência Superior, pela Faculdade Serra Geral. Graduação em Ciências Contábeis pela Faculdade de Nova Serrana (FANS) e Graduação em Administração pela Faculdade Pitágoras. E-mail: professor.anaclara@gmail.com. Lattes: https://lattes.cnpq.br/9432357714477696. Orcid: https://orcid.org/0009-0009-4559-3595

Valéria Lobo Archete Boya
Doutoranda em Ciências Contábeis, Linha de Pesquisa: Contabilidade Financeira, pela Universidade Federal de Minas Gerais (UFMG). Mestre em Ciências Contábeis, Linha de Pesquisa: Contabilidade Gerencial, pela Fucape Business School. Docente da Faculdades Sudamérica. E-mail: valeriaboya@uol.com.br. Lattes: http://lattes.cnpq.br/9085122799304276. Orcid: https://orcid.org/0009-0005-1848-8758

José Roberto de Souza Francisco
Professor Associado do Departamento de Ciências Contábeis e Controladoria Finanças da UFMG; Professor Efetivo do Mestrado/Doutorado em Ciências Contábeis do CEPCON/FACE/UFMG; Doutor em Finanças, CEPEAD/UFMG. Mestrado Profissional em Administração pela FEAD-MINAS Centro de Gestão Empreendedora. Especialização em Gestão do Cooperativismo pela Faculdade de Ciências Humanas de Pedro Leopoldo. Aperfeiçoamento em Controladoria e Finanças pela UFMG. Graduação em Ciências Contábeis pelo Centro Universitário Newton Paiva. E-mail: jroberto@face.ufmg.br. Lattes: http://lattes.cnpq.br/9553851503191616. Orcid: https://orcid.org/0000-0002-1880-5304

Journal of Accounting of Minas Gerais - ISSN 2446-9114 – Open Access quarterly journal, published by Conselho Regional de Contabilidade de Minas Gerais (CRCMG). Received: 25th March 2025. Proofread: 20th July 2025. New alterations: 27th August 2025. Accepted: 15th September 2025, by Dr. Ewerton Alex Avelar Leal and Dr. Nálbia de Araújo Santos. Published: 26th December 2025. Published by: CRCMG

1. INTRODUCTION

On February 26, 2020, Brazil confirmed its first case of COVID-19, a disease caused by the virus known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Brazilian Ministry of Health, 2020). The patient was a 61-year-old man who had recently returned from a trip to Italy, where there had been a significant outbreak of the disease. This case marked the beginning of the spread of the virus in the country, prompting health authorities to adopt preventive measures to contain its transmission (Brazil, 2020a).

Shortly thereafter, on March 20 of the same year, the Federal Government enacted Decree No. 10,282, which listed the activities classified as essential and that should continue to operate fully, such as social assistance and public security services (Brazil, 2020b).

Among the 2.7 million companies operating in 2020, approximately 70% indicated that the pandemic had an overall adverse impact on their business, while around 16.2% reported minimal or no effect. Conversely, approximately 13.6% highlighted that the pandemic created opportunities and had a positive impact on their firms, according to the Brazilian Institute of Geography and Statistics (IBGE, 2020). (IBGE, 2020).

There were serious concerns about a possible global recession, since such measures directly affect various economic structures: the total or partial interruption of industrial and office activities disrupts the supply of goods, reduces production, and lowers consumer demand in certain sectors (Marcelino et al., 2020).

During the restrictions imposed by the pandemic, societal habits underwent profound transformations, resulting in significant changes in both individual and collective needs. Thus, in the pandemic context, people continued to seek basic goods; however, the need to purchase clothing was reduced (Moreira et al., 2023).

Nevertheless, several firms in cyclical consumer sectors demonstrated a remarkable ability to adapt to the restrictive environment brought about by the pandemic, using e-commerce as a crucial element for maintaining their operations. Tools such as delivery services and drive-in schemes were also emphasized, allowing companies not only to preserve stability but, in many cases, to record increased revenues and solid profitability (Massoquetto et al., 2022).

The COVID-19 pandemic had a significant impact on several industries worldwide, including the apparel industry. The closure of stores, the disruption of global supply chains, and the decline in demand for non-essential products deeply affected the apparel sector (Sen et al., 2020).

According to Futema et al. (2009), business profitability is one of the fundamental aspects influencing profit distribution, making the use of dividends and interest on equity (IOE) an effective way of assessing firms' profitability. The COVID-19 health crisis brought serious challenges to companies' profitability and profit distribution.

In this context, the COVID-19 period was particularly fertile for research, including in the accounting field, especially studies seeking to address the reality faced by firms during the pandemic. Studies that examined the effects of COVID-19 on firms' economic-financial indicators include Alencar et al. (2020), Avelar et al. (2020), Botta and Fonseca (2023), Demirgüç-Kunt et al. (2020), Li et al. (2020), Costa et al. (2021), Massoquetto et al. (2022), Avelar et al. (2022), Silva Junior et al. (2022), and Silva (2022). Research that addressed the impact of the COVID-19 pandemic on companies includes the works of Carletti et al. (2020), Ding et al. (2020), Marcelino, Rezende and Miyaji (2020), Nuno (2020), Padhan and Prabheesh (2021), Sen et al. (2020), Santos and Nassif (2021), Souza and Delgado (2021), and Zaremba et al. (2020). Finally, studies that discuss dividends and/or the distribution of interest on equity in times of crisis include those by Leite et al. (2020), Acharya and Steffen (2020), El Ammari (2021), and Nguyen et al. (2021).

The present study aims to analyze the effect of the COVID-19 pandemic on the distribution of dividends and interest on equity among companies listed on B3 in the textiles, footwear, and apparel subsector. The choice of this subsector is justified by the pronounced impact of the COVID-19 pandemic, which triggered abrupt shifts in consumer preferences and behaviors, leading to substantial changes in the demand for non-essential goods such as clothing and accessories. Moreover, firms in this subsector faced specific challenges, including disruptions in global supply chains and the need to rapidly transition to e-commerce and other digital solutions to sustain their operations (Moreira et al., 2023).

Thus, both governmental measures and shifts in consumer behavior affected these firms' profits. Accordingly, the research question guiding this study is: what is the effect of the pandemic on the distribution of dividends and interest on equity among companies listed on B3 in the textiles, footwear, and apparel subsector?

The contributions of this study to academic and professional spheres are significant and multifaceted. Scholars may use the results to deepen the understanding of the resilience and adaptability of textiles, footwear, and apparel firms during the COVID-19 pandemic, providing a basis for future research on crisis management and financial performance in contexts of uncertainty, including in other sectors.

Although there are studies that examine the impacts of the pandemic on firms across various sectors (Avelar et al., 2020; Costa et al., 2021) and research that addresses the economic effects on apparel, textiles, and footwear companies (Botta & Fonseca, 2023; Setiawan & Septiani, 2024), this study is relevant due to the lack of detailed investigation into the distribution of dividends and interest on equity (JCP) within this subsector during the pandemic period in Brazilian firms.

This research is justified from the perspective of accounting and finance professionals, who may apply its findings to the analysis of dividend distribution and interest on equity (JCP) in a context of uncertainty such as the pandemic, with a view to ensuring corporate sustainability and maximizing results. Furthermore, examining profit retention policies during the pandemic may help managers formulate better governance and financial planning practices, enabling them to adapt

more effectively to market fluctuations and global crises. Focusing on this subsector allows for a detailed analysis of how government measures and changes in consumer behavior influenced the distribution of dividends and interest on equity, as well as financial accounting indicators, thereby contributing to future research on the topic.

2. LITERATURE REVIEW

2.1 COVID-19 Pandemic and Economic-Financial Indicators

In Brazil, government measures were necessary to prevent the spread of the disease. Thus, with the aim of reducing virus transmission and mitigating the impacts of the health crisis, state governments implemented quarantine (or social distancing) for the population, allowing people to leave their homes only for essential activities (Silva et al., 2020). This change in the economic environment affected the market, thereby creating opportunities for the development of studies on the entities operating in this context (Moreira et al., 2020).

At the national level, one may cite the study by Avelar et al. (2020), which used economic-financial indicators and found that the COVID-19 pandemic significantly affected the market value of Brazilian companies in March 2020. In general, firms reported several effects of the pandemic on their operations, the main ones being: uncertainty in forecasts, a decline in demand, and an increase in default. However, this impact was not homogeneous across sectors or across firms.

On the other hand, the findings of Massoquetto et al. (2022) indicate that many companies were able to adapt by shifting their business models to the virtual environment. With e-commerce as a key element, alongside tools such as delivery services and drive-in operations, these cyclical consumer firms demonstrated efficiency even in the face of shutdowns.

Costa et al. (2021) examined the influence of the pandemic on the economic-financial indicators of hygiene and cleaning product companies. Their study found that the firms analyzed were positively affected by increased sales during the pandemic period, driven mainly by the expansion in the production of hand sanitizer and the higher volume of soap and disinfectant output.

Botta and Fonseca (2023) examined the impact of the COVID-19 pandemic on the economic situation of footwear companies between 2019 and 2021, using financial data from the Brazilian stock exchange (B3). Their findings revealed a decline in profitability and liquidity indicators, indicating financial difficulties in covering short-term debt. Some firms showed an increasing need for working capital and long cash conversion cycles, as well as a pattern of financing short-term assets with long-term funds.

Silva (2022) investigated the impacts of the economic crisis caused by the COVID-19 pandemic on loss estimates related to receivables and inventories of textiles, apparel, and footwear companies listed on B3, analyzing data from 2018 to 2021. The study evidenced an increase in estimated credit losses during the pandemic, especially in 2020, which is considered the period in which the pandemic became consolidated.

Alencar et al. (2020) examined companies listed on B3 in special listing segments to verify whether they exhibited superior performance during the pandemic, by comparing their accounting profitability indicators and valuation multiples with those of firms in the basic segment. The authors concluded that listing at the highest levels of corporate governance does not guarantee that companies will be shielded from crises, since, in some cases, firms in the basic segment presented better indicators.

Silva Junior et al. (2022) used a set of economic-financial indicators for four companies in the higher education sector listed on B3. Their study showed that the COVID-19 pandemic led to a decline in profitability due to increased student default, thereby negatively affecting the market value of these firms.

Avelar et al. (2022) analyzed the effects of the COVID-19 pandemic on the economic-financial performance of Brazilian publicly traded companies listed on B3 in 2020. The results revealed a reduction in market value and profitability, as well as an increase in operating cycles and indebtedness in the first two quarters of 2020.

Demirgüç-Kunt et al. (2020) analyzed the impact of financial policy measures adopted during the COVID-19 crisis on bank stocks at a global level. The results indicated that liquidity support measures, borrower assistance, and monetary easing had heterogeneous effects on bank equities, with prudential adjustments leading to negative abnormal returns.

Li, Strahan, and Zhang (2020) examined how banks were able to meet firms' funding demands during the COVID-19 crisis. Their findings suggest that banks were able to supply this demand for liquidity primarily through federal programs and depositor funds, with bank capital not representing a significant constraint during the crisis.

The study by Setiawan and Septiani (2024) investigated firm performance and its determinants in Indonesia's textile and textile products (TPT) industry before and after the COVID-19 pandemic. The results revealed a decline in firm performance and in price–cost margins during the pandemic.

Several studies on dividends and interest on equity have been reported in periods of economic crisis (Leite et al., 2020; Krieger et al., 2021; Pettenuzzo et al., 2021; El Ammari, 2021). Leite et al. (2020) examined the determinants of dividend payments in Brazilian companies during periods of crisis and economic prosperity. Their results showed that, although firms experience performance losses in times of crisis compared with periods of prosperity, there was no reduction in dividend payments in the sample analyzed.

The study by Krieger et al. (2021) investigated the impact of the COVID-19 pandemic on the dividend distribution of publicly traded companies in the United States. The authors found that net income and leverage are key determinants

of dividend reductions, and that this effect was more pronounced during the pandemic, exceeding the dividend cuts observed during the 2008 crisis.

Acharya and Steffen (2020) analyzed the impact of the COVID-19 pandemic on corporate cash management decisions in the United States, focusing on differences in behavior between high-quality firms (with higher credit ratings) and lower-quality firms (rated BBB). The study sought to understand how organizations responded to the increase in credit risk during the crisis, examining whether there was a "dash for cash," particularly among firms at risk of being downgraded to speculative grade.

The results indicated that high-quality firms (with higher ratings) increased their cash holdings during the crisis, whereas lower-quality firms (rated BBB) sought to raise capital through debt and equity issuances. In addition, BBB-rated firms showed a significant increase in the use of revolving credit lines, indicating a search for additional liquidity to cope with financial challenges during the pandemic.

El Ammari (2021) investigated how CEO duality—that is, when the same individual holds both the positions of CEO and chair of the board—and ownership concentration influence dividend policy in firms from emerging markets, especially in periods of crisis. The study aimed to understand the relationship between these variables and how crises may moderate their effects on dividend policy. Specifically, the results show that political crises play an important role in mitigating the positive effect of ownership concentration and CEO duality on dividend distribution.

Nguyen et al. (2021) examined the effects of dividend policies on firms' financial performance, that is, how the dividend payout ratio and the decision to pay dividends impact firm performance. They used ROA (return on assets) and ROE (return on equity) as proxies, analyzing 450 companies listed on the Vietnamese stock market. The authors note that data collection took place during a period of financial difficulties in the country, which may have influenced the results regarding the relationship between dividend policy and firms' financial performance.

2.2 Covid-19 and its Impact on Firms

The COVID-19 pandemic brought about significant transformations in business dynamics, affecting several areas such as management, production, and labor relations. The need for rapid adaptation to a highly uncertain environment underscored the importance of observing and analyzing research on the effects of COVID-19 on firms.

Rezende, Marcelino, and Miyaji (2020) and Souza and Delgado (2021) analyzed the effects of the COVID-19 pandemic on Brazilian micro and small enterprises. Their studies indicate that, despite the limited availability of data on this segment, it is possible to identify the weak performance of these firms during the pandemic.

Moreover, the international literature notes that the COVID-19 pandemic caused severe damage to the global economy, requiring coordinated action across monetary, macroprudential, and fiscal policies to mitigate its effects. Conventional macroeconomic policies must be adjusted and complemented by social measures to confront the health crisis and maintain economic balance (Padhan & Prabheesh, 2021).

Coibion et al. (2020) documented the impact of the COVID-19 pandemic based on restrictions imposed on consumer spending, income and wealth losses, macroeconomic expectations, and evaluations of political institutions. The authors also examined how local lockdowns affected realized and planned expenditures, including the economic losses associated with these measures. Their findings point to a sharp decline in aggregate spending, especially in categories such as travel and apparel.

Santos and Nassif (2021) studied the applicability of strategic actions in a shopping center to cope with the COVID-19 pandemic. The results indicated that, despite an initial decline in vehicle flow, there was a gradual recovery over the subsequent months. Delivery and take-away services were fundamental for increasing sales and reaching the break-even point at the peak of the pandemic. In addition, the reduction in the number of people led to a decrease in operating expenses in the establishments.

In the Italian context, the findings of Carletti et al. (2020) show that the lockdown was expected to cause a significant decline in profits and a substantial erosion of firms' equity, generating financial difficulties for a sizeable share of the institutions analyzed. Not only Italy but the entire world was affected by social distancing restrictions; for instance, a clothing manufacturing hub in Bangladesh was heavily impacted by COVID-19, resulting in the cancellation of billions of dollars in apparel orders by consumers, as these activities were classified as non-essential (Sen et al., 2020).

Nuno (2020) conducted a broader study, analyzing the impact of the COVID-19 health crisis on the global economy, with a focus on GDP growth projections and the economic consequences in different countries. The author examined key economic events that occurred during the pandemic, such as the suspension of production by automobile manufacturers in Europe and the impact on the transport, entertainment, retail, hotel, and restaurant sectors.

Mello Júnior et al. (2023) assessed the impact of the COVID-19 pandemic on Brazil's Gross Domestic Product (GDP). To do so, the study used data from the Value Added Statement (DVA) of several companies listed on B3 (Brasil, Bolsa, Balcão) between the quarters of 2018 and the first quarter of 2021. The main results showed that the pandemic had significant effects in the first quarters of 2020, particularly through an increase in the remuneration of debt capital, due to the contracting of loans and financing, and a reduction in the remuneration of equity capital, caused by the decline in firms' revenues and the suspension or reduction of dividend payments to shareholders.

From the perspective of financial markets, Ding et al. (2020) analyzed how corporate characteristics influenced stock price reactions during the COVID-19 pandemic. Their results revealed that firms with greater ex ante corporate immunity performed better in the stock market during the crisis, and that global supply chains and client location also played an important role in stock price reactions to COVID-19 rates. In addition, Zaremba et al. (2020) found that non-pharmaceutical interventions related to the pandemic increased stock market volatility.

3. METHODOLOGY

3.1 Research Classification

This study is classified as descriptive, since, according to Martins and Theóphilo (2007), it aims to describe the characteristics of a given phenomenon. In this specific case, it presents an analysis of the companies' accounting and financial indicators. It is also characterized as a documentary study, as it examines data extracted from firms' financial statements. With respect to the assessment of results, it is classified as quantitative research, given that statistical tests are employed to obtain empirical results for data analysis.

3.2 Amostra e período da pesquisa, coleta de dados

In line with the objective of this study, the period analyzed was from 2018 to 2022, in order to examine both the pre-pandemic years (2018–2019) and the period in which the pandemic was already underway (2020–2022). Although, by 2022, the population had largely resumed social activities, that is, was no longer under lockdown, it was only in May 2023 that the World Health Organization (WHO) officially declared the end of the COVID-19 pandemic.

The data were obtained from the Economática® database and from the financial statements of companies listed in the textiles, footwear, and apparel subsector, comprising the following firms: Arezzo, C&A, Veste, Grupo Soma, Lojas Marisa, Lojas Renner, Grazziotin, and Guararapes. These companies operate in activities considered sensitive to the global COVID-19 health crisis, as they are classified as non-essential.

The following accounting indicators were extracted: dividends, interest on equity (JCP), working capital, capital employed, liquidity (current, quick, and overall), net total debt, gross total debt, earnings per share, book value per share, sales per share, and EBITDA per share, as detailed in the table below.

Table 1 – Description of Variables

Variable	Acronym	Description	Authors	Expected Sign	Expected Relationship
Dividends and Interest on Equity	DIVJCP	Portion of profits distributed to shareholders as a return on their investment. In Brazil, this includes both cash dividends and interest on equity (JCP), which represent a financial expense paid to shareholders and calculated on the company's own capital.	Futema et al. (2009); Zaremba et al. (2020); El Ammari (2021); Nguyen et al. (2021)	–	During the pandemic period, non-essential goods companies are expected to reduce the distribution of dividends and interest on equity.
General Liquidity	LG	Ratio between total assets and total liabilities (current and non-current).	Botta and Fonseca (2023); Costa et al. (2021); Mello Júnior et al. (2023)	–	Due to lower sales and the need for credit support during the pandemic, non-essential companies tend to experience a reduction in their general liquidity.
Current Liquidity	LC	Current assets divided by current liabilities.	Acharya and Steffen (2020); Botta and Fonseca (2023); Costa et al. (2021); Mello Júnior et al. (2023)	+	Owing to the reduction in sales and the use of credit, non-essential firms may accumulate higher inventory levels during the pandemic, which can translate into higher current liquidity.

Variable	Acronym	Description	Authors	Expected Sign	Expected Relationship
Quick Ratio (Acid Test)	LS	(Current assets – inventories) divided by current liabilities.	Acharya and Steffen (2020); Botta and Fonseca (2023); Costa et al. (2021); Mello Júnior et al. (2023)	–	Given the drop in sales and reliance on credit during the pandemic, non-essential firms are expected to see a reduction in their quick ratio, as part of current assets is tied up in inventories.
Working Capital	ln_CG	Natural logarithm of working capital, measured as current assets minus current liabilities.	Avelar et al. (2020); Botta and Fonseca (2023); Mello Júnior et al. (2023); Silva (2022); Santos and Nassif (2021)	+	With declining sales, firms seek to preserve cash; consequently, short-term obligations may increase relative to current assets, affecting the level and composition of working capital.
Capital Employed	ln_CE	Natural logarithm of capital employed, measured as total assets minus current liabilities (resources invested in the company net of short-term obligations).	Avelar et al. (2020); Botta and Fonseca (2023); Mello Júnior et al. (2023); Silva (2022); Santos and Nassif (2021)	–	Capital employed, representing the total financial resources invested in the firm excluding short-term obligations, tends to be lower in an economic downturn triggered by the pandemic.
Gross Total Debt	ln_DB	Natural logarithm of the sum of short- and long-term financial obligations (gross total debt).	Ding et al. (2020); Li, Strahan and Zhang (2020); Padhan and Prabheesh (2021); Santos and Nassif (2021); Silva Júnior et al. (2022)	+	Due to the expansion of credit during the pandemic, gross total debt is expected to increase.
Net Total Debt	ln_DL	Natural logarithm of total financial obligations net of short-term financial assets (e.g., cash and cash equivalents).	Ding et al. (2020); Li, Strahan and Zhang (2020); Padhan and Prabheesh (2021); Santos and Nassif (2021); Silva Júnior et al. (2022)	+	In the pandemic context, the likely reduction in liquid assets due to weaker operations tends to increase net total debt.
Earnings per Share (EPS)	LPA	Calculated as net income for the period divided by the number of shares outstanding.	Alencar et al. (2023); Marcelino, Rezende and Miyaji (2020); Zaremba et al. (2020)	–	During the pandemic period, non-essential firms are expected to report lower earnings, resulting in reduced earnings per share.

Variable	Acronym	Description	Authors	Expected Sign	Expected Relationship
Book Value per Share	VPA	Shareholders' equity divided by the number of shares outstanding.	Alencar et al. (2023); Marcelino, Rezende and Miyaji (2020); Zaremba et al. (2020)	–	In a pandemic scenario, non-essential firms are not expected to experience growth in shareholders' equity, which may lead to a decline in book value per share.
Sales per Share	V/A	Net sales divided by the number of shares outstanding.	Alencar et al. (2023); Marcelino, Rezende and Miyaji (2020); Zaremba et al. (2020)	–	During the pandemic, non-essential goods companies are expected to experience a decline in sales, implying lower sales per share.
EBITDA per Share	EBITDA/A	EBITDA divided by the number of shares outstanding.	Alencar et al. (2023); Marcelino, Rezende and Miyaji (2020); Zaremba et al. (2020)	–	In the pandemic period, non-essential firms are expected to report lower operating performance, resulting in lower EBITDA per share.

Source: Elaborated by the authors.

3.3 Statistical Tests

To obtain and analyze the results, several statistical procedures were applied. First, descriptive statistics were employed to characterize the data and provide a basis for subsequent inferential techniques through the calculation and interpretation of descriptive measures (Triola, 2021).

Spearman's rank correlation coefficient was also used, given that the indicators present opposite behaviors in relation to the COVID-19 health crisis, that is, monotonic relationships (Moore et al., 2013).

Normality was assessed using the Shapiro–Wilk test (W statistic and p-value) and the Jarque–Bera test (JB statistic and p-value), complemented by the analysis of skewness and excess kurtosis. Although the sample comprises a single subsector of B3, it includes firms that differ in size and characteristics. Therefore, to verify whether there are significant differences among the variables within the sample, the Mann–Whitney test was applied to compare the medians of the companies in the textiles, apparel, and footwear subsector (Mann & Whitney, 1947).

4. RESULTS

In this study, a multifaceted approach was adopted to analyze a set of financial metrics, combining descriptive statistics, Spearman's rank correlation, the Wilcoxon–Mann–Whitney test, and normality tests, namely Shapiro–Wilk (W statistic and p-value) and Jarque–Bera (JB statistic and p-value).

Descriptive statistics were first employed to summarize and describe the basic characteristics of the data, providing an overview of the distributions, means, standard deviations, and minimum and maximum values of the variables analyzed. This preliminary examination is essential for identifying overall patterns and potential anomalies in the dataset. Descriptive statistics were computed separately for the pre-pandemic period, covering the years 2018 to 2019, and for the period in which the pandemic was already under way, spanning 2020 to 2022. For all tests conducted in this section, the data were winsorized at the 1st and 99th percentiles.

4.1 Descriptive Statistics

Table 2 – Descriptive statistics of the variables

Variable	Obs	Mean	Std	Min	25%	50%	75%	Max
Div. + JCP	29	-148.566,6552	143.681,7020	-648.325,000	-234.623,000	-92.170,000	-45.425,000	6.736,000
LG	40	1,2549	0,4188	0,4000	1,0720	1,2000	1,3119	2,6712
LC	40	1,6715	0,5424	0,8000	1,3000	1,6000	1,9000	3,2905

Variable	Obs	Mean	Std	Min	25%	50%	75%	Max
LS	40	1,2924	0,4985	0,5000	0,9963	1,3000	1,5250	2,7009
CG	40	1.271.620.209,82	1.547.555.724,55	-158.726.000	225.560.155,75	630.234.500,00	1.607.177.750,00	6.048.191.000,00
CE	40	4.647.346.704,25	4.074.971.031,96	569.159.945	1.262.287.000	2.898.922.000	7.425.878.000	15.543.859.000
DL	40	420.832.766,65	797.726.246,50	-2.480.400.000	-71.531.769,50	401.538.500,00	935.330.250,00	1.684.675.000
DB	35	1.546.669.800,00	1.136.464.812,34	1.848.000	584.431.500,00	1.462.987.000	2.033.286.000	4.085.296.000
LPA	40	-7.0994	40.1584	-232.9766	-0.0116	0.8014	2.2459	19.8025
VPA	39	29.2727	68.3159	-61.3178	8.4079	10.3954	24.4557	345.0899
V/A	40	35.3905	40.4823	3.2201	13.0682	19.8275	40.2542	192.8870
EBITDA/A	38	5.6134	10.1713	-14.6876	1.8900	2.7454	5.8132	54.3557

Source: research data.

Table 3 – Descriptive statistics after winsorization: pre-pandemic and during the pandemic

Variável	Mean (Antes)	Mean (Durante)	Std (Antes)	Std (Durante)	Min (Antes)	Min (Durante)	Max (Antes)	Max (Durante)
Div. + JCP	-148.566,66	-146.182,05	143.681,70	134.847,72	-648.325,00	-575.399,28	6.736,00	2.963,84
LG	1,2549	1,2512	0,4188	0,4067	0,4000	0,4000	2,6712	2,5264
LC	1,6715	1,6696	0,5424	0,5324	0,8000	0,8390	3,2905	3,1772
LS	1,2924	1,2924	0,4985	0,4941	0,5000	0,5390	2,7009	2,6616
CG	1.271.620.209,8	1.271.505.598,57	1.547.555.724,55	1.546.962.352,20	-158.726.000	-156.481.160	6.048.191.000	6.041.361.710
CE	4.647.346.704,2	4.641.689.199,62	4.074.971.031,96	4.055.375.309,11	569.159.945	614.444.449,85	15.543.859.000	15.272.274.310
DL	420.832.766.65	434.102.750.65	797.726.246.50	750.263.617.13	-2.480.400.000	-1.941.305.730	1.684.675.000	1.676.380.090
DB	1.546.669.800.00	1.547.721.080.00	1.136.464.812.34	1.134.961.713.79	1.848.000	39.101.800	4.085.296.000	4.084.837.000
LPA	-7,0994	-5,7757	40,1584	32,4740	-232,9766	-178,5634	19,8025	18,3353
VPA	29,2727	29,1023	68,3159	63,9401	-61,3178	-37,6007	345,0899	314,7275
Ven	35,3905	34,9384	40,4823	38,7209	3,2201	3,4053	192,8870	174,6183
Ebtida/A	5,6134	5,4929	10,1713	8,6356	-14,6876	-9,2437	54,3557	44,3320

Source: research data.

The results in Tables 2 and 3 show the changes that occurred in the economic-financial performance of companies in the textiles, apparel, and footwear subsector listed on B3 over the course of the COVID-19 pandemic.

Some variables were affected by winsorization and exhibited more visible shifts. The maximum value of Div. + JCP decreased from 6,736 to 2,963, while the minimum increased from –648,325 to –575,399. Although the mean increased during the pandemic period, this change must be interpreted considering the higher minimum value. This evidence is consistent with Nguyen et al. (2021), who argue that financial crises can influence dividend distribution, and with Carletti et al. (2020) and Sen et al. (2020), who document significant declines in profits for firms in the apparel sector, including the cancellation of billions of dollars in orders, as these activities are classified as non-essential. When production or sales of such products decline, revenues fall accordingly, which directly affects the distribution of dividends to shareholders.

The liquidity ratios (general, current, and quick) remained relatively stable, with only minor variations between periods. For the current ratio (LC), the maximum decreased from 3.2905 to 3.1772, while the minimum increased from 0.8000 to 0.8390. For the quick ratio (LS), the maximum declined from 2.7009 to 2.6616 and the minimum rose from 0.5000 to 0.5390.

Only the general liquidity ratio (LG) showed marginal changes. Despite a slight reduction in LG from 1.2549 to 1.2512, the levels of current and quick liquidity remained close, suggesting that firms were able to preserve a certain short-term payment capacity. This result is consistent with Massoquetto et al. (2022), who emphasize the adaptation of cyclical consumer companies through e-commerce and digital solutions, factors that helped sustain liquidity amid the decline in in-store sales.

With respect to capital structure indicators (CG, CE, DB, and DL), it is observed that both working capital (CG) and capital employed (CE) exhibited a reduction in their average levels during the pandemic period. For CG, the maximum de-

creased from 6,048,191,000 to 6,041,361,710, while the minimum increased from –158,726,000 to –156,481,160. For CE, the maximum dropped from 15,543,859,000 to 15,272,274,310 and the minimum rose from 569,159,945 to 614,444,450.

The DB variable showed a decline in its maximum value, from 4,085,296,000 to 4,084,837,000, while the minimum increased from 1,848,000 to 39,101,800. Similarly, the DL variable also exhibited a reduction in its maximum value, from 1,684,675,000 to 1,676,380,090, and an increase in the minimum, from –2,480,400,000 to –1.941.30.730.

These results suggest that firms needed to mobilize additional resources to finance their operations, given the uncertainty surrounding their future, especially in view of their focus on non-essential goods. Avelar et al. (2022), when analyzing the economic-financial performance of companies listed on B3, reported an increase in indebtedness cycles in the first two quarters of 2020. Likewise, Mello Júnior et al. (2023) showed that the COVID-19 pandemic had significant effects in the early quarters of 2020, such as an increase in the remuneration of debt capital due to the strong demand for loans and financing.

Profitability indicators (LPA, VPA, EBITDA/A) displayed marked differences between the two periods. For LPA, the maximum fell from 19.8025 to 18.3353, while the minimum rose from –232.9766 to –178.5634. For VPA, the maximum declined from 68.3159 to 63.9401, and the minimum increased from –61.3178 to –37.6007. For V/A, there was a reduction in the maximum value from 345.0899 to 314.7275 and an increase in the minimum from 3.2201 to 3.4053. Finally, EBITDA/A also registered a decrease in its maximum value, from 54.3557 to 44.3320, and an increase in the minimum, from –14.6876 to –9.2437. These findings are consistent with Carletti et al. (2020), Sen et al. (2020) and Nuno (2020), who report that firms in non-essential sectors, such as apparel and footwear, experienced a sharp reduction in profitability due to mobility restrictions, declining demand, and disruptions in supply chains.

Sales also contracted, confirming the reduction in demand for consumer goods regarded as non-essential. This result reinforces the evidence reported by Moreira et al. (2023), who highlight a significant decline in sales in the sector as a result of changes in consumption patterns during the pandemic.

4.2 Testes de Normalidade

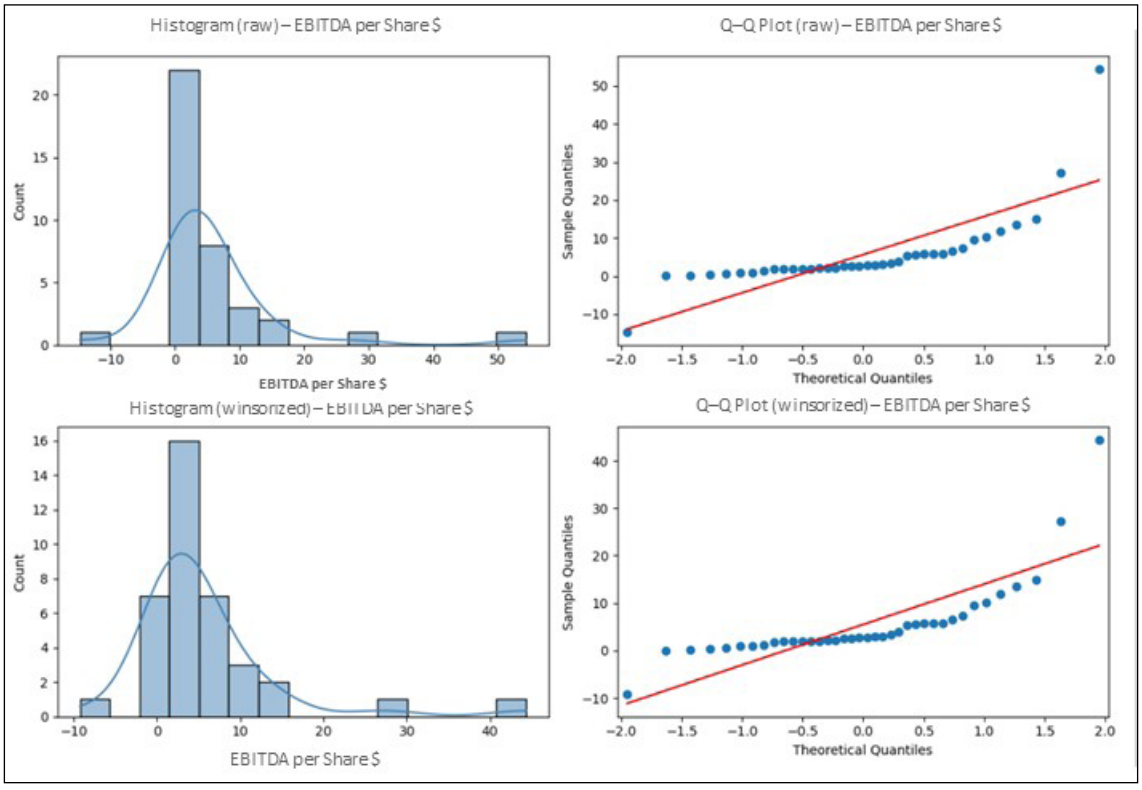
Tabela 4 - Testes de Normalidade (Shapiro-Wilk e Jarque-Bera)

Variable	n	Origem	Shapiro_W	Shapiro_p	JB_stat	JB_p	Skew	Kurtosis_ excess
Capital Employed	40	bruto	0,8583	0,0001	6,7840	0,0336	1,0469	0,2919
Capital Employed	40	winsor_1_99	0,8578	0,0001	6,5411	0,0380	1,0293	0,2161
CG	40	bruto	0,7819	0,0000	28,6823	0,0000	1,7615	2,8866
Capital de Giro	40	winsor_1_99	0,7819	0,0000	28,6200	0,0000	1,7604	2,8810
Div, + JCP	29	bruto	0,8404	0,0005	23,3610	0,0000	-1,6755	3.8789
Div. + JCP	29	winsor_1_99	0,8677	0,0018	11,0480	0,0040	-1,3518	2,1615
Total Debt	35	bruto	0,9173	0,0120	3,3713	0,1853	0,7887	-0,0236
Total Debt	35	winsor_1_99	0,9154	0,0106	3,4173	0,1811	0,7942	-0,0214
Net Debt	40	bruto	0,9216	0,0087	19,8751	0,0000	-1,1183	3,2380
Net Debt	40	winsor_1_99	0,9536	0,1007	4,6562	0,0975	-0,6843	1,3373
EBITDA per Share	38	bruto	0,6284	0,0000	315,0918	0,0000	3,1960	14,7231
EBITDA per Share	38	winsor_1_99	0,6728	0,0000	202,8416	0,0000	2,9332	11,4198
LC	40	bruto	0,9366	0,0265	7,8985	0,0193	1,0185	1,2441
LC	40	winsor_1_99	0,9383	0,0303	6,3726	0,0413	0,9550	0,9267
LPA	40	bruto	0,3364	0,0000	1109,3112	0,0000	-5,0516	27,3445
LPA	40	winsor_1_99	0,3577	0,0000	762,9686	0,0000	-4,4757	22,3444
LS	40	bruto	0,9457	0,0539	5,0920	0,0781	0,8001	1,1106
LS	40	winsor_1_99	0,9438	0,0463	4,7529	0,0929	0,7863	1,0194
General Liquidity	40	bruto	0,8961	0,0015	20,0158	0,0000	1,1041	3,2801
General Liquidity	40	winsor_1_99	0,9086	0,0034	12,7578	0,0017	0,9187	2,5868

Variable	n	Origem	Shapiro_W	Shapiro_p	JB_stat	JB_p	Skew	Kurtosis_ excess
VPA	39	bruto	0,4533	0,0000	373,4193	0,0000	3,8087	15,3185
VPA	39	winsor_1_99	0,4448	0,0000	355,1842	0,0000	3,8267	14,8057
Sales per Share	40	bruto	0,7014	0,0000	80,2249	0,0000	2,3881	6,0780
Sales per Share	40	winsor_1_99	0,7169	0,0000	57,8923	0,0000	2,2046	4,8195

Sourch: research data

Figure 1 – Research Charts



Fonte: dados da pesquisa

After applying the normality tests, the results revealed the following patterns: for the variables Working Capital (CG) and Capital Employed (CE), both tests indicated rejection of normality ($p < 0.05$) in the raw and winsorized data. Winsorization slightly reduced the Jarque–Bera statistic, but the adjustment was not sufficient to normalize the distribution. Skewness values remained close to 1, indicating moderate asymmetry.

For the variable Dividends + Interest on Equity (JCP), there was a significant improvement after winsorization. The JB p-value increased from 0.0000 (raw) to 0.0040 (winsor), reflecting a reduction in negative skewness. However, the distribution still does not fully meet the normality criteria.

The variables Total Net Debt (DL) and Total Gross Debt (DB) showed improvements after winsorization, especially Total Net Debt, whose Shapiro–Wilk p-value increased to 0.1007 and JB p-value to 0.0975. These values are close to non-rejection of the null hypothesis of normality. Despite this, normality still cannot be affirmed at the 5% significance level.

The variable Earnings per Share (LPA) remained highly non-normal, with $p < 0.001$ in both tests even after winsorization. The extremely high kurtosis (> 20) indicates heavy tails, suggesting the need for additional transformation or the use of robust statistical methods. Similarly, VPA, Sales per Share, and EBITDA per Share continued to exhibit non-normality even after winsorization, although the kurtosis and JB statistic were reduced. For example, EBITDA per Share showed a decrease in JB from 315.9 (raw) to 202.8 (winsor), but the p-value remained below 0.01.

The liquidity indicators (General, Current, and Quick Ratios) were the variables that came closest to normality after winsorization. General Liquidity, for instance, improved from $p = 0.0015$ (raw) to $p = 0.0340$ (winsor), becoming marginally non-significant at the 5% level but acceptable at the 10% level. This suggests that winsorization was particularly effective for liquidity indicators.

Overall, winsorization reduced skewness and kurtosis in several variables—especially those related to liquidity and debt—bringing the distributions closer to normality. However, variables such as LPA, VPA, Sales per Share, and EBITDA per Share remain strongly non-normal. Given these results, the use of methods robust to normality violations (such as regressions with robust standard errors, FGLS, or non-parametric estimators) will be necessary in the subsequent econometric analyses.

4.3 Tests of Differences Between Periods

Table 5 presents the results of the Wilcoxon–Mann–Whitney test, which evaluates the differences between the periods 2018–2019 (pre–COVID-19) and 2020–2022 (during the COVID-19 pandemic). The table reports the variables that were affected by the emergence and development of the COVID-19 pandemic.

Table 5 - Mann-Whitney Difference Test

Variable	n_pre	Mediana_Pre	n_post	Mediana_Post	U	p
Div. + JCP	14	-92,280,5000	15	-92,170,0000	124	0,4194
LG	16	1,2500	24	1,2000	214	0,5500
LC	16	1,4500	24	1,6000	166,5	0,4893
LS	16	1,2500	24	1,3000	184,5	0,8464
CG	16	551,059,000,0000	24	882,817,500,0000	148	0,2298
CE	16	2,655,980,500,00	24	3,030,261,500,00	131	0,0949*
DL	16	437,147,500,0000	24	396,290,500,0000	191	0,9890
DB	14	1,296,763,500,00	21	1,462,987,000,00	105	0,1623
LPA	16	1,2523	24	0,5251	251	0,1063
VPA	15	10,4659	24	10,2331	185	0,8966
V/A	16	19,8275	24	18,7355	210	0,6290
Ebitda/A	14	4,4766	24	1,9266	255	0,0089***

Source: research data.
Note: * represents 10% significance, ** represents 5% significance, and *** represents 1% significance.

The analysis of the results indicates that the COVID-19 pandemic had a significant impact on specific aspects of the financial performance of firms in the apparel, textiles, and footwear subsector of B3, particularly in operational profitability and the structure of employed capital. These findings are consistent with the existing literature, which documents the challenges and adjustments faced by companies during the pandemic period.

When comparing the pre-COVID years (2018–2019) with the pandemic period (2020–2022), the difference-in-means test showed that the only statistically significant variable—that is, the only one demonstrably affected by the health crisis—was EBITDA per Share, significant at the 1% level. This suggests a substantial impact of the pandemic on firms' operational profitability, corroborating previous studies that highlight the sharp decline in operational earnings during this period. Carletti et al. (2020), Coibion et al. (2020), Sen et al. (2020), and Nuno (2020) reported that the restrictions imposed during the pandemic led to a pronounced reduction in aggregate expenditure, particularly in categories such as apparel, directly affecting profitability in this segment.

The variable Capital Employed (CE) was significant at the 10% level, reflecting factors such as changes in fixed assets, working capital, debt structure, and operational strategies, all of which may have contributed to the observed variation.

These results are aligned with the findings of Mello Júnior et al. (2023), who indicate that variations in fixed assets, working capital, and debt structure played an important role in firms' financial dynamics during the pandemic. Coibion et al. (2020) similarly emphasize the marked decline in operational profitability faced by firms as a consequence of the economic disruptions caused by COVID-19.

Mello Júnior et al. (2023) assessed the impact of the COVID-19 pandemic on Brazil's Gross Domestic Product (GDP). Using data from the Value Added Statement (DVA) of several companies listed on B3 between 2018 and the first quarter of 2021, their study shows that the pandemic had substantial effects in the early quarters of 2020. These effects included increases in the Remuneration of Third-Party Capital, due to higher borrowing and financing, and a reduction in the Remuneration of Equity Capital, resulting from declines in revenues and the suspension or reduction of dividends distributed to shareholders.

4.4 Spearman's Correlation

Below is Table 6 with the correlation analysis of the data, using Spearman's statistical test.

Table 6 – Spearman Correlation

	divjcp	lg	Lc	ls	lncg	lnce	lndl	lndb	lpa	vpa	va	ebitdaa
divjcp	1,0000											
lg	-0,0332	1,0000										
lc	0,0326	0,3215	1,0000									
ls	-0,0713	0,2008	0,7377	1,0000								
ln_cg	-0,5429	-0,0774	0,2138	0,4092	1,0000							
ln_ce	-0,4357	-0,0055	0,2754	0,3051	0,9179	1,0000						
ln_dl	-0,1786	0,3335	0,337	0,3946	0,5571	0,5429	1,0000					
ln_db	-0,5286	0,0442	0,029	0,325	0,8036	0,5571	0,5571	1,0000				
lpa	-0,6488	-0,1955	-0,2421	-0,2231	-0,1144	-0,1841	-0,0608	-0,0822	1,0000			
vpa	0,3821	0,2764	-0,0688	-0,0384	-0,2293	-0,4036	0,0786	-0,231	-0,1269	1,0000		
v/a	0,2429	0,0147	-0,3026	-0,0311	-0,375	-0,5964	0,0071	-0,2036	0,2002	0,8036	1,0000	
Ebitda/a	-0,0608	0,0609	-0,5255	-0,2379	-0,347	-0,5742	0,0197	-0,1556	0,4718	0,4991	0,8426	1,0000

Fonte: dados da pesquisa

The correlation of the variable ln_CG at –0.5429 suggests that firms that pay higher amounts of dividends and interest on equity tend to have lower working capital. This may indicate that these firms are returning a significant portion of their operational capital to shareholders. Similarly, the correlation between ln_CE and DivJCP was also negative (–0.437), which may result from aggressive dividend policies that reduce the funds available for reinvestment. This finding is consistent with the studies of Futema et al. (2009) and El Ammari (2021), who highlight that high dividend distributions reduce the resources available for reinvestment and operational capital.

The debt variables, both net and gross, also showed negative correlations with dividends and interest on equity. Gross debt (ln_DB) presented a stronger correlation of –0.5286, suggesting that firms distributing more dividends may be avoiding the accumulation of gross debt, possibly due to the economic instability caused by the COVID-19 pandemic. Ding et al. (2020) and Li et al. (2020) observed that firms tend to avoid increasing leverage during periods of instability, preserving cash by reducing dividend payments.

The correlation of 0.0442 indicates a very weak relationship between gross debt and general liquidity, suggesting that the amount of gross debt a firm holds does not significantly affect its ability to cover total liabilities with total assets. Likewise, the correlation between current liquidity and gross debt (0.0290) was also very weak, indicating that gross debt has little or no relationship with a firm's ability to meet short-term obligations using current assets.

However, the correlation of 0.3325 is more meaningful, indicating a moderate relationship between gross debt and the quick ratio. This may suggest that firms with higher gross debt depend slightly more on liquid current assets (excluding inventories) to cover their long-term obligations. During the COVID-19 pandemic, many companies faced inventory build-ups due to declining sales—particularly of non-essential consumer goods such as footwear and apparel—as documented by Nuno (2020), Coibion et al. (2020), and Sen et al. (2020).

These results are consistent with the study of Botta and Fonseca (2023), which found a reduction in liquidity indicators among Brazilian footwear companies listed on B3 between 2019 and 2021, due to the impacts of COVID-19. Regarding net debt, there was a moderate correlation with all liquidity measures, being stronger with the quick ratio. This indicates that firms with higher net debt tend to maintain good coverage of total liabilities and short-term obligations, particularly through liquid assets.

The analysis of the multiples shows a negative correlation between LPA (Earnings per Share) and DivJCP (–0.6488), indicating that firms that pay higher dividends tend to have lower earnings per share. This may occur because profits are being distributed to shareholders instead of being reinvested in the company. Meanwhile, the positive correlation of 0.3821 suggests that firms with higher book value per share tend to pay more dividends.

The correlation of –0.0608 indicates a very weak relationship between EBITDA per share and dividend payments, meaning that operational profitability (measured by EBITDA) is not a significant determinant of dividend distribution. Kriger et al. (2021) note that lower profits led to dividend cuts during the pandemic.

Overall, the correlation analysis reveals that dividend and interest-on-equity payments (DivJCP) have a complex relationship with other financial metrics. In particular, the negative relationships with working capital, capital employed, and earnings per share suggest that aggressive dividend policies—or even economic recession, as in the case of the COVID-19 sanitary crisis—can reduce reinvestment capacity and retained earnings.

On the other hand, the positive correlation with book value per share indicates that financially stronger firms are better positioned to distribute dividends. Acharya and Steffen (2020), who examined the impact of COVID-19 on corporate cash management decisions in the United States, found that high-quality firms increased their cash reserves during the crisis, reinforcing the idea that stronger firms were more capable of maintaining or adjusting dividend policies even under adverse conditions.

5. CONCLUSION

This study aimed to analyze the impact of the COVID-19 pandemic on dividend and interest on equity (JCP) distributions among companies listed on B3 in the textiles, footwear, and apparel subsector. The COVID-19 pandemic affected the world profoundly, causing changes even in consumer preferences and behaviors, especially regarding the demand for non-essential products such as clothing and accessories. Overall, companies reported several effects of the pandemic on their operations, particularly increased uncertainty in forecasts, declining demand, and rising default rates (Avelar et al., 2020; Moreira et al., 2020).

Several studies have documented reduced profitability, liquidity pressures, financial difficulties in covering debt obligations, inventory losses, and increased third-party capital costs resulting from suspended production activities—effects that strongly impacted the textiles, footwear, and apparel sectors (Carletti et al., 2020; Demirgüç-Kunt et al., 2020; Li et al., 2020; Nuno, 2020; Sen et al., 2020).

This study sought to evaluate the effect of the COVID-19 pandemic on accounting-financial indicators and on the distribution of dividends and JCP among companies in this subsector listed on B3. Through the application of statistical tests, it was possible to identify the main changes and adaptations undertaken by these firms during the pandemic period.

The results indicated that the pandemic had a substantial impact on firms' operational profitability, reflected in the significant decline in EBITDA per share. A reduction in dividend and JCP distributions was also observed, suggesting a profit-retention strategy employed to preserve working capital and ensure operational continuity during the crisis. Liquidity variables exhibited relative stability, suggesting that firms managed to maintain financial balance—possibly through emergency credit lines and adaptations to e-commerce.

The correlation analysis revealed significant negative relationships between dividend distributions and working capital, capital employed, and earnings per share, indicating that aggressive dividend policies reduced the resources available for reinvestment. On the other hand, strategic adaptation—particularly the shift to e-commerce and delivery solutions—appears to have been crucial for maintaining liquidity and operational stability, as highlighted in the literature by Santos and Nassif (2021).

This study contributes to the literature by providing empirical evidence on how the pandemic specifically affected the textiles, footwear, and apparel subsector, emphasizing the importance of prudent financial management and strategic adaptation in times of crisis. For accounting and financial practice, the findings underscore the relevance of maintaining liquidity and investing in innovation and operational flexibility to withstand adverse economic conditions.

The study has limitations, such as the restriction of the analysis to a single subsector and to companies listed on B3, which may limit the generalizability of the results to other sectors and markets. Future research may expand the scope to include different industries and countries, as well as explore the effects of specific government policies and financial support initiatives adopted during the pandemic.

The COVID-19 pandemic presented significant challenges to companies in the textiles, footwear, and apparel subsector, but it also highlighted the importance of resilience and strategic adaptation. The lessons learned during this period will be valuable for strengthening financial and operational management in future crises, promoting greater sustainability and competitiveness in times of uncertainty.

Thus, this study not only contributes to the understanding of the economic effects of the pandemic but also provides a solid basis for the development of corporate policies and strategies aimed at resilience and continuous adaptation in an increasingly dynamic and unpredictable environment.

REFERENCES

Acharya, V. V., & Steffen, S. (2020). The risk of being a fallen angel and the corporate dash for cash in the midst of COVID. *The Review of Corporate Finance Studies, 9*(3), 430–471. https://doi.org/10.1093/rcfs/cfaa013

Alencar, M. R. X., da Cruz Feitosa, M. I., Leite, A. C. R., Leal, P. H., de Oliveira, A. R. V., & Chagas, M. J. R. (2023). Corporate Governance and the COVID-19 Crisis: Market Performance Dynamics Before. *International Journal of Scientific Management and Tourism, 9(2), 1349–1368*.

Avelar, E. A., Ferreira, P. O., Silva, B. N. E. R. da, & Ferreira, C. O. (2022). Effects of the COVID-19 Pandemic on the Economic and Financial Sustainability of Brazilian Companies. *Revista Administração - UFSM, 15*(3). https://doi.org/10.5902/1983465967372

Botta, L. O., & Fonseca, M. N. (2023). Financial Health of Footwear Sector Companies During the COVID-19 Pandemic. *Revista de Gestão e Secretariado, 14*(11), 20480–20503. https://doi.org/10.7769/gesec.v14i11.1664

Brazil. (2020a, 26 de fevereiro). Coronavirus: Brazil Confirms the First Case of the Disease. Ministry of Health. https://www.unasus.gov.br/noticia/coronavirus-brasil-confirma-primeiro-caso-da-doenca

Brazil. (2020b, 20 de abril). Combating the Coronavirus: Essential Services That Cannot Stop During the Pandemic. Office of the Chief of Staff. https://www.gov.br/casacivil/pt-br/assuntos/noticias/2020/abril/enfrentamento-ao-coronavirus-os-servicos-essenciais-que-nao-podem-parar-durante-a-pandemia

Brazilian Institute of Geography and Statistics. (2020c, 16 de outubro). The pandemic was responsible for the closure of 4 out of every 10 companies that ceased operations. https://agenciadenoticias.ibge.gov.br/agencia-noticias/2012-agencia-de-noticias/noticias/28295-pandemia-foi-responsavel-pelo-fechamento-de-4-em-cada-10-empresas-com-atividades-encerradas

Carletti, E., Oliviero, T., Pagano, M., Pelizzon, L., & Subrahmanyam, M. G. (2020). The COVID-19 shock and equity shortfall: Firm-level evidence from Italy. *The Review of Corporate Finance Studies, 9*(3), 534–568. https://doi.org/10.1093/rcfs/cfaa014

Coibion, O., Gorodnichenko, Y., & Weber, M. (2020). *The cost of the covid-19 crisis: Lockdowns, macroeconomic expectations, and consumer spending* (No. w27141). National Bureau of Economic Research. https://www.nber.org/papers/w27141

Costa, L. B., Pereira, I. F., & de Lima, J. A. (2021). Reflexos da pandemia da COVID-19 nos indicadores econômico-financeiros de empresas do setor de produtos de higiene e limpeza listadas na B3. *Revista Mineira de Contabilidade, 22*(2), 10–22. https://doi.org/10.21714/2446-9114RMC2021v22n2a2

Demirgüç-Kunt, A., Pedraza, A., & Ruiz-Ortega, C. (2020). Banking sector performance during the COVID-19 crisis (Policy Research Working Paper No. 9363). World Bank. https://doi.org/10.1596/1813-9450-9363

Ding, W., Levine, R., Lin, C., & Xie, W. (2020). Corporate immunity to the COVID-19 pandemic. *National Bureau of Economic Research Working Paper Series*, 27055. https://doi.org/10.3386/w27055

El Ammari, A. (2021). Do CEO duality and ownership concentration impact dividend policy in emerging markets? The moderating effect of crises period. *International Journal of Financial Studies, 9*(62), 1–21. https://doi.org/10.3390/ijfs9040062

Futema, M. S., Basso, L. F. C., & Kayo, E. K. (2009). Capital Structure, Dividends, and Interest on Equity: Evidence from Brazil. *Revista Contabilidade & Finanças, 20*(49), 44–62. https://doi.org/10.1590/S1519-70772009000200004

Krieger, K., Mauck, N., & Pruitt, S. W. (2021). The impact of the COVID-19 pandemic on dividends. *Finance Research Letters*, *42*, 101910.

Li, L., Strahan, P. E., & Zhang, S. (2020). Banks as lenders of first resort: Evidence from the COVID-19 crisis. *The Review of Corporate Finance Studies, 9*(3), 472–500. https://doi.org/10.1093/rcfs/cfaa009

Leite, M., et al. (2015). Determinants of Dividend Payments During Periods of Prosperity and Economic Crisis in Brazilian Companies. *Desafio Online, 8*(1), 68–90.

Mann, H. B., & Whitney, D. R. (1947). On a test of whether one of two random variables is stochastically larger than the other. *The Annals of Mathematical Statistics, 18*(1), 50–60. https://doi.org/10.1214/aoms/1177730491

Marcelino, J. A., Rezende, A. A. de, & Miyaji, M. (2020). Initial Impacts of COVID-19 on Micro and Small Enterprises in the State of Paraná, Brazil. *Boletim de Conjuntura, 2*(5), 101–112. https://doi.org/10.5281/zenodo.3779308

Martins, G. A., & Theóphilo, C. R. (2017). Research Methodology for Applied Social Sciences. (3ª ed.). Atlas.

Massoquetto, K., de Souza, L. P. D., Garcia, B. E. S., & dos Santos, D. C. D. (2022). What impacts did COVID-19 bring (or not bring) to the economic and financial indicators of cyclical consumer companies listed on B3? *Congresso USP de Iniciação Científica em Contabilidade*.

Mello Júnior, C. S., Vale, P. B. R. A., Bonfim, M. P., Soares, J. M. M. V., & Silva, C. A. T. (2023). COVID-19 and DVA: Impacts of the Pandemic on the Distribution of Wealth in Brazilian Companies. *Revista UNEMAT de Contabilidade, 12*(23), 68–82.

Moore, D. S., McCabe, G. P., & Craig, B. A. (2013). *Introduction to the practice of statistics* (8th ed.). W.H. Freeman and Company.

Moreira, E., et al. (2023). The Impact of the Pandemic on the Apparel Segment and the Textile Industry. *Revista GeTeC, 12*(40).

Nguyen, A. H., et al. (2021). The effect of dividend payment on firm's financial performance: An empirical study of Vietnam. *Journal of Risk and Financial Management, 14*(8), 1–11. https://doi.org/10.3390/jrfm14080368

Nuno, G. (2020). The macroeconomic impact of COVID-19: Evidence from a cross-country analysis. *IMF Working Paper*. https://doi.org/10.5089/9781513551092.001

Padhan, R., & Prabheesh, K. P. (2021). The economics of COVID-19 pandemic: A survey. *Economic Analysis and Policy, 70*, 220–237. https://doi.org/10.1016/j.eap.2021.02.012

Pettenuzzo, D., Sabbatucci, R., & Timmermann, A. (2021). Outlasting the pandemic: Corporate payout and financing decisions during Covid-19.

Setiawan, M., & Septiani, B. A. (2025). Firm performance and the determinants in the textile and textile product industry of Indonesia pre-and post-COVID-19 pandemic. *Journal of Risk and Financial Management*, *18*(1), 35.

Santos, G. G., & Nassif, V. M. J. (2021). Competitive Strategy in Retail in the Face of the COVID-19 Pandemic. *Revista de Tecnologia Aplicada, 10*(1).

Sen, S., Antara, N., Sen, S., & Chowdhury, S. (2020). The apparel industry in the post-COVID-19 world: Challenges and opportunities for garment exporters in Bangladesh. *Textile Research Journal, 90*(17–18), 1960–1974. https://doi.org/10.1177/0040517520935876

Silva, M. F. (2022). Possible Impacts of COVID-19 on Loss Allowance Estimates for Receivables and Inventory of Textile, Apparel, and Footwear Companies Listed on B3. *Congresso USP de Iniciação Científica em Contabilidade.*

Silva Junior, A., Silva, V. C. D., & Martins-Silva, P. D. O. (2022). Competitive Retail Strategy in the Context of the COVID-19 Pandemic. *Contabilidade Vista & Revista, 33*(1), 144–169.

Silva, L. L. S. D., Lima, A. F. R., Polli, D. A., Razia, P. F. S., Pavão, L. F. A., Cavalcanti, M. A. F. D. H., & Toscano, C. M. (2020). Social distancing measures in the fight against COVID-19 in Brazil: description and epidemiological analysis by state. *Cadernos de saude publica*, *36*, e00185020.

Triola, M. F. (2021). *Elementary statistics* (13th ed.). Pearson.

Zaremba, A., Kizys, R., Aharon, D. Y., & Demir, E. (2020). Infected markets: Novel coronavirus, government interventions, and stock return volatility around the globe. *Finance Research Letters, 35*, 101597. https://doi.org/10.1016/j.frl.2020.101597

RMC

The Journal of Accounting of Minas Gerais is an Open Access quarterly journal, published by Conselho Regional de Contabilidade de Minas Gerais - ISSN: 2446-9114
Journal of Accounting of Minas Gerais, Volume 26, Number 3, Article 2, Pages 24 - 38, september/december 2025. Available at: https://revista.crcmg.org.br/rmc
DOI: https://doi.org/10.51320/rmc.v26i3.1726

CRCMG
CONSELHO REGIONAL DE CONTABILIDADE DE MINAS GERAIS

ACCOUNTING INFORMATION QUALITY AND SYSTEMATIC RISK IN EMERGING COUNTRIES

A QUALIDADE DA INFORMAÇÃO CONTÁBIL E O RISCO SISTEMÁTICO NOS PAÍSES EMERGENTES

ABSTRACT
This study analyzes how the interaction between a country's informational environment and accounting information quality is associated with the sensitivity to systematic risk of companies based in emerging markets. The analysis, based on data from 11,586 non-financial companies extracted from the LSEG Data & Analytics database between 2000 and 2021, comprises 202,193 observations. The results indicate that financial reporting quality is associated with firms' sensitivity to systematic risk, with variations depending on the metric used: a negative and significant relationship in the Dechow and Dichev (2002) model and a positive and significant relationship in the Modified Jones Model – an extension of Jones (1991). Additionally, firm-level variables such as leverage and market concentration (measured by the Herfindahl index) influence exposure to systematic risk. These findings can be interpreted through the lens of agency theory, as they highlight the importance of financial reporting quality in mitigating information asymmetry between investors and managers. High-quality financial statements can reduce uncertainty and agency costs by aligning market participants' expectations, thereby affecting asset pricing and corporate volatility. The study's main contribution lies in demonstrating that financial reporting quality is a key factor in firms' sensitivity to systematic risk in emerging markets. These results emphasize the need to enhance regulatory frameworks and corporate governance mechanisms to reduce information asymmetry and improve financial market efficiency.

Keywords: Accounting Information Quality. Systematic Risk. Information Environment. Emerging Markets. Agency Theory.

RESUMO
O estudo analisa como a interação entre o ambiente informacional do país e a qualidade da informação contábil está associada à sensibilidade ao risco sistemático das empresas sediadas em países emergentes. A análise, baseada em dados de 11.586 empresas não financeiras extraídos da base LSEG Data & Analytics entre 2000 e 2021, totaliza 202.193 observações. Os resultados indicam que a qualidade das informações contábeis está associada à sensibilidade das empresas ao risco sistemático, com variações dependendo da métrica adotada: relação negativa e significativa no modelo de Dechow e Dichev (2002) e positiva e significativa no modelo Jones Modificado (1991). Além disso, identificou-se que variáveis em nível de empresa, como endividamento e concentração de mercado (medida pelo índice de Herfindahl), influenciam a exposição ao risco sistemático. Esses achados podem ser interpretados sob a ótica da Teoria da Agência, pois refletem a relevância da qualidade da informação contábil na mitigação da assimetria informacional entre investidores e gestores. A qualidade das demonstrações financeiras pode reduzir incertezas e custos de agência ao alinhar as expectativas dos agentes de mercado, afetando a precificação de ativos e a volatilidade das empresas. A principal contribuição do estudo está em evidenciar que a qualidade da informação contábil é um fator relevante na sensibilidade das empresas ao risco sistemático em países emergentes. Esses resultados ressaltam a importância de aprimorar o ambiente regulatório e os mecanismos de governança corporativa para reduzir a assimetria informacional e potencializar a eficiência dos mercados financeiros.

Palavras-chave: Qualidade da Informação Contábil. Risco Sistemático. Ambiente Informacional. Mercados Emergentes. Teoria da Agência.

Victorya Maria dos Santos Gomes
Doutoranda em Contabilidade na Universidade Federal de Santa Catarina (UFSC). Mestre em Ciências Contábeis pela Universidade Federal do Espírito Santo (UFES). Especialização em Gestão Financeira e Controladoria. Graduada em Ciências Contábeis pelo Centro Universitário de Educação Superior da Paraíba (UNIESP). E-mail: victoryamsgomes@gmail.com. Orcid iD: https://orcid.org/0009-0009-4557-1273. Lattes: http://lattes.cnpq.br/6301120603228118

Diane Rossi Maximiano Reina
Doutora em Ciências pela Universidade de São Paulo (FEA/USP). Mestre em Contabilidade pela Universidade Federal de Santa Catarina (UFSC); Especialização em Gestão de Micro e Pequenas empresas pela Universidade Federal de Lavras (UFL); Graduação em Ciências Contábeis pela Universidade Estadual de Maringá (UEM). Docente do Curso de Ciências Contábeis da Universidade Federal do Espírito Santo (UFES). E-mail: diane.reina@ufes.br. ORCID iD: https://orcid.org/0000-0001-9683-999. Lattes: http://lattes.cnpq.br/5906583738243906

Journal of Accounting of Minas Gerais - ISSN 2446-9114 – Open Access quarterly journal, published by Conselho Regional de Contabilidade de Minas Gerais (CRCMG). Received: 27th March 2025. Proofread: 22th September 2025. New alterations: 20th October 2025. Accepted: 6th November 2025, by Dr. Ewerton Alex Avelar Leal and Dr. Nálbia de Araújo Santos. Published: 26th December 2025. Published by: CRCMG

1 INTRODUCTION

Accounting information quality varies across contexts and among users of financial statements (Dechow & Schrand, 2004), with its properties and characteristics potentially holding different levels of significance (Karagül & Özdemir, 2012). Regulatory factors, such as high-quality accounting standards, legal systems, and effective auditing practices, also impact this quality (Barth et al., 2008; Houqe et al., 2012; Soderstrom & Sun, 2007). Additionally, elements like ownership concentration, leverage, and economic performance influence it (Gaio, 2010; Isidro & Raoni, 2012). Leuz and Wysocki (2016) emphasize that accounting transparency is connected to institutional factors (investor protection, rule of law) and market components (cost of capital, liquidity, and ownership structure).

This role of accounting information becomes particularly relevant in emerging countries, where rapid growth and economic liberalization drive financial market development (Hoskisson et al., 2000; Wright et al., 2005). These countries are often viewed as more speculative and characterized by higher levels of risk and volatility compared to developed economies (Erb et al., 1996; Burnside et al., 2007). In this context, accounting information has long been used to analyze its influence on capital markets, as shown in classic studies by Beaver (1968), Ball and Brown (1968), and Watts and Zimmerman (1979), and in Brazil by Lopes (2002). Agency theory (Jensen & Meckling, 1976) contributes to this discussion by emphasizing that the separation between ownership and control can create conflicts of interest between shareholders and managers. As a result, accounting helps reduce information asymmetry between investors and economic agents, thereby enhancing market efficiency (ElKelish, 2021).

It remains unclear, however, how much accounting information reduces non-diversifiable risks in economies with multiple financial securities. Asset pricing models like the Capital Asset Pricing Model (CAPM) and portfolio theory distinguish between diversifiable and non-diversifiable risks (Lambert et al., 2007). In classical asset pricing models (Sharpe, 1964; Lintner, 1965), systematic risk is the component of risk that affects all market assets and cannot be eliminated through diversification. This risk is usually measured by the beta coefficient, which indicates how sensitive a firm's returns are to overall market fluctuations. Exposure to systematic risk shows how much a firm's returns respond to market-wide information (Bouden & Saada, 2022). If financial reports only transmitted firm-specific information, their quality would not be expected to relate to systematic risk. However, recent theoretical discussions suggest that financial reporting may also include information about the broader economy (Xing & Yan, 2019; Júnior et al., 2023).

Empirical research shows that stock returns are associated with firm characteristics. Bhattacharya et al. (2003) argue that cross country differences in stock markets arise from economic, political, and legal infrastructures that affect how accounting numbers are interpreted and used. Takamatsu (2015) stresses that each country's specific features and its capital market shape the content and timeliness of financial statements. These differences reflect institutional, regulatory, and governance factors that influence asset valuation. Foster et al. (2012) show that country-specific variables explain variations in how market participants analyze and use accounting information (Bhattacharya et al., 2003; Shah & Wan, 2023). Therefore, each country's informational environment affects accounting information through the interplay of accounting standards, enforcement, and corporate governance (Bhattacharya et al., 2003; Takamatsu & Fávero, 2017; Pringpong et al., 2023).

Core et al. (2015) find that firms with more objective and transparent reporting show lower sensitivity to systematic risk. Xing and Yan (2019), studying U.S. firms, also confirm this association. Collectively, these studies indicate a negative relationship at the country level between accounting information quality and systematic risk (Xing & Yan, 2019). Against this backdrop, the present study seeks to answer the following question: What is the relationship between accounting information quality and sensitivity to systematic risk across different informational environments in emerging countries? Accordingly, the main objective is to analyze how the interaction between a country's informational environment and accounting information quality relates to firms' sensitivity to systematic risk in emerging markets. To this end, the study uses a sample of 11,586 non-financial firms from emerging markets included in the Morgan Stanley Capital International (MSCI) Emerging Markets index for the period 2000–2021.

Emerging markets are more exposed to information asymmetry, which reflects environments with weaker investor protection. This occurs due to a higher risk of financial statement manipulation and less effective legal enforcement. Compared to developed markets, investors get less useful information from firms' disclosures (Fatma & Abdelwahed, 2010; Pringpong et al., 2023).

Numerous studies have analyzed the determinants of accounting information quality and its effects on the capital market (Xing & Yan, 2019; ElKelish, 2021; Latif & Shah, 2021; Júnior et al., 2023), as well as on systematic risk (Silva & Machado, 2019; Xing & Yan, 2019; Bouden & Saada, 2022). Additionally, authors such as Kanakriyah (2016), ElKelish (2021), and Shah and Wan (2024) have explored the influence of different factors on accounting information quality and its connection to returns or systematic risk. Based on this framework, this research employs a model with a long return window, analyzing stocks both at their current levels and in relation to changes in accounting variables. This approach aims to identify which aspects of the capital market, such as accounting standards and disclosure practices, effectively shape the purpose and usefulness of financial statements.

Considering the specificities of emerging markets mentioned above, it is fair to say that results observed in developed markets do not necessarily apply to this group of countries. Thus, this research contributes in several ways: first, by focusing on emerging markets and the importance of accounting information quality for understanding variations in

systematic risk in the stock market; and, second, by helping clarify how country-specific characteristics influence this relationship. The study seeks to fill a gap in the literature by investigating how countries' informational environments affect the relationship between accounting information quality and systematic risk – an aspect that remains underexplored, particularly in emerging markets (Xing & Yan, 2019; Júnior et al., 2023). Although previous studies have separately examined the effects of accounting information quality on risk or on the institutional environment, the interaction between these factors remains insufficiently understood. This study contributes by examining how institutional characteristics complement or substitute each other in shaping accounting information quality, using a sample of companies from emerging markets, where issues of informational asymmetry are often more severe than in developed economies.

Thus, the study advances the literature by deepening the understanding of the role of accounting information quality in determining the sensitivity of systematic risk, considering the institutional and informational characteristics of emerging countries. From a theoretical standpoint, the research expands the debate on the interaction between the informational environment, accounting disclosure, and asset pricing, offering empirical evidence in a context that remains relatively underexplored. From a practical perspective, the results may assist policymakers, regulators, and investors in assessing the informational efficiency of markets and in formulating strategies to reduce informational asymmetry and improve resource allocation.

2 LITERATURE REVIEW AND HYPOTHESES

2.1 Influences of the informational environment on accounting information quality

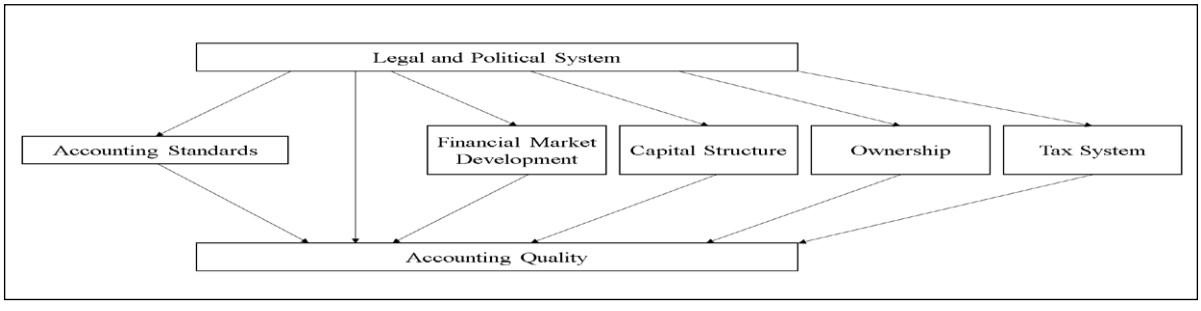
Akerlof (1970) explained information asymmetry in his study "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism," where he examined the US second-hand car market. In the study, information asymmetry occurs when the owner knows the condition of the vehicle they want to sell, but the buyer does not. Because of this information gap, the buyer, unaware of the car's true condition, is likely to offer a price below the expected value. If the vehicle is of good quality, the owner may choose not to sell it, as doing so could result in a less favorable deal, such as losses compared to the car's fair value.

Jensen and Meckling (1976) discuss how conflicts of interest can develop among participants in a firm due to the separation between ownership and management. In emerging markets, these so-called agency conflicts may occur between owner-managers and external shareholders, as noted by Coutinho et al. (2006), who observe that such conflicts directly impact investment and financing decisions. As shown by Oliveira et al. (2013), the role of accounting is to produce information that explains patrimonial phenomena, builds models, performs analyses, facilitates control, and more. In this way, accounting information quality is a valuable trait in an economic environment but is diminished by informational asymmetry, which reduces the informational content that helps agents make investment decisions (Duarte & Lucena, 2018; Shah & Wan, 2023).

Previous studies demonstrate that accounting plays a significant role in reducing information asymmetry and enhancing investor protection (Bushman & Smith, 2001; Easley & O'Hara, 2004; Louis & Robinson, 2005). However, little is known about how country-level characteristics influence the relationship between firm-level variables and accounting quality. Additionally, there is limited research (Xing & Yan, 2019; Martins & Barros, 2021) on these relationships within emerging markets. Despite the substantial growth of emerging stock markets in recent decades, little attention has been paid to exploring their informational environments (Martins & Barros, 2021; Shah & Wan, 2023).

The quality of information can be affected by several factors, such as regulation, the country's legal system (and its efficiency in business and markets), and the impact of the tax system, among others (La Porta et al., 1998; Barth et al., 2008; Houqe et al., 2012). Figure 1 presents, in a structured manner, the determinants of accounting information quality, showing that accounting standards, the legal and political system, and incentives (financial market development, capital structure, ownership, and the tax system) affect accounting quality.

Figure 1: Determinants of Accounting Quality



Source: Adapted from Soderstrom and Sun (2007)

Emerging countries are characterized by markets that appear to be moving toward development and that possess some liquidity in debt and equity markets, as well as regulatory bodies, yet still fall short of the levels of efficiency, legal protection, and information quality found in developed countries (La Porta et al., 1997, 1998). These markets have experienced extensive transformations in recent decades, including in property rights, trade relations, and corporate governance, although countries like China and Russia show delayed development in disclosure practices (McCarthy & Puffer, 2008). Even so, significant growth has been observed in these markets, without a corresponding level of attention to examining the development of their informational environments (Ghysels et al., 2016).

In this context, agency theory, first introduced by Berle and Means (1932) and later developed by Jensen and Meckling (1976), becomes important for understanding how these markets operate. In emerging countries, where corporate governance is still developing, agency conflicts are usually more severe due to weaker legal protections for shareholders and external investors. Low accounting information quality and limited enforcement of regulations heighten the chances of information asymmetry, making it harder to oversee managers and increasing risks for investors (Fatma & Abdelwahed, 2010; Takamatsu & Fávero, 2017; Shah & Wan, 2023).

Given this scenario, investors naturally demand more information from firms, aiming for greater efficiency in accounting quality to reduce uncertainty and mitigate the impact of information asymmetry (Xing & Yan, 2019; ElKelish, 2021). Consequently, accounting plays a key role in minimizing agency problems by providing information that helps align the interests of managers and investors, thus contributing to a more transparent and efficient environment (ElKelish, 2021).

2.2 Companies' exposure to systematic risk and accounting information quality in the informational environment

As the complexity of business operations increases, stakeholders have become more demanding, leading accounting standard-setting bodies to reconsider various requirements that financial reports must meet (Moumen et al., 2015; ElKelish, 2021). Based on Lambert et al. (2007), Core et al. (2015) argue that high-quality disclosures by individual firms can lessen their exposure to systematic risk. This occurs because high-quality disclosure reduces the uncertainty factor in estimating expected returns.

One of the most well-known risk measures in the market is the beta coefficient (βM), introduced by Sharpe (1964) and Lintner (1965) as part of the capital asset pricing model (CAPM). Built on Markowitz's (1952) portfolio theory, βM quantifies relative risk. According to Brealey and Myers (2003), βM indicates the marginal contribution of a stock to the market portfolio's risk or the stock's sensitivity to market movements. Thus, βM represents the systematic risk that the stock faces. The part of risk that is idiosyncratic or non-systematic can, in turn, be eliminated through diversification in a well-constructed portfolio.

Regarding the environment in which information is generated, Bhattacharya et al. (2003) and Takamatsu and Fávero (2017) highlight that a country's institutional and informational characteristics, such as accounting standards, governance mechanisms, and enforcement levels, can influence the relevance of financial statements, especially in emerging economies. These factors shape users' perceptions of information and, consequently, affect stock prices in the capital market. According to Takamatsu and Fávero (2017), in environments with weaker legal protections and less developed governance structures, conflicts of interest between managers and shareholders tend to intensify. Additionally, Martins and Barros (2021) emphasize that, in these contexts, accounting information quality plays a key role in reducing informational asymmetry by providing more complete and reliable data for decision-making and mitigating the risk of managerial actions misaligned with investors' interests. The literature presents evidence of a negative relationship between financial variables and idiosyncratic risk (Chen et al., 2012; Isidro & Dias, 2017; Júnior et al., 2023). Francis et al. (2005) were the first to investigate the relationship between financial variables and beta, identifying a negative association between accruals quality and beta. Unlike these studies, this research examines the relationship between accounting information quality and firms' sensitivity to systematic risk. Agency theory suggests that informational asymmetry can increase conflicts between managers and investors, hindering the assessment of asset-related risks (Ahmed, 2023; ElKelish, 2021). High-quality accounting information can reduce this asymmetry by offering more accurate insights into firms' performance and financial flows. Considering the negative relationships documented in previous studies and the evidence from Xing and Yan (2019), who find a negative relationship between accounting information quality and exposure to systematic risk, the following hypothesis (H_1) is proposed:

H1: Accounting information quality is negatively related to firms' exposure to systematic risk in emerging countries.

According to Bushman et al. (2004), a country's disclosure environment arises from a system made up of multiple aspects. Its components collectively produce, disseminate, gather, and validate information. In summary, two main factors are identified for analyzing countries' informational environments. The first relates to financial disclosure, mainly connected to the country's economic policy, and focuses on the level and timeliness of financial transparency, as well as how it is interpreted and shared by the media. The second involves characteristics and disclosure related to governance structures, which are fundamentally linked to a country's legal and judicial systems.

The study by Bushman and Piotroski (2006) complements these findings by exploring the role of legal and judicial systems, stock market regulation, and economic policy in accounting. The incentives that influence insiders, investors,

regulators, and other market participants provide the context for their analysis, with their results showing notable differences in the level of conservatism across countries, depending on their legal and political institutions.

Overall, Xing and Yan (2019) provide empirical support for the theoretical relationship between accounting information quality and firms' sensitivity to systematic risk, documenting a negative association between these variables. The informational environment directly affects information quality and the assessment of firms' exposure to systematic risk, since the availability and accessibility of information influence companies' capacity to understand and manage their risk exposure.

Agency theory suggests that informational asymmetry heightens conflicts between managers and investors, making it harder to accurately assess the risks faced by firms (Shah & Wan, 2023; Pringpong et al., 2023). In markets with weaker investor protections and limited regulatory enforcement, managers might engage in opportunistic actions, increasing uncertainty about systematic risk. In such contexts, accounting information quality can mitigate these conflicts by reducing informational asymmetry and offering better predictability of firms' risks. Therefore, based on the cited literature and agency theory, a negative relationship is expected between accounting information quality and firms' exposure to systematic risk. Considering the informational environment of the countries analyzed, the following hypothesis is proposed.

H2: A country's informational environment negatively moderates the relationship between accounting information quality and firms' exposure to systematic risk in emerging countries.

Latif and Shah (2021) identified a systematic pattern in risk-adjusted portfolio returns, showing that the relationship between the qualitative attributes of accounting information and the cost of capital is not due to temporary market inefficiency; instead, these qualitative attributes represent genuine risk factors. Therefore, this study seeks to advance the literature by examining how the informational environment influences the relationship between accounting information quality and firms' sensitivity to systematic risk. It combines financial variables with metrics of accounting information quality, including beta (which captures firms' exposure to systematic risk) and a governance-quality variable for the countries included in the sample.

3 METHODOLOGICAL PROCEDURES

3.1 Description of the Research Sample

The target population of this study consisted of publicly traded companies from emerging countries. To select these countries, the Morgan Stanley Capital International (MSCI) Emerging Markets Index was used. In 2022, this index included 24 emerging economies: Brazil, Chile, China, Colombia, the Czech Republic, Egypt, Greece, Hungary, India, Indonesia, South Korea, Kuwait, Malaysia, Mexico, Peru, Poland, Qatar, Saudi Arabia, South Africa, Taiwan, Thailand, Turkey, and the United Arab Emirates.

The data for the variables under investigation were collected from the LSEG Data & Analytics database, described later. Initially, to define the research sample and ensure the study's consistency, financial institutions were excluded from the initial sample, as their accounting standards may differ from those of other listed companies, and their capital structures may differ as well (Martins et al., 2021). Subsequently, companies that did not provide all the data required for the study were also excluded.

All information was collected in USD for all emerging countries, covering the period from 2000 to 2021. This timeframe was chosen because of the availability and consistency of the data needed to measure the variables of interest, as well as its capacity to capture structural changes in emerging markets over two decades. Including years prior to 2010 also allows the analysis to incorporate the effects of convergence to International Financial Reporting Standards (IFRS) on accounting information quality and its relationship with systematic risk. Although IFRS adoption may have impacted the comparability of accounting indicators, the entire period was retained to examine the evolution of this process and to control for its potential effects through the model's variables.

The initial sample consisted of 19,284 firms during the analysis period. Considering each firm-year as one observation per country, the final sample consisted of 11,586 companies, totaling 202,193 observations across 19 emerging countries. After defining the sample and collecting data, outliers (extreme observations) were managed using 1% winsorization at both ends of the distribution.

3.2 Definition of Variables

Beta measures systematic risk. Using the Beta variable (TR.WACCBeta) from LSEG Data & Analytics, it indicates how much a stock moves relative to the market. It is the covariance between the security's price movement and the market's price movement. Based on the available data, the beta calculation uses a 60-month rolling window with monthly returns. This can be expressed with the following equation:

$$\beta_i = \frac{cov\left(\left(R_{i,t}\right),\left(R_{mt}\right)\right)}{\sigma^2\left(R_{mt}\right)} \qquad (1)$$

(Equation (1) measures how much a given security tends to move with the market (Assaf Neto, 2005; Damodaran, 2005; Iudícibus & Lopes, 2004). In this expression, : denotes the returns of security i, adjusted for its risk contribution to a diversified portfolio; refers to the returns of the market portfolio; and is the measure of the risk contribution of security i to the market portfolio.

The first independent variable, accounting information quality (AIQ), was measured in two ways. The first measure is discretionary accruals based on the model proposed by Dechow and Dichev (2002), which examines the relationship between accruals and cash flows and uses the model residual as a proxy for earnings management, as shown in Equation (2).

$$ACT_{it} = \beta_0 + \beta_1\ CFO_{i(t-1)} + \beta_2\ CFO_{it} + \beta_3\ CFO_{i(t+1)} + \beta_4\ \Delta REV_{it} + \beta_5\ IMOB_{it} + \varepsilon_{it} \quad (2)$$

Here, represents the company's total accruals; is operating cash flow; is the change in revenue; and is the gross value of fixed assets. The subscripts i and t denote firm and year, respectively. The second measure of AIQ used in this study is based on Modified Jones Model – an extension of Jones (1991). In this model, AIQ is measured through abnormal accruals, requiring the calculation of total accruals , as shown in Equation (3).

$$AT_{it} = \beta_0 + \beta_1\ (\Delta REV_{it} - \Delta CAR_{it}) + \beta_2\ IMOB_{it} + \beta_3\ ROA_{it} + \varepsilon_{it} \quad (3)$$

Here, represents the change in accounts receivable; is the change in revenue; is the gross value of fixed assets; and is return on assets. The residuals from Equation (3) serve as proxies for abnormal accruals. Higher absolute abnormal accruals indicate lower accounting information quality.

Following Martins and Barros (2021), the Worldwide Governance Indicators (WGI) were used to capture each country's informational environment. The variables composing the country information environment index (CIEI) are measured as follows. The WGI provides aggregate and individual governance indicators for more than 200 countries and territories from 1996 to 2021, covering six governance dimensions: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption (World Bank Group, 2022). The WGI is standardized on a scale from 0 to 100, where higher scores indicate a better informational environment. As in Martins and Barros (2021), a principal component analysis (PCA) was applied to the six WGI dimensions to construct the CIEI. The resulting index ranges from 0 to 1, with higher values reflecting stronger information environments. The control variables follow Low (2009) and Xing and Yan (2019). To isolate the effect of accounting information quality on systematic risk, a set of variables related to firm risk was included, capturing key firm characteristics such as size, market value, profitability, leverage, and investment.

Table 1 presents all control variables and their expected signs, according to the theoretical rationale of the referenced authors.

Table 1 - Synthesis of the control variables

Variable	Description	Proxy	Expected Sign	References
$SIZE_{it}$	Firm size	$ln\ (Total\ assets_{it})$	+/-	Mazzioni e Klann (2016), Potin et al. (2016), Almendra et al. (2018), Xing e Yan (2019)
MTB_{it}	Market-to-book ratio	$\frac{Market\ Value_{it}}{Equit_{it}}$	+	Low (2009), Potin et al. (2016), Xing e Yan (2019)
ROA_{it}	Return on total assets	$\frac{Operating\ Income_{it}}{Total\ Asset_{it-1}}$	-	Low (2009), Xing e Yan (2019)
$CAPEX_{it}$	Net capital Investments	$\frac{Capital\ Expenditure_{it}}{Total\ Assets}$	+	Low (2009), Xing e Yan (2019)
LEV_{it}	Leverage	$\frac{Interest\text{-}Bearing\ Liabilities_{it}}{Total\ Asset_{it}}$	-	Mazzioni e Klann (2016), Almendra et al. (2018), Rezaei e Heydari (2021)
SEG	Business segments	Number of operating segments of the firms in the sample	-	Low (2009), Xing e Yan (2019)
HHI	Herfindahl-Hirschman Sales Index	Sum of squared segment sales shares relative to total sales	+	Low (2009), Xing e Yan (2019)

Based on the theoretical framework and detailed description of these variables, and using systematic risk as the dependent variable (as defined in Equation 1), Model 4 was constructed to test H1, which predicts that higher accounting information quality is significantly and negatively associated with firms' exposure to systematic risk through known factors (control/accounting variables) in emerging countries. To test this hypothesis, systematic risk was estimated with the following regression model:

$$SR_{it} = \alpha_i + \beta_1 AIQ_{it} + \beta_2 AIP_{it} + \sum_j \beta_j controle_{jit} + País_{it} + \varepsilon_i \quad (4)$$

Here, denotes systematic risk, and is the proxy for accounting information quality. Because AIQ was measured using two metrics – the model by Dechow and Dichev (2002) and the Modified Jones Model – Equation 4 was estimated in two specifications to provide a robustness check of the results.

To examine whether the association between AIQ and systematic risk differs across emerging countries (H2), the model in Equation (5) was estimated. Based on the theoretical foundation and variable definitions presented above, and using systematic risk as the dependent variable, the model was structured as follows:

$$SR_{it} = \alpha_i + \beta_1 AIQ_{it} + \beta_2 CIEI_{it} + (\beta_3 AIQ_{it} * CIEI_{it}) + (\beta_4 AIQ_{it} * CIEI_{it} * Country_{it}) + \sum_j \beta_j control_{jit} + \varepsilon_i \quad (5)$$

The dataset has both a cross-sectional dimension (multiple firms) and a temporal dimension (20 years). To test the hypotheses, the proposed models were estimated using multivariate panel data regressions. To determine the appropriate panel estimator (fixed effects, random effects, or POLS), the Breusch–Pagan, Chow, and Hausman tests were applied, all of which indicated that the random-effects model was the most appropriate. Additionally, tests for normality of residuals, multicollinearity, serial correlation, and heteroskedasticity were conducted, as these are fundamental assumptions of regression analysis.

4. RESULTS ANALYSIS

4.1 Descriptive Analysis of the Model Variables

This section presents the descriptive statistics of the variables for the annual data from 2000 to 2021. Table 2 reports the mean, standard deviation, median, maximum, and minimum values for the variables used in the model: Systematic risk (SR); accounting information quality (AIQ); size (SIZE); market-to-book (MTB); return on assets (ROA); net capital investments (NCI); leverage (LEV); business segments (SEG); and the Herfindahl–Hirschman sales index (HHI). Finally, the descriptive analysis of the variables that compose the countries' information environment index (CIEI) is presented.

Table 2 - Descriptive statistics of the analyzed variables

Variables	Mean	Standard Deviation	Median	Max	Min	Observations
SR	-1.343	1.992	-1.790	8.410	-1.315	202,193
AIQ1	2.819	10.369	15.949	133.785	-6.817	202,193
AIQ2	-5.851	2.092	-2.336	3.275	-3.601	202,193
SIZE	4.960	2.300	4.889	11.834	-8.225	202,193
MTB	5.705	3.890	0.628	32.383	-10.888	202,193
ROA	3.704	15.725	0.0207	73.427	-3.396	202,193
NCI	-7.660	1.983	-0.023	0.028	-11.021	202,193
LEV	0.700	5.190	0.537	37.802	6.510	202,193
SEG	5.400	2.640	6.000	10.000	1.000	202,193
HHI	3.050	1.789	3.510	9.680	0.000	202,193
CIEI	0.521	0.388	0.778	1	0	202,193
IFRS	0.999	0.028	1	1	0	202,193

Variables	Mean	Standard Deviation	Median	Max	Min	Observations
Voice and Accountability	47.728	21.259	59.134	89.423	2.347	202,193
Political Stability	26.940	15.930	21.226	92.462	1.005	202,193
Government Effectiveness	58.086	10.473	56.796	90.865	26.829	202,193
Regulatory Quality	48.412	10.891	45.588	92.718	19.459	202,193
Rule of Law	40.654	12.929	39.903	88.038	1.923	202,193
Control of Corruption	46.950	10.131	45.192	91.489	8.465	202,193

Note: SR = systematic risk; AIQ = accounting information quality; SIZE = firm's size; MTB = market-to-book; ROA = return on total assets; NCI = net capital investment; LEV = leverage; SEG = business segment; and HHI = Herfindahl-Hirschman sales index.

The results in Table 2 show the variability of the variables related to accounting information quality (AIQ1 and AIC2), SR, and the control variables. AIQ1, measured using the Dechow and Dichev (2002) model, presents substantial dispersion, indicating heterogeneity in accruals and cash flows. AIQ2, based on the Modified Jones Model, displays negative values, suggesting lower accounting quality for some firms. SR has a negative mean and low variability.

The control variables also reveal heterogeneity among the sample firms. NCI presents negative means and medians, reflecting investment behavior and economic dynamics. ROA, NCI, and LEV exhibit considerable dispersion, reinforcing the sample's diversity and its relationship to AIQ. MTB has an average of 5.705, consistent with expected relationships between MTB ratios and risk–return dynamics.

The CIEI is constructed from seven variables, including IFRS adoption and indicators from the Worldwide Governance Indicators (WGI). IFRS adoption shows minimal dispersion, indicating that most emerging countries in the sample follow these standards. The WGI variables exhibit substantial variability, particularly in regulatory quality and political stability. The CIEI ranges from 0 to 1, with a mean of 0.521, reflecting a relatively weak informational environment in these countries. The principal component analysis (PCA) indicates that the first principal component explains 55.65% of the variance, demonstrating its relevance to the index structure.

Table 3 - Eigenvalue of the Principal Components: Country's Information Environment Index

Components	Eigenvalue	Ratio (%)	Cumulative (%)
Component 1	3.896	55.65	55.65
Component 2	1.117	15.97	71.62
Component 3	0.810	11.57	83.19
Component 4	0.614	8.78	91.98
Component 5	0.358	5.12	97.10
Component 6	0.125	1.79	98.90
Component 7	0.076	1.09	100.00
Bartlett and KMO Statistics			
Bartlett (sphericity)	< 2.2e-16 ***		
KMO (sampling adequacy)	0.5		

Note: Significance level: *p<0.1; **p<0.05; ***p<0.01

The results in Table 3 present the Kaiser–Meyer–Olkin (KMO) and Bartlett tests, used to assess the suitability of the PCA. The KMO statistic evaluates sampling adequacy, with values above 0.5 considered acceptable. In this study, the KMO value of 0.5 indicates minimally acceptable correlations. Bartlett's test rejects the null hypothesis of no correlation among variables ($p < 0.001$), confirming the appropriateness of PCA. According to the eigenvalues in Table 3 and the scree plot, the first two components, with eigenvalues greater than 1, were retained following Kaiser's (1960) criterion for constructing the CIEI.

4.2 Analysis of the Regression Model

Table 4 presents the results of the model estimation using the variables employed to test the first hypothesis, which posits that the accounting information quality (AIQ) is negatively related to firms' exposure to systematic risk (SR) in emerging countries. In estimation (1), the independent variable is AIQ based on the Dechow and Dichev (2002) model, which focuses on discretionary accruals by analyzing the relationship between accruals and cash flows, using the model residual as a proxy for earnings management. In estimation (2), abnormal accruals were estimated using the Modified Jones Model. The Breusch–Pagan test confirmed the adequacy of the random-effects specification ($\chi^2 = 261.22$; $p < 0.001$), indicating significant effects across the panel units.

Table 4 - Analysis of the Regression to test (H_1)

$$SR_{it} = \alpha_i + \beta_1 AIQ_{it} + \beta_2 AIP_{it} + \sum_j \beta_j \, controle_{jit} + País_{it} + \varepsilon_i \quad (4)$$

	Dependent Variable: SR	
	Random Effects	
	(1)	(2)
AIQ1	0.001*	
	(0.001)	
AIQ2		0.001***
		(0.003)
CIEI	0.003***	0.003***
	(0.001)	(0.001)
SIZE	-0.019***	-0.012***
	(0.002)	(0.002)
MTB	-0.005***	-0.006***
	(0.002)	(0.002)
ROA	-0.021***	-0.020***
	(0.003)	(0.003)
NCI	-0.035***	-0.058***
	(0.003)	(0.003)
LEV	0.113***	0.107***
	(0.009)	(0.009)
SEG	0.009**	0.009**
	(0.004)	(0.004)
HHI	0.001***	0.005***
	(0.001)	(0.002)
Constant	0.974***	0.955***
	(5.590)	(5.596)

	Dependent Variable: SR	
	Random Effects	
Observations	202,193	202,193
R^2	0.011	0.012
Adjusted R^2	0.011	0.012
F Statistic	1.614***	1,896***

SR = metric for systematic risk, calculated based on the three-factor model; **AIQ1** = Accounting Information Quality, measured using the Dechow and Dichev (2002) model; **AIQ2** = Accounting Information Quality, measured using the Modified Jones Model; **CIEI** = Countries' Informational Environment Index; **SIZE** = Firm's Size; **MTB** = Market-to-Book; **ROA** = Return on Total Assets; **NCI** = Net Capital Investment; **LEV** = Leverage; **SEG** = Business Segment; **HHI** = Herfindahl-Hirschman Sales Index, defined as a market concentration metric based on the level of sales.
Note: Significance level: *p<0.1; **p<0.05; ***p<0.01

Table 4 reports the effects of the independent variables on firms' SR. Firm size (SIZE) showed a negative relationship with SR, contrary to previous findings (Bouden & Saada, 2022; Martins & Barros, 2021), suggesting that larger firms are less exposed to risk. Leverage (LEV) and the Herfindahl–Hirschman Index (HHI) exhibited a positive relationship with SR, suggesting that more concentrated markets and more indebted firms are more risk-sensitive, consistent with Low (2009) and Xing and Yan (2019). Return on assets (ROA) exhibited a negative and significant coefficient, indicating that more profitable firms tend to have lower SR, supporting the notion that efficient management reduces vulnerability to economic fluctuations (Martins & Barros, 2021; Shah & Wan, 2023).

The AIQ measures (AIQ1 and AIQ2) showed positive, significant coefficients, indicating that higher information quality is associated with greater exposure to SR. This finding contradicts part of the literature (Silva & Machado, 2019; Xing & Yan, 2019; Júnior et al., 2023), which suggests that more reliable information reduces information asymmetry and return volatility. Therefore, hypothesis H_1 – which predicted a negative relationship between AIQ and SR – was not confirmed.

One possible explanation for this result relates to the characteristics of emerging markets, which are marked by greater volatility, institutional fragility, and heterogeneity in accounting practices. Even firms with strong disclosure practices remain exposed to macroeconomic shocks and political uncertainties, which tend to increase SR. Moreover, higher timeliness and transparency of information may intensify price reactions to new expectations, heightening short-term market sensitivity (Ahmed, 2023; ElKelish, 2021).

Thus, although higher-quality accounting information reduces information asymmetry, it may simultaneously accelerate price adjustments, particularly in contexts of heightened uncertainty. The effect of informational quality on risk is therefore not linear and depends on the level of market development and efficiency.

The country information environment index (CIEI) showed positive and significant coefficients, indicating that more developed institutional environments do not necessarily reduce SR and may increase price sensitivity to new information (Martins & Barros, 2021). This finding aligns with efficient market theory, which states that a more robust informational environment facilitates the rapid incorporation of accounting and economic information into asset prices (Pringpong et al., 2023). In less efficient markets, information tends to diffuse more slowly and unevenly, smoothing volatility but maintaining higher informational asymmetry. Thus, the informational environment plays an ambiguous role: it improves access to and quality of information but also heightens market sensitivity to external shocks and shifts in expectations.

For the agency theory, the relationship between AIQ and SR arises from the reduction of informational asymmetry. More transparent firms tend to reduce the cost of capital (Ahmed, 2023; Easley & O'Hara, 2004), but they may also exhibit greater volatility because investors incorporate new information more quickly. In emerging markets, where governance issues are more recurrent, higher-quality information can reveal underlying risks, differing from what is observed in developed economies (Ahn et al., 2024; Xing & Yan, 2019). The effect on risk varies across countries, reflecting regulatory and structural differences that influence investor perceptions.

The rejection of hypothesis H_1 shows that, although AIQ matters for asset pricing, its effect on SR depends on the institutional environment and the level of capital market development.

The results for H2 – aimed at testing whether the association between AIQ and exposure to SR differs negatively among emerging countries – are presented in Table 5. The Breusch–Pagan test ($\chi^2 = 236.36$; df = 1; $p < 0.001$) confirmed the presence of significant individual effects, supporting the use of the random effects model.

Table 5 - Analysis of the Regression to test (H_2)

$$SR_{it} = \alpha_i + \beta_1 AIQ_{it} + \beta_2 CIEI_{it} + (\beta_3 AIQ_{it} * CIEI_{it}) + (\beta_4 AIQ_{it} * CIEI_{it} * Country_{it}) + \sum_j \beta_j control_{jit} + \varepsilon_i \quad (5)$$

	Dependent Variable: SR	
	Random Effects	
	(1)	(2)
AIQ1	0.002***	
	(0.001)	
AIQ2		0.005***
		(0.003)
CIEI	0.004***	0.004***
	(0.001)	(0.001)
SIZE	0.019***	0.012***
	(0.002)	(0.002)
MTB	-0.005*	-0.006***
	(0.002)	(0.002)
ROA	0.021**	0.020***
	(0.003)	(0.003)
NCI	-0.035***	-0.058***
	(0.003)	(0.003)
LEV	-0.113**	-0.107*
	(0.009)	(0.009)
SEG	0.009**	0.009**
	(0.004)	(0.004)
HHI	0.001***	0.002***
	(0.007)	(0.009)
AIC1:CIEI	-0.004**	
	(0.001)	
AIC2:CIEI		0.003***
		(0.001)
Constant	0.973***	0.953**
	(0.027)	(0.027)
Observations	202,193	202,193
R^2	0.011	0.012
Adjusted R^2	0.011	0.012
F Statistic	1.618***	1.908***

Note: This model incorporates the interaction between AIQ and CIEI.
SR = metric for systematic risk, calculated based on the three-factor model; **AIQ1** = Accounting Information Quality, measured using the Dechow and Dichev (2002) model; **AIQ2** = Accounting Information Quality, measured using the Modified Jones Model; **CIEI** = Countries' Informational Environment Index; **SIZE** = Firm's Size; **MTB** = Market-to-Book; **ROA** = Return on Total Assets; **NCI** = Net Capital Investment; **LEV** = Leverage; **SEG** = Business Segment; **HHI** = Herfindahl-Hirschman Sales Index, defined as a market concentration metric based on the level of sales.
Note: Significance level: *p<0.1; **p<0.05; ***p<0.01
Source: Elaborated by the author

The CIEI was analyzed both as an independent variable and in interaction with AIQ to explain SR. The results indicate that CIEI has a positive and statistically significant coefficient at the 1% level, suggesting that a more developed informational environment can increase SR. This may occur because markets with greater information availability enable more informed investment decisions, leading to higher trading volumes and greater volatility (Pringpong et al., 2023).

The interaction between AIQ and CIEI produced distinct results across the two models. Under the Modified Jones Model (AIQ2), the relationship was positive and significant, indicating that a more robust informational environment can enhance AIQ, as reported by Takamatsu and Fávero (2017) and Martins and Barros (2021). In contrast, the Dechow and Dichev model (AIQ1) showed a negative, significant relationship, suggesting that higher information quality, as measured by discretionary accruals, can reduce SR.

Model (5) examined whether the informational environment negatively affects the relationship between AIQ and SR. The interaction between AIQ1 and CIEI showed a negative and significant coefficient, while the interaction between AIQ2 and CIEI was positive and significant. This indicates that the effect of the informational environment varies depending on the metric used to assess AIQ.

From the perspective of agency theory, the relationship between AIQ and SR can be explained by reduced informational asymmetry (Ahmed, 2023). More developed informational environments mitigate agency problems by increasing transparency and lowering monitoring costs (Ahmed, 2023; ElKelish, 2021). However, more efficient and transparent markets can reflect new information in asset prices more quickly, increasing volatility. Thus, the interaction between AIQ and the informational environment can reduce uncertainty when improved information enhances performance predictability, or raise risk when transparency exposes firms to greater price fluctuations. Emerging countries offer investment diversification opportunities due to their high-risk return profiles, as reflected in variables such as SR and ROA. Investors in these markets face higher costs, information asymmetry, illiquidity, SR, and weaker investor protections, making AIQ an important factor for decision-making (Ahn et al., 2024). High-quality information helps market efficiency by providing data that influence asset prices (Jensen & Meckling, 1976).

The results for hypothesis H_2 – which evaluates the moderating role of the CIEI – suggest that CIEI has a positive and significant association with SR. Although more advanced informational environments reduce information asymmetry, they also make asset prices more sensitive to external shocks (Easley & O'Hara, 2004; Ahmed, 2023).

The interaction between AIQ and CIEI reinforces this duality. In the Dechow and Dichev model (AIQ1), the interaction was negative and significant, suggesting that higher-quality information can mitigate the influence of the informational environment on risk. In the Modified Jones Model (AIQ2), the interaction was positive and significant, indicating that more detailed and timely information can increase volatility. These findings demonstrate that the relationship between transparency and risk is not linear and depends both on the metric used to assess information quality and on the informational context of each country.

From a practical standpoint, the results show that investors should recognize that higher informational quality does not guarantee a reduction in SR; more transparent firms may be more sensitive to market shocks. For managers, the results emphasize the need to adopt consistent disclosure practices to balance transparency and stability. For regulators, the findings highlight the importance of strengthening institutional governance and oversight mechanisms to ensure that improvements in informational quality translate into lower aggregate risk.

In summary, the findings indicate that AIQ quality in emerging markets does not necessarily reduce SR. Its interaction with the informational environment and institutional characteristics can generate ambiguous effects, showing that transparency, although essential, may increase volatility in contexts of institutional fragility. The relationship between informational quality and risk therefore depends on the country context, market efficiency, and the metric used to measure AIQ.

5 FINAL CONSIDERATIONS

This study analyzed how the interaction between a country's informational environment and accounting information quality is associated with the sensitivity of companies based in emerging economies to systematic risk. To address the research question, a panel data regression model with random effects was employed. Data were collected from non-financial firms operating in emerging markets included in the Morgan Stanley Capital International (MSCI) Emerging Markets Index, resulting in a sample of 11,586 companies. The dataset covers the period from 2000 to 2021 and comprises 202,193 firm-year observations.

The regression results indicate that accounting information quality, measured using the Dechow and Dichev (2002) model and the Modified Jones Model – an extension of Jones (1991), is positively and significantly associated with systematic risk in emerging markets. Thus, the study provides evidence refuting the first research hypothesis. In this context, it can be inferred that the variable capturing firms' sensitivity to systematic risk has an explanatory relationship with accounting information quality in emerging economies, and that high-quality financial reporting plays an important role in these markets by significantly influencing investor decision-making.

The study also showed that variables such as firm size and return on assets affect exposure to systematic risk, while each country's informational environment conditions the relationship between accounting information quality and systematic risk. However, the hypothesis that this environment reduces sensitivity to systematic risk was not statistically supported. This suggests that accounting transparency alone may not be sufficient to reduce market volatility in emerging economies.

These findings have relevant implications for policymakers and investors in emerging markets. For regulators, the results indicate that improvements in accounting standards should be accompanied by policies to reduce market concentration and strengthen investor protection to mitigate systemic risks (Pringpong et al., 2023). Measures such as strengthening regulatory enforcement and increasing transparency in sector-level disclosures may help create a less volatile market environment.

For investors, evidence that more highly leveraged firms and those operating in more concentrated markets exhibit higher systematic risk underscores the importance of portfolio diversification. Furthermore, the relationship between accounting information quality and risk suggests that institutional investors may use governance indicators and transparency measures to assess the stability of their investments.

Among the study's innovative contributions, the results suggest that future accounting reforms in emerging markets should consider not only the quality of financial reporting but also the impact of improved transparency on market dynamics and risk perception. In addition, corporate governance policies should be aligned with regulatory reforms that promote greater liquidity and predictability in equity markets.

Finally, it is important to emphasize that the findings should not be generalized to all emerging markets. The results are limited to the analysis period (2000–2021) and to the countries included in the MSCI index. Additional sampling limitations should be acknowledged, especially concerning variables related to systematic risk, which may be measured differently across samples and could affect the number of firms included in the analyses. Furthermore, the quality of accounting information can be assessed using alternative methods not employed in this study.

As recommendations for future research, it is suggested that the relationship between accounting information quality and exposure to systematic risk be examined using alternative analytical methods. Further studies may also investigate the influence of additional aspects of countries' informational environments, such as national default rates and macroeconomic indicators. Finally, comparing the evidence obtained here for emerging markets with results from developed economies would offer valuable insights.

REFERENCES

Ahmed, M. M. A. (2023). The relationship between corporate governance mechanisms and integrated reporting practices and their impact on sustainable development goals: evidence from South Africa. Meditari Accountancy Research, 31(6), 1919-1965.

Akerlof, G. A. (1970). The market for "lemons": Quality uncertainty and the market mechanism. The Quarterly Journal of Economics, 84(3), 488–500. https://doi.org/10.2307/1879431

Almendra, R. S., Vasconcelos, A. C., Silva, R. B., & De Luca, M. M. M. (2018). Internacionalização, risco sistemático e disclosure de riscos em empresas listadas na BM&FBovespa. Enfoque: Reflexão Contábil, 37(3), 73-91.

Assaf Neto, A. (2005). Finanças corporativas e valor. São Paulo: Atlas.

World Bank Group [Banco Mundial] (2022). The Worldwide Governance Indicators (WGI) Project. http://info.worldbank.org/governance/wgi/index.aspx#doc

Barth, M. E., Landsman, W. R., & Lang, M. H. (2008). International accounting standards and accounting quality. Journal of accounting research, v.46, n.3, p.467-498.

Beaver, W., Kettler, P., & Scholes, M. (1970). The Association Between Market Determined and Accounting Determined Risk Measures. The Accounting Review.

Berle, A. A., & Means, G. C. (1932). The modern corporation and private property. Harcourt, Brace & World.

Bhattacharya, U., Daouk, H., Welker, M. (2003). The World Price of Earnings Opacity. The Accounting Review, v. 78, n. 3, p. 641-678.

Bouden, H. M., & Saada, M. B. (2022). How does the IFRS adoption affect systematic versus idiosyncratic risks of French listed companies?. International Journal of Financial Engineering, 9(03), 2250008.

Brealey, R. A., & Myers, S. C. (2003). Principles of corporate finance (7th ed.). McGraw-Hill.

Bushman, R. M., & Piotroski, J. D. (2006). Financial reporting incentives for conservative accounting: The influence of legal and political institutions. Journal of accounting and economics, 42(1-2), 107-148.

Bushman, R. M., Piotroski, J. D., & Smith, A. J. (2004). What determines corporate transparency?. Journal of accounting research, 42(2), 207-252.

Chen, J. Z., Lobo, G. J., & Zhang, J. H. (2017) Accounting Quality, Liquidity Risk, and Post-Earnings-Announcement Drift. Contemporary Accounting Research, vol. 34, n. 3 (Fall 2017) pp. 1649–1680 © CAAA https://doi.org/10.1111/1911-3846.12310.

Core, J. E., Hail, L., & Verdi, R. S. (2015). Mandatory disclosure quality, inside ownership, and cost of capital. Eur Account Rev 24:1–29.

Damodaran, A. (2005). A avaliação de investimentos: ferramentas e técnicas para a determinação do valor de qualquer ativo. Rio de Janeiro: Qualitymark.

Dechow, P., & Dichev, I. D. (2002). The quality of accruals and earnings: the role of accrual estimation errors. The Accounting Review, v. 77, n.4, p. 35-59.

Dechow, P. M., & Ge, W., Schrand, C. (2010). Understanding earnings quality: a review of the proxies, their determinants and their consequences. Journal of Accounting and Economics, v. 50, p. 344-401. https://doi.org/10.1016/j.jacceco.2010.09.001

de Oliveira Junior, J. L., Nossa, V., Nossa, S. N., & Oliveira, E. S. (2023). Accrualls and systematic risk in Brazilian companies. *REVISTA AMBIENTE CONTÁBIL-Universidade Federal do Rio Grande do Norte-ISSN 2176-9036*, *15*(1).

Duarte, F. C. L., & Lucena, W. G. L. (2018). A qualidade da informação contábil e a precificação do retorno em excesso no mercado brasileiro de capitais. *Revista Contemporânea de Contabilidade*, 15(35), 161–178. https://doi.org/10.5007/2175-8069.2018v15n35p161

ElKelish, W. W. (2021). The International Financial Reporting Standards 9 financial instruments, information quality and stock returns in the modern technology era. *Journal of Applied Accounting Research*, Emerald Group Publishing Limited, vol. 22(3), pages 465-483, January.

Erb, C. B, Harvey, C. R & Viskanta T. E. (1996). *Expected Returns and Volatility in 135 Countries*, 28.

Fatma, T., & Abdelwahed, O. (2010). Earnings quality and cost of equity capital: evidence from Tunisia. *International Journal of Managerial and Financial Accounting*, v. 2, n. 2, p. 161-176.

Gaio, C. (2010). The relative importance of firm and country characteristics for earnings quality round the world. *European Accounting Review*, 19(4), pp. 693-738. http://dx.doi.org/10.1080/09638180903384643

Hoskisson, R. E., Eden, L., Lau, C. M., & Wright, M. (2000). Strategy In Emerging Economies. *Academy of Management Journal*, 43(3), 249–267. https://doi.org/10.2307/1556394

Houqe, M. N. H., Van Zijl, T., Dunstan, K. & Karim, A. K. M. W. (2012). The effect of IFRS adoption and investor protection on earnings quality around the world. *The International Journal of Accounting*, 47(3), 333-355. https://doi.org/10.1016/j.intacc.2012.07.003

Isidro H., & Dias, J. G. (2017). Earnings quality and the heterogeneous relation between earnings and stock returns. *Rev Quant Finance Account* 49:1143–1165.

Isidro, H., & Raonic, I. (2012). Firm incentives, institutional complexity and the quality of "harmonized" accounting numbers. *The International Journal of Accounting*, 47(4), pp. 407-436. https://doi.org/10.1016/j.intacc.2012.10.007

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305–360.

de Oliveira Júnior, J. L., Nossa, V., Nossa, S. N., & de Oliveira, E. S. (2023). Accrualls e risco sistemático nas empresas brasileiras. *REVISTA AMBIENTE CONTÁBIL-Universidade Federal do Rio Grande do Norte-ISSN 2176-9036*, *15*(1), 112-136.

Khoufi, N. (2020). Accounting information quality and investment decisions in the emerging markets. *Front Manage Bus*, 2020, 1(1): 16-23. https://doi.org/10.25082/FMB.2020.01.004

La Porta, R., Lopez-De-Silanes, F., & Shleifer, A. (2008). The economic consequences of legal origins. *Journal of Economic Literature*, 46(2), 285-332. http://www.aeaweb.org/articles.php?doi=10.1257/jel.46.2.285

Latif, A. S., & Shah, A. (2021). The impact of quality of accounting information on cost of capital: insight from an emerging economy. Asian Economic and Financial Review ISSN(e): 2222-6737 ISSN(p): 2305-2147 https://doi.org/10.18488/journal.aefr.2021.114.292.307 v. 11, n. 4, 292-307. © 2021 *AESS Publications. All Rights Reserved*. URL: www.aessweb.com

Leuz, C., & Wysocki, P. D. (2016). The economics of disclosure and financial reporting regulation: Evidence and suggestions for future research. *Journal of Accounting Research*, 54(2), 525-622.

Lintner, J. (1965). Security prices, risk, and maximal gains from diversification. *The journal of finance*, *20*(4), 587-615.

Lopes, A. B. (2002). *A informação contábil e o mercado de capitais*. São Paulo: Pioneira Tompson Learning.

Martins, O. S., Barros, L. A. B. C. (2021). Firm Informativeness, Information Environment, and Accounting Quality in Emerging Countries. *The International Journal of Accounting* Vol. 56, No. 1 2150004. Board of Trustees, Vernon K. Zimmerman Center, University of Illinois https://doi.org/10.1142/S1094406021500049.

Mazzioni, S., Diel, F. J., & Oliveira, J. M. (2016). Atributos da qualidade da informação contábil em empresas participantes do mercado acionário brasileiro. *Contabilidade, Gestão e Governança*, 19(2), 230–253. https://doi.org/10.21714/1984-3925_2016v19n2a4

Patton, A. J., Verardo, M. (2012). Does Beta Move with News? Firm-Specific Information Flows and Learning about Profitability. *Published by Oxford University Press on behalf of The Society for Financial* Studies. https://doi.org/10.1093/rfs/hhs073.

Pringpong, S., Maneenop, S., & Jaroenjitrkam, A. (2023). Geopolitical risk and firm value: Evidence from emerging markets. *The North American Journal of Economics and Finance*, *68*, 101951.

Rezaei, M., & Heydari, E. (2021). Exploring the Effect of Accounting Information on Systematic Risk: An Empirical Evidence of Tehran Stock Exchange. *International Scholarly and Scientific Research & Innovation*. ISNI:0000000091950263

Shah, S. Z. A. & Wan, F. (2024). Financial integration and earnings management: evidence from emerging markets, *Journal of Applied Accounting Research*, Emerald Group Publishing Limited, vol. 25(2), pages 197-220, June.

Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *The journal of finance*, *19*(3), 425-442.

Soderstrom, N. S., & Sun, K. J. (2007). IFRS adoption and accounting quality: A review. *The European Accounting Review*, 16(4), 675-702. https://doi.org/10.1080/09638180701706732

Takamatsu, R. T. (2015). Indicadores contábeis, ambiente informacional de mercados emergentes e retorno das ações. Tese (Doutorado em Ciências) - Departamento de Contabilidade e Atuária da Faculdade de Economia, Administração e Contabilidade, Universidade de São Paulo.

Takamatsu, R. T., & Fávero, L. P. L. (2017). Opacidade das informações contábeis, adoção das normas internacionais e origem legal. *Revista Brasileira de Gestão de Negócios*, v. 19, n. 66.

Xing, X., & Yan, S. (2019). Accounting information quality and systematic risk. *Review of Quantitative Finance and Accounting*, v. 52, n. 1, p. 85–103, 2018. https://link-springer-com.ez43.periodicos.capes.gov.br/article/10.1007/s11156-018-0703-z

Watts, R. L., & Zimmerman, J. L. (1990). Positive accounting theory: a ten-year perspective. *The Accounting Review*. v. 65.

Wright, M., Filatotchev, I., Hoskisson, R. E., & Peng, M. W. (2005). Strategy research in emerging economies: challenging the Conventional Wisdom*. *Journal of Management Studies*, 42(1), 1–33. https://doi.org/10.1111/j.1467-6486.2005.00487

RMC

The Journal of Accounting of Minas Gerais is an Open Access quarterly journal, published by Conselho Regional de Contabilidade de Minas Gerais - ISSN: 2446-9114
Journal of Accounting of Minas Gerais, Volume 26, Number 3, Article 3, Pages 39 - 54, september/december 2025. Available at: https://revista.crcmg.org.br/rmc
DOI: https://doi.org/10.51320/rmc.v26i3.1700

CRCMG
CONSELHO REGIONAL DE CONTABILIDADE DE MINAS GERAIS

INFLUENCE OF INCOME SMOOTHING AND RESPONSIBLE CORPORATE BEHAVIOR ON THE COST OF CAPITAL

INFLUÊNCIA DA SUAVIZAÇÃO DE RESULTADOS E DO COMPORTAMENTO CORPORATIVO RESPONSÁVEL NO CUSTO DE CAPITAL

ABSTRACT
The study analyzes the influence of income smoothing and responsible corporate behavior on the weighted average cost of capital (WACC) in publicly traded companies listed on B3. The study follows a quantitative approach, based on 906 observations from 151 companies listed on B3, covering the period from 2016 to 2021. Multivariate statistics were applied through balanced panel data with fixed effects for the analysis. The results indicate that companies with higher levels of income smoothing practices exhibited a significantly lower WACC. Responsible corporate behavior, represented by adherence to the SDG and inclusion in the CSI portfolio, did not show a relevant effect on WACC, contrary to expectations. However, higher ESG performance showed evidence of significantly reducing WACC. Based on an original empirical test, the findings reveal that the combined effect of income smoothing and responsible corporate behavior does not influence WACC. The managerial contribution of the study suggests that funders and investors perceive income smoothing more favorably compared to responsible corporate practices. The results may be due to a phase still of maturation in the process of implementing socio-environmental practices at the national level and/or the low perception of investors and funders regarding the long-term benefits of responsible corporate behavior.

Keywords: Income smoothing. Corporate responsible behavior. Cost of capital.

RESUMO
O estudo analisa a influência da suavização de resultados e do comportamento corporativo responsável no custo médio ponderado de capital (CMPC) em companhias abertas listadas na B3. A pesquisa segue uma abordagem quantitativa, baseada em 906 observações de 151 empresas listadas na B3, referentes ao período de 2016 a 2021. Para a análise, utilizou-se estatística multivariada por meio de painel de dados balanceados com efeitos fixos. Os resultados indicam que empresas com práticas mais elevadas de suavização de resultados apresentaram CMPC significativamente mais baixo. O comportamento corporativo responsável representado pela adesão aos ODS e a listagem na carteira ISE não apresentou efeito relevante sobre o CMPC, diferente do esperado. Contudo, o maior desempenho ESG apresentou indícios de redução significativa do CMPC. A partir de um teste empírico original, os achados revelam que o efeito conjunto da suavização de resultados e do comportamenteo corporativo responsável não exerce influência sobre o CMPC. A contribuição gerencial do estudo revela que a percepção de financiadores e investidores é mais favorável à suavização de resultados quando comparada com práticas corporativas responsáveis. Os resultados podem ser decorrentes de uma fase ainda de amadurecimento do processo de implantação das práticas socioambientais no cenário nacional e/ou da baixa percepção dos investidores e financiadores sobre os benefícios de longo prazo do comportamento corporativo responsável.

Palavras-chave: Suavização de resultados. Comportamento Corporativo Responsável. Custo de Capital.

Camila Ascari
Mestre em Ciências Contábeis e Administração (Unochapecó). Docente na UCEFF Educacional. ORCID: https://orcid.org/0000-0002-0115-0356. Lattes: http://lattes.cnpq.br/9323707619098923

Sady Mazzioni
Doutor em Ciências Contábeis e Administração (FURB). Docente do Curso de Ciências Contábeis e do Programa de Pós-Graduação em Ciências Contábeis e Administração na Universidade Comunitária da Região de Chapecó - Unochapecó. E-mail: sady@unochapeco.edu.br. ORCID: https://orcid.org/0000-0002-8976-6699. Lattes: http://lattes.cnpq.br/8383471282004653

Cristian Baú Dal Magro
Doutor em Ciências Contábeis e Administração (FURB). Docente do Curso de Ciências Contábeis e do Programa de Pós-Graduação em Ciências Contábeis e Administração na Universidade Comunitária da Região de Chapecó - Unochapecó. E-mail: crisbau@unochapeco.edu.br. ORCID: https://orcid.org/0000-0002-7609-5806. CV: http://lattes.cnpq.br/7249286925737061

Simone Leticia Raimundini Sanches
Doutora em Administração peal Universidade Federal do Rio Grande do Sul (UFRGS). Mestre em Administração pela Universidade Estadual de Maringá (UEM). Graduado em Ciências Contábeis pela Universidade Estadual de Maringá (UEM). Docente do curso de Ciências Contábeis e do Programa de Pós-Graduação em Ciências Contábeis (PCO) na Universidade Estadual de Maringá (UEM). E-mail: slraimundini@uem.br. ORCID: https://orcid.org/0000-0002-7363-2573. Lattes: http://lattes.cnpq.br/5997063695557824

Journal of Accounting of Minas Gerais - ISSN 2446-9114 – Open Access quarterly journal, published by Conselho Regional de Contabilidade de Minas Gerais (CRCMG). Received: 11th January 2025. Proofread: 17th August 2025. New alterations: 9th November 2025. Accepted: 13th November 2025, by Dr. Ewerton Alex Avelar Leal and Dr. Nálbia de Araújo Santos. Published: 26th December 2025. Published by: CRCMG

1 INTRODUCTION

Shareholders and investors are constantly attentive to the potential returns on their investments, in search of significant results. To meet these expectations and avoid disappointments, companies may adopt the practice of income smoothing, which consists of an intentional (and legal) intervention in operational processes and reports aimed at reducing the variation of reported earnings over time (Demerjian et al., 2020).

The practice of smoothing income can serve the opportunistic interests of managers and allow reserves to be built for periods of crisis, without undermining the ability to raise funds and keeping capital costs low even in difficult times (Skała, 2021). By acting this way, managers keep profits stable because they believe it improves the company's image and performance, making it more attractive to investors. As a result, income smoothing has become a common practice (Kartikawati et al., 2019; Kustono, 2021).

Another way to make a company attractive to investors is to pay attention to socio-environmental issues. Responsible corporate behavior has gained prominence in the contemporary context. Companies have been encouraged or compelled to pursue profit and economic growth in line with practices that consider environmental, social, and governance (ESG) impacts, which are fundamental for sustainable development and for building a more balanced and conscious society (Souza & Oliveira, 2023).

ESG issues are crucial for sustainable development as they consider economic development, environmental protection, and social justice. In the corporate context, ESG aspects allow for understanding the risks and opportunities companies face in their relationships with stakeholders and the environment, becoming a source of reputation and competitiveness for those that adopt good practices (Wan et al., 2023).

The participation of companies in the Corporate Sustainability Index (CSI) is considered an element of responsible behavior, as it demonstrates socio-environmental practices and improves relationships with stakeholders (Mazzioni et al., 2023; Peixoto et al., 2016). The aim of the CSI portfolio is to serve as an indicator of the average performance of the stock prices of companies with recognized commitment to corporate sustainability (B3, 2023). Participation in the CSI portfolio indicates that good socio-environmental performance may have positive effects on financial performance, as it can create a competitive advantage through concern for quality, sustainable development, transparency, and accountability, providing tangible and intangible benefits for the company (B3, 2023; Cruz et al., 2023).

Responsible behavior can be reflected in the adoption of the Sustainable Development Goals (SDG), launched in 2015 by the United Nations (UN), with the purpose of promoting sustainable development worldwide by 2030 (Agenda 2030). The adoption of the SDG by companies and their proper reporting in sustainability reports is growing (Salamanca, 2022), as companies more engaged with the SDG show better performance (Mazzioni et al., 2023) and greater engagement with Corporate Social Responsibility (CSR) (Schönherr et al., 2017). These practices are often associated with creating sustainable competitive advantage for companies (Fandella et al., 2023; Pfister et al., 2020).

The existence of numerous opportunities to improve the image and value of companies is not enough if there are no investments capable of turning them into a competitive advantage. To achieve this goal, companies need an appropriate capital structure, with resource management, and assertive and strategic decisions between investments and financing (Knivsflå, 2023).

The use of capital structure involves the transaction costs related to the provision of resources for the companies' cash flow (Fandella et al., 2023). In economic terms, the cost of capital represents the opportunity cost and is adopted as a method that evaluates investment proposals as a criterion for approving or rejecting financial decisions (Assaf Neto et al., 2008). The Weighted Average Cost of Capital (WACC) is used in the process of evaluating a particular company, considering financial leverage and capital structure (Cunha et al., 2013).

The calculation of WACC is different for each company, due to the accounting and economic information that is taken into consideration: assets, debts, equity, third-party capital, the return expected by shareholders, and the rates practiced in the capital market (Assaf Neto et al., 2013; Oro et al., 2013; Tomazoni & Menezes, 2002). The evidence from studies by Li and Richie (2016), Dewi et al. (2020), Hartlieb and Loy (2022), for example, indicates that income smoothing influences a company's cost of capital, suggesting that the greater the income smoothing, the lower the cost of capital. The explanatory argument presented is that smoothing reduces the risk perceived by investors, making them more inclined and willing to invest in the company.

Regarding responsible behavior, the literature (Chen et al., 2023; Fandella et al., 2023; Jesuka et al., 2022) notes the isolated use of corporate sustainability indicators, such as CSI, SDG, corporate social reputation, and ESG. The originality of the study lies in the analysis of WACC under the joint influence of income smoothing and corporate social responsibility (CSR), measured using three proxies: performance in environmental, social, and governance (ESG) practices, adherence to the Sustainable Development Goals (SDG), and participation in the Corporate Sustainability Index (CSI). To the best of our knowledge, this approach has not been used previously in the national literature, expanding the evidence on the determinants of the cost of capital.

There is considerable evidence that income smoothing (for example, Chen et al., 2023; Chen & Zhang, 2021; Carey et al., 2021; Fandella et al., 2023; Kuo et al., 2021) and responsible corporate behavior (for example, Castro & Martinez, 2009; Chen, 2019; Demerjian et al., 2020; Dewi et al., 2020; Moghadam et al., 2013) reduce the cost of capital. However, no studies were found that tested the possible influence of responsible corporate behavior and income smoothing,

simultaneously, on the cost of capital. Thus, it was not possible to determine whether responsible behavior prevents excesses or adds prudence in the relationship between smoothing and the cost of capital, allowing for the presentation of an original empirical test.

In view of the above, the research presents the following research question: what is the influence of income smoothing and responsible corporate behavior on the weighted average cost of capital in publicly traded companies listed on B3? The aim of the study is to analyze the influence of income smoothing and responsible corporate behavior on the weighted average cost of capital (WACC) in publicly traded companies listed on B3.

Identifying the elements that affect the cost of capital is relevant for companies, as it clarifies the understanding of how the capital structure contributes to financial decision-making. Complementarily, it allows for analyzing and defining the ideal proportions of equity and third-party capital used for the company's investment and financing. An appropriate composition leads to a reduction in the cost of capital and an increase in market competitiveness, improves resource allocation efficiency, and maximizes the company's value (Brito et al., 2005).

From a managerial perspective, responsible corporate strategies did not lead to a reduction in capital costs, contrary to previous findings (such as Piechocka-Kałużna et al., 2021; Ramirez et al., 2022; Zahid et al., 2023).Conversely, it reinforces evidence on the relevance of using smoothing practices for less costly access to financial resources for companies (as noted by Castro & Martinez, 2009; Dewi et al., 2020; Li & Richie, 2016). The study presents consistent evidence that the simultaneous use of responsible practices and income smoothing does not significantly impact the cost of capital.

2 LITERATURE REVIEW

2.1 Cost of capital

The capital structure represents the combined use of net equity (own capital) and financial debt (third-party capital) (Knivsflå, 2023), affecting the financial, corporate, and social health of companies (Zahid et al., 2023). Excessive use of debt or an inadequate capital structure, for example, can lead to financial difficulties (Chadha & Sharma, 2015).

The cost of capital plays a strategic role in business management, influencing the acceptance or rejection of projects based on net present value (NPV) (Assaf Neto et al., 2008). The proper composition guides decisions aimed at creating shareholder value, with the weighted average cost of capital (WACC) constituting one of the main components of analysis (Minardi et al., 2007).

Conceptually, the cost of capital is the rate a company pays on all capital in use, divided into the cost of equity, the cost of debt, and the weighted average cost of capital (Fandella et al., 2023). From the creation of the capital structure concept by Modigliani and Miller (1958) to the consolidation of modern theories that analyze the effects of financing decisions and their impact on company value, the determinants for the optimal choice of capital structure balancing have been discussed.

The cost of equity (CoE) is represented by the rate of return for stock investors, considering three fundamental determinants: risk, information asymmetry, and liquidity (Thien & Hung, 2023). On the other hand, the cost of debt (CoD) is represented by the cost of long-term debt, representing the interest rate that would be paid if the debt sources were replaced by an equivalent one (Farhat, 2016).

The weighted average cost of capital (WACC) can be observed from both the company's and the investor's perspective. It can be defined as the total cost of capital that the company must pay, using resources from its owners and capital holders, from the company's perspective and being considered the minimum rate of return that a business must achieve to create value for investors. Additionally, it represents the opportunity cost of capital invested by the investor (Knivsflå, 2023; Singh et al., 2023).

2.2 Income smoothing

Earnings management can be characterized into different types: target earnings, where management is used to increase or decrease accounting profits; income smoothing, a management practice to minimize the variability of accounting results; and take a bath or big bath, earnings management to decrease current profits and maximize future profits (Martinez, 2001).

Income smoothing is a branch of earnings management that has received attention in finance and accounting literature. Castro and Martinez (2009) define it as a practice aimed at reducing profit fluctuations and stabilizing it over time, while Mulford and Comiskey (2005) describe it as the intentional dampening of fluctuations around a level of profit considered normal for the company.

The flexibility in preparing financial reports allows some room for maneuver for companies in implementing accounting regulations, which can lead to opportunistic situations. Thus, managers are allowed to shift profits between periods. The selection of accounting procedures is not used solely to inflate results but also, when convenient, to reduce current reported profits by deferring revenues with the aim of improving future bonuses (Healy, 1985).

Managers are more likely to make accounting choices that reduce earnings when the lower and upper limits of their bonus plan are linked to company results. Conversely, they use accruals that increase earnings when these limits are not

tied to the organization's performance. A higher incidence of voluntary switching in accounting procedures is observed in the years following the adoption or modification of a bonus plan (Healy, 1985).

The study adopts the smoothing model proposed by Leuz et al. (2003), which aims to capture the extent to which executives engage in income smoothing, identifying how they reduce profit variability, evidenced by changes in the accounting components of profit due to adjustments under the accrual basis. The model is based on the premise that cash flow is equal to net income minus accruals (OCF = Net Income – Accruals). Accordingly, the measure is an average ratio of the standard deviation of operating profit divided by the standard deviation of cash flow from operations, both at the firm level.

Previous evidence from the accounting literature (Dechow et al., 2010; Dewi et al., 2020; Hartlieb & Loy, 2022; Li & Richie, 2016) suggests that income smoothing is associated with compensation incentives, cost of capital, executive turnover, and the dissemination of private information that is useful to shareholders and investors. Income smoothing is closely related to the quality of company earnings, considered as the ability of revenue to reflect the company's current performance, in addition to pointing to the implicit need for investors to better understand the institutional factors that affect the accuracy of the data available to them (Tee, 2020). The temporary smoothing of cash flows can improve earnings persistence. However, managers' attempts to smooth permanent changes in cash flows will lead to less timely and less informative earnings (Dechow et al. 2010).

Castro and Martinez (2009) conducted a study in the Brazilian stock market to examine the effect of income smoothing and its association with capital structure and the cost of third-party capital. The results indicated that companies that engage in income smoothing tend to have a lower cost of third-party capital and a capital structure with a higher proportion of long-term debt. The analysis of different periods revealed that income smoothing affects future capital costs and influences the determination of the company's financing structure.

Income smoothing negatively impacts the cost of capital by adding stability to financial statement figures and reducing the risk perceived by the company's shareholders (Castro & Martinez, 2009; Dewi et al., 2020; Li & Richie, 2016). One of the consequences highlighted by the studies is the improvement of performance in the stock market (Hartlieb & Loy, 2022; Moghadam et al., 2013).

The study by Li and Richie (2016) analyzed publicly traded companies in China between 2002 and 2007. The findings indicated that income smoothing is a significant determinant of the cost of third-party capital, suggesting that companies with greater income smoothing exhibit a lower cost of third-party capital. In the research by Dewi et al. (2020), publicly traded companies on the Indonesian stock exchange were analyzed from 2014 to 2018. As a result, it was possible to identify that there is a negative relationship between income smoothing and the cost of capital for companies.

In the national context, Castro and Martinez (2009) analyzed 217 publicly traded Brazilian companies from 2003 to 2007. The study made it possible to identify that companies with income smoothing practices can reduce the cost of third-party capital. The argument is that companies with more stable profits tend to be perceived as less risky. Meli (2015) analyzed the effect of income smoothing on the cost of capital for publicly traded Brazilian companies. The tests indicated that the practice of income smoothing impacted on the reduction of the cost of capital, both before and after the adoption of IFRS.

Based on the evidence established in previous studies, the following hypothesis is presented:

H_1 – There is a negative relationship between income smoothing and the weighted average cost of capital.

2.3 Responsible Corporate Behavior

Responsible corporate behavior is an ethical and socially acceptable conduct aimed at promoting sustainability and environmental preservation, as well as contributing to the improvement of people's quality of life (Lopes & Silva, 2021). In addition to involving actions that promote general well-being, environmental preservation, social justice, and business ethics (Ribeiro & Freitas, 2019), responsible behavior can be applied in various areas, such as work, education, health, and politics, being essential for building a fairer and more balanced society (Lopes & Silva, 2021).

The sustainability of organizations requires responsible corporate behavior, which includes the implementation of ethical and sustainable practices aimed at contributing to environmental preservation and social well-being (Lopes & Silva, 2021). Promoting sustainable corporate behavior involves conscious attitudes toward consumption, production, and waste disposal, as well as ethical policies that respect human rights (Machado Filho & Zylbersztajn, 2004).

In this study, responsible corporate behavior involves performance in Environmental, Social, and Governance (ESG) practices, participation in the Corporate Sustainability Index (CSI), and adherence to the Sustainable Development Goals (SDG). ESG practices are increasingly present in the corporate world, referring to a set of actions that companies can adopt to promote sustainability and social responsibility in their activities, implemented to meet stakeholders' demands, who require a more ethical and sustainable approach (Pedersen et al., 2021).

In turn, CSI is a B3 indicator that monitors the performance of companies that adopt sustainable management principles, offering investors a benchmark to evaluate organizations engaged in sustainability (Marcondes & Bacarji, 2010). The adoption of the SDG has been incorporated into responsible corporate behavior, recognizing that Brazilian companies listed on B3 have used the SDG to create value through positive impacts on society, such as poverty reduction, social

inclusion, and minimization of negative impacts. In this way, companies respond to society's expectations and contribute to the preservation of the planet, making sustainability part of their competitive business strategy (Penna et al., 2022).

Christensen et al. (2022) draw attention to the divergence in ESG ratings among various agencies. The study reveals that, among the consequences, greater divergence in ESG ratings is associated with a lower likelihood of obtaining external financing. Going further, they highlight that the disclosure of ESG information generally tends to exacerbate the divergence in ESG ratings rather than resolve it.

The study by Piechocka-Kałużna et al. (2021) found a negative relationship among the three ESG pillars and the weighted average cost of capital, equity capital, and third-party capital when analyzing companies in the United States. One justification for the results is that investors are being attracted by non-financial scope practices, such as environmental protection, social responsibility, and corporate governance. Thus, companies that care about their reputation have identified the need to use practices and reports related to ESG and CSR issues, achieving a reduction in the cost of capital.

The research by Zahid et al. (2023) analyzed the relationship between ESG performance and corporate capital financing decisions in listed companies in China between 2010 and 2019, identifying that companies with higher ESG performance have a lower cost of debt financing, suggesting that ESG information is crucial for financing decisions.

When analyzing Brazilian publicly traded companies, Balassiano et al. (2023) identified a negative relationship between environmental issues and the cost of third-party capital, suggesting that creditors are sensitive to companies' environmental practices. Similar evidence was found in the study by Ramirez et al. (2022), which pointed out that ESG practices reduce the cost of capital. In the study by Costa and Ferezin (2021), the findings indicated that good ESG performance reduces companies' financing constraints and helps to reduce the cost of third-party capital.

Based on this evidence, the following hypothesis is presented:

H_2 – There is a negative relationship between ESG practices and the weighted average cost of capital.

Chen and Zhang (2021) argue that actively engaging in CSR activities reduces operational risk and affects pricing in the capital markets, as the risk to investors decreases, leading to a reduction in the cost of equity. Ribeiro and Lima (2022) support the idea that companies, by adopting the SDG in their reports, demonstrate a clear commitment to sustainability and corporate responsibility. Transparency and accountability can contribute to investor confidence, reducing customer risk and the cost of capital.

The disclosure of socio-environmental information has been reported as being associated with lower capital costs (Ribeiro & Lima, 2022). Companies that invest in sustainability reports with external assurance are able to reduce credit constraints and lower the cost of third-party capital, as found by Carey et al. (2021).

Evidence has shown that the greater the concern with sustainable development, the lower the cost of third-party capital for companies (Sun et al., 2023). Thus, as companies demonstrate better performance in the pillars of sustainability, there is a lower perception of risk and a lower cost of capital (Yilmaz, 2022).

The research by Kuo et al. (2021) found that disclosing corporate social reputation information reduced the cost of third-party capital by decreasing investor uncertainty and information asymmetries. The evidence was even stronger when companies sought assurances from external sources in their reports.

Previous evidence allows us to present the following research hypothesis:

H_3 – There is a negative relationship between the adoption of the SDG in sustainability reports and the weighted average cost of capital.

By adopting sustainability indices, companies can improve their reputation, increase market credibility, and minimize risks. The research by Peixoto et al. (2016) examined the effects that inclusion in the CSI portfolio has on companies' cost of capital, based on an analysis of 200 non-financial Brazilian companies listed on the stock exchange between 2009 and 2013. The result indicated a negative relationship between adherence to the CSI portfolio and the cost of capital, which implies that companies included in the CSI portfolio have a lower cost of capital compared to those that do not participate, providing clear benefits.

In the study by Venturini et al. (2025), the effect of the Corporate Sustainability Index (CSI) on the cost of debt in non-financial Brazilian companies listed on the Brazil Stock Exchange and Over-the-Counter Market (B3, as per its Portuguese acronym) from 2011 to 2018 was analyzed. The study's results demonstrated that CSI is significantly associated with the cost of debt, supporting the literature that highlights ESG practices being used by companies to send a strong signal to credit institutions about the efficiency and integrity of their management.

Based on previous evidence, the following hypothesis is presented:

H_4 – There is a negative relationship between participation in the CSI portfolio and the weighted average cost of capital.

There are several evidence that income smoothing and responsible corporate behavior reduce the cost of capital. However, no studies have been found that have tested the possible influence of responsible corporate behavior and

income smoothing, simultaneously, on the cost of capital. Thus, it was not possible to determine whether responsible behavior prevents excesses or adds prudence in the relationship between smoothing and the cost of capital, allowing for the presentation of an original empirical test.

Thus, the study aims to test the interactive effect of responsible behavior and income smoothing, based on the following hypotheses:

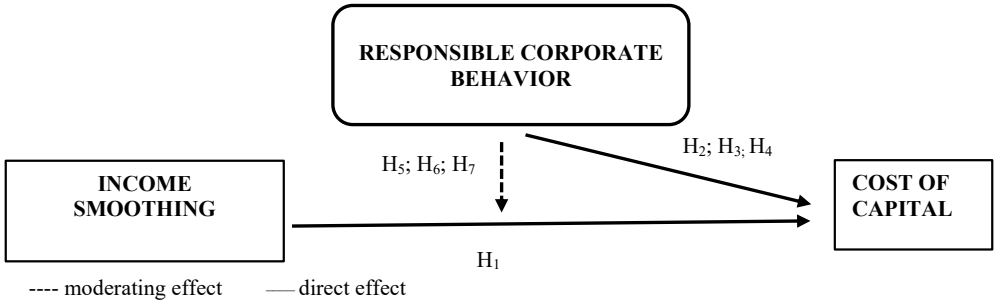
H_5 – ESG practices moderate the negative relationship between income smoothing and the weighted average cost of capital.

H_6 – The adoption of the SDG in the disclosure of the sustainability report moderates the negative relationship between income smoothing and the weighted average cost of capital.

H_7 - Participation in the CSI portfolio moderates the negative relationship between income smoothing and the weighted average cost of capital.

Based on the presented theoretical framework, the study tests the relationships of the addressed dimensions and their hypotheses, as displayed in Figure 1.

Figure 1 - Theoretical model of the research



3 METHODOLOGICAL PROCEDURES

The research can be characterized as quantitative, descriptive, archival, and documental. Regarding the approach to the problem, the study presents quantitative aspects by measuring phenomena, conducting cause-and-effect analysis, testing hypotheses, exploring data, evaluating reliability, and performing descriptive and inferential statistical analyses (Sampieri et al., 2013).

Regarding the aims, the research is characterized as descriptive, as it systematically analyzes the relationships existing among the elements of the sample, using standardized procedures for data collection and analysis (Walliman, 2015). With respect to the procedures, the study is documental and archival, being based on information extracted from financial statements and accounting reports, as well as secondary data from structured databases (Martins & Theóphilo, 2016).

In this research, the population consists of publicly traded companies listed on B3 – tBrazil Stock Exchange and Over-the-Counter Market. To compose the sample, the companies had to meet the following criteria (Matias-Pereira, 2019): (i) not belong to the financial sector or similar; (ii) have positive shareholders'equity; (iii) make available the necessary information to operationalize all the variables selected for the study.

The period under analysis covers the years 2016 to 2021, selected due to the entry into force of the 2030 Agenda in 2016, which made it possible to include the variable related to adherence to the SDG. The research population consisted of 206 companies, totaling 1,236 observations.

As for the composition of the research sample, 210 observations of companies in the financial sector were excluded due to their accounting and regulatory particularities; 84 observations of companies with negative equity; and 36 observations of companies with missing data necessary for the operation of the study variables. After these filtering steps, the final sample consisted of 906 observations, corresponding to 151 companies.

Table 1 displays the variables used in the study, their respective metrics, authors who have already used the variables in similar studies, and the sources for data collection.

Table 1 - Research construct with the study variables

Dependent variable	Metric	Authors	Source
Weighted Average Cost of Capital (WACC)	$WACC = \sum_{j=1}^{N} Wj \,.\, Kj$ WACC: weighted average cost of capital; Kj: specific cost of each source of financing (equity and debt); Wj: relative share of each source of capital in total financing.	Majid et al. (2024); Tawfiq et al. (2024)	Economatics
Independent variables	**Métrica**	**Authors**	**Source**
Income smoothing (SMOO)	$SMOO_{i,t} = \sigma(\mathrm{OPTA}_{i,t}) / \sigma(\mathrm{OCF}_{i,t})$ OPTA = Operating profit divided by total assets of the previous year; OCF = Operating cash flow divided by total assets of the previous year.	Leuz et al. (2003); Gaio (2010);	Economática
ESG Ratings	Index from 0 to 100, composed of the company's performance in aspects related to the community, employees, environment, and governance.	Mazzioni e Klann (2018)	Economatics
(ESG)	Dichotomous variable, with 1 for companies that adopted the SDG in their sustainability report and 0 for the others.	Balassiano et al. (2023); Majid et al. (2024);	Relatórios de sustentabilidade
Adoption of the SDG (SDG)	Dichotomous variable, 1 for a company participating in B3's CSI and 0 for the others.	Mazzioni et al. (2023); Mazzioni et al. (2024)	CSRHub
Corporate Sustainability Index (CSI)	Dichotomous variable, 1 for companies that have at least two responsible characteristics (ESG, CSI and SDG) and 0 for the others.	Mazzioni et al. (2023); Mazzioni et al. (2024)	CSRHub, B³, empresas
Responsible Corporate Behavior (RCB)	Dichotomous variable, 1 for companies that have at least two responsible characteristics (ESG, CSI and SDG) and 0 for the others.	Authors' proposal	CSRHub, B³, companies
Control variables	**Metric**	**Authors**	**Source**
Size (SIZE)	The natural logarithm of the book value of total assets at the end of each period.	Balassiano et al. (2023); Majid et al. (2024).	Economatics
Intangibility Index (INTANG)	$\frac{Intangible\ asset_{i.t}}{Total\ assets_{i.t}}$	Einsweiller et al. (2020)	Economatics

Control variables	Metric	Authors	Source
Indebtedness (IND)	$\frac{CL+NCL_{i.t}}{PL_{i.t}}$ CL: current liabilities; NCL: non-current liabilities; NE: net equity.	Balassiano et al. (2023);	Economatics
Sales Growth (SALESG)	$\frac{NSR_{i.t} - NSR_{i.t-1}}{NSR_{i.t-1}}$ NSR: net sales revenue.	Eliwa et al. (2021)	Economatics
Audit (AUDIT)	Variável dicotômica, sendo 1 para empresa auditada por *big four* e 0 para as demais.	Silva et al. (2019)	Reference form [B]3

The variables included in the construct were selected to meet the central goal of the research, having been previously tested in earlier studies, ensuring theoretical validity and empirical comparability of the results. WACC consists of the weighted average of the respective sources of financing and is formalized in the finance literature (Minardi et al., 2007; Oliveira et al., 2019; Sampaio; Losso, 2020) based on the formulas described below:

$$WACC = \frac{MVTC}{TOTCAP} X\ CTC\ x\ (1 - \%IT) + \frac{MVEC}{TOTCAP} X\ CEC$$

Where:
MVTC = market value of third-party capital;
MVEC = market value of equity capital;
TOTCAP = market value of total invested capital;
CTC = cost of third-party capital;
%IT = corporate income tax rate.
CEC = cost of equity capital.

As for the cost of equity, the following procedure was adopted:

$$CEC = Rlr + \beta\ x\ (Rm)$$

Where:
CEC = required rate of return for an investment with funds from equity;
Rlr = rate of return of a risk-free asset (Selic, as per its Portuguese acronym);
β beta coefficient (provided by Economatics®);
Rm = rate of return of the market portfolio (Ibovespa, as per its Portuguese acronym).

The cost of third-party capital is expressed as follows:

$$CTC = \left(\frac{Financial\ expense}{total\ liabilities}\right) x\ (1 - IT)$$

Where:
CTC = required rate of return for investment with funds from third parties;
IT = current income tax rate (34%).

Moving windows of the standard deviation of OPTA and OCF from the previous five years were considered for the smoothing calculation. Accordingly, for 2016, the deviations from 2012 to 2016 were considered; for 2017, the deviations from 2013 to 2017, and so on.

Regarding the ESG variable, data from CSRHub® was used, which is among the five largest sustainability rating agencies in the world, providing ratings for more than 18,500 companies in 132 countries (Prudêncio et al., 2020), adheres to the Global Reporting Initiative - GRI guidelines (Mohamed & Salah, 2016), and considers four main dimensions: community, employees, environment, and governance.

The research adopts a quantitative approach, with statistical analysis of secondary data carried out using Microsoft Excel® and Stata® programs. Initially, univariate and bivariate statistical techniques were applied to characterize the companies and identify patterns of association among the variables.

In the inferential stage, regression models for panel data with fixed effects were estimated, incorporating year and industry controls to capture temporal and sectoral variations. The models were estimated with robust standard errors, a procedure that not only provides greater consistency to the estimates but also addresses the assumption of heteroscedasticity, as verified by the White test applied through the robust regression method.

Multicollinearity was analyzed using the Variance Inflation Factor (VIF), and the results indicated no severe correlation among the explanatory variables. Residual autocorrelation was evaluated using the Durbin-Watson test, which yielded values within acceptable limits, confirming the independence of the errors.

The measurement of income smoothing followed the indicator proposed by Gaio (2010), where values below 1 indicate greater variability of operational cash flow relative to accounting profit, reflecting higher use of accruals for income smoothing. Higher values represent less smoothed profits. To facilitate econometric interpretation, the results of the equation were multiplied by -1, so that higher coefficients correspond to a greater level of income smoothing (Gaio, 2010; Mazzioni, 2015).

4 ANALYSIS AND INTERPRETATION OF THE RESULTS

Table 2 displays the descriptive statistics of the quantitative variables.

Table 2 - Descriptive statistics of the quantitative variables

Variables	Minimum	Maximum	Average	Median	Standard Deviation
WACC	0.00	0.71	0.12	0.09	0.09
CEC	0.00	0.96	0.20	0.14	0.18
CTC	0.00	0.48	0.06	0.05	0.05
SMOOT	0.08	33.70	1.33	0.93	2.04
SIZE	9.63	20.71	15.46	15.43	1.79
INTANG	0.00	3.05	0.14	0.06	0.21
IND	0.00	304.22	2.71	1.28	13.24
SALESG	-0.94	5.39	0.14	0.09	0.41
PCT	0.00	1.00	0.55	0.56	0.19

Regarding the variables of interest, Table 2 indicates that the weighted average cost of capital is 12%, with the average cost of equity capital being 20% and the cost of third-party capital being 6%. After the adopted methodological procedure, the smoothing index is greater than 1, indicating the presence of income smoothing. The average ESG practices score is 21.84 (from 0 to 100), influenced by companies that are not evaluated and received a score of 0.

Table 3 displays the frequency of the categorical variables represented by the factors determining the adoption of the SDG, presence in the CSI portfolio, and Big Four audit of the financial statements.

Table 3 - Frequency of the categorical variables

Factors	Yes	Percentage	No	Percentage
SDG	314	34.66	592	65.34
CSI	119	13.13	787	86.87
AUDIT	639	70.53	267	29.47

It was found that 34.66% of the observations come from companies that published their reports considering the SDG, while 65.34% of the companies did not include the SDG in their sustainability reports. Observations from companies included in the CSI portfolio account for only 13.13% of the analyzed total. Regarding audit, 70.53% of the total of 906 observations are audited by Big Four firms.

Table 4 displays the Pearson correlation among the quantitative variables of the study.

Table 4 - Pearson correlation of the quantitative variables

Variables	SMOOT	S	INT	IND	SG
SMOOT	1				
SIZE	0.070*	1			
INTANG	-0.067*	0.104**	1		
IND	-0.005	-0.075*	0.057	1	
SALESG	0.017	0.001	-0.040	0.015	1

Notes: Significance levels: * Correlation is significant at the 0.05 level (2 edges). ** Correlation is significant at the 0.01 level (2 edges).

In Table 4, it can be observed that income smoothing and size have a positive and significant relationship at the 1% level, suggesting that as the size of the company increases, the smoothing index also increases. However, smoothing has a negative and significant relationship with intangibility, a situation that also occurs between leverage and company size. The other variables did not have significant relationships.

Although significant correlations are observed, they can be considered low (0.10 to 0.30) or moderate (0.40 to 0.60), as proposed by Dancey and Reidy (2006). This scenario allows the joint use of these explanatory variables in ordinary least squares models, as they capture distinct effects on the dependent variable and do not cause multicollinearity problems.

Table 5 displays the results of applying models aimed at analyzing whether there is an influence of income smoothing and responsible corporate behavior on the weighted average cost of capital (WACC) of companies listed on B3.

Table 5 - Results of models with panel data for WACC

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
SMOOT	-3.54*** (-0.0089)		-3.57*** (-0.0091)	-3.50*** (-0.0088)	-1.93* (-0.0059)	-3.01*** (-0.0106)	-3.34*** (-0.0085)	-2.99*** (-0.0083)
ESG		-0.37 (-0.0021)	-0.63 (-0.0034)		-1.69* (0.0130)			
SDG		-0.53 (-0.0032)	-0.72 (-0.0044)			0.23 (0.0020)		
CSI		0.10 (0.0007)	0.58 (0.0041)				-1.13 (-0.0181)	
RCB				-1.10 (-0.0001)				-1.11 (-0.0104)
SMOOT*ESG					-1.41 (-0.0001)			
SMOOT*SDG						0.97 (0.0053)		
SMOOT*CSI							-1.34 (-0.0221)	
SMOOT*RCB								-0.60 (-0.0042)
SALESG	-3.52*** (-0.0065)	-2.86*** (-0.0063)	-2.77*** (-0.0060)	-2.88*** (-0.0058)	-2.86*** (-0.0057)	-2.95*** (-0.0059)	-3.30*** (-0.0066)	-2.85*** (-0.0058)
INTANG	3.65*** (0.0606)	3.28*** (0.0552)	3.68*** (0.0614)	3.73*** (0.0618)	3.52*** (0.0587)	3.68*** (0.0615)	3.61*** (0.0600)	3.65*** (0.6093)
IND	-7.18*** (-0.0067)	-7.00*** (-0.0065)	-7.04*** (-0.0067)	-7.06*** (-0.0066)	-7.14*** (-0.0067)	-7.07*** (-0.0066)	-7.19*** (-0.0070)	-7.07*** (-0.0067)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
SALESG	-1.90* (-0.0148)	-1.91* (-0.0149)	-1.91* (-0.0149)	-1.88* (-0.0147)	-1.90* (-0.0149)	-1.88* (-0.0148)	-1.97** (-0.0153)	-1.88* (-0.0147)
AUDIT	1.25 (0.0072)	1.34 (0.0080)	1.39 (0.0081)	1.32 (0.0077)	1.28 (0.0074)	1.28 (0.0075)	1.20 (0.0069)	1.34 (0.0078)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	8.57*** (0.3049)	7.93*** (0.0315)	7.65*** (0.2969)	7.71*** (0.2945)	8.22*** (0.2981)	7.72*** (0.2940)	8.23*** (0.3069)	7.70*** (0.2944)
---	---	---	---	---	---	---	---	---
Adjusted R^2	0.4941	0.4835	0.4946	0.4945	0.4959	0.4950	0.4950	0.4947
F statistic	18.91***	17.88***	17.69***	18.49***	18.31***	18.16***	17.96***	18.05***
VIF	1.14 a 2.58	1.22 a 2.57	1.15 a 2.58	1.14 a 2.59	1.22 a 3.56	1.22 a 3.57	1.18 a 7.67	1.22 a 4.26
DW	18.002	17.641	18.025	17.999	18.062	18.017	18.061	17.993
N	*906*	*906*	*906*	*906*	*906*	*906*	*906*	*906*

Notes: Significance levels: * p<0.1, ** p<0.05, *** p<0.01. Coefficient value in parentheses. VIF: Variance Inflation Factor. DW: Durbin-Watson d-statistic. N: number of observations

The study tested eight econometric panel data models to identify the direct effect and the moderating effect of independent variables on the dependent variable. In Model 1, income smoothing was considered; in Model 2, corporate social responsibility variables (ESG, SDG, and CSI) were used separately (individually); in Model 3, income smoothing, ESG, SDG, and CSI variables were used separately; in Model 4, corporate social responsibility was considered when the company had at least two proxies among ESG, SDG, and CSI, along with income smoothing; In Models 5, 6, and 7, tests were included with moderation between income smoothing and ESG, SDG, and CSI, respectively, in addition to the individual use of the variables; finally, Model 8 employs moderation between income smoothing and responsible corporate behavior, as well as the individual use of the variables. In all models, control variables were considered, with sector and year effects controlled.

Table 5 displays the results of applying multivariate linear regression between the explanatory variables and the weighted average cost of capital. It can be observed that the explanatory variables, as a whole, showed a statistically significant relationship with the dependent variable at the 1% level (F statistic), validating the models. The adjusted R^2 (explanatory power of the model) indicates that the independent variables included in the model explain between 48.35% and 49.59% of WACC. The remainder is explained by variables not included in the model, leaving avenues for future research.

It was found that the SMOOT variable showed a negative and statistically significant effect at the 1% level in explaining WACC, suggesting that companies with lower smoothing had a higher weighted average cost of capital (supporting H1). The result is consistent with the findings of Li and Richie (2016), Dewi et al. (2020) internationally, and Castro and Martinez (2009) and Meli (2015) nationally. The studies also identified that the use of income smoothing helps to reduce the cost of capital, based on the argument that smoothing equalizes the information provided by companies, reducing uncertainty for investors and banks by facilitating the projection of future cash flows and generating greater security, reliability, and predictability.

Regarding the responsible corporate behavior variables, companies with higher ESG scores, adherence to the SDG, and inclusion in the CSI portfolio did not generally show a lower WACC compared to their counterparts. The lack of significance was observed both in the individual presence of the proxies (ESG, SDG, and CSI) and in the combined use of the responsible behavior variable (being present in at least two of the three characteristics). The moderate use of smoothing with responsible corporate behavior proxies also did not indicate any influence on WACC. In general, the results contradict the findings of Balassiano et al. (2023), who identified a negative relationship between environmental issues and the cost of third-party capital. It should be considered that the current study was conducted with a specific sample of companies operating in the Brazilian market and included the years affected by the Covid-19 pandemic, a fact that may have influenced the results.

However, when the ESG proxy was used individually to represent responsible corporate behavior (Model 5), together with smoothing and control variables, it proved to be negative and statistically significant at the 10% level in influencing WACC. The results of Model 5 are consistent with the findings of Majid et al. (2024), Piechocka-Kału□na et al. (2021), Tawfiq et al. (2024), and Zahid et al. (2023) in the international context, and with the studies by Costa and Ferezin (2021) and Ramirez et al. (2022) in the national scenario. The results suggest that companies with higher ESG performance benefit from lower capital costs, which is in line with the idea that better ESG performance reduces perceived risk.

Regarding company size, the results indicated that larger companies presented a lower WACC, with significance at 1%. This result reflects that larger companies offer more guarantees to creditors, which reduces WACC, reinforcing the

findings of Ballestero et al. (2016), Oliveira et al. (2019), and Majid et al. (2024). Larger companies are associated with better reputation levels, positively affecting the perception of market agents and reducing fundraising costs (Fonseca et al., 2016).

More intangible companies were found to be subject to a higher weighted average cost of capital, statistically significant at the 1% level. The result suggests that creditors perceive greater risks for companies with lower levels of tangible assets as collateral. Fonseca et al. (2016) argue that higher levels of tangibility reduce managers' discretion in investment choices, which leads to a reduction in the cost of capital. The study's result is consistent with the assumption that, generally, more intangible companies tend to exhibit higher levels of risk, which, therefore, impacts the increase in WACC (Kayo & Famá, 2004).

In turn, indebtedness negatively impacted the cost of capital at a 1% significance level, indicating that more indebted companies had a lower WACC. In this regard, the study's results are similar to those of Balassiano et al. (2023), who found a lower WACC in more leveraged Brazilian companies. One explanation for these findings is that companies with higher debt are more likely to publish structured reports with greater information connectivity, making it easier to analyze credit risks and reduce capital costs (Eliwa et al., 2021).

It was possible to identify a negative impact on WACC with a significance of 5% to 10% for the sales growth variable (SALESG), that is, companies with higher sales growth were more likely to have a lower cost of capital. The result suggests that sales growth signals lower risks for investors and funders, given better expectations regarding the projection of future cash flows.

Unlike expected companies with Big Four audits were shown to be more subject to a higher weighted average cost of capital; however, the results were not statistically significant. The result contradicts the findings of Albuquerque et al. (2011), which identified that companies audited by the Big Four have a lower cost of debt capital.

Table 6 displays a summary of the results related to the hypotheses proposed by the research, based on the procedures and tests carried out.

Table 6 - Results of the hypotheses

Hipótese	Decisão
H_1 – There is a negative relationship between income smoothing and the weighted average cost of capital;	Accept the hypothesis
H_2 – There is a negative relationship between ESG practices and the weighted average cost of capital;	Inconclusive
H_3 – There is a negative relationship between the adoption of the SDG in sustainability report disclosure and the weighted average cost of capital;	Reject the hypothesis
H_4 – There is a negative relationship between participation in the CSI portfolio and the weighted average cost of capital;	Reject the hypothesis
H_5 – ESG practices moderate the negative relationship between income smoothing and the weighted average cost of capital;	Reject the hypothesis
H_6 – The adoption of the SDG in the disclosure of the sustainability reports moderates the negative relationship between income smoothing and the weighted average cost of capital;	Reject the hypothesis
H_7 – Participation in the CSI portfolio moderates the negative relationship between income smoothing and the weighted average cost of capital.	Reject the hypothesis

Some possible explanations can be attributed to the fact that most of the hypotheses were rejected. First, the implementation process of socio-environmental practices may still be in a stage of development at the national level. Second, there may be a low perception among investors and funders regarding the long-term benefits of responsible corporate behavior. Finally, the coronavirus pandemic period may have impacted both the dependent variable and some independent variable(s), influencing the results.

5 FINAL CONSIDERATIONS

The aim of the study was to analyze the influence of income smoothing and responsible corporate behavior on the cost of capital of publicly traded companies listed on [B3]. Based on the research conducted, important results were observed. The findings were consistent in indicating that companies with higher levels of income smoothing are associated with a lower weighted average cost of capital. In turn, companies adhering to the SDG and included in the CSI portfolio are not rewarded with a lower WACC. Regarding ESG, the results were inconsistent. Nevertheless, when used in a non-concomitant manner with another proxy for responsible behavior, it proved significant for a lower weighted average cost of capital.

As expected, the practice of income smoothing showed benefits in raising capital and was found to be related to a lower cost of capital. Therefore, the possible opportunistic behavior of managers turned into economic benefits, reflect-

ed in the reduction of fundraising costs. However, investors may penalize smoothed results if they perceive a lack of operational fundamentals.

In turn, responsible corporate behavior did not prove to be significant in influencing fundraising overall. The exception was the impact of ESG on reducing the cost of capital. The results may stem from the maturation process of socio-environmental practices or from low awareness on the part of investors and funders in relation to the long-term benefits of such corporate behavior. A suggested managerial measure is the adoption of independent assurance of ESG reports, to enhance the company's reputation and convert socio-environmental responsibility into a reduction in the cost of capital.

Furthermore, the period under investigation includes the years 2020 and 2021, during which the Covid-19 pandemic occurred. The effects of the pandemic may have impacted business results and led to changes in managerial behavior, both regarding income smoothing practices and responsible behavior.

The research differed from previous studies by using the moderation of corporate behavior and its impact on the relationship between smoothing and WACC. As evidence, there is a clear demonstration of the lack of confirmation that responsible behavior can alter the influence of income smoothing practices on the cost of capital of the investigated organizations.

The study contributes to the literature investigating factors influencing companies' cost of capital. Previous studies have focused on the interrelationships of responsible corporate behavior with single proxies or income smoothing, separately. The study adds an approach to the investigated topic by considering the joint treatment of these aspects. Accordingly, it presents implications for corporate managerial practice, as it provides additional empirical evidence on the subject. The findings originally reveal that the perception on the part of funders and investors is more favorable toward income smoothing when compared to responsible practices.

Beyond the possibilities, study also has limitations. The first is that it only reports on publicly traded companies with specific characteristics and does not represent all types of companies. Another limitation is the predominantly quantitative analysis, without examining the qualitative aspects of disclosures and business relationships with stakeholders. In addition, the approach does not allow for verification of responsible corporate performance due to the volume of observations. Another important point to note concerns the understanding that smoothing results has a limit between helping or harming an outcome, and it is necessary to understand to what extent it can be beneficial for the company's financial health.

One final consideration is related to the ESG data collection base, which, due to the substantial divergence among rating agencies (Christensen et al., 2022), may impact the results. The limitations serve as a pathway for future studies to expand discussions on the topics covered in this research. Furthermore, other studies may consider disaggregated ESG scores by pillar, measure the intensity of SDG adoption (effective number of reported goals), and weight the CSI variable by portfolio holding time. The lagged use of responsible behavior variables is a methodological alternative to be tested in future research.

REFERÊNCIAS

Albuquerque, K. S. L. S., Dias Filho, J. M., Silva, F. D. C. (2011). Auditoria e custo de capital de terceiros: estudo empírico sobre o custo dos financiamentos bancários nas empresas brasileiras de capital aberto auditadas pelas big four e demais firmas de auditoria. Revista de Contabilidade da UFBA, 4(3), 65-78.

Assaf Neto, A. A., Lima, F. G., & Araújo, A. M. P.(2008). Uma proposta metodológica para o cálculo do custo de capital no Brasil. Revista de Administração-RAUSP, 43(1), 72-83.

Balassiano, R. S., Ikeda, W. E., & Jucá, M. N. (2023). Efeitos das práticas de ESG no custo de capital das empresas brasileiras. REUNIR Revista de Administração Contabilidade e Sustentabilidade, 13(2), 197-217.

Ballestero, A., Nogueira, I. V., Vitório Filho, V. A.(2016). Análise do nível de disclosure voluntário e o custo de capital das empresas brasileiras: no período de 2008 a 2012. Contabilidade, Gestão e Governança, 19(3), 356-375. http://dx.doi.org/10.21714/1984-3925_2016v19n3a2.

B3 - Brasil Bolsa e Balcão. O que é o ISE B3. https://iseb3.com.br/o-que-e-o-ise

Brito, R. D., & Lima, M. R. (2005). A escolha da estrutura de capital sob fraca garantia legal: o caso do Brasil. Revista Brasileira de Economia, 59(1), 177-208.

Carey, P., Khan, A., Mihret, D.G., & Muttakin, M. B. (2021). Voluntary sustainability assurance, capital constraint and cost of debt: International evidence. International Journal of Audit. 25, 351–372. https://doi.org/10.1111/ijau.12223

Castro, M. A. R., & Martinez, A. L. (2009). Income Smoothing, custo de capital de terceiros e estrutura de capital no Brasil. RAM - Revista de Administração Mackenzie, 10(6), 25-46. https://doi.org/10.1590/S1678-69712009000600004

Chadha, S., & Sharma, A. K. (2015). Determinants of capital structure: an empirical evaluation from India. *Journal of Advances in Management Research*, *12*(1), 3-14. https://doi.org/10.1108/JAMR-08-2014-0051.

Chen, B., & Zhang, A. (2021). How does corporate social responsibility affect the cost of equity capital through operating risk? *Borsa Istanbul Review*, *21*(1), 38-45. https://doi.org/10.1016/j.bir.2021.01.005

Chen, L. H. (2019). Income smoothing, information uncertainty, stock returns, and cost of equity. Review of Pacific Basin Financial Markets and Policies, *16*(3), 1-34, 2019. https://doi.org/10.1142/S0219091513500203.

Chen, Y., Li, T., & Zeng, Q. Zhu, B. (2023). Effect of ESG performance on the cost of equity capital: Evidence from China. *International Review of Economics & Finance*, *83*, 348-364. https://doi.org/10.1016/j.iref.2022.09.001.

Costa, E., & Ferezin, N. B. (2021). ESG (Environmental, Social and Corporate Governance) e a comunicação: o tripé da sustentabilidade aplicado às organizações globalizadas. *Revista Alterjor, 24*(2), 79-95. https://doi.org/10.11606/issn.2176-1507.v24i2p79-95.

Christensen, D. M., Serafeim, G., & Sikochi, A. (2022). Why is corporate virtue in the eye of the beholder? The case of ESG ratings. *The Accounting Review*, *97*(1), 147-175. https://doi.org/10.2308/TAR-2019-0506

Cruz, V. L., Bezerra, A. M. R., Felix Júnior, L. A., & Silva, M. S. (2023). Índice de sustentabilidade empresarial: um estudo nas empresas de energia elétrica. *Redeca, Revista Eletrônica do Departamento de Ciências Contábeis & Departamento de Atuária e Métodos Quantitativos, 10*, 4-19. https://doi.org/10.23925/2446-9513.2023v10id60125.

Cunha, M. F., Cruz, A. F., Rech, I, J., & Pereira, E. M. (2013). Custo de capital médio ponderado na avaliação de empresas no Brasil: uma investigação da aderência acadêmica e a prática de mercado. *Revista Ambiente Contábil, 5*(2), 20-36.

Dancey, C. P., & Reidy, J. (2006). Análise de correlação: or de Pearson. *Estatística sem Matemática para a Psicologia: usando SPSS para Windows*, 178-218.

De-Losso, R. (2020). estimando o custo de capital. *Boletim de Informações FIPE*. Temas de Economia Aplicada.

Demerjian, P., Donovan, J., & Lewis-Western, M. F. (2020). Income smoothing and the usefulness of earnings for monitoring in debt contracting. *Contemporary Accounting Research*, *37*(2), 857-884, 2020. https://doi.org/10.1111/1911-3846.12544.

Dewi, S. A. I. K., Wirama, D. G., Sukartha, I. M., & Suaryana, I. G. N. A. (2020). Income smoothing and cost of capital. *International Journal of Business, Economics & Management, 3*(1), 117-122. https://doi.org/10.31295/ijbem.v3n1.156.

Eliwa, Y., Aboud, A., & Saleh, A. (2021). ESG practices and the cost of debt: Evidence from EU countries. *Critical Perspectives on Accounting*, 79, 1-21. https://doi.org/10.1016/j.cpa.2019.102097

Einsweiller, A. C., Dal Magro, C. B., & Mazzioni, S. (2020). Diferentes efeitos dos vínculos políticos e de benefícios fiscais na geração de valor adicionado. *Contabilidade Vista & Revista,* 31(3), 97-121.

Fandella, P., Sergi, B. S., & Sironi, E. (2023). Corporate social responsibility performance and the cost of capital in BRICS countries. The problem of selectivity using environmental, social and governance scores. *Corporate Social Responsibility and Environmental Management*, *30*(4), 1712-1722. https://doi.org/10.1002/csr.2447.

Farhat, S. D. (2016). Metodología de cálculo del costo promedio ponderado de capital en el modelo del WACC. *Empresarial*, *10*(39), 33-45.

Fonseca, C. V. C. & Silveira, R. L. F. (2016). Governança corporativa e custo de capital de terceiros: evidências entre empresas de capital aberto. *REAd. Revista Eletrônica de Administração*, 22(1), 106-133. https://doi.org/10.1590/1413-2311.016162016.62739

Gaio, C. (2010). The relative importance of firm and country characteristics for earnings quality around the world. *European Accounting Review*, *19*(4), 693-738.

Hartlieb, S., & Loy, T. R. (2022). The impact of cost stickiness on financial reporting: evidence from income smoothing. *Accounting & Finance, 62*(3), 3913-3950. https://doi.org/10.1111/acfi.12910.

Healy, P. M. (1985). The effect of bonus schemes of accounting decisions. Journal of Accounting & Economics, 7(1-3), 85-107.

Jesuka, D., Borsato, J. M. L. S., Cunha, M. A., & Araujo, A. (2022). Inovação verde, construção verde, divulgação ESG e endividamento da firma: implicações da qualidade de governança do país. In: 11º IFBAE Congresso do Instituto Fanco-Brasileiro de Administração de empresas (pp.1-20). https://ifbae.s3.eu-west-3.amazonaws.com/file/congres/innovation-verte-jesuka-et-al-64070ed86e4d1016098791.pdf

Kartikawati, T. S., Yuliana, E. S., & Tarmizi, T. (2019). Underpricing stock level of sharehold in stock company doing income smoothing procedures at the price offer of prime stock in indonesia stock exchange. *International Journal of Economics and Financial Issues*, *9*(2), 105, 201. https://doi.org/10.32479/ijefi.7614.

Kayo, E. K., & Famá, R. (2004). A estrutura de capital e o risco das empresas tangível-intensivas e intangível-intensivas. *Revista de Administração da Universidade de São Paulo*, *39*(2), 164-176.

Knivsflå, K. H. (2023). Capital structure, cost of capital, and proxy risk factors. *Cost of Capital, and Proxy Risk Factors*, *1*(1), 1-35. https://doi.org/10.2139/ssrn.4350680.

Kuo, L., Kuo, P., & Chen, C. (2021). Mandatory CSR disclosure, CSR assurance, and the cost of debt capital: Evidence from Taiwan. *Sustainability*, *13*(4), 1-19. https://doi.org/10.3390/su13041768.

Kustono, A. (2021). Corporate governance mechanism as income smoothing suppressor. *Accounting* 7(4), 977-986. https://doi.org/202110.5267/j.ac.2021.1.010.

Leuz, C.; Nanda; D.; Wysocki, P. (2003). Earnings management and investor protection: an international comparison. *Journal of Financial Economics*, 69(3), 505-27.

Li, S., & Richie, N. (2016). Income smoothing and the cost of debt. *China Journal of Accounting Research*, *9*(3), 175-190. https://doi.org/10.1016/j.cjar.2016.03.001.

Lopes, J. R., & Silva, A. A. (2021). Comportamento responsável e sustentabilidade: uma análise da percepção dos consumidores. *Revista de Administração e Inovação*, *18*(1), 50-69.

Machado Filho, C. A. P., & Zylbersztajn, D. (2004). A empresa socialmente responsável: o debate e as implicações. *Revista de Administração da Universidade de São Paulo*, *39*(3), 242-254.

Majid, S., Haleema, S., Chaudhary, M. G., Elahi, A. R., & Ahmad, N. (2024). Corporate profitability and cost of capital evaluation of ESG Performance: Evidence from a multi-industry analysis. *Contemporary Journal of Social Science Review*, *2*(04), 1668-1678.

Marcondes, A. W., & Bacarji, C. D. (2010). *ISE - Sustentabilidade no mercado de capitais.* (ed. 1). São Paulo: Report.

Martinez, A. L. (2001). *"Gerenciamento" dos resultados contábeis: estudo empírico das companhias abertas brasileiras.* (Tese de doutorado). Faculdade de Economia, Administração e Contabilidade da Universidade de São Paulo, Pós-Graduação em Ciências Contábeis, Departamento de Contabilidade e Atuária.

Martins, G. A., & Theóphilo, C. R. (2016). *Metodologia de investigação científica para ciências sócias aplicadas* (ed. 3). São Paulo: Atlas.

Matias-Pereira, J. (2019). *Manual de metodologia da pesquisa cientifica*. (ed. 4). São Paulo: Atlas.

Mazzioni, S. (2015). *Influência do grau de internacionalização das empresas na relação entre as normas reguladoras e os incentivos empresariais com a qualidade das informações contábeis.* Tese (Doutorado em Ciências Contábeis e Administração) – Programa de Pós-Graduação em Ciências Contábeis da Universidade Regional de Blumenau, Blumenau, 2015.

Mazzioni, S., & Klann, R. C. (2018). Aspectos da qualidade da informação contábil no contexto internacional. *Revista Brasileira de Gestão de Negócios*, *20*(1), 92-111. https://doi.org/10.7819/rbgn.v20i1.2630.

Mazzioni, S., Ascari, C., Rodolfo, N. M., & Dal Magro, C. B. (2023). Reflexos das práticas ESG e da adesão aos ODS na reputação corporativa e no valor de mercado. *Revista Gestão Organizacional*, *16*(3), 59-77. https://doi.org/10.22277/rgo.v16i3.

Mazzioni, S., Kisata, L., & Baú Dal Magro, C. (2024). Engagement of Companies Listed on the Brazilian Stock Market with the Sustainable Development Goals. *Revista de Educação e Pesquisa em Contabilidade*, *18*(2). https://doi.org/10.17524/repec.v18i2.3331

Meli, D. B. (2015). O impacto da prática de income smoothing no custo de capital próprio em empresas brasileiras de capital aberto (Doctoral dissertation, Universidade de São Paulo). https://www.teses.usp.br/teses/disponiveis/96/96133/tde-22022016-170613/publico/DiegoBMeli_Corrigida.pdf

Minardi, A., Sanvicente, A. Z., Montenegro, C. M. G., Donatelli, D. H., & Bignotto, F. G. (2007). Estimando o custo de capital de companhias fechadas no Brasil para uma melhor gestão estratégica de projetos. *IBMEC - Centro de Pesquisas em Estratégia*.

Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American Economic Review*, *48*(3), 261-297.

Moghadam, A., Baharmoghadam, M., & Mohammadzadeh, M. (2013). Income smoothing and the cost of debt and credit ratings. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *3*(3), 234-241. https://doi.org/10.6007/IJARAFMS/v3-i3/133.

Mohamed, I. M. A., & Salah, W. (2016). Investigating corporate social responsibility disclosure by banks from institutional theory perspective. Journal of Administrative and Business Studies, 2(6), 280-293.

Mulford, C. W.; Comiskey, E. E. (2005). The financial numbers game: detecting creative accounting practices. John Wiley & Sons.

Oliveira, J. L. M. B., Souza, W. L., Souza, B. G., & Marques, V. A. O nível de transparência importa? Uma análise do efeito do nível de transparência sobre o custo médio ponderado de capital. In: XLIII Encontro da ANPAD – EnANPAD, São Paulo, 2019.

Oro, I. M., Beuren, I. M., & Hein, N. (2013). Estrutura e custo médio ponderado de capital em empresas familiares brasileiras. *Perspectivas Contemporâneas*, *8*(2), 1-21.

Pedersen, L. H., Fitzgibbons, S., & Pomorski, L. (2021). Responsible investing: The ESG-efficient frontier. *Journal of Financial Economics*, *142*(2), 572-597. https://doi.org/10.1016/j.jfineco.2020.11.001.

Penna, G. P. C., Silva Filho, C. F., Ferrari, V. E., & Georges, M. R. R. (2022). Adesão aos Objetivos do Desenvolvimento Sustentável (ODS) pelas empresas brasileiras. *Latin American Journal of Business Management*, *13*(2), 167-176.

Peixoto, F. M., Pains, M. B., Araújo, A. A., & Guimarães, T. M. (2016). Custo de capital, endividamento e sustentabilidade empresarial: um estudo no mercado de capitais brasileiro no período de 2009 a 2013. RACE: *Revista de Administração, Contabilidade e Economia*, *15*(1), 39-66. https://doi.org/10.18593/race.v15i1.6281.

Pfister, B., Schwaiger, M., & Morath, T. (2020). Corporate reputation and the future cost of equity. *Business Research*, *13*(1), 343-384. https://doi.org/10.1007/s40685-019-0092-8.

Piechocka-Kałużna, A., Tłuczak, A., & Łopatka, P. (2021). The impact of CSR/ESG on the cost of capital: A case study of US companies. *European Research Studies Journal*, 24(3), 536-546. https://doi.org/10.35808/ersj/2510.

Prudêncio, P., Forte, H., Crisóstomo, V., & Vasconcelos, A. (2021). Efeito da diversidade do conselho de administração e da diretoria executiva na responsabilidade social corporativa. *BBR. Brazilian Business Review*, *18*, 118-139. https://doi.org/10.15728/bbr.2021.18.2.1

Ramirez, A. G., Monsalve, J., González-Ruiz, J. D., Almonacid, P., & Peña, A. (2022). Relationship between the cost of capital and environmental, social, and governance scores: evidence from Latin America. *Sustainability,14*(9), 1-15. https://doi.org/10.3390/su14095012.

Ribeiro, M. R., & Freitas, H. (2019). Comportamento responsável: uma análise conceitual. *Revista de Administração de Empresas em Debate*, *9*(2), 77-89.

Ribeiro, T. L., & Lima, A. A. (2022). Environmental, social and governance (ESG): mapeamento e análise de clusters. *Iberoamerican Journal of Corporate Governance, 9*(1), 1-15. https://doi.org/10.21434/IberoamericanJCG.v9i1.120.

Salamanca, P. I. M. (2022). Redefining corporate social responsibility and its relation to sustainable development objectives. *Mercados y Negocios*, *23*(47), 85-106. https://doi.org/10.32870/myn.vi47.7682

Sampieri, R. H.; Collado, C. F.; Lucio, M. P. B. (2013). Metodoloia de pesquisa (5. ed.). Porto Alegre: Penso.

Schönherr, N., Findler, F., & Martinuzzi, A. (2017). Exploring the interface of CSR and the sustainable development goals. *Transnational Corporations*, *24*(3), 33-47.

Singh, V., Aggarwal, A. K., & Mathur, P. (2023). Capital structure and its theories. *Journal of Pharmaceutical Negative Results,* 14(2), 2223-2230. https://doi.org/10.47750/pnr.2023.14.02.273.

Skała, D. (2021). Loan loss provisions and income smoothing - do shareholders matter? *International Review of Financial Analysis*, *78*(1), 1-15. https://doi.org/10.1016/j.irfa.2021.101909.

Silva, N. P., Mazzioni, S., Vargas, L. A. (2020). Qualidade da informação contábil: uma análise das empresas de utilidade pública listadas na B3. *CONTABILOMETRIA - Brazilian Journal of Quantitative Methods Applied to Accounting*, 7(1), 61-76.

Souza, D. S., & Oliveira, T. (2023). Ambiental, social e governança (ESG): uma análise sobre o paradigma social das empresas brasileiras enquanto aliadas ao movimento lgbtqiapn+. *Revista Direito e Sexualidade, 4*(1), 49-71. https://doi.org/10.9771/rds.v4i1.52207.

Sun, H., Wang G., Bai J., Shen J., Zheng, X., Dan, E., Chen, F., & Zhang, L. (2023). Corporate sustainable development, corporate environmental performance and cost of debt. *Sustainability*, *15*(1), 1-14. https://doi.org/10.3390/su15010228.

Tawfiq, T. T., Tawaha, H., Tahtamouni, A., & Almasria, N. A. (2024). The influence of environmental, social, and governance disclosure on capital structure: an investigation of leverage and WACC. *Journal of Risk and Financial Management*, *17*(12), 570. https://doi.org/10.3390/jrfm17120570

Tee, C. M. (2020). Political connections and income smoothing: evidence of institutional investors' monitoring in Malaysia. *Journal of Multinational Financial Management*, *55*(1), 1-18. https://doi.org/10.1016/j.mulfin.2020.100626.

Thien, T. H., & Hung, N. X. (2023). Intangible investments and cost of equity capital: an empirical research on Vietnamese firms. *Cogent Economics & Finance*, 11(1), 1-16. https://doi.org/10.1080/23322039.2022.2163075.

Tomazoni, T., & Menezes, E. A. (2002). Estimativa do custo de capital de empresas brasileiras de capital fechado (sem comparáveis de capital aberto). *Revista de Administração da Universidade de São Paulo*, *37*(4), 38-48.

Venturini, L. D. B., Alonso Borba, J., & Flach, L. (2025). Efeito do Índice de Sustentabilidade Empresarial na Relação entre Persistência dos Lucros e Custo da Dívida em Companhias Brasileiras . *Revista Universo Contábil*, *19*(1). https://doi.org/10.4270/ruc.2023121

Walliman, N. (2015). *Métodos de pesquisa*. (ed. 1). São Paulo: Saraiva.

Wan, G., Dawod, A. Y., Chanaim, S., & Ramasamy, S. S. (2023). Hotspots and trends of environmental, social and governance (ESG) research: a bibliometric analysis. *Data Science and Management, 6*(1), 65-75. https://doi.org/10.1016/j.dsm.2023.03.001.

Yilmaz, I. (2022). ESG-based sustainability performance and its impact on cost of capital: International evidence from the energy sector. *International Journal of Applied Economics, Finance and Accounting*, *12(*2), 21-30. https://doi.org/10.33094/ijaefa.v12i2.529.

Zahid, R. M., Saleem, A., & Maqsood, U. S. (2023). ESG performance, capital financing decisions, and audit quality: empirical evidence from Chinese state-owned enterprises. *Environmental Science and Pollution Research*, *30*(1), 44086-44099. https://doi.org/10.1007/s11356-023-25345-6.

RMC

The Journal of Accounting of Minas Gerais is an Open Access quarterly journal, published by Conselho Regional de Contabilidade de Minas Gerais - ISSN: 2446-9114
Journal of Accounting of Minas Gerais, Volume 26, Number 3, Article 4, Pages 55 - 66, september/december 2025. Available at: https://revista.crcmg.org.br/rmc
DOI: https://doi.org/10.51320/rmc.v26i3.1727

CRCMG
CONSELHO REGIONAL DE CONTABILIDADE DE MINAS GERAIS

THE PREDOMINANCE OF POSITIVISM IN ACCOUNTING: REFLECTIONS ON RESEARCH IN BRAZIL

PREDOMÍNIO DO POSITIVISMO NA CONTABILIDADE: REFLEXÕES SOBRE A PESQUISA NO BRASIL

ABSTRACT
Accounting, as an applied social science, has been influenced by philosophical schools of thought that guided its pursuit of scientific legitimacy. Among these, Positivism played a dominant role, emphasizing objectivity, neutrality, and empirical observation as the foundations for developing accounting knowledge. This influence reinforced the view that accounting should rely on measurement and representation methods, aligning with the ideals of natural science. However, this perspective also imposes limitations, particularly in understanding accounting as a social practice. This essay aims to explore methodological possibilities for Brazilian accounting research to enrich scientific debate and enhance the field's development. The study discusses four topics: reflections on accounting research in Brazil, Positivism in accounting according to Auguste Comte, criticisms of positivist research in accounting, and an exploration of critical and interpretive approaches. The essay demonstrates that Positivism oversimplifies complex human phenomena by reducing them to numbers, thereby neglecting the social and cultural dimensions vital to a complete understanding of accounting reality. Its dominance also restricts innovation and methodological diversity, creating obstacles for alternative approaches that could enrich accounting research. This essay emphasizes the importance of integrating critical and interpretive methods with quantitative and qualitative techniques to advance accounting research in Brazil.

Keywords: Critical Theory, Accounting Epistemology, Accounting Paradigms.

RESUMO
A contabilidade, enquanto ciência social aplicada, foi influenciada por correntes filosóficas que orientaram sua busca por legitimidade científica. Entre elas, o positivismo exerceu papel predominante, ao priorizar a objetividade, a neutralidade e a observação empírica como fundamentos para a construção do conhecimento contábil. Essa influência contribuiu para consolidar a visão de que a contabilidade deveria pautar-se em métodos de mensuração e representação, alinhando-se ao ideal de ciência natural. Contudo, o predomínio dessa perspectiva também acarreta limitações, especialmente quanto à compreensão da contabilidade como prática social. O objetivo deste ensaio é refletir sobre as possibilidades metodológicas para a pesquisa contábil brasileira, a fim de enriquecer o debate científico e fortalecer o desenvolvimento da área. O estudo aborda quatro tópicos: reflexões sobre a pesquisa contábil no Brasil, o positivismo na contabilidade segundo Auguste Comte, críticas às pesquisas positivistas na contabilidade e uma seção voltada à compreensão das abordagens críticas e interpretativas. No ensaio, percebe-se que o positivismo reduz a complexidade dos fenômenos humanos a números, ignorando as dimensões sociais e culturais essenciais para uma compreensão completa da realidade contábil. A predominância do positivismo também limita a inovação e a diversidade metodológica, criando barreiras a abordagens alternativas que poderiam enriquecer a pesquisa contábil. Este ensaio destaca a necessidade de integrar abordagens críticas e interpretativas a métodos quantitativos e qualitativos, o que pode contribuir para o avanço da pesquisa contábil no Brasil.

Palavras-chave: Teoria Crítica, Epistemologia Contábil, Paradigmas Contábeis.

Jomar Miranda Rodrigues
Mestre e doutor em Ciências Contábeis pela Universidade de Brasília (2007 e 2012). Graduado em Ciências Contábeis pela União Pioneira de Integração Social (2001). Professor Associado do Departamento de Ciências Contábeis e Atuariais da Universidade de Brasília, em nível de graduação e pós-graduação. Editor Chefe-Adjunto da Revista de Contabilidade Gestão e Governança da UnB desde ago/2024. E-mail: Jomar@unb.br. Lattes: ttp://lattes.cnpq.br/4371492514010904. https://orcid.org/0000-0001-5961-243X

Mariana Pereira Bonfim
Doutora em Ciências Contábeis pelo Programa de Pós-Graduação em Ciências Contábeis (PPGCONT) pela Universidade de Brasília - UnB (2018); Mestre em Ciências Contábeis pela Universidade do Estado do Rio de Janeiro - UERJ (2014); Graduada em Ciências Contábeis pela Universidade Federal Fluminense - UFF (2011); Docente permanente do Mestrado Profissional em Administração Pública em Rede Nacional - PROFIAP; Docente convidada do Mestrado em Ciências Contábeis da Universidade do Estado do Rio de Janeiro (UERJ) e-mail: marianabonfim@id.uff.br. http://lattes.cnpq.br/6281056363283128. https://orcid.org/0000-0003-2339-0462

Sheyla Veneziani Braga
Doutoranda em Contabilidade pela Universidade de Brasilia (UNB). Mestra em Controladoria e Finanças pela UFG. Atua como Professora de projetos pela FGV e Coordenadora do Curso de Ciências contábeis na UNIFANAP, professora nas disciplinas: Teoria da contabilidade, Contabilidade Intermediária, Contabilidade de Custos e Planejamento Tributário. Editora de layout da revista UFG Contabilidade Inovação. Membro do Laboratório de Contabilidade, Inovação Sociedade (LACIS). Seu interesse de pesquisa envolve estudos com potencial impacto social, especialmente utilizando teorias relacionadas a: Contabilidade para a Inovação, Sistemas de Controle Gerenciais e Controle cultural. Seu e-mail é: venezianisheyla@gmail.com. http://lattes.cnpq.br/2902817083141475. https://orcid.org/0000-0003-3548-4714

Journal of Accounting of Minas Gerais - ISSN 2446-9114 – Open Access quarterly journal, published by Conselho Regional de Contabilidade de Minas Gerais (CRCMG). Received: 29th March 2025. Proofread: 19th August 2025. New alterations: 6th September 2025. Accepted: 12th September 2025, by Dra. Edvalda Araújo Leal and Dr. Nálbia de Araújo Santos. Published: 26th December 2025. Published by: CRCMG

1. INTRODUCTION

Scientific knowledge influences the evolution and reconfiguration of society (Kuhn, 1962). This perspective highlights the importance of scientific research as an instrument capable of observing social changes, understanding their impacts, and proposing solutions to emerging problems. In this context, accounting has gained prominence in recent decades due to the impact of the information it generates and disseminates on decision-making and the formulation of public policies (Mohammed, 2024).

Until the 1960s, the dominant theoretical and methodological paradigm in accounting research was normative. During this period, it was common for researchers to develop manuals with prescriptions and models they considered capable of guiding managers in decision-making, based on the assumption that applying these rules would lead companies to higher levels of performance. Thus, accounting theory had a prescriptive character and, for this reason, did not provide sufficient normative foundations for the preparation of reports intended to present useful financial information (Pires, Niyama & Noriller, 2018).

In the 1970s, empirical or positivist research emerged as the predominant paradigm, focusing on investigating "What do managers do?" through the observation of reality and the formulation of universal laws (Major, 2017). According to Iudícibus et al. (2011), Positive Accounting Theory can be considered an attempt to place accounting research within the realm of natural sciences. Martins (2005) clarifies that Positivism became a symbol of scientific research in accounting, drawing on statistics and mathematics and potentially testing or refuting hypotheses. However, this type of research is criticized for its limited knowledge development and innovation, thereby preventing consideration of issues that do not fit within the positivist logic (Macagnan et al., 2020).

Two reasons raise doubts about the methodological accuracy of positivist studies. The first point is that fundamental accounting concepts, such as assets, liabilities, and results, are social constructs and therefore interpretive, unlike measurements in the Natural Sciences (Major, 2017). This limitation stems from the non-independent nature of accounting numbers in relation to the theory examined. Considerations such as these have encouraged researchers to distance themselves from positivist theories and explore alternative methodologies and perspectives, especially in management accounting. In this sense, a movement rejecting the conventional paradigm is observed (Macagnan et al., 2020).

From a philosophical perspective, scholars of Critical Accounting Theory avoid quantitative methods because they cannot address the social implications of accounting (Everett et al., 2015; Richardson, 2015). Regarding this approach, it is observed that the emphasis on quantitative methodologies, while important for analyzing financial and economic data, often omits behavioral, cultural, and ethical aspects necessary for a holistic understanding of accounting (Baker & Bettner, 1997). In this regard, Sayed et al. (2019) note that it is not sufficient to analyze the branches of accounting in isolation. The study and reflection on the history of accounting as a whole are relevant because, from this understanding, it becomes possible to broaden discussions and promote the evolution of accounting science.

In recent research, Costa et al. (2024) observed that a large proportion of articles developing hypotheses are not based on consolidated theories, and only a small proportion create empirical models to test their hypotheses, with few concerned with validating the results. Furthermore, it was found that few articles in financial accounting complete the entire research cycle, indicating that scientific production has not yet reached a mature stage. In this perspective, Alawattage et al. (2021) note that methodologies are not chosen based on criteria of innovation in knowledge production and potential contribution, but rather on criteria that ensure rapid academic progression and the scientific reputation of the researcher and the institution.

The pressure to increase productivity, coupled with competition for resources and the reduction in time available for research and development, is a reality for graduate programs. As a consequence, there is a shift towards research that adheres to editorial requirements and, therefore, has a higher probability of acceptance in qualified journals (Patrus, Dantas & Shigaki, 2015). This phenomenon, described as the "publication game," can lead researchers to prioritize more accepted topics, which are more likely to be published rapidly, to the detriment of innovative or interdisciplinary approaches (Ramassa et al., 2024). In this context, cultural and institutional barriers reinforce these pressures, primarily affecting early-career researchers, who end up more vulnerable to this logic (Chahed et al., 2024).

In this context, it is relevant to highlight the concept of mainstream, understood as the dominant paradigm in accounting research, marked by an emphasis on positivist and quantitative methods (Major, 2017). As a result, a homogenization of scientific knowledge may occur, where certain types of investigation gain prominence to the detriment of diversity and the exploration of new frontiers, posing challenges to the development of reflective knowledge capable of addressing the complexities of society (Bilhim & Gonçalves, 2022).

In this context of epistemological tensions and institutional pressures shaping the choice of themes and methods, the following guiding question emerges: how can Brazilian accounting research broaden its perspectives by recognizing and exploring methodological approaches beyond the mainstream? The objective of this essay is to reflect on the possibilities for Brazilian accounting research as ways to enrich the debate and strengthen the development of the area. The discussion in this study focuses on the need for a holistic, context-sensitive approach in accounting research. It is hoped that these reflections will allow us to understand and highlight the dynamics of research and, thus, indicate options for paths to the paradigmatic expansion of accounting research and, in a way, contribute to Vogt et al. (2021), who argue for the need to break away from exclusively quantitative research to bring a new perspective and understanding that approaches complement each other.

This essay aims to help overcome the barriers that limit scientific production in accounting, encouraging the exploration of less conventional themes and the use of methodologies that challenge dominant standards. The proposal is not to exclude or privilege any methodological approach, but rather to foster a more inclusive and diverse science that values different theoretical and epistemological perspectives. In this sense, the reflection presented here has the following contributions: it expands the research possibilities for early-career researchers, who are often restricted to traditional editorial agendas; it offers support for postgraduate accounting programs to rethink their evaluation criteria, stimulating plurality and scientific innovation; and it contributes to making Brazilian accounting research more connected to contemporary social and economic demands, by proposing solutions that engage with the complexity of reality. By transcending the limits of Positivism, it seeks to strengthen the practical relevance of academic production, expanding its impact on both the formulation of public policies and the development of organizations.

2. POSITIVISM IN COMTE'S VIEW

The term "positivism" refers to the view that any judgment about a situation or statement about the world must be validated by experience. For Domingues (2004, p. 168), Positivism derives from the word "positive" and is associated with an activity of the spirit rather than with theological, metaphysical, or ideological activity (Domingues, 2004).

Positivism has manifested itself in different ways throughout history. From a philosophical point of view, Auguste Comte (1973) presents Positivism as a doctrine founded on the neutral and objective observation of phenomena (Pickering, 2011). In economics, Friedman's (1953) perspective on positive economics was incorporated into accounting by Watts and Zimmerman, who treated the firm as a network of contracts and proposed explanations based on observable regularities. In the social sciences, Positivism entails analyzing individuals as passive entities, objectively described, without emphasis on their role as builders of social reality (Nepomuceno, 2017).

According to Comte (1983), the positive state is marked by the prioritization of observation over imagination and argumentation. The positive view of facts abandons consideration of the causes of phenomena (theological or metaphysical). It becomes a search for their laws, understood as constant relations among observable phenomena (Cardoso et al., 2013). Positive philosophy, unlike theological and metaphysical approaches, rejects the idea that natural phenomena can be explained by a single principle, such as God, nature, or any equivalent (Brentano & Curvello, 2022).

According to Comte's Law of Three Stages (1983), the theological stage was characterized by interpreting phenomena as manifestations of a divinity, thereby restricting questioning of natural causes through passive acceptance of the divine will. The metaphysical stage, in turn, represented a moment of transition, moving away from supernatural explanations, but still without reaching the scientific rigor characteristic of the positive stage (Buchweitz et al., 2019). Finally, in the scientific, or positive, stage, man adopts a critical and analytical stance towards reality, seeking to explain it through systematic observation and the formulation of general laws capable of predicting the behavior of phenomena.

According to Comte (1978), experience reveals only limited connections between certain phenomena. Also, according to Comte (1978), each science focuses on a set of phenomena that cannot be reduced to those of other sciences, although it may share methods and approaches. Therefore, while sciences may share methods and approaches, each deals with its own specific domain of phenomena. The main question of the positivist approach is: how to use the methods of the natural sciences to study social phenomena and, consequently, treat them as objects (Brandão, 2011).

Medeiros (2010) and Cazavechia (2017) describe positive knowledge as being marked by the capacity for prediction, adopting the principle of "seeing to predict" as the basis of positive science. Scientific predictability facilitates the development of techniques that associate the positive state with industry, where man exploits nature. For Comte (1983), the positive spirit grounds the sciences as methods for exploring what is real, specific, and indubitable, defined with precision and utility.

For positivists, reality is perceived as an objective, concrete structure external to the researcher, which can be decomposed into explanatory (independent) and dependent variables. These variables are related by laws that describe their interactions. The positivist approach tends to simplify reality by isolating and studying relationships between variables outside their natural contexts, often in a laboratory setting (Major, 2017). The use of mathematical tools and statistical models has been instrumental in hierarchizing research quality and asserting the superiority of their work (Crivelente, 2024).

However, when this logic is applied to accounting, limitations arise. The measurement of assets, liabilities, and results is not always objective, as it involves value judgments and estimates, as in the case of fair value measurements or impairment tests (Hartmann, 2022; Efrag, 2021). Major (2017) emphasizes that, unlike the natural sciences, where there are consensual and intrinsic measures, in accounting, there is no universal consensus on how to quantify such elements. For example, he cites heritage assets whose uniqueness and lack of marketability make their valuation subjective, highlighting the limitations of accounting measurement (Carnegie & Wolnizer, 1995; Anessi-Pessina & Sicilia, 2020).

Despite this, positivist approaches in accounting research commonly use quantitative methods (Nascimento & Costa, 2025). Frequently, accounting studies are based on numerical data that are rarely questioned or contextualized, based on the premise that they objectively reflect reality. However, as Lourenço and Sauerbronn (2016) point out, accounting portrays only part of reality, and research is grounded in ontological, epistemological, and methodological assumptions that show that accounting numbers are social constructs – neither neutral nor self-evident. In this context, the present work seeks to complement these approaches through critical theoretical reflection, bringing to light new perspectives and expanding the epistemological debate in accounting.

3. CRITIQUES OF POSITIVIST RESEARCH IN ACCOUNTING

Between the 1930s and 1950s, accounting literature was marked by standardization. During this period, efforts were made to establish accounting standards and regulations that could be applied uniformly (Santos et al., 2014). However, the normative approach faced criticism, particularly for its rigidity and limited adaptability across different economic and business contexts. Sterling (1970), for example, highlighted that normative prescriptions had low explanatory power and limited practical utility, which later led to the strengthening of alternative approaches such as positive theory (Watts & Zimmerman, 1986).

Thus, Positivism gained prominence in accounting, especially in the United States, between 1960 and 1968, as research increased that used economic models and statistical methods to analyze accounting choices and measure the impact of accounting information on financial markets (Homero Junior, 2016). Articles such as Empirical Evaluation of Accounting Numbers (1968) and The Information Content of Annual Earnings Announcements (1968) influenced positivist accounting research by integrating a neoliberal ideology that held an "almost" unwavering belief in the power of the market to solve social problems (Avelar & Ribeiro, 2020).

According to Jeanjean and Ramirez (2009), the emergence of Positivism was facilitated by the separation between accounting theory and practice. This separation created a hierarchy in accounting, ranging from small practitioners to leading theorists. The great theorists sought academic prestige by approaching other disciplines, especially economics. Thus, the authors suggest that normative and positive theories share a continuity in their independence from accounting practice, questioning the idea that the rise of Positivism represents an advance over the previous tradition.

For proponents of Positivism, Ball and Brown (1968), Beaver (1968), and Watts and Zimmerman (1990), accounting theory should explain and predict accounting practices, thereby providing information to users of accounting information for decision-making; this marks a break between what had been produced up to the 1960s and what would develop thereafter, creating a divide between normativism and Positivism. However, an accounting theory should not be exclusively normative or positivist. According to Silva, Niyama, and Noriller (2018), accounting theory is only useful if it can explain, predict, and prescribe accounting practices. This occurs to the extent that these prescriptions are based on findings derived from the explanation of accounting practices, thus meeting the real needs of users of accounting information.

It should be noted that the positivist approach has limitations. Firstly, by reducing all human efforts to numbers (Houghton, 2011; Acharya, 2024) and adopting a reductionist stance that simplifies complex entities to the study of their parts (Santos et al., 2012). Secondly, by presuming that everyone shares the same interpretative view of reality, thus ignoring subjective and contextual perspectives. Positivist research gives little credit – or even considers useless – to the subjective and "unreliable" nature of the thoughts, feelings, and interpretations of research participants (Phoenix et al., 2013). Thirdly, the idea that the researcher can remain independent of the object of study is illusory. Researchers who share the same data may arrive at different results, depending on the analytical choices they make – clear evidence that statistical procedures do not eliminate subjectivity, but often conceal it (Breznau et al., 2022). Furthermore, in the tradition of reflexive sociology, Bourdieu (1990s) shows that the researcher carries with them a social habitus that inevitably influences their research, making critical awareness of their own position and possible biases essential.

Prévost and Beaud's (2015) reflection on statistics reinforces the critique of Positivism in accounting. For these authors, numbers should not be seen as technical measurements of a pre-existing reality, but as political-cognitive constructions traversed by disputes between science, administration, and politics. Similarly, accounting cannot be reduced to neutral and objective representations, as its measurements incorporate normative and institutional choices (Hopwood, 2002, 2007). This observation weakens the positivist premise that accounting numbers reflect economic reality.

Some criticisms of the positivist paradigm have been expressed by Somantri (2013) and Ghozali (2004). Somantri (2013) criticizes the positivist paradigm for its limited vision and failure to consider the complexities and nuances of social phenomena. The same author argues that Positivism, with its emphasis on quantitative methods, may not fully capture the nature of the social and human processes involved in accounting. Ghozali (2004) points out that the predominance of Positivism in accounting leads to a restricted view and often ignores qualitative and contextual aspects. He suggests that this approach prevents a broad and rich understanding of accounting practices, underestimating the importance of social and cultural interactions in the field.

According to Suyunus (2012), Positivism observes only the "surface" without understanding the more profound meaning. Its purpose is to reach generalizations without considering that there are, in fact, things like human behaviors that cannot be generalized and that there will still be an element of subjectivity (Cahyono & Daniel, 2023). However, the positivist paradigm needs to change its perspective to increase the value of accounting research. As Chua (1986) argues, complementing interpretive and critical approaches can enrich the understanding of accounting phenomena, thereby overcoming the limitations of purely positivist methodologies.

In suggesting alternatives to conventional accounting research, Chua (1986) did not aim to map all research possibilities, but instead highlighted approaches and theoretical divergences among researchers. She distinguished conventional accounting research from interpretative and critical approaches, rejecting the idea of mutually exclusive paradigms as illogical and superficial, and combining diverse research traditions without emphasizing exclusivity. Corroborating this, Lee (1991) and Kakkuri-Knuuttila et al. (2008) also recommended that positivist and interpretative approaches in research should support each other, rather than being mutually exclusive.

Recent studies, such as Peng and Shiyu (2019), have shown that Positivism will continue to be the dominant philosophy of science in accounting knowledge generation. Although this approach has been adopted and has provided advances, it is flawed. For Araújo et al. (2023), positivist science, by distancing itself from criticism and revisiting its foundations in search of neutrality and impartiality to achieve objective validity, ultimately creates a prison based on faith in empirical data. This results in a cycle of beliefs that relies on information drawn from fixed, unclear concepts. However, this situation could be overcome by incorporating the dynamics of facts.

4. REFLECTIONS ON ACCOUNTING RESEARCH IN BRAZIL

In the philosophy of science, the positivist model has consolidated as the dominant paradigm in accounting research, ultimately limiting research agendas and the scope of intellectual activity in this field (Lukka, 2010). Despite advances in recent decades, a research agenda marked by Positivism and the primacy of quantitative methods still prevails (Bibi et al., 2024). These mechanisms of domination restrict the diversity of thought and tend to stifle essential social issues for the accounting debate, which could be explored from sociological perspectives (Villiers & Fouché, 2015).

It is clear that Positivism, with its emphasis on quantification and objectivity, imposes an intellectual constraint that prevents the exploration of complex issues in accounting reality. This approach, by focusing on measurement and predictability, fails to capture the social and cultural dynamics that influence accounting practices. Paul Ricoeur (1981) argues that interpretation is fundamental to understanding human phenomena in their totality. In this respect, Positivism reinforces a reductionist view that distorts a comprehensive understanding of accounting.

Karl Popper (1982), in his critiques of logical Positivism, argued that science should be open to continuous criticism and verification, rather than adhering to a single method or paradigm. According to him, a theory's capacity to be tested and potentially refuted is essential for scientific progress. The insistence on a single positivist approach contradicts this principle, restricting development and innovation in accounting.

Critical theory, developed by the Frankfurt School and discussed by authors such as Max Horkheimer (1972) and Theodor Adorno (1998), emphasizes questioning and challenging established power structures and norms. In accounting, this implies examining how accounting practices influence and are influenced by power relations and social inequalities.

In the Magrini study (2024), this challenge is evident when the author presents a work that differs from the usual in academia, i.e., market research and companies listed on the B3 (Brazil Stock Exchange and Over-the-Counter Market). The criticisms were much more about the unease of the new than about the quality of the research. The author highlights that the habitus of accounting research tends to reject research that is not dominant. This occurs because the habitus is sustained by the solidification and incorporation of conceptions, reflected in philosophy, and functions as a mechanism for recognition among the agents involved (Bourdieu, 1989). When the author proposed research that questioned the philosophy on which professors based their understandings, she was discredited and confronted.

Sometimes, accounting research articles resemble articles in the exact sciences more than those in applied social science, where accounting is embedded. This tendency reflects a disproportionate emphasis on quantitative methods and statistical techniques, often at the expense of a broader understanding of the social and cultural contexts that influence accounting practices. This can lead to conclusions that, while statistically robust, are decontextualized and less helpful in formulating policies and practices that truly improve accounting within a broader social context.

Another aspect to be discussed concerns the marginalization of non-mainstream researchers. Magrini et al. (2024) observed that both postgraduate programs and scientific publications that seek to maintain the status quo generally do not accept research that does not follow a positivist approach. It is important to emphasize that science should be a field of debate and methodological diversity, as argued by Karl Popper (1959) and Thomas Kuhn (1962).

In the epistemological debate, Popper (1959) questioned the limits of logical Positivism. The principle of falsifiability (Olivares, 2006) holds that a scientific theory should be considered only if it is capable of being refuted. For the author, science does not evolve through the verification of hypotheses, as logical Positivism maintains, but through a continuous process of criticism and refutation. This conception breaks with the idea of science as an accumulation of verifiable empirical observations, shifting it toward a dynamic vision in which hypotheses are tested, reformulated, and subject to error. In accounting, this perspective is relevant, as concepts such as assets, liabilities, profit, and fair value should not be treated as absolute truths or direct representations of economic reality, but rather as theoretical constructs, subject to questioning, revision, and improvement (Major, 2017). The incorporation of this logic into accounting research strengthens the critical dimension and recognizes the epistemological plurality that permeates the field.

Additionally, Kuhn (1962) broadened this debate by highlighting the role of paradigms and scientific revolutions in transforming knowledge. In this scenario, the predominance of Positivism in accounting imposed limits on research agendas, prioritizing quantitative methodologies and restricting the diversity of thought. Avelar et al. (2020) emphasize the need for new perspectives and encourage the use of qualitative, interpretive, and critical approaches. By adopting these perspectives, accounting research can overcome the rigidity inherited from the positivist paradigm, thereby opening space for more reflective investigations capable of addressing the social, institutional, and economic complexities that characterize the Brazilian context.

It is noted that theoretical and conceptual research is rarely published in scientific journals, which in a way implies an impoverishment of discussions at the highest level of epistemology within the academic community. An example of this was addressed by Homero (2021), who reported the difficulty of finding journals that would accept critical work. The author cites the rejection by journals considered multi-paradigmatic, whose reviewers' guidance consisted of changing the writing style to a more "neutral" tone, which, in fact, would mischaracterize the entire work. It should be emphasized that this same journal has not published a single critical article in the last two decades.

From an operational standpoint, the predominance of studies focused on financial accounting and emphasizing quantitative methods can be explained by two factors: the division of labor and the pressure to publish. Quantitative methods enable segmentation of research tasks (Zyoud et al., 2024), a feature less feasible with qualitative approaches, which require more subjective interpretation and depend on context (Assis & Monteiro, 2023). Furthermore, the pressure to generate publications reinforces this trend (Patrus et al., 2015). In this scenario, qualitative research faces both operational and institutional barriers that hinder its publication compared to quantitative research. Among these challenges are the size and complexity of manuscripts, as well as reviewers' lack of familiarity with evaluating qualitative methods – factors that make it less compatible with traditional editorial criteria (Frankel, 2023).

This emphasis is not merely perceived; data support it: an analysis of 522 doctoral theses in accounting in Brazil (2007–2021) revealed that 70% used quantitative strategies, 22% qualitative approaches, and 8% mixed methods (Silva, Rodrigues and Niyama, 2023). These numbers support the idea that topics requiring greater interpretive effort and contextual sensitivity are marginalized, and highlight the formation of "methodological islands" that reproduce the prevailing paradigm.

This pressure for measurable results encourages researchers to adopt quantitative, i.e., positivist methods. In this respect, Nganga et al. (2023) argue that the emphasis on the number of publications results in a scenario where the research planning and development process is relegated to the background, leading to studies of little relevance, with a predominant focus on quantitative methods and little openness to innovation simply because it is more "publishable".

The predominance of positivist research in accounting creates tensions and barriers to new approaches. For example, it is challenging to find disciplines that adopt methodologies other than positivist ones, thereby perpetuating the field's existing dominance. Regarding research training in Brazil, Nganga et al. (2023) noted a predilection for methodological disciplines – especially quantitative ones – and an absence of disciplines for critical reflection on the construction of accounting knowledge, such as epistemological disciplines. Furthermore, advisors provide limited support for research that deviates from the positivist paradigm (Magrini et al., 2024).

Bilhim and Gonçalves (2021) emphasize the importance of understanding how accounting is interconnected with social power structures and their evolution in the context of modern capitalism. The authors suggest that this understanding can pave the way for a broader, more diverse research agenda that enriches accounting information. Complementarily, Guthrie et al. (2019) highlight that relevant themes for accounting research involve both the influence of accounting on society and the influence of society on accounting. Studies on capital markets are relevant, and the literature itself confirms this; however, there are other areas where accounting is equally important. For example, the public sector, non-governmental organizations (NGOs), and small and medium-sized enterprises (SMEs) are contexts in which accounting practices can have significant and different implications.

The combination of these perspectives suggests that advancing the field of accounting requires researchers to adopt a more holistic approach. This involves not only analyzing financial markets but also investigating how accounting interacts with different sectors of society. This will be possible through the adoption and acceptance of critical research by high-impact journals. However, this critical view does not mean disregarding the scientific past, but rather opening up to research that seeks to understand processes from the combinations of culture, language, histories, symbols, perception, cognition, social conventions, politics, ideology, and power.

In this context, Nganga et al. (2023) state that accounting research in Brazil is stagnating, mainly due to deficiencies in the training of autonomous, critical researchers able to apply diverse methodological approaches to address real problems without fear of daring and innovating. It is therefore clear that the renewal of accounting research in Brazil depends on the courage to break with established paradigms.

5 CRITICAL AND INTERPRETATIVE APPROACHES IN ACCOUNTING

Baker and Bettner (1997) argue that the core of accounting can best be understood through its effects on individuals, organizations, and societies. Its influence extends across issues related to wealth distribution, social justice, political ideology, and environmental harm. Therefore, accounting research must incorporate interpretative and critical perspectives. Nearly three decades later, the debate over alternative methodologies still persists. Why?

To answer this question, two research approaches with an anti-positivist epistemological stance emerge: the interpretivist and the critical (Mott & Sanches, 2017). In subjective views, meanings are constructed through the interaction between the object and the subject, a constructionist ontology (Martins, 2005). According to Gaffikin (2006), the interpretivist paradigm sees knowledge as a social construction that develops from human experience. Myers (2019) highlights that interpretivist researchers focus on understanding meanings within the specific context of the phenomenon under study. For Jamaluddin et al. (2023), the interpretivist approach is shaped by historical, literary, and existential studies,

where the subjective understanding of individuals is considered important. In this approach, the existence of multiple realities is acknowledged, requiring the use of diverse methods to fully understand them.

According to Dewi (2021), the interpretive paradigm is a research method based on two assumptions: scientific social reality, which implies a subjective approach to science, and the belief that society is regulated or ordered. The task of scientists is to understand why this order of reality occurs. The Interpretive Paradigm (Subjective - Regulation) describes the stability of behavior from an individual perspective.

According to Adil et al. (2022), the interpretive view holds that reality is not a single entity but multiple aspects, which makes it possible to study it from different perspectives. In addition, Denzin and Lincoln (2011) argue that reality is socially constructed, meaning that different individuals and groups may interpret the same phenomenon differently. This aligns with the idea that multiple realities coexist, and each can be valid in its own context. As Hussey and Hussey (1997) argue, the researcher's values play an important role in determining what is considered fact and how those facts are interpreted. This notion is central to the interpretative approach, as it recognizes that complete neutrality is impossible; the researcher's subjectivity and biases always influence the research (Pozzebon & Petrini; Gillani, 2021).

From an accounting perspective, it is understood that accounting practice is not merely a set of neutral techniques but also a social practice that reflects and influences cultural and social values (Carnegie et al., 2022). For example, the way different cultures interpret concepts such as "transparency" or "accountability" can vary. Incorporating these perspectives can enrich how accounting practices are understood, thereby increasing the relevance of accounting research. Fundamentally, this line of investigation has the potential to realign accounting with the social sciences. In exploring the role of accounting, Lehman (2010) argues that the interpretative approach is a strategy for developing accounting within a social context and enhancing theoretical frameworks.

Interpretive research in accounting can utilize various methodologies such as ethnography, phenomenology, and hermeneutics. For example, ethnography observes and interprets social behaviors and interactions (Denzin & Lincoln, 2011). Case studies analyze examples, exploring accounting practices in specific contexts (Yin, 2018). Phenomenology emphasizes lived experiences and their interpretation (Moustakas, 1994). Narrative analysis involves stories about accounting experiences to understand how meanings are constructed (Riessman, 2008). Hermeneutics interprets texts and symbols, seeking to understand their meanings (Ricoeur, 1981). Discourse analysis examines how language constructs meanings and influences accounting practice (Fairclough, 2003). These approaches enrich interpretive research, providing an understanding of accounting phenomena.

According to Myers (2019), the process begins with the formulation of open-ended questions, aimed at understanding the meanings and interpretations attributed by the subjects involved. Techniques such as interviews, case studies, and ethnography are recommended because they enable an understanding of how accounting practices are constructed, perceived, and experienced in a given context (Moustakas, 1994; Yin, 2018).

Following initial data collection, the next step is to conduct a reflective analysis, in which researchers interpret the collected qualitative data to identify patterns, categories, and meanings. Riessman (2008) suggests that narrative analysis can reveal how individuals construct meanings through personal and professional stories, while Ricoeur (1981) recommends hermeneutics for interpreting the texts and symbols present in accounting practices. During this analytical phase, the researcher needs to recognize their own beliefs, values, and biases, since subjectivity is present in the construction and interpretation of qualitative data (Hussey & Hussey, 1997; Denzin & Lincoln, 2011).

The critical paradigm, as described by Myers (2019), shares aspects with the interpretivist paradigm but assumes that social, cultural, or political domains limit researchers' ability to act to change their circumstances. This paradigm not only seeks to understand the context but also challenges established beliefs and values, proposing improvements through self-reflection. Gaffikin (2006) highlights that, without critical reflection on what and how one knows, actions can only reinforce the dominant view of society.

As discussed by Bilhim and Gonçalves (2021), being critical implies adopting an epistemological perspective that challenges established norms. Researchers who embrace this role are exposed to the same power systems that attempt to shape human behavior and construct perceptions—precisely the aspects they strive to expose and question (Gendron, 2018). The focus of this approach is on social inequalities, accompanied by a political commitment to societal transformation. Contrary to the view that accounting is an objective and impartial practice.

To that end, the critical discourse analysis proposed by Fairclough (2003) allows us to uncover how languages and narratives in accounting influence, reinforce, or challenge social power structures. Furthermore, critical researchers are called upon not only to understand the phenomenon but also to propose reflections that can provoke societal change (Lehman, 2010; Sauerbronn, Lima & Faria, 2023). This involvement includes formulating recommendations for organizations and accounting education, suggesting the incorporation of critical theories into teaching, and stimulating training that goes beyond technical skills, thereby developing the critical thinking of future professionals (Sauerbronn et al., 2023).

In this respect, the challenge of critical research in accounting is to decolonize bodies and minds that have been subjected to processes of subjectivation promoted by positivist and pro-market accounting (Sauerbronn, Lima, and Faria, 2023). Decolonization arises from the understanding that traditional methodologies and theories reflect and perpetuate structures of power and domination – such as Eurocentrism and the Hierarchization of Knowledge, Language, and Discourse. However, there is also the risk of recolonization, in which the dominance of international authors is passively

accepted. The real challenge lies in recognizing critical epistemologies as tools for deconstructing what is considered right, without treating them as the only or superior means for explaining phenomena (Sauerbronn et al., 2023).

Thus, the debate over decolonizing accounting research should not be understood as simply replacing one dominant paradigm with another, but as opening the field to an epistemological plurality that can enrich it. Recognizing the limits of Positivism and traditional approaches is an important step, but equally essential is preventing critical epistemologies from becoming new instruments of exclusion. It becomes necessary to promote dialogue across different perspectives to build a more reflective, inclusive accounting science committed to the social complexity it seeks to understand.

6 CONCLUSIONS

This theoretical essay sought to reflect on the perspective from which Brazilian accounting research should focus its efforts to evolve as a science, highlighting the need for a more holistic, context-sensitive approach. Initially, it addressed the positivist view that shaped accounting practices, emphasizing objectivity and quantification. However, as discussed, this approach has its limitations, especially in its ability to capture the social and cultural complexities inherent in accounting practice.

It would be fair to acknowledge that each research approach—whether quantitative, qualitative, or mixed—brings its own strengths and limitations. While Positivism, associated with quantitative research, offers a rigorous framework for data measurement and analysis, it can, at times, fail to capture the complexity and depth of social phenomena that are more readily accessible through qualitative methods.

Therefore, a need was identified to integrate other methodologies, including critical and interpretative approaches, given that quantitative methods can reduce the depth and relevance of accounting research. Furthermore, the predominance of Positivism hinders innovation and the exploration of social issues that are fundamental to a complete understanding of accounting.

A positivist uniformity has characterized the methodological development in accounting research over the last few decades. It is important for accounting researchers to seek alternative research paradigms to offer different perspectives and to keep an open mind about the real social contributions accounting research needs to make to users.

Adopting a mixed-methods approach can be beneficial because it allows researchers to explore research questions more broadly, combining the objectivity and generalizability of quantitative methods with the richness of detail and context provided by qualitative methods. This combination can enrich the analysis, enabling a more holistic and integrated understanding of the phenomena under study.

In the Brazilian context, what is perceived is stagnation, attributed to a lack of training for critical and innovative researchers. To overcome these challenges, it is essential to promote a research agenda that incorporates interdisciplinary perspectives and diverse methodologies, as well as to integrate sociological and cultural approaches. The renewal of accounting research in Brazil depends on the courage to challenge existing paradigms and the willingness to confront the challenges associated with diverging from the mainstream. Embracing an inclusive and pluralistic approach will allow accounting to develop as a science, enabling it to better respond to contemporary challenges.

Research is a process of intellectual discovery that can transform our knowledge and understanding of the world around us. (Ryan, Scapens et al., 2002, p. 7).

REFERENCES

Acharya, R. (2024). Examining interpretivism in social science research. Education. https://www.skultech.com/examining-interpretivism-in-social-science-research/

Adil, M., Nagu, N., Rustam, A., Wahyuni, I., & Winarsih, E. (2022). Interpretive paradigm on development of science and accounting research. *International Journal of Humanities Education and Social Sciences (IJHESS), 1*(4), 297-302.

Adorno, T. W. (1998). *Prismas: Crítica cultural e sociedade* (A. Wernet & J. M. B. de Almeida, Trads.). São Paulo: Ática.

Alawattage, C., Graham, C., & Wickramasinghe, D. (2021). Advancing interdisciplinary and critical accounting research: Methodological considerations. *Accounting, Auditing & Accountability Journal, 34*(1), 1–30. https://doi.org/10.1108/AAAJ-12-2019-4313

Alharahsheh, H. H., & Pius, A. (2020). Uma revisão de paradigmas-chave: positivismo versus interpretativismo. *Revista Acadêmica Global de Humanidades e Ciências Sociais, 2*(3), 39–43.

Anessi-Pessina, E., Caruana, J., Sicilia, M., & Steccolini, I. (2020). Heritage: The priceless hostage of accrual accounting. *International Journal of Public Sector Management, 33*(2/3), 285–306. https://doi.org/10.1108/IJPSM-03-2019-0065

Araújo, J. G. N., de Matos, F. J. S., de Moura Soeiro, T., & Lagioia, U. C. T. (2023). Data validation and scientific assumption of impartiality in accounting by Horkheimer's *Verstand*. *Revista de Contabilidade da UFBA, 17,* e2313. https://doi.org/10.9771/rcufba.v17i0.2313

Assis, C. F., & Monteiro, R. (2023). Metodologias qualitativas e quadros de referência para a pesquisa em ciências humanas e sociais aplicadas. *Jures, 16*(29), 1–28.

Avelar, E. A., de Pádua Ribeiro, L. M., Boina, T. M., Gomes, C. C., & de Oliveira Ferreira, C. (2020). A pesquisa qualitativa contábil no Brasil: Cenário de desafios e oportunidades frente ao predomínio positivista. *Revista Liceu On-Line, 10*(1), 113–137.

Baker, C. R., & Bettner, M. S. (1997). Interpretive and critical research in accounting: A commentary on its absence from mainstream accounting research. *Critical Perspectives on Accounting, 8*(4), 293–310. https://doi.org/10.1006/cpac.1996.0116

Ball, R., & Brown, P. (1968). An empirical evaluation of accounting. *Journal of Accounting Research, 6*(2), 159–178. https://doi.org/10.2307/2490232

Beaver, W. H. (1968). The information content of annual earnings announcements. *Journal of Accounting Research, 6*(3), 67–92. https://doi.org/10.2307/2490070

Bhattacherjee, A. (2012). *Social science research: Principles, methods, and practices* (2nd ed.). University of South Florida Scholar Commons. https://scholarcommons.usf.edu/oa_textbooks/3

Bibi, H., Khan, S., & Shabir, M. (2022). A critique of research paradigms and their implications for qualitative, quantitative and mixed research methods. *Webology, 19*(2). https://doi.org/10.14704/WEB/V19I2/WEB19347

Bilhim, J. A. de F., & Gonçalves, A. de O. (2022). Abordagens epistemológicas e pluralismo na pesquisa em contabilidade: Para além do paradigma dominante. *Public Sciences & Policies, 7*(1), 59–75. https://doi.org/10.33167/2184-0644.CPP2021.VVII.N1/pp.59-75

Bilhim, J., & Gonçalves, A. (2021). Epistemological approaches and pluralism in accounting research: Beyond the dominant paradigm. *Public Sciences & Policies, 7*(1), 59–75. https://doi.org/10.33167/2184-0644.CPP2021.VVII.N1/pp.59-75

Bourdieu, P. (2007). *A economia das trocas simbólicas* (5ª ed.). São Paulo: Perspectiva.

Brandão, A. R. P. (2011). A postura do positivismo com relação às ciências humanas. *Theoria: Revista Eletrônica de Filosofia, 3*(6), 80–105.

Brentano, F. C., & Curvello, F. V. (2022). Auguste Comte e a filosofia positiva. *Revista de Filosofia Aurora, 34*(62), 359–389. https://doi.org/10.7213/1980-5934.34.062.DS01

Breznau, N., Rinke, E. M., Wuttke, A., Nguyen, H. H., Adem, M., Adriaans, J., … & Van Assche, J. (2022). Observing many researchers using the same data and hypothesis reveals a hidden universe of uncertainty. *Proceedings of the National Academy of Sciences, 119*(44), e2203150119. https://doi.org/10.1073/pnas.2203150119

Buchweitz, M. J. R., Pereira, T. A., da Cruz, A. P. C., & Barbosa, M. A. G. (2019). Além de Watts e Zimmerman: A precursão da teoria positiva da contabilidade nos estudos de Dumarchey e a influência dos autores na literatura contábil permanente no Brasil. *Sinergia, 23*(1), 9–18. https://doi.org/10.17648/sinergia-231-4179

Cahyono, S., & Daniel, D. R. (2023). The positivism paradigm in internal audit research: A perspective of contemporary accounting research. *Kompartemen: Jurnal Ilmiah Akuntansi, 21*(1), 69–79. https://doi.org/10.30595/kompartemen.v21i1.15664

Cardoso, S. R. P. (2013). O positivismo de Auguste Comte e a sua influência na educação. In *Sociologia da Educação: debates clássicos na formação de professores* (p. 31).

Carnegie, G. D., & Wolnizer, P. W. (1995). The financial value of cultural, heritage and scientific collections: An accounting fiction. *Australian Accounting Review, 5*(9), 31–47. https://doi.org/10.1111/j.1835-2561.1995.tb00187.x

Carnegie, G. D., Ferri, P., Parker, L. D., Sidaway, S. I., & Tsahuridu, E. E. (2022). Accounting as a technical, social and moral practice: The monetary valuation of public cultural, heritage and scientific collections in financial reporting. *Australian Accounting Review, 32*(4), 460–472. https://doi.org/10.1111/auar.12358

Cazavechia, W. R. (2017). A evolução histórica e a religião da humanidade em Augusto Comte (1798–1857) [Trabalho de conclusão de curso, Centro Universitário de Maringá]. Repositório Institucional Unicesumar. https://rdu.unicesumar.edu.br/bitstream/123456789/1640/1/epcc--79695.pdf

Chahed, Y., Charnock, R., Dahlström, S. D. R., Lennon, N. J., Palermo, T., Parisi, C., Pflueger, D., Sundström, A., Toh, D., & Yu, L. (2025). The value of research activities "other than" publishing articles: Reflections on an experimental workshop series. *Accounting, Auditing & Accountability Journal, 38*(1), 90–114. https://doi.org/10.1108/AAAJ-05-2022-5818

Chua, W. F. (1986). Radical developments in accounting thought. *The Accounting Review, 61*(4), 601–632.

Comte, A. (1978). *Curso de filosofia positiva*. In *Os pensadores*. São Paulo: Abril Cultural.

Comte, A. (1983). *Discurso sobre o espírito positivo*. São Paulo: Abril Cultural.

Costa, R. S. da, Farias, K. T. R., & Farias, M. R. S. (2024). Características epistemológicas da produção científica na linha de pesquisa contabilidade financeira. *Revista de Gestão e Secretariado, 15*(4), e3693. https://doi.org/10.7769/gesec.v15i4.3693

Crivelente, M. R. (2024). *Análise dos modelos de avaliação da pesquisa científica, tecnológica e de inovação: institucionalização, pressupostos políticos e econômicos, fundamentos teórico-metodológicos, instrumentos, impactos sociais* [Tese de doutorado, Universidade de São Paulo]. Universidade de São Paulo.

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). *The Sage handbook of qualitative research* (4th ed.). Thousand Oaks, CA: Sage.

Dewi, I. G. A. A. O. (2021). Understanding data collection methods in qualitative research: The perspective of interpretive accounting research. *Journal of Tourism Economics and Policy, 1*(1), 23–34.

Domingues, I. (2004). *Epistemologia das ciências humanas: Positivismo e hermenêutica* (Vol. 1). São Paulo: Loyola.

Efrag. (2021). *Accounting estimates and areas of judgement*. RSM UK.

Everett, J., Neu, D., Rahaman, A. S., & Maharaj, G. (2015). Praxis, doxa and research methods: Reconsidering critical accounting. *Critical Perspectives on Accounting, 32*, 37–44. https://doi.org/10.1016/j.cpa.2015.04.001

Fairclough, N. (2003). *Analyzing discourse: Textual analysis for social research*. London: Routledge. https://doi.org/10.4324/9780203697078

França Lopes, I., Ferreira da Silva, L. R., & Martins Meurer, A. (2024). Revisão crítica da literatura de carreira em contabilidade no Brasil: Um diálogo construcionista. *REUNIR: Revista de Administração, Contabilidade e Sustentabilidade, 14*(3), 47–66. https://doi.org/10.18696/reunir.v14i3.1751

Frankel, R. M., & Cottingham, A. H. (2024). Making meaning matter: An editor's perspective on publishing qualitative research. *Journal of General Internal Medicine, 39*(2), 301–305. https://doi.org/10.1007/s11606-023-08255-1

Gaffikin, M. (2006). *The critique of accounting theory* (Faculty of Business – Accounting & Finance Working Papers). University of Wollongong, Research Online. http://ro.uow.edu.au/

Ghozali, I. (2004). Pergeseran paradigma akuntansi dari positivisme ke perspektif sosiologis dan implikasinya terhadap pendidikan akuntansi di Indonesia. *Jurnal Manajemen Akuntansi & Sistem Informasi MAKSI, 7*(1), 50–65.

Gillani, D. (2021). A pesquisa qualitativa pode e "deve" ser isenta de valores? Compreendendo a disputa epistemológica entre positivistas e interpretativistas. *Journal of Political Studies, 28,* 181.

Guthrie, J., Parker, L. D., Dumay, J., & Milne, M. J. (2019). What counts for quality in interdisciplinary accounting research in the next decade: A critical review and reflection. *Accounting, Auditing & Accountability Journal, 32*(1), 2–25. https://doi.org/10.1108/AAAJ-01-2019-036

Hartmann, F. (2022). Accounting to legitimacy: The case of internally generated intangibles. *Journal of Accounting & Organizational Change, 18*(3), 363–384. https://doi.org/10.1108/JAOC-07-2021-0096

Homero Junior, P. F. (2017). Paradigma e ordem do discurso da pesquisa contábil brasileira. *Advances in Scientific and Applied Accounting, 10*(1), 39–53.

Homero Junior, P. F. (2021). Reflexões sobre a prática da pesquisa crítica em contabilidade no Brasil: Uma nota autobiográfica. *Revista de Educação e Pesquisa em Contabilidade, 15*(2). https://doi.org/10.17524/repec.v15i2.2823

Hopwood, A. G. (2002). Creating a new community: The establishment and development of the European Accounting Association. *European Accounting Review, 11*(1), 33–41. https://doi.org/10.1080/09638180220124725]

Hopwood, A. G. (2007). Whither accounting research? *The Accounting Review, 82*(5), 1365–1374. https://doi.org/10.2308/accr.2007.82.5.1365

Horkheimer, M. (1972). Traditional and critical theory. In M. Horkheimer, *Critical theory: Selected essays* (pp. 188–243). New York: Herder and Herder.

Houghton, T. (2011). Does Positivism really "work" in the social sciences? *E-International Relations,* 1–4. https://www.e-ir.info/2011/09/26/does-positivism-really-%E2%80%98work%E2%80%99-in-the-social-sciences/

Hussey, J., & Hussey, R. (1997). *Business research: A practical guide for undergraduate and postgraduate students.* London: Macmillan.

Iudícibus, S., Ribeiro Filho, J. F., Lopes, J. E. D. G., & Pederneiras, M. M. M. (2011). Uma reflexão sobre a contabilidade: Caminhando por trilhas da "teoria tradicional e teoria crítica". *BASE: Revista de Administração e Contabilidade da UNISINOS, 8*(4), 274–285. https://doi.org/10.4013/base.2011.84.05

Jamaluddin, A., Ab Rahman, R., & Rahman, N. H. A. (2023). The whence and whither of interpretive management accounting research: A structured literature review. *Accounting and Finance Research, 12*(2), 1. https://doi.org/10.5430/afr.v12n2p1

Jeanjean, T., & Ramirez, C. (2009). Back to the origins of positive theories: A contribution to an analysis of paradigm changes in accounting research. *Accounting in Europe, 6*(1), 107–126. https://doi.org/10.1080/17449480902896421

Junjie, M., & Yingxin, M. (2022). The discussions of Positivism and interpretivism. *Online Submission, 4*(1), 10–14.

Kakkuri-Knuuttila, M. L., Lukka, K., & Kuorikoski, J. (2008). Straddling between paradigms: A naturalistic philosophical case study on interpretive research in management accounting. *Accounting, Organizations and Society, 33*(2–3), 267–291. https://doi.org/10.1016/j.aos.2006.12.003

Kuhn, T. S. (1962). *The structure of scientific revolutions.* Chicago: University of Chicago Press.

Lee, A. S. (1991). Integrating positivist and interpretive approaches to organizational research. *Organization Science, 2*(4), 342–365. https://doi.org/10.1287/orsc.2.4.342

Lehman, G. (2010). Interpretive accounting research. *Accounting Forum, 34*(3–4), 231–235. https://doi.org/10.1016/j.accfor.2010.09.004

Lourenço, R. L., & Sauerbronn, F. F. (2016). Revistando possibilidades epistemológicas em contabilidade gerencial: Em busca de contribuições de abordagens interpretativas e críticas no Brasil. *Revista Contemporânea de Contabilidade, 13*(28), 99–122. https://doi.org/10.5007/2175-8069.2016v13n28p99

Lukka, K. (2010). The roles and effects of paradigms in accounting research. *Management Accounting Research, 21*(2), 110–115. https://doi.org/10.1016/j.mar.2010.02.002

Macagnan, C. B., da Silva Prado, A. G., & Ferreira, J. C. (2020). Método quantitativo à luz da perspectiva crítica em contabilidade. In *Congresso ANPCONT XIV*. Foz do Iguaçu, PR. https://anpcont.org.br/pdf/2020_EPC424.pdf

Magrini, V. O., da Silva, M. A., da Silva, S. M. C., & Soares, E. C. (2024). Barreiras e desafios paradigmáticos na contabilidade: Relatos de uma pesquisadora não mainstream. *Advances in Scientific and Applied Accounting,* 98–111. DOI: 10.14392/asaa.2024170105

Major, M. J. (2017). O positivismo e a pesquisa "alternativa" em contabilidade. *Revista Contabilidade & Finanças, 28*(74), 173–178. https://doi.org/10.1590/1808-057x201790330

Martins, E. (2005). Normativismo e/ou positivismo em contabilidade: Qual o futuro? *Revista Contabilidade & Finanças, 16*(37), 3. https://doi.org/10.1590/S1519-70772005000100001

Medeiros, S. (2010). Bases epistemológicas do positivismo e do materialismo dialético: Notas para reflexão. *Itinerarius Reflectionis, 6*(2). https://doi.org/10.5216/rir.v6i2.10087

Mohammed, M. M. (2024). *The importance of accounting information in management decision making process* (Master's thesis, Sakarya University). Sakarya University Institutional Repository. https://enstituois.sakarya.edu.tr/TezDosyalari/1335_202412251345030491_TamMetin.pdf

Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage.

Myers, M. D. (2019). *Qualitative research in business and management* (2nd ed.). London: Sage.

Nascimento Silva, C., & da Costa, S. A. (2025). Há espaço para pesquisa qualitativa na contabilidade? Evidências a partir das teses brasileiras. *Revista Catarinense da Ciência Contábil, 24*(1), 5. https://dialnet.unirioja.es/servlet/articulo?codigo=10290213

Nepomuceno Valerio, J. (2017). Teoria das contabilidades: Quo vadis? *Criterio Libre, 15*(27), 21–42. https://doi.org/10.18041/1900-0642/criteriolibre.2017v15n27.1712

Nganga, C. S. N., Nova, S. P. D. C. C., de Lima, J. P. R., & da Silva, S. M. C. (2023). Publicar ou pesquisar? Reproduzir ou ensinar? Reflexões sobre as experiências de mulheres doutorandas em ciências contábeis. *Education Policy Analysis Archives, 31,* 1–24. https://doi.org/10.14507/epaa.31.7377

Olivares, E. H. (2006). Observación, teorías y valores a la luz de la filosofía de Popper. *CIENCIA ergo-sum, Revista Científica Multidisciplinaria de Prospectiva, 13*(2), 200–210.

Patrus, R., Dantas, D. C., & Shigaki, H. B. (2015). O produtivismo acadêmico e seus impactos na pós-graduação stricto sensu: Uma ameaça à solidariedade entre pares? *Cadernos EBAPE.BR, 13*(1), 1–18. https://doi.org/10.1590/1679-39512015v13n1a004

Peng, S., & Shiyu, S. (2019). A comparative analysis on Positivism and critical realism in accounting research. In *2019 4th International Conference on Social Sciences and Economic Development (ICSSED 2019)* (pp. 212–216). Atlantis Press. https://doi.org/10.2991/icssed-19.2019.41

Phoenix, C., Osborne, N. J., Redshaw, C., Moran, R., Stahl-Timmins, W., Depledge, M. H., & Wheeler, B. W. (2013). Paradigmatic approaches to studying environment and human health: (Forgotten) implications for interdisciplinary research. *Environmental Science & Policy, 25,* 218–228. https://doi.org/10.1016/j.envsci.2012.10.015

Pickering, M. (2011). Auguste Comte. In G. Ritzer (Ed.), *The Wiley-Blackwell companion to major social theorists: Classical social theorists* (Vol. 1, pp. 30–60). Wiley-Blackwell.

Pires da Silva, J., Niyama, J. K., & Noriller, R. M. (2018). Teoria da contabilidade: Reflexões sobre os 55 anos de positivismo. *Revista FSA, 15*(2), 27–47. https://doi.org/10.12819/2018.15.2.2

Popper, K. (1982). *Conjecturas e refutações*. Brasília: Editora UnB.

Pozzebon, M., & Petrini, M. (2013). Critérios para condução e avaliação de pesquisas qualitativas de natureza crítico-interpretativa. In M. M. Godoy & A. Bandeira-de-Mello (Orgs.), *Pesquisa qualitativa em administração: Fundamentos, métodos e usos no Brasil* (pp. 51–72). São Paulo: Saraiva.

Prévost, J.-G., & Beaud, J.-P. (2012). *Statistics, public debate and the State, 1800–1945: A social, political and intellectual history of numbers*. London: Pickering & Chatto.

Ramassa, P., Avallone, F., & Quagli, A. (2024). As pressões do "jogo editorial" podem afetar a escolha do tema de pesquisa? Uma pesquisa com pesquisadores europeus de contabilidade. *Journal of Management & Governance, 28*(2), 507–542. https://doi.org/10.1007/s10997-023-09667-8

Richardson, A. J. (2015). Quantitative research and the critical accounting project. *Critical Perspectives on Accounting, 32,* 67–77. https://doi.org/10.1016/j.cpa.2014.05.002

Ricoeur, P. (1981). *Hermeneutics and the human sciences: Essays on language, action and interpretation*. Cambridge: Cambridge University Press.

Riessman, C. K. (2008). *Narrative methods for the human sciences*. Thousand Oaks, CA: Sage.

Ryan, B., Scapens, R. W., & Theobold, M. (2002). *Research method and methodology in finance and accounting* (2nd ed.). London: Thomson.

Santos, L. M., Pelosi, E. M., & de Oliveira, B. C. S. C. M. (2012). Teoria da complexidade e as múltiplas abordagens para compreender a realidade social. *Serviço Social em Revista, 14*(2), 47–72. https://doi.org/10.5433/1679-4842.2012v14n2p47

Santos, M. A. C., Dias, L. N. S., & Dantas, J. A. (2014). Teorias normativa e positiva da contabilidade. In J. K. Niyama (Org.), *Teoria avançada da contabilidade* (pp. 1–37). São Paulo: Atlas.

Sauerbronn, F. F., Homero Junior, P. F., de Araujo, M. C., de Carvalho, T. F. M., & de Lima, J. P. R. (2023). Pesquisa crítica em contabilidade: Um campo de possibilidades. *Revista Mineira de Contabilidade, 24*(3), 4–11. https://doi.org/10.21714/2446-9114RMC2023v24n3a01

Sayed, S., Cornacchione, E. B., Nunes, T., & de Souza, M. C. (2019). Análise dos estudos em história da contabilidade em teses e periódicos brasileiros (2000–2016). *ConTexto – Contabilidade em Texto, 19*(41), 35–53. https://doi.org/10.21571/contextus.v19i41.1167

Scotland, J. (2012). Exploring the philosophical underpinnings of research: Relating ontology and epistemology to the methodology and methods of the scientific, interpretive, and critical research paradigms. *English Language Teaching, 5*(9), 9–16. https://doi.org/10.5539/elt.v5n9p9

Silva, C. N., Rodrigues, L. L., & Niyama, J. K. (2023). Is there room for qualitative research in accounting? Evidence from Brazilian dissertations and theses. *Revista de Administração Contemporânea, 27*(3), e220153. https://doi.org/10.1590/1982-7849rac2023220153.en

Silva, J. P., Niyama, J. K., & Noriller, R. M. (2018). Teoria da contabilidade: Reflexões sobre os 55 anos de positivismo. *Revista FSA, 15*(2), 27–47. https://doi.org/10.12819/2018.15.2.2

Somantri, E. D. (2013). Kritik terhadap paradigma positivisme. *Jurnal Wawasan Hukum, 28,* 622–633.

Suyunus, M. (2012). Ketika paradigma positivo mendampingi paradigma não positivo dalam riset akuntansi. *Ekuitas: Jurnal Ekonomi dan Keuangan, 16*(4), 409. https://doi.org/10.24034/j25485024.y2012.v16.i4.2333

Villiers, R. R. D., & Fouché, J. P. (2015). Philosophical paradigms and other underpinnings of the qualitative and quantitative research methods: An accounting education perspective. *Journal of Social Sciences, 43*(2), 125–142.

Vogt, M., Silva, M. Z. D., & Valle, I. R. (2021). "Comendo pelas beiradas": Vigilância epistemológica e a abordagem bourdieusiana no campo contábil. *Cadernos EBAPE.BR, 19*(1), 58–69. https://doi.org/10.1590/1679-39512020v18n4a001

Watts, R. L., & Zimmerman, J. L. (1990). Positive accounting theory: A ten-year perspective. *The Accounting Review, 65*(1), 131–156.

Watts, R. L., & Zimmerman, J. L. (1986). *Positive accounting theory*. Englewood Cliffs, NJ: Prentice Hall.

Wickramasinghe, D. (2011). Ontological dependency on epistemology strategy: Interpretive management accounting research revisited. In M. J. Epstein, J. Y. Lee, & M. J. Young (Eds.), *Review of management accounting research* (pp. 543–566). London: Palgrave Macmillan. https://doi.org/10.1057/9780230353275_21

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Thousand Oaks, CA: Sage.

Zyoud, M. M., Bsharat, T. R. K., & Dweikat, K. A. (2024). Quantitative research methods: Maximizing benefits, addressing limitations and advancing methodological frontiers. *ISRG Journal of Multidisciplinary Studies, 2*(4). https://doi.org/10.5281/zenodo.10939470

RMC

The Journal of Accounting of Minas Gerais is an Open Access quarterly journal, published by Conselho Regional de Contabilidade de Minas Gerais - ISSN: 2446-9114
Journal of Accounting of Minas Gerais, Volume 26, Number 3, Article 5, Pages 67 - 79, september/december 2025. Available at: https://revista.crcmg.org.br/rmc
DOI: https://doi.org/10.51320/rmc.v26i3.1705

CRCMG
CONSELHO REGIONAL DE CONTABILIDADE DE MINAS GERAIS

WHAT DOES THE MARKET SEEK? COMPETENCIES AND SKILLS REQUIRED IN CONTROLLER JOB POSTINGS FOR REMOTE WORK

O QUE O MERCADO PROCURA? COMPETÊNCIAS E HABILIDADES EXIGIDAS NAS VAGAS DE CONTROLLER PARA O TRABALHO REMOTO

ABSTRACT
The present research is situated within the broader discussion on the profile required by the Brazilian labor market for the position of controller in a remote work environment. In this context, the objective of the study was to analyze the professional competencies, as well as the social and personal skills, demanded in remote-work controller positions advertised in Brazil. To this end, job postings published on the LinkedIn platform between June 1st and October 1st, 2022, were examined, resulting in the identification of 74 vacancies consistent with the profile under investigation. These vacancies were subjected to co-occurrence network analysis based on the Jaccard coefficient, which enabled the mapping of the skills, characteristics, and functions inherent to the controllership professional in the remote work modality. The findings indicate that the main functions assigned to controllers are related to management, mastery of controllership practices, problem-solving, financial analysis, and teamwork. Regarding personal and professional skills and competencies, communication abilities, competitive differentiation among candidates, technological skills, and adequate knowledge for effective problem-solving stood out. The results highlight the need to develop specific characteristics and attributes among professionals in this field in order to meet market demands and cope with the heightened competitiveness in the sector, thereby increasing their prospects for employability.

Keywords: Controller, Controller Profile, Remote Work.

RESUMO
A presente pesquisa insere-se na discussão acerca do perfil requerido pelo mercado de trabalho brasileiro para o cargo de *controller* em ambiente remoto. Nesse sentido, o objetivo do estudo foi analisar as competências profissionais, bem como as habilidades sociais e pessoais exigidas nas vagas de *controller* divulgadas no Brasil para trabalho remoto. Para tanto, foram examinados anúncios de emprego publicados na plataforma LinkedIn, no período de 1º de junho a 1º de outubro de 2022, dos quais se identificaram 74 vagas compatíveis com o perfil investigado. Essas vagas foram submetidas à análise de redes de coocorrência, com base no coeficiente de Jaccard, o que permitiu mapear as habilidades, características e funções inerentes ao profissional de controladoria na modalidade de trabalho em questão. Os achados indicam que as principais funções atribuídas aos *controllers* relacionam-se ao gerenciamento, ao domínio das práticas de controladoria, à solução de problemas, à análise financeira e ao trabalho em equipe. No que se refere às competências e habilidades pessoais e profissionais, destacaram-se a comunicação, o diferencial competitivo entre os candidatos, as habilidades tecnológicas e o conhecimento adequado para solucionar problemas. Os resultados apontam para a necessidade de desenvolver características e atributos específicos dos profissionais da área, a fim de atender às demandas e à intensa competitividade do mercado, aumentando, consequentemente, as chances de empregabilidade.

Palavras-Chave: *Controller*, Perfil do *Controller*, Trabalho remoto.

Tatiane Cheremeta
Graduada em Ciências Contábeis pela Universidade Estadual de Ponta Grossa (UEPG). E-mail: tatianecheremeta@gmail.com. Lattes: http://lattes.cnpq.br/1257933509711166. ORCID iD: https://orcid.org/0009-0004-5803-1931

Antonio Nadson Mascarenhas Souza
Professor Adjunto da Faculdade de Ciências Contábeis (FACIC) da Universidade Federal de Uberlândia (UFU). Professor Permanente do Programa de Pós-Graduação em Contabilidade da Universidade Federal de Uberlândia (UFU). Doutor e Mestre em Contabilidade pelo Programa de Pós-Graduação em Contabilidade da Universidade Federal do Paraná (UFPR). Bacharel em Ciências Contábeis pelo Centro Universitário de Ciências e Empreendedorismo (UNIFACEMP). Especialista em Contabilidade Gerencial com ênfase em Controladoria pela Universidade Federal da Bahia (UFBA). E-mail: nadson.mascarenhas@ufu.br. Lattes: http://lattes.cnpq.br/7266523300517199. ORCID iD: https://orcid.org/0000-0001-7880-7531.

Alison Martins Meurer
Professor Permanente do Programa de Pós-Graduação em Contabilidade da Universidade Federal do Paraná (UFPR). Doutor em Contabilidade pelo Programa de Pós-Graduação em Contabilidade da Universidade Federal do Paraná (UFPR). Mestre em Contabilidade pelo Programa de Pós-Graduação em Contabilidade da Universidade Federal do Paraná (UFPR). Especialização em Avaliação do Ensino e da Aprendizagem da Universidade do Oeste Paulista (UNOESTE). Bacharel em Ciências Contábeis na Universidade Tecnológica Federal do Paraná (UTFPR). E-mail: alisonmeurer@ufpr.br. Lattes: http://lattes.cnpq.br/4473556362665178. ORCID iD: https://orcid.org/0000-0002-3704-933X.

Rayane Camila da Silva Sousa
Professora adjunta do Departamento de Administração da Universidade Tecnológica Federal do Paraná - UTFPR. Doutora em Contabilidade pelo Programa de Pós-Graduação em Contabilidade da Universidade Federal do Paraná – UFPR. Mestre em Contabilidade pelo Programa de Pós-Graduação em Contabilidade da Universidade Federal do Paraná – UFPR. Especialista em Contabilidade Tributária pelo Centro Universitário - Uninovafapi. Graduada em Ciências Contábeis pela Universidade Federal do Piauí – UFPI. E-mail:rayanesousa@utfpr.edu.br. Lattes: http://lattes.cnpq.br/8604968465465986. ORCID: https://orcid.org/0000-0002-7181-1607

Journal of Accounting of Minas Gerais - ISSN 2446-9114 – Open Access quarterly journal, published by Conselho Regional de Contabilidade de Minas Gerais (CRCMG). Received: 19th May 2025. Proofread: 26th June 2025. New alterations: 19th August 2025. Accepted: 4th November 2025, by Dra. Edvalda Araújo Leal and Dr. Nálbia de Araújo Santos. Published: 26th December 2025. Published by: CRCMG

1. INTRODUCTION

The field of management control developed from the basic principles used by the early schools of accounting thought, showing significant evolution over the years (Lunkes et al., 2009). This occurred because the growth and decentralization of organizations began to demand greater control over the activities carried out in the various sectors that made up the company, in order to address the problems of internal communication and coordination that were frequently experienced (Souza, 2015).

Due to strong economic growth and the need for more efficient and appropriate management practices, management control emerged (Souza, 2015). Thus, even without a precise definition of its scope (Lunkes et al., 2013), management control advanced and became a multidisciplinary function, focusing on the implementation and transformation of strategies into operational actions (Lunkes et al., 2009). Consequently, with the advancement of market competitiveness, the need for qualified professionals to ensure organizational control (Anagusko et al., 2020) and oversee the processes that make up management (Eleuterio, 2015) intensified.

The literature describes the controller as a professional who occupies a strategic and fundamental position within the business environment (Siqueira & Soltelinho, 2001). In this context, the controller, or management control professional, must possess a set of professional and personal competencies associated with the effective performance of their functions (Andriotti, 2016). According to Lizzio and Wilson (2014), competence is the set of knowledge, skills, and attitudes of an individual, manifested in various ways throughout life; the workplace constitutes a suitable space for this manifestation, given the interaction with different people and challenging situations. Skill, in turn, corresponds to the ability to apply knowledge in performing a task through a programmed or proactive attitude (European Commission, 2018). According to Fleury and Fleury (2001, p. 185), "good performance is grounded in skills, attitudes, and knowledge, which stem from intelligence, originality, and the way of being of each individual."

Several studies have been conducted on this topic, seeking to provide continuous monitoring of the skills, attitudes, and knowledge required for this professional. For example, Oro et al. (2009), Gomes et al. (2014), Callado and Amorim (2017), Fiirst et al. (2018), and Amorim et al. (2018) sought to identify the competencies, skills, and experiences necessary for the controller profile. Ribeiro et al. (2008) examined the functions performed by the controller, along with the educational background and training required. Vogt et al. (2017), on the other hand, focused on the salary perspectives of these professionals, while Lima and Araújo (2020) and Souza et al. (2020) aimed to identify the required competencies, performed activities, and predominant professional profiles of management control professionals, highlighting the transition from bean counters to business partners compared to other regions of the world.

The context in which controllers perform their functions is also transient. Work, like other aspects of social reality, is in constant evolution and has undergone changes over time due to the need to adapt to new circumstances. Consequently, it ceased to be performed exclusively manually and on-site, incorporating remote work practices dependent on technology—a model intensified by the COVID-19 pandemic (Bridi et al., 2020). Haubrich and Froehlich (2020) attribute numerous changes in the work context to the pandemic, particularly in work methods and organizational strategies. Additionally, Campos and Bigarelli (2020) and Carmo (2020) report that the adoption of remote work was driven by social isolation, serving as an alternative to maintain organizational activities. The restriction on commuting was one of the factors that led approximately 46% of Brazilian companies to adopt remote work (Mello, 2020).

The theme of remote work has been addressed in studies by Brik and Brik (2011), Costa (2013), Rafalski and Andrade (2015), Aderaldo et al. (2017), and Haubrich and Froehlich (2020), who analyzed the characteristics and skills necessary for professional performance in this modality. These studies concluded that responsibility, proactivity, attention, discipline, commitment, and organization are among the main attributes required. Based on these findings, attention turns to the controller professional, whose area of activity demands dynamism and innovation to meet market needs. This professional plays a fundamental role in decision-making processes, contributing to increasing the likelihood of organizational success (Correia & Ganzarolli, 2019).

It is noteworthy that the COVID-19 pandemic spurred new work modalities that have persisted in the post-pandemic period, such as fully remote work and the hybrid model: partly remote, partly on-site. Recognizing the relevance of the topic, constant market changes, and the need for increasingly skilled and competent management control professionals, this study seeks to answer the following research question: what professional, social, and personal competencies and skills are required in controller job postings advertised in Brazil for remote work? The objective is to analyze the professional competencies and social and personal skills required in controller job advertisements aimed at remote work in the country. For this purpose, job postings published on the LinkedIn social network, recognized as the leading professional platform, were examined.

The research is justified by its contribution to academia, by providing a basis of the skills, attitudes, and knowledge required of the professional, enabling students to guide their training and increase their employability. It also contributes to professional practice, offering insights for already trained professionals to adapt to market demands and improve their resumes. According to the Chartered Institute of Management Accountants (CIMA, 2019), accounting professionals need to master personal and digital skills; the document reinforces the importance of management accountants adapting to new business models. Thus, the results of this study contribute to defining the desired profile in remote accounting job postings, considering that this work format has become a reality in several corporate environments, including management control.

This study advances previous research by incorporating the context of remote work, differentiating itself from the analyses of Brik and Brik (2011), Costa (2013), Rafalski and Andrade (2015), Aderaldo et al. (2017), and Haubrich and Froehlich (2020), which addressed remote work skills but in other areas, such as information technology companies. Compared to Ribeiro et al. (2008), Lima and Araújo (2020), and Souza et al. (2020), this study aligns with them in investigating the functions performed by the professional; finally, it relates to Vogt et al. (2017) concerning salary perspectives, although focusing on identifying possible mentions of these aspects in the job postings analyzed.

2. LITERATURE REVIEW

2.1 Competencies and Skills of the Management Control Professional

Management control began in the mid-20th century, a period marked by the demand for professionals with a more technical profile, responsible for activities related to accounting and financial routines. Later, after the 2000s, companies started requiring professionals with a managerial profile, possessing knowledge in costs, planning, and analysis. Thus, it is clear that the desired profile has evolved according to organizational needs (Fiirst et al., 2018). In this context, the importance of the controller stands out, considered a key figure in organizational management (Lavarda et al., 2020) and in the decision-making process (Santos et al., 2021).

Given the relevance of the controller in companies, Callado and Amorim (2017) discuss the activities performed by this professional, emphasizing their business-oriented role, encompassing both technical and social aspects. Similarly, Szukits (2019) argues that the controller has evolved from being a mere data provider to a professional actively involved in processes and business activities, adding these responsibilities to their existing functions, as well as playing a significant role in organizational decision-making (Arenales, 2016; Graham et al., 2012).

Regarding the controller, Fernandes and Galvão (2016) define them as professionals capable of implementing tools that enable effective management, such as budgeting, cost control, and accounting, and interpreting these tools accurately. Richartz et al. (2012), when comparing the content of management control courses in Brazilian federal universities with market requirements, observed that the hiring of this professional occurs due to the need to coordinate business activities, with the controller assuming such functions. In this sense, their responsibilities have been constantly evolving, as they contribute to value creation within the organizational context (Lavarda et al., 2020).

The functions of the controller also vary according to the size of the company. Oro et al. (2009), analyzing 373 job advertisements on three recruitment platforms (Catho, Manager, and Michael Page), found that small companies tend to seek professionals for operational-level roles, while large companies demand strategic-level involvement. Common competencies required at operational, managerial, and strategic levels include knowledge of corporate/financial accounting, mastery of U.S. Generally Accepted Accounting Principles (US GAAP), and fluency in English.

Pires et al. (2010) analyzed the knowledge, skills, and attitudes required of accounting professionals in the Porto Alegre Metropolitan Region from the perspective of nine educational institutions. The authors found that a professional's competencies go beyond technical knowledge, aiming to identify whether academic training aligns with market demands. The results indicated a relative alignment between market requirements and competency development within curricula.

Gomes et al. (2014), analyzing the profile of management control professionals sought by Brazilian companies based on announcements on Hays Brasil, Case Consulting, Catho, Michael Page, and Manager platforms, identified that a degree in Accounting remains the most requested, although degrees in Administration, Economics, Engineering, or Law are also accepted. They also observed that the required profile has evolved over time, no longer being exclusively accounting-focused. Nevertheless, knowledge of Excel, integrated systems, IFRS, and US GAAP remains essential, alongside skills such as leadership, proactivity, and analytical ability.

Callado and Amorim (2017) also investigated the controller profile regarding the functions, skills, knowledge, and attitudes required to meet market demands. They identified 13 business competencies, 18 social competencies, and 30 technical competencies, totaling 61 requirements. These competencies demonstrate that management control professionals need broad skills, such as self-criticism, leadership, forecasting and problem-solving, strategic thinking and action, decision-making, proactivity, effective communication, flexibility, and mastery of accounting. Their work supports operational, managerial, and strategic decisions by providing timely, accurate, and reliable information to management.

The desired profile of the controller was also studied by Fiirst et al. (2018), based on advertisements published in the newspaper O Estado de São Paulo. The main skills highlighted were leadership, experience, and professional training in Accounting, Economics, Administration, or Engineering, in addition to fluency in English—a requirement present since the 1970s.

Lima and Araujo (2020) analyzed the controller profile, identifying essential competencies, experiences that contribute to professional development, and the relationship between academic background and professional activity. The research, conducted via questionnaire with 208 participants, observed a predominance of male respondents, graduates in Accounting or Administration, with foreign language proficiency and competencies such as analytical capacity, accounting and finance knowledge, teamwork, strategic vision, and planning. A significant correlation was identified between Administration graduates working in large companies and professionals with auditing experience working in small companies. Experience in accounting, auditing, finance, costs, and planning was especially valued.

Souza et al. (2020) also conducted research from three perspectives, one of which focused on identifying the activities performed by management control professionals and the required profile. The main activities identified for controllers were data and financial report analysis, bookkeeping, tax monitoring, and managerial performance control. The study also found a predominance of bean counter (74.5%) and business partner (25.5%) profiles. Most respondents were male, with an average of 6.8 years of experience in the field.

Meurer and Voese (2020) conducted a study aiming to analyze the profile required by the market for cost accounting professionals, based on the guidelines of the International Federation of Accountants (IFAC). The results revealed alignment between the competencies required in job postings and IFAC guidelines, highlighting social skills, analytical and critical thinking, as well as knowledge in other areas.

Finally, Amorim et al. (2018) investigated the main competencies required of controllers in performing their functions, encompassing social and business competencies in the Brazilian context. The study, conducted with companies in Recife, identified competencies such as clear communication and writing skills, teamwork, professional demeanor, self-confidence, impartial decision-making, and strategic thinking. Additionally, it highlighted the expansion of the professional's activities, which now include supporting top management through performance indicator management and executive advisory.

From the studies analyzed, it is clear that the controller is a professional who must demonstrate skills such as leadership, proactivity, and teamwork, in addition to possessing knowledge of systems, accounting principles, and foreign languages, preferably English.

2.2 REMOTW WORK

Remote work can be defined as "a type of individual work organization carried out by a person in their own residence" (Pires et al., 2020, p. 5), with its introduction in Brazil originating in multinational companies (Gatti et al., 2018). Although authors such as Rafalski and Andrade (2015) define remote work as a temporary and low-skilled activity, researchers like Gatti et al. (2018) highlight the popularization and growth of this modality both in Brazil and worldwide, shifting from being merely a trend to becoming a reality in organizational environments.

According to Taschetto and Froehlich (2019), remote work stems from developments initiated after the 2000s, especially those related to the advancement of the internet, which provided greater flexibility and a new way of working, distinct from conventional models. These changes brought more autonomy, opportunities, and flexibility to workers. Remote work can lead to increased productivity, better time management for preparing reports and action plans, and contribute to improved planning, reduced stress, lower expenses, and enhanced quality of life (Bellini et al., 2011). However, it requires a higher degree of concentration (Boonen, 2002). According to Costa (2013), individuals working remotely need attributes such as discipline, autonomy, proactivity, and reliability, as well as concentration and organization (Brik & Brik, 2011).

Haubrich and Froehlich (2020), when analyzing information technology companies, investigated the requirements for hiring professionals for remote work. They concluded that, in addition to having a computer with internet access, candidates must demonstrate characteristics such as discipline, focus, concentration, commitment, and organization. A lack of commitment, indiscipline, and absence of interaction with other colleagues were identified as potential challenges in adopting this work modality.

Similarly, Burns and Scapens (2000) point out that the evolution of market competitiveness, new management practices, and advancements in information technology influence the need for organizational change. Complementarily, Basso and Júnior (2018) highlight societal evolution, in which work has shifted from being predominantly manual to primarily intellectual.

Barros and Silva (2010) observed that, although remote work reduces commuting costs, it may generate other expenses that must be considered, such as electricity consumption, the need for appropriate furniture, and the purchase of office supplies, among others. In addition, productivity targets in remote work tend to be more stringent than in the traditional model. These findings align with earlier studies, such as Nilles (1996) and Mann et al. (2000), which identified cost as both an advantage—due to the elimination of commuting expenses—and a disadvantage—due to increased household expenses.

Rafalski and Andrade (2015) sought to identify work-related aspects and psychosocial variables of professionals who work or have worked remotely. They concluded that, for integration into this modality, in addition to organizational support, individuals must demonstrate attention, frustration tolerance, and self-motivation. Similarly, Aderaldo et al. (2017), when researching critical aspects of telework in a multinational company through interviews with interns, found that this modality can foster individual competencies such as professional maturity, responsibility, agility, and proactivity.

These studies demonstrate that remote work presents both advantages and disadvantages: while it reduces commuting expenses, it increases household costs; additionally, it requires greater concentration and commitment from the professional, making it a challenge for both workers and organizations.

3. METHODOLOGICAL PROCEDURES

This study is descriptive in nature and employs a qualitative approach. Data collection was carried out through the analysis of job advertisements aimed at professionals known as controllers for remote work positions. These data were mapped on the LinkedIn platform, chosen for its large user base and its focus on professional networking, making it an important tool for disseminating job opportunities. The platform has over 850 million users across approximately 200 countries, covering various industries and companies (LinkedIn, 2022). The use of job platforms to investigate professional profiles has been observed in both national and international studies, such as those by Tan and Laswad (2018) and Meurer and Voese (2020), which select platforms based on their popularity in the countries studied.

Data collection covered the period from June 1, 2022, to October 1, 2022. Searches for new job postings were conducted weekly and concluded based on the saturation criterion, i.e., when postings began to repeat on the platform, with no new listings appearing. The filters applied included the keyword "controller," location set to "Brazil," and the work format option "remote." The term "controller" was chosen because it is widely used in job postings within the management control field and involves specific skills and competencies. Remote work was selected because it represents, even initially due to the pandemic context, one of the main alternatives for work organization and continues to be adopted by various companies.

From the national search, 98 postings matched the selected filters ("controller," "Brazil," "remote"). However, 24 listings were excluded because they did not meet the concepts and precepts related to management control professionals, being primarily directed to information technology and software development roles. Ultimately, 74 postings were analyzed, fully meeting the criteria established by the researchers.

For each job posting, the data were tabulated in a spreadsheet and analyzed using KH Coder 3® software. Co-occurrence networks were created based on the Jaccard coefficient, which enables "an adequate analysis in non-parametric correlation approaches in which elements of different sets are compared" (Palfi & Bota-Avram, 2009, p. 1094). The coefficient ranges from 0 to 1, with higher values indicating greater similarity between the data. This approach allowed the identification of the frequency of recurring elements in the postings, such as professional profile characteristics, required experiences, functions to be performed, among others.

Thus, the study aimed to delineate the profile required of management control professionals for remote work, considering the current market scenario. The authors used the study by Tan and Laswad (2018) as a reference, in which researchers perform a literal extraction of the job posting texts and subsequently select the most recurring skills and competencies. KH Coder 3® software facilitated the identification and organization of these data.

4. ANALYSIS AND DISCUSSION OF RESULTS

The following section presents the research findings, considering the controller job postings analyzed. Table 1 provides information regarding the size of the companies and the salary range disclosed in the job advertisements.

Table 1 - Characteristics of the Job Postings Analyzed

Company Size			
Microenterprise – Up to 9 employees	4	Medium – Between 50 and 99 employees	5
Small – Between 10 and 49 employees	5	Large – More than 100 employees	60
Salary Range			
Above R$ 4.000,00	1	Not specified	72
Salary to be negotiated:	1		

Note: Company size classifications are based on Sebrae and Dieese (2013, p. 17).
Source: Prepared by the authors.

Most of the job postings were made by large companies, with more than 100 employees. Regarding compensation, 97.30% of the advertised positions did not disclose this information, which, according to Simon et al. (2013, p. 60), "may influence the difficulty and delay in finding a professional when a vacancy is advertised." Compared to the study by Vogt et al. (2017), the results are not similar, since in the present research, the disclosure of compensation-related elements is virtually nonexistent.

Table 2 presents information regarding professional experience, proficiency in Microsoft Office, languages, other prior knowledge, and additional qualifications and/or requirements listed in the job postings.

Table 2 - Experience, Knowledge, and Language

Professional Experience		Microsoft Office Knowledge	
Experience in the field	49	Excel	20
Not required / not specified	25	Power Point	3
		Not specified	33
Language		**Other Prior Knowledge**	
Advanced English	32	IFRS	11
Intermediate English	7	GAAP	10
Advanced Spanish	8	ERP	5
Intermediate Spanish	3	SaaS	5
Other	8	Big Four	7
Not required	33		
Other Qualifications / Requirements			
CPA certification	8	Active CRC	8

Note: Some requirements may appear in multiple job postings.
Legend: IFRS = International Financial Reporting Standards; GAAP = Generally Accepted Accounting Principles; ERP = Enterprise Resource Planning; SaaS = Software as a Service.
Source: Prepared by the authors.

Possessing experience in the field emerges as a fundamental requirement in the analyzed job postings, as nearly 50% of the vacancies demand it. Regarding languages, advanced English is the most requested, followed by Spanish. In terms of Microsoft Office knowledge, Excel stands out as a key tool in the daily work of this professional. Other skills appeared more sporadically in the postings, such as IFRS, GAAP, ERP, SaaS, and interaction with Big Four audit firms. Certifications such as CPA and active CRC were also mentioned. These findings align with the studies of Oro et al. (2009) and Gomes et al. (2014), which emphasize the requirement for proficiency in U.S. Generally Accepted Accounting Principles, integrated systems, IFRS, and fluency in English.

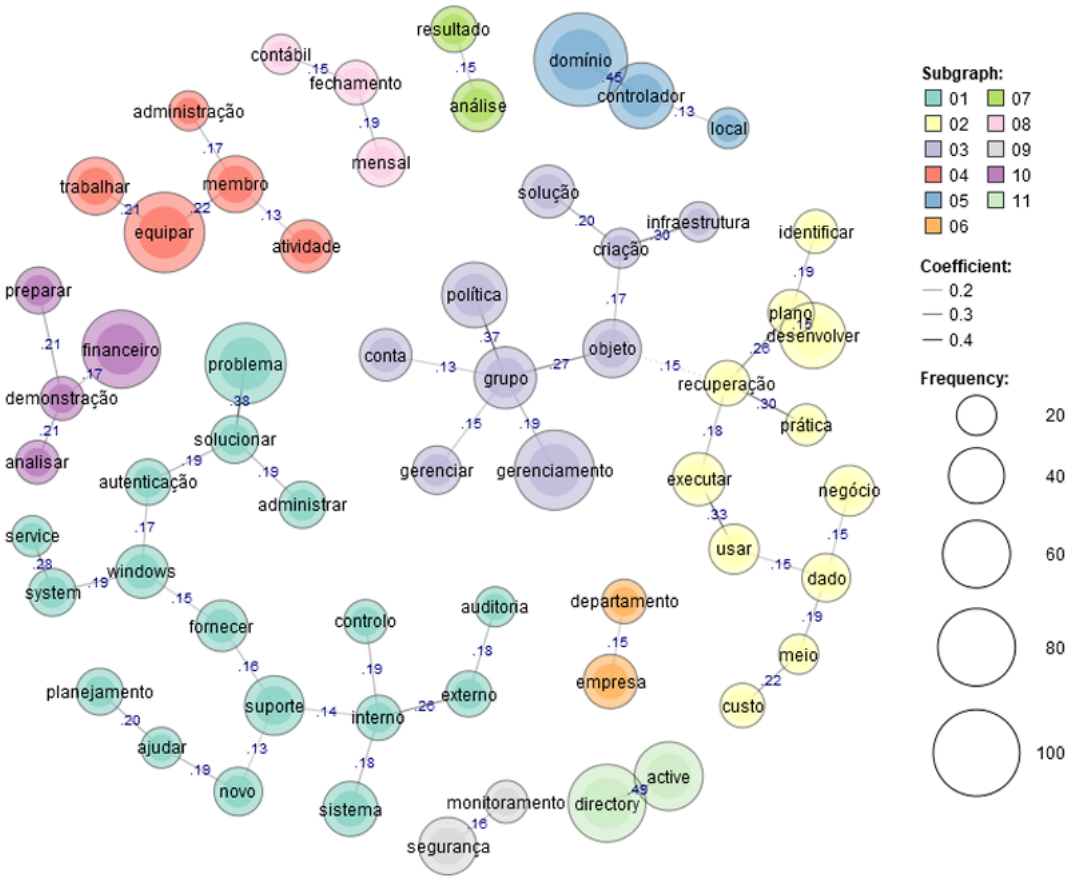
To identify the main functions performed by management control professionals in remote work settings, a co-occurrence network was developed, as presented in Figure 1. The subgraphs represent communities formed by clusters of terms with higher similarity.

In Subgraph 1, functions related to administration and problem-solving are observed, highlighted by the connection between the terms “solve” and “problems” (J = 0.38). In Subgraph 2, there is an association between “use” and “execute” (J = 0.33), as well as between “plan” and “recovery” (J = 0.28), indicating functions linked to the development and execution of plans. Subgraph 3 refers to functions of creation, development, and group execution, represented by the connection between “policy” and “group” (J = 0.37). In Subgraph 4, there is an association between “work” and “team” (J = 0.21), reinforcing the importance of collective work, while Subgraph 5 pertains to expertise in management control, with the link between “expertise” and “controller” (J = 0.45). Subgraph 6 highlights the relationship between “department” and “company” (J = 0.15).

Subgraph 7 connects “analysis” and “result” (J = 0.15), indicating activities in the financial domain. Subgraph 8 relates to the accounting area, given the interconnection between “closing” and “monthly” (J = 0.19). Subgraph 9 is characterized by actions of “security” and “monitoring” (J = 0.16). Subgraph 10, similar to Subgraph 7, is also linked to the financial area, connecting “analyze,” “prepare,” and “statement” (J = 0.21). Finally, the last subgraph concerns directory services, represented by Windows Active Directory expertise (J = 0.49).

Figure 1 thus summarizes the main functions required in the analyzed controller job postings.

Figure 1 - Co-occurrence network among the functions to be performed

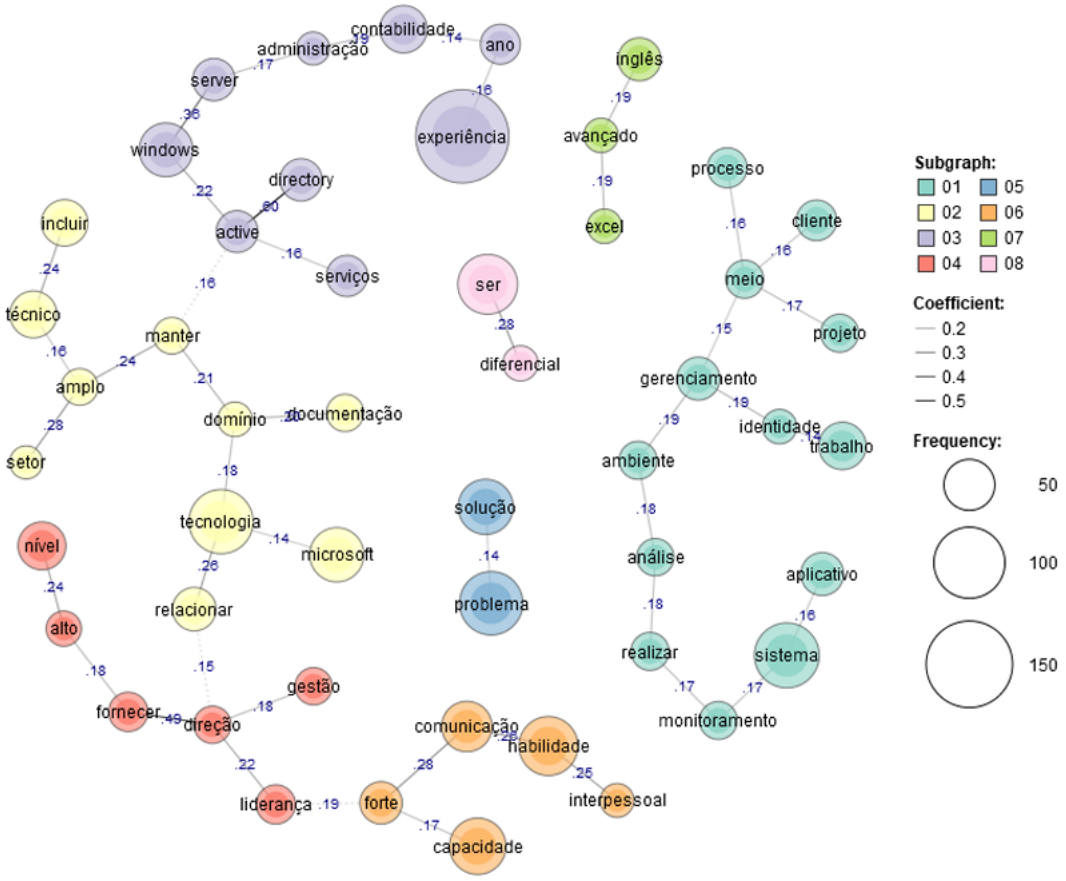


Source: Prepared by the Authors

It is observed, based on the frequency of the words, that the main functions to be performed by the controller in remote work are related to management, expertise in controllership, problem-solving, and financial analysis. When comparing these findings with the study by Ribeiro et al. (2008), it is noted that those authors identified as the main functions those linked to internal controls, report preparation, responsibility for financial statements, and tax-related activities. In comparison with the results of Lima and Araujo (2020), this research presents similarities with regard to expertise in the accounting field, and it is also aligned with the CIMA (2019) document, which discusses the functions assigned to the managerial professional. Likewise, the findings resemble those of Souza et al. (2020), especially with respect to functions related to financial report analysis, monitoring, and managerial control.

Considering the main functions to be performed by the professional, Figure 2 presents the subgraphs of the co-occurrence network that highlight the main technical and professional skills attributed to the controller in a remote work setting, so that they may meet market demands.

Figure 2 - Co-occurrence network of technical and professional skills



Source: Prepared by the Authors

Professional skills are related to the controller's behavior in the work environment, with competencies in leadership, management, and communication constituting essential requirements for occupying the position. Technical skills, in turn, refer to attributes derived from university and complementary education, considered basic prerequisites for assuming the role.

In the first subgraph, management skills stand out, encompassing time, project, and problem management, which vary according to the characteristics of the environment in which the professional operates. Subgraph 2 highlights competencies related to the mastery of and interaction with electronic and technological means, represented by the clustering of "relacionar" (interact) and "tecnologia" (technology) (J = 0.26). In this same vein, the third subgraph is also linked to technology, adding experience in the areas of accounting and business education.

Subgraph 4 shows the association between leadership and guidance skills, while the fifth subgraph relates to problem-solving ability, represented by "solução" (solution) and "problemas" (problems) (J = 0.14). In the sixth subgraph, communication skills are observed, expressed by "forte" (strong), "habilidade" (skill), and "comunicação" (communication) (J = 0.28), referring to the controller's capacity to communicate effectively with the team, clients, and other stakeholders of the company. Finally, the seventh subgraph highlights the need for advanced skills, such as fluency in English and proficiency in work tools—especially Excel—which stand out as valued differentiators for recruiters. Similar results were observed by Meurer and Voese (2020), who, when analyzing co-occurrence networks for the profile of cost-accounting professionals according to IFAC guidelines, identified the relevance of previous experience, technological proficiency, and English-language knowledge.

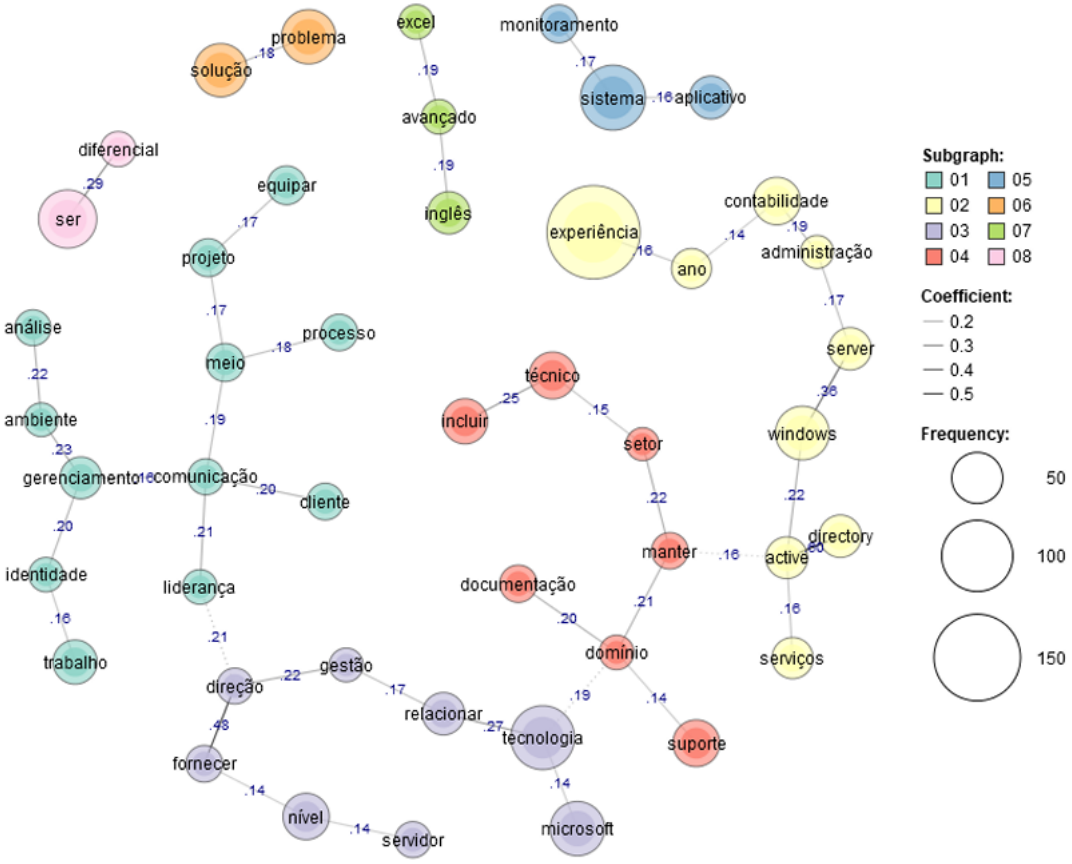
The analysis of the co-occurrence network as a whole indicates that the profile of a remote-work controller places greater emphasis on professional skills—acquired and developed through work practice—than on personal skills, which are inherent to each individual. Among the most frequent skills, interpersonal ones such as good communication stand out, while in the professional realm, competencies linked to technological proficiency and problem-solving abilities are most prominent.

The study by Callado and Amorim (2017) underscored the multidisciplinary nature of controller competencies, showing that their skills span various areas. These findings converge with those of Fiirst et al. (2018), according to which professionals must possess leadership skills, previous experience, and training in fields such as accounting, economics,

business administration, or engineering. However, unlike the study by Fiirst et al. (2018), the results of the present investigation highlight the predominance of education in accounting and/or business administration as the most frequent requirement.

Figure 3 presents the co-occurrence network of professional skills required of controllers in the remote work modality analyzed in this research, detailing and breaking down each of the competencies identified.

Figure 3 - Co-occurrence network of professional skills



Source: Prepared by the Authors

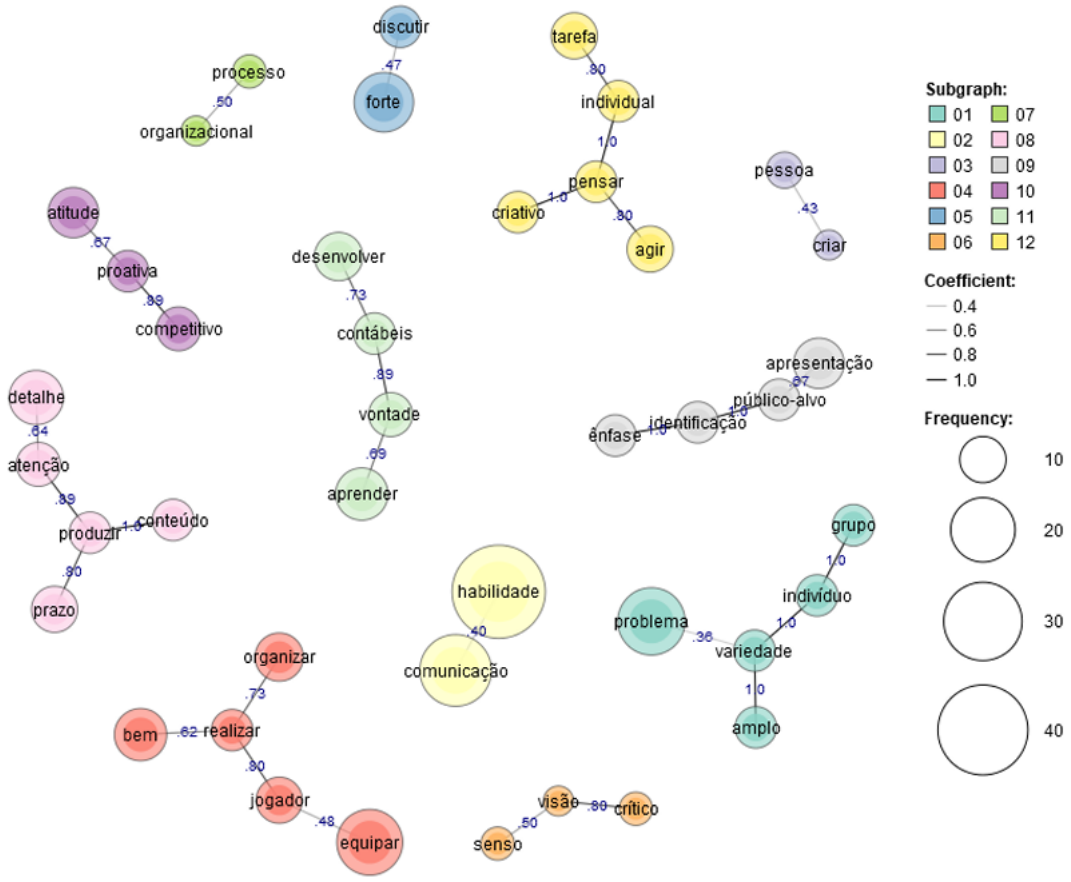
From the analysis of Figure 3, the formation of eight network groups is observed. The results indicate that a controller working remotely must demonstrate skills related to management, communication, environmental analysis, professional experience, teaching in accounting and/or business administration, mastery of digital services and technology, problem-solving ability, as well as knowledge of Excel and advanced English—these last two being considered distinguishing advantages.

The findings of this research align with the studies of Fiirst et al. (2018), Lima and Araujo (2020), and Souza et al. (2020) with respect to professional experience, as well as with Oro et al. (2009), Fiirst et al. (2018), and Lima and Araujo (2020) concerning proficiency in a foreign language.

The frequency analysis shows that the main professional skills required of controllers working remotely are concentrated in professional experience, knowledge and ability to operate systems, and effective use of technology.

In addition, Figure 4 presents the co-occurrence network of the technical skills most in demand for the role, offering a detailed view of the essential requirements for performing the position.

Figure 4 - Co-occurrence network of technical skills



Source: Prepared by the Authors

Based on the co-occurrence networks, it is observed that a controller working remotely must possess skills related to problem-solving, both individually and in groups, in addition to communication and creativity competencies. This professional should be organized, collaborative, capable of discussing ideas constructively, and equipped with critical thinking and strategic vision. Furthermore, it is necessary that they understand the company's entire organizational process, maintaining attention to deadlines and details.

The controller sought by the job market in the remote-work modality must also demonstrate good conduct toward the target audience, show attitude, proactivity, and competitiveness, as well as a willingness to learn and the ability to think and act creatively.

The results of this research partially diverge from the studies by Amorim et al. (2018), which highlight personal skills such as confidence, demeanor, and strong verbal and written communication. Differences also arise in relation to the findings of Brik and Brik (2011), Costa (2013), and Haubrich and Froehlich (2020), who investigated attributes of professionals working remotely in general and identified competencies such as concentration, discipline, organization, autonomy, and reliability. These divergences may be explained by the differences in the professional profiles analyzed in each study, given that those works include professionals ranging from technology specialists to remote controllers, the focus of the present investigation.

However, there is convergence in some skills, such as attention (Rafalski & Andrade, 2015; Callado & Amorim, 2017), proactivity (Costa, 2013; Gomes et al., 2014; Aderaldo et al., 2017; Callado & Amorim, 2017), the ability to think and act strategically (Callado & Amorim, 2017; Amorim et al., 2018), and analytical ability (Gomes et al., 2014). These similarities reflect the complexity of the activities performed: even when the work context or modality is different, the essence of the functions remains the same.

Frequency analysis indicates that, among the main technical skills required of remote controllers, effective communication and problem-solving ability stand out. Despite being a remote modality, there is still a clear need for interaction and collaboration with other members of the work group, even when geographically distant.

5. CONCLUSION

The research contributed by providing a detailed view of the functions, skills, and competencies required by the Brazilian job market to occupy the position of controller in a remote work arrangement. The findings may help students in the field to strategically direct their studies, increasing their employability prospects. For already trained professionals, the results offer support to improve their résumés, aligning them with current market demands.

In addition, the research answered the guiding question, indicating that the professional profile of a remote-work controller involves broad competencies encompassing management skills, practical experience, academic training, technological alignment, problem-solving ability, mastery of tools such as Excel, language proficiency, effective communication, organization, critical thinking, attention to detail, good presentation, attitude, proactivity, competitiveness, willingness to learn, and creative thinking.

Regarding professional duties, the results indicated that the controller must perform activities related to management, mastery of controllership functions, problem-solving, financial analysis, and teamwork. As emphasized by Pires et al. (2010), a professional is defined by competencies that go beyond technical knowledge. The co-occurrence networks reinforce these results and demonstrate alignment with previous studies, showing that although remote work is a distinct modality, many of the required skills and competencies are similar to those of on-site positions.

The study is relevant given the growing frequency of remote or hybrid job opportunities after the pandemic period, revealing a new reality in the labor market that requires constant monitoring of employers' expectations regarding professional competencies.

The findings of this study are limited to the mapped period and to the performance of Brazilian controllers working remotely. Future research may expand the scope to other areas of accounting under the same conditions, comparing requirements for remote and on-site work to identify possible gaps. Another suggestion is to investigate different job-posting platforms or compare the results obtained with the content taught in academic curricula, assessing the alignment between competencies demanded by the job market and academic training.

REFERENCES

Aderaldo, I. L., Aderaldo, C. V. L., & Lima, A. C. (2017). Aspectos críticos do teletrabalho em uma companhia multinacional. Cadernos EBAPE.BR, 15, 511-533. https://doi.org/10.1590/1679-395160287

AICPA & CIMA. (2019). *CGMA competency framework (2019 edition)*. AICPA/CIMA.

Amorim, T. N. G. F., de Lima Oliveira, A. R., Manzi, S. M. S., & Cabral, M. F. (2018). Perfil e competências do *controller* em empresas no Recife. *Revista Mineira de Contabilidade*, 19(3), 52-63. https://doi.org/10.21714/2446-9114RMC2018v19n3t05

Anagusko, L. H., Araki, M. E., & Moser, E. M. (2020). Implantação da controladoria em micro e pequenas empresas no Brasil: O que considerar? *Revista da Micro e Pequena Empresa*, 14(1), 59-78. http://dx.doi.org/10.21714/19-82-25372020v14n1p

Andriotti, J. N. (2016). *Competências necessárias e indispensáveis na formação profissional do controller* [Trabalho de Conclusão de Curso, Universidade Federal do Rio Grande do Sul]. Repositório Digital UFRGS. http://hdl.handle.net/10183/167298

Arenales, A. D. R. (2016). O papel da controladoria como *business partner*. *Práticas em Contabilidade e Gestão*, 4(1). http://editorarevistas.mackenzie.br/index.php/pcg/article/view/10014

Barros, A. M., & Silva, J. R. G. D. (2010). Percepções dos indivíduos sobre as consequências do teletrabalho na configuração home-office: estudo de caso na Shell Brasil. *CADERNOS Ebape.BR*, 8, 71-91. https://doi.org/10.1590/S1679-39512010000100006

Basso, D. de M., & Junior, I. F. B. (2018). O teletrabalho e a supressão de seus direitos na reforma trabalhista. *Revista do Direito do Trabalho e Meio Ambiente do Trabalho*, 4(1), 59-76. http://dx.doi.org/10.26668/IndexLawJournals/2525- 9857/2018.v4i1.4301

Bellini, C. G. P., Donaire, D., Santos, S. A. dos, Mello, A. A. A., & Gaspar, M. A. (2011). Teletrabalho no desenvolvimento de sistemas de informação: Um estudo sobre o perfil dos teletrabalhadores do conhecimento. *Revista Ciências Administrativas*, 17(3), 1029-1052. https://www.redalyc.org/pdf/4756/475647554015.pdf

Boonen, E. M. (2002). As várias faces do teletrabalho. *Revista Economia & Gestão*, 2(4). https://periodicos.pucminas.br/index.php/economiaegestao/article/view/104

Bridi, M. A., Bohler, F. R., Zanoni, A. P., Braunert, M. B., Bernardo, K. A. D. S., Maia, F. L., & Bezerra, G. U. (2020). O trabalho remoto/home-office no contexto da pandemia COVID-19. *REMIR - Rede de Estudos e Monitoramento Interdisciplinar da Reforma Trabalhista*. https://www3.eco.unicamp.br/remir/images/Artigos_2020/ARTIGO_REMIR.pdf

Brik, M. S., & Brik, A. (2011). *As 100 dicas do Trabalho remoto: Um guia básico para montar e manter seu escritório em casa*. Editora AB.

Burns, J., & Scapens, R. W. (2000). Conceptualising management accounting change: An institutional framework. *Management Accounting Research*, 1, 3-25. https://doi.org/10.1006/mare.1999.0119

Callado, A. A. C., & Amorim, T. N. G. F. (2017). Competências da função de *controller* em hotéis de grande porte da região metropolitana do recife. *Revista Evidenciação Contábil & Finanças*, 5(2), 57-73. https://10.18405/recfin20170204

Campos, S., & Bigarelli, B. (2020, 06 de agossto). Companhias já aderem ao *trabalho remoto* permanente. *Valor Econômico*. https://valor.globo.com/carreira/noticia/2020/06/08/companhias-ja-aderem-ao-home-office-permanente.ghtml

Carmo, K. (2020, 07 de abril). A vez do home office*t. ADMPRO – Administrador Profissional*. https://crasp.gov.br/admpro/site/materias-em-destaque/a-vez-do-homeoffice

Correia, A. G., & Ganzarolli, T. F. de M. (2019). Endividamento e Alavancagem Financeira. *Id On Line. Revista Multidisciplinar e de Psicologia*, 13(43), 593-613. https://doi.org/10.14295/idonline.v13i43.1556

Costa, I. de S. A. da. (2013). Controle em novas formas de trabalho: Teletrabalhadores e o discurso do empreendedorismo de si. *Cadernos Ebape.BR*, 11(3), 462-474. http://www.redalyc.org/articulo.oa?id=323228458009

Eleuterio,M. A. M.(2015). Sistemas de informações gerenciais na atualidade 1ª Ed. Curitiba: InterSaberes.

European Commission, Joint Research Centre. (2018). *Defining "skill" and "competence"*. EU Science Hub. Disponível em: https://joint-research-centre.ec.europa.eu.

Fernandes, A. M., & Galvão, P. R. (2016). A Controladoria como ferramenta de gestão nas micro e pequenas empresas: Um estudo da viabilidade e da relação custo-benefício. *Revista de Tecnologia Aplicada*, 5(1). https://doi.org/10.21714/

Fiirst, C., Pamplona, E., Lavarda, C. E. F., & da Silva Zonatto, V. C. (2018). Perfil do *controller* e a evolução histórica da profissão no contexto brasileiro. *Enfoque: Reflexão Contábil*, 37(2), 01-20. https://doi.org/10.4025/enfoque.v37i2.33342

Fleury, M. T. L., & Fleury, A. (2001). Construindo o conceito de competência. *Revista de Administração Contemporânea*, 5, 183-196. https://doi.org/10.1590/S1415- 65552001000500010

Gatti, D. P., Terra, G. de. S., Portugal, N. D. S., Souza, W. G., Junior, P. D. S. P., & Silva, S. W. (2018). Home Office Vantagens, desvantagens e desafios para empresas e funcionários. *Revista de Administração do UNIFATEA*, 16(16), 187-200.

Gomes, C. V., Souza, P. D, & Lunkes, R. J. (2014). Study on the professional profile of controlling requested by Brazilian companies. *Journal of Globalization, Competitiveness & Governability*, 8(1), 34-50. https://doi.org/10.3232/GCG.2014.V8.N1.02

Graham, A., Davey-Evans, S., & Toon, I. (2012). The developing role of the financial *controller*: Evidence from the UK. *Journal of Applied Accounting Research*, 13(1), 71-88. https://doi.org/10.1108/09675421211231934

Haubrich, D. B., & Froehlich, C. (2020). Benefícios e desafios do home office em empresas de tecnologia da informação. *Revista Gestão & Conexões*, 9(1), 167-184. https://doi.org/10.13071/regec.2317-5087.2020.9.1.27901.167-184

Lavarda, R., Scussel, F., & Schafer, J. D. (2020). The role of the *controller* in the perspective of strategy as practice: A theoretical essay. *Journal of Accounting Management and Governance*, 23(3), 364-382. https://doi.org/10.51341/1984-3925_2020v23n3a5

Lima, R. J. V. de. S., & Araujo, A. O. (2020). Desenvolvimento de competências e a trajetória do *controller*. *Revista Mineira de Contabilidade*, 19(3), 28-40. https://doi.org/10.21714/2446-9114RMC2018v19n3t03

LinkedIn. (2022). *Sobre o LinkedIn*. https://about.linkedin.com/pt-br

Lizzio, A., & Wilson, K. (2004). Action learning in higher education: An investigation of its potential to develop professional capability. *Studies in higher education*, *29*(4), 469-488.

Lunkes, R. J., Schnorrenberger, D., Gasparetto, V., & Vicente, E. F. R. (2009). Considerações sobre as funções da controladoria nos Estados Unidos, Alemanha e Brasil. *Revista Universo Contábil*, 5(4), 63-75. http://dx.doi.org/10.4270/ruc.20095

Lunkes, R. J., Schnorrenberger, D., & Rosa, F. S. D. (2013). Funções da Controladoria: Uma análise no cenário brasileiro. *Revista Brasileira de Gestão de Negócios*, 15, 283- 299. https://doi.org/10.7819/rbgn.v15i47.1185

Mann, S., Varey, R., & Button, W. (2000). An exploration of the emotional impact of tele□working via computer□mediated communication. *Journal of Managerial Psychology*, 15(7), 668-690. https://doi.org/10.1108/02683940010378054

Mello, D. (2020, 07 de julho). *Home Office* foi adotado por 46% das empresas durante a pandemia. Agência Brasil. https://agenciabrasil.ebc.com.br/economia/noticia/2020-07/home-office-foi-adotado-por-46-das-empresas-durante-pandemia

Meurer, A. M., & Voese, S. B. (2020). Há vagas: Análise do perfil profissional requerido pelo mercado de trabalho para profissionais contábeis da área de custos. *Revista Catarinense da Ciência Contábil*, 19. https://doi.org/10.16930/2237-766220202994

Nilles, J. M. (1996). What does telework really do to us? *World Transport Policy and Practice*, 2(1), 15-23. https://doi.org/10.1108/02683940010378054

Oro, I. M., Dittadi, J. R., Carpes, A. M. D. S., & Benoit, A. D. (2009). O perfil do profissional de controladoria sob a óptica do mercado de trabalho brasileiro. *Pensar Contábil*, 11(44). http://www.atena.org.br/revista/ojs-2.2.3-08/index.php/pensarcontabil/article/viewFile/75/75

Palfi., C., & Bota-Avram, C. (2009). Information and Communication in Banks-Key Elements of the Internal Control System – An Empirical Analysis Between Romanian, American and Canadian Models of Control. *Annals of Faculty of Economics, University of Oradea, Faculty of Economics*, 3(1), 1091-1096.

Pires, C. B., Ott, E., & Damacena, C. (2010). A formação do contador e a demanda do mercado de trabalho na região metropolitana de Porto Alegre (RS). *BASE - Revista de Administração e Contabilidade da Unisinos*, 7(4), 315-327. https://www.redalyc.org/articulo.oa?id=337228644006

Pires, P., Melo, M., & Rodrigues, H. (2020). The influences of the *home office* modality in informal conversations in organizations during the COVID-19 pandemic. *Research, Society and Development*, 9(11). https://doi.org/10.33448/rsd-v9i11.10485

Rafalski, J. C., & Andrade, A. L. de (2015). Home-office: Aspectos exploratórios do trabalho a partir de casa. *Temas em Psicologia*, 23(2), 431- 441. https://doi.org/10.9788/TP2015.2-14

Ribeiro, L. M. S., Lunkes, R. J., Schnorrenberger, D., & Gasparetto, V. (2008). Perfil do *Controller* em empresas de médio e grande porte da Grande Florianópolis. *Revista Catarinense da Ciência Contábil*, 7(20), 57- 70. http://www.redalyc.org/articulo.oa?id=477549010005

Richartz, F., Krüger, L. M., Lunkes, R. J., & Borgert, A. (2012). Análise curricular em controladoria e as funções do *Controller*. *Revista Iberoamericana de Contabilidad de Gestión*, 10(19), 1-18. https://dialnet.unirioja.es/servlet/articulo?codigo=6645774

Santos, H. G. D, Schafer, J. D., & Lunkes, R. J. (2021). Reflexos das relações interpessoais na participação do *controller* em decisões organizacionais. *Revista de Contabilidade e Controladoria*, 12(2). http://dx.doi.org/10.5380/rcc.v12i2.75842

Serviço Brasileiro de Apoio às Micro e Pequenas Empresas (SEBRAE), & Departamento Intersindical de Estatística e Estudos Socioeconômicos (DIEESE). (2013). Anuário do trabalho na micro e pequena empresa. DIEESE. https://sebrae.com.br/Sebrae/Portal%20Sebrae/Anexos/Anuario%20do%20Trabalho%20Na%20Micro%20e%20Pequena%20Empresa_2013.pdf

Simon, E., Melz, L. J., Carvalho Neto, A. M. de, & Torres, A. L. (2013). Perfil do profissional contábil: Estudo comparativo entre as exigências do mercado de trabalho e a formação oferecida pelas instituições de ensino superior de Mato Grosso. *Revista UNEMAT de Contabilidade*, 2(3). https://doi.org/10.30681/ruc.v2i3.374

Siqueira, J. R. M. D., & Soltelinho, W. (2001). O profissional de controladoria no mercado brasileiro: Do surgimento da profissão aos dias atuais. *Revista Contabilidade & Finanças*, 12, 66-77. https://doi.org/10.1590/S1519-70772001000300005

Souza, C. T. D. D. (2015). A evolução da controladoria: Um estudo no Brasil [Dissertação de Mestrado, Universidade Federal do Rio Grande do Sul]. Repositório Digital UFRGS. https://lume.ufrgs.br/handle/10183/149351

Souza, G. H. C., Wanderley, C. de A., & Horton, K. (2020). Perfis dos *controllers*: Autonomia e envolvimento dos profissionais de controladoria. *Advances in Scientific and Applied Accounting*, 13(3) 03-22. https://doi.org/10.14392/asaa.2020130301

Szukits, Á. (2019). *Controllers*' profession in contemporary organisations – Evidence from Hungary. *Journal of East European Management Studies*, 24(1), 8-31. https://doi.org/10.5771/0949-6181-2019-1-8

Tan, L. M., & Laswad, F. (2018). Professional skills required of accountants: what do job advertisements tell us?. *Accounting Education*, *27*(4), 403-432. https://doi.org/10.1080/09639284.2018.1490189

Taschetto, M., & Froehlich, C. (2019). Teletrabalho sob a perspectiva dos profissionais de recursos humanos do Vale do Sinos e Paranhana no Rio Grande do Sul. *Revista de Carreiras e Pessoas*, 9(3). https://doi.org/10.20503/recape.v9i3.39652

Vogt, M., Degenhart, L., & Lavarda, C. E. F. (2017). Motivações, habilidades e competências do *Controller* na percepção de alunos que cursam pós-graduação em Controladoria. *Revista Catarinense da Ciência Contábil*, 16(48). https://doi.org/10.16930/2237-7662/rccc.v16n48.2385

RMC

The Journal of Accounting of Minas Gerais is an Open Access quarterly journal, published by Conselho Regional de Contabilidade de Minas Gerais - ISSN: 2446-9114
Journal of Accounting of Minas Gerais, Volume 26, Number 3, Article 6, Pages 80 - 91, september/december 2025. Available at: https://revista.crcmg.org.br/rmc
DOI: https://doi.org/10.51320/rmc.v26i3.1706

CRCMG CONSELHO REGIONAL DE CONTABILIDADE DE MINAS GERAIS

ABUNDANCE PARADOX THEORY: AN ANALYSIS OF HEALTHCARE COMPANIES' ECONOMIC AND FINANCIAL INDICATORS DURING THE PANDEMIC

TEORIA DO PARADOXO DA ABUNDÂNCIA: UMA ANÁLISE DOS INDICADORES ECONÔMICO-FINANCEIROS DE EMPRESAS DO SETOR DE SAÚDE DURANTE A PANDEMIA

ABSTRACT

This study examines the behavior of liquidity, capital structure, and profitability indicators of healthcare companies listed on B3 before, during, and after the Covid-19 pandemic, using the Abundance Paradox Theory. The research adopts a quantitative approach, analyzing a sample of 23 healthcare companies on B3. The study period includes quarterly data from 2018 to 2024. Friedman's repeated-measures test results show that the pandemic had a direct impact on the healthcare sector. In the early stages of the pandemic, the industry experienced a positive change in economic and financial performance; however, this trend reversed after the pandemic, consistent with the Abundance Paradox Theory. Liquidity indicators improved during the pandemic but declined afterward. The equity structure remained stable before and during the pandemic, but third-party capital increased afterward. Profitability indicators reflected the sector's economic optimism, which was later reversed in the post-pandemic phase. The data support the idea that the Abundance Paradox Theory is a valuable tool for analyzing periods of economic euphoria affecting specific sectors. This study contributes to the literature by illustrating how this theoretical framework can be applied to other sectors during periods of resource abundance, thereby helping to predict factors that may hinder the sustainable growth of companies and the broader economy.

Keywords: Covid-19 Pandemic, Health Sector, Economic-Financial Indicators.

RESUMO

O presente estudo tem como objetivo analisar o comportamento dos índices de liquidez, da estrutura de capital e da rentabilidade das empresas do setor de saúde listadas na B3, antes, durante e após a pandemia de Covid-19, à luz da Teoria do Paradoxo da Abundância. A pesquisa adota uma abordagem quantitativa, com uma amostra de 23 empresas listadas na B3 do setor de saúde. O período de análise abrange os dados trimestrais de 2018 a 2024. Os resultados dos testes de medidas repetidas de Friedman revelaram que a pandemia impactou diretamente o setor de saúde. No primeiro momento pandêmico, o setor foi impactado positivamente em sua situação econômico-financeira, mas esse cenário foi revertido no período pós-pandemia, conforme a Teoria do Paradoxo da Abundância. Os indicadores de liquidez apresentaram melhora durante a pandemia; entretanto, voltaram ao nível anterior após o término dela. A estrutura patrimonial manteve-se estável antes e durante a pandemia, porém apresentou aumento do capital de terceiros após ela. Os índices de rentabilidade evidenciaram a euforia econômica que impactou o setor, mas essa euforia foi revertida no período posterior à pandemia. As evidências desta pesquisa, sob a ótica da Teoria do Paradoxo da Abundância, demonstram que ela pode atuar como uma ferramenta adicional de análise financeira em períodos de euforia econômica, revelando impactos em setores específicos. Contribui-se, portanto, ao demonstrar que essa análise pode ser utilizada para estudar outros setores em períodos de abundância de recursos, a fim de prevenir situações que possam constranger o desenvolvimento sustentável das empresas e do setor econômico.

Palavras-chave: Pandemia de Covid-19, Setor de Saúde, Indicadores Econômico-Financeiros.

Thiago Callado Kobayashi
Economista da Universidade Federal de Uberlândia. Doutorando no Programa de Pós-Graduação em Ciências Contábeis na Universidade Federal de Uberlândia (UFU). Mestre em Economia pela Universidade Federal de Uberlândia (UFU). Graduado em Economia pela Universidade Federal de Santa Catarina (UFSC). E-mail: thiagocallado@ufu.br. ORCID: https://orcid.org/0009-0002-6944-2547

Cleidiane Gomes de Souza
Docente do Centro Universitário Mário Palmério (UNIFUCAMP). Mestranda do Programa de Pós-Graduação em Ciências Contábeis na Universidade Federal de Uberlândia (UFU). Especialista em MBA em Controladoria de Empresas pela Universidade Paulista (UNIP). Graduada em Ciências Contábeis pela Centro Universitário Mário Palmério (UNIFUCAMP). E-mail: cleidiane.souza@ufu.br . ORCID: https://orcid.org/0009-0007-8532-2322

Daniele Cristina Bernd
Docente da Faculdade de Ciências Contábeis (FACIC) e do Programa de Pós-Graduação em Ciências Contábeis na Universidade Federal de Uberlândia. Doutora em Contabilidade pela Universidade Federal de Santa Catarina (UFSC). Mestre em Contabilidade pela Universidade Federal do Paraná (UFPR). Especialista em Auditoria pela Universidade Estadual de Ponta Grossa (UEPG). Graduada em Ciências Contábeis pela Universidade Estadual de Ponta Grossa (UEPG). E-mail: daniele.bernd@ufu.br. ORCID: https://orcid.org/0000-0002-9195-9510

Gilberto José Miranda
Docente da Faculdade de Ciências Contábeis (FACIC) é do Programa de Pós-Graduação em Ciências Contábeis da Universidade Federal de Uberlândia (UFU). É doutor em Controladoria e Contabilidade pela Faculdade de Economia, Administração, Contabilidade e Atuária (FEA) da Universidade de São Paulo (USP). Mestre em Administração, especialista em Docência no Ensino Superior e em Controladoria e Contabilidade e é graduado em Ciências Contábeis pela UFU. E-mail: gilbertojm@ufu.br. ORCID: https://orcid.org/0000-0002-1543-611X

Journal of Accounting of Minas Gerais - ISSN 2446-9114 – Open Access quarterly journal, published by Conselho Regional de Contabilidade de Minas Gerais (CRCMG). Received: 21th January 2025. Proofread: 25th June 2025. New alterations: 20th September 2025. Accepted: 10th November 2025, by Dra. Luciana Holtz and Dr. Nálbia de Araújo Santos. Published: 26th December 2025. Published by: CRCMG

1 INTRODUCTION

The Covid-19 pandemic was a global event that significantly affected public health, the economy, and social relations. According to Silveira, Miranda, and Sousa (2024), the pandemic hindered progress toward the United Nations' Sustainable Development Goals (SDGs) of the 2030 Agenda, especially in low-income countries. Research involving 43 health indicators across 185 countries found that economic impacts were more severe in the most vulnerable nations, with a 16% decline in economic indicators, compared with only a 3% decrease in developed economies. The World Health Organization (WHO, 2024), through the Global Laboratory Leadership Programme (GLLP), highlighted that the pandemic placed unprecedented pressure on global health systems, exposing structural weaknesses and emphasizing the urgent need to strengthen laboratory and healthcare services.

Although the economic crisis affected many industries, the health sector stood out for its significant growth in several regions. In Brazil, the Brazilian Institute of Geography and Statistics (IBGE, 2024) reported a 10.3% increase in the health sector in 2021, making up 8% of the country's jobs, a 5.3% increase from 2010. Total wages in the sector amounted to R$372.3 billion, representing 10.5% of the Brazilian economy. Globally, the remarkable rise in healthcare company stocks during the pandemic demonstrated investor confidence in this sector, even amid the widespread economic downturn (Oncu, 2021; Sun et al., 2021).

An interpretive view on understanding this dynamic relates to the Theory of the Paradox of Abundance. This theory examines episodes of economic euphoria and emphasizes that their effects can be both positive and negative. It is derived from the Dutch Disease Theory. This approach suggests that periods of economic growth driven by abundant resources can lead to unbalanced development. Pamplona and Cacciamali (2017) observed that increases in natural resource exports in underdeveloped countries often lead to development that harms society. Chaves et al. (2020) highlighted the effects of the Kandir Law, which, while promoting exports, also negatively impacted basic education in Pará. Therefore, the Abundance Paradox Theory demonstrates that periods of economic euphoria can obscure structural vulnerabilities and impede long-term development.

This phenomenon is evident in the health sector. Despite the global crisis, this sector benefited from positive expectations due to its key role in addressing the pandemic. The health sector received financial incentives and support from government public policies to reduce its impact (Ayati et al., 2020; Brazil, 2021). This initial excitement can lead to a paradox: a seeming economic prosperity for the sector, which later created adverse structural conditions for some companies in the post-pandemic period.

In this context, accounting provides a set of economic and financial indicators that enable the evaluation of a company's and sector's financial health, providing a clearer view of their performance across economic cycles. However, there is ongoing debate about whether these indicators fully capture economic reality, given their methodological limitations and interpretive challenges (Martins et al., 2018). Nonetheless, these indicators are essential tools for measuring the pandemic's economic impact on the health sector.

Given this scenario, this research aims to answer the following question: What were the behaviors of the liquidity, capital structure, and profitability ratios of health companies listed on B3 before, during, and after the Covid-19 pandemic, in light of the Abundance Paradox Theory? The main goal of this study is to analyze these indicators from 2018 to 2024, applying the Abundance Paradox Theory to examine the economic and structural changes resulting from resource reallocation during the health crisis. To achieve this, the study will include: a mapping of net revenue, current liquidity indicators, third-party capital participation, return on equity, and return on assets of health sector companies, as well as statistical tests on these measures before, during, and after the Covid-19 pandemic.

This research is important because it examines whether the pandemic affected the financial dynamics of the healthcare sector. It is understood that the global health crisis not only altered demand for health services but also revealed structural weaknesses that could threaten the sector's financial stability. By incorporating analysis from the Paradox of Abundance Theory, this study offers a valuable perspective for sectoral analyses, particularly when economic sectors experience periods of euphoria. This approach allows identification of whether the growth observed during the pandemic was sustainable or whether it masked structural challenges that became evident after the crisis.

Among the empirical contributions of this research, the ability to use this theoretical lens to explain implications in economic and financial analyses stands out. Beyond the health sector, it can be applied to other sectors during periods of economic euphoria, when temporary expansions are driven by external factors such as government policies, sudden increases in demand, or significant investments. Examples include sectors such as technology during the recent pandemic (Santos et al., 2024), civil construction during real estate booms (Guedes et al., 2016), and the commodities sector during export cycles (Silva & Silva Filho, 2020). Viewing the analysis through the lens of the Abundance Paradox Theory, therefore, broadens understanding of the limits of sustained economic growth and helps identify patterns that may signal poor resource management and missed opportunities.

Therefore, this study not only enhances understanding of the financial behavior of healthcare companies during the Covid-19 pandemic but also provides an analytical approach applicable to other economic contexts. This broader application of the theoretical framework can further assist managers, investors, and public policymakers in developing stronger, more resilient strategies to mitigate risks associated with economic growth driven by temporary or cyclical factors (Martins et al., 2018).

2 THEORETICAL FRAMEWORK

2.1 Abundance Paradox Theory and Financial Indicators

The Abundance Paradox Theory explains that having many natural resources does not necessarily lead to sustainable growth for countries, nor does it yield higher economic growth than countries lacking such abundance. In this context, the literature on the topic mainly focuses on countries (Varela et al., 2018). These studies show that while natural resource exports generate financial wealth for countries, this abundance—both natural and financial—has adverse effects on the economy overall and ultimately does not lead to the country's improvement or sustainable economic growth. According to Pamplona and Cacciamali (2017), "something that we can call the 'paradox of abundance' has been established, in which the generosity of nature, represented by the profusion of natural resources, originates, among other deleterious effects, low economic growth in the long term" (Pamplona & Cacciamali, 2017, p. 253).

Variations of this theory are viewed through the lens of Dutch disease or the resource curse. From this perspective, rapid growth in a sector such as natural resources can lead to deindustrialization and weaken other economic sectors, particularly in open and small economies (Strack & Azevedo, 2012).

Bresser-Pereira et al. (2024) expanded the discussion and defined Dutch disease as the persistent overvaluation of a country's exchange rate, caused by the exploitation of abundant and inexpensive natural resources. This overvaluation of the exchange rate enables commodity exports to occur at a more appreciated exchange rate than is necessary for other sectors of tradable goods that utilize advanced technology to remain competitive. If Dutch disease is not addressed, it can hinder industrialization or even lead to deindustrialization, creating a barrier to the country's sustainable economic growth.

Therefore, in these studies, the initial euphoria generated by a boom in the natural resources sector can hinder long-term economic growth, delaying the economy's diversification in subsequent years. Bresser-Pereira et al. (2024) emphasize that this is a "wealth shock in the natural resources sector, which creates excess demand in the non-tradable goods sector, implying a change in relative prices" (Bresser-Pereira et al., 2024, p.3). This idea of a wealth shock is key to understanding how it can influence economic development.

Other authors have explored this idea in different contexts. Dantas Júnior et al. (2020), for example, examine the relationship between oil royalties and the development of Brazilian municipalities, questioning whether these revenues genuinely support local progress. The research is grounded in the "resource curse" theory. It tests the hypothesis that the influx of financial resources from a boom in oil prices does not necessarily lead to socioeconomic development in the municipalities that receive these royalties. The study analyzes data from oil-producing and non-oil-producing municipalities between 2013 and 2016, using municipal development indices created by FIRJAN. The results indicate that, although royalties may initially promote economic growth, their effects on health and education may be harmful.

At the state level, Santos and Rodrigues (2017) examine the effectiveness of the Fundo de Participação dos Estados (FPE) in fostering socioeconomic balance among Brazilian regions, considering disparities in transfers and socioeconomic inequalities. The Theory of the Paradox of Abundance is referenced to understand the FPE's situation, which, although designed to reduce inequalities, may not be fulfilling this goal. The results suggest that the FPE distribution model is ineffective in decreasing socioeconomic disparities. Even in states that receive substantial resources, the initial positive effects on economic growth and on reducing income concentration are not sustained in the long run. This may be due to the absence of tools to ensure effective resource management, such as mandatory matching funds, accountability mechanisms, and performance evaluation systems.

The study by Chaves et al. (2020) also applies the Abundance Paradox Theory to analyze the connection between natural resource exports (primary and semi-processed) and the educational development of Pará. It demonstrates that higher natural resource exports lead to greater ICMS tax relief in the state, which, in turn, negatively affects the development of basic education.

In a business context, no studies have been found that implement the theory. However, there is extensive literature addressing financial bubbles in stock prices. These studies show that there are periods during which the price of company shares exhibits an upward (explosive or abnormal) trend that exceeds the company's investments (Morandim, 2020). Moments of market euphoria involve an abnormal increase in share value. This extraordinary growth can influence company dynamics, affecting the development of those experiencing such euphoria. In this way, the theory of the paradox of abundance can help expand the understanding of corporate analysis by including these moments and evaluating their impact on companies' financial health and the sector as a whole. For instance, this euphoria may be reflected in increased net revenues for companies and the sector as a whole. For example, in the healthcare sector, demand for services resulting from the Covid-19 public health crisis may have led to higher net revenues and potentially improved liquidity, capital structure, and profitability ratios.

2.2 The Abundance Paradox Theory applied to sectoral business analysis

The Abundance Paradox Theory, often explored in macroeconomic settings, can also be applied to sector-specific business analysis, particularly in sectors that have experienced rapid growth following positive economic shocks. Heresi (2023), in a study on commodity booms, found that these booms encourage the reallocation of productive factors to

non-tradable sectors, thereby reducing the productivity of the local manufacturing sector. Likewise, Ismail (2010), in analyzing the effects of Dutch Disease in oil-exporting countries, found that permanent increases in oil prices can negatively affect manufacturing output, particularly in economies with more open capital markets.

These studies demonstrate that macroeconomic shocks related to resource abundance, such as economic euphoria, can adversely affect firms' competitiveness and sustainability. Specifically, in the health sector, the influx of financial resources and increased demand during the pandemic may have masked operational weaknesses and led to increased debt.

The strategic management literature also supports this analytical shift. Macro-environmental analysis models, such as PESTAL (Politics, Economics, Society, Technology, Environment, and Law), are used in strategic planning to identify external factors that affect organizational performance. According to Silva and Ramos (2022), the PESTAL model enables a structured analysis of the external environment and its impact on sectoral return indicators, demonstrating practical value for managers and financial analysts alike. In this context, the Covid-19 pandemic represents a highly impactful external event across the health and economic sectors, altering market dynamics and significantly affecting specific industries such as healthcare. The paradox of abundance theory can be seen as a way to interpret the "economic" factor in PESTAL analysis, helping us understand that a period of prosperity may not necessarily lead to sustainable growth.

Therefore, by adopting this theoretical perspective, the present study extends the application of the Theory of the Paradox of Abundance in the applied sciences, suggesting that understanding macroeconomic phenomena can inform sectoral and business behavior during periods of crisis and recovery.

2.3 Economic-financial indicators

Economic and financial indicators are crucial for evaluating a company's health and performance. During periods of economic euphoria, such as the one observed in the health sector during the Covid-19 pandemic, this analysis becomes even more vital because it uncovers changes in the equity structure of companies and the sector. Analyzing financial statements provides valuable insights into a company's situation (Martins et al., 2018). In this context, this study aims to determine whether the paradox of abundance influences the structure of healthcare companies listed on the B3 stock exchange and to assess whether this is reflected in key economic-financial indicators like liquidity, equity structure, and profitability.

2.3.1 Liquidity Indicators

Liquidity ratios provide insights into a company's capacity to meet its debt obligations. As Santos and Santos (2008) argue, managing and analyzing liquidity is one of the most important aspects of financial management, especially when facing insolvency risk. They emphasize that a thorough liquidity analysis should incorporate not only traditional ratios but also alternative methods to avoid misjudging the company's actual ability to meet its obligations. Additionally, there is a connection between liquidity and profitability: profitable companies tend to manage liquidity more effectively, using credit lines and cash reserves to buffer shocks and preserve financial flexibility (Nikolov et al., 2019). Therefore, in a state of euphoria—such as in a paradox of abundance scenario—liquidity may increase due to higher sector resources, leading companies to hold more assets (including liquid assets) than liabilities. Given this context, hypothesis 1 is introduced.

Hypothesis 1: There was an increase in the current liquidity of companies and the health sectors during the pandemic.

2.3.2 Equity Structure

The equity structure describes how a company's capital is arranged, including the portion of assets financed by equity and third-party resources (debt). Using third-party resources imposes financial burdens on the company, whereas capital equity has no explicit cost but an implicit one that reflects the expected return to investors (Martins et al., 2018). Brito et al. (2007) examined the factors influencing a company's capital structure and highlighted the significance of risk, size, asset composition, and growth. Companies with higher risk tend to be less leveraged, while larger companies generally have better access to resources. Asset composition and growth potential also affect indebtedness. However, profitability was not found to be a key determinant of the equity structure (Brito et al., 2007).

Furthermore, the link between debt and business performance is often negative in developing countries, as Delgado (2021) demonstrates; high debt levels tend to reduce performance due to higher financing costs during crises.

During periods of economic euphoria, such as the one experienced in the pharmaceutical sector during the Covid-19 pandemic, companies may increase their fixed assets, either through equity or loans. However, this rapid growth in assets can strain the company's finances if it is not sustainable over the long term. Based on these arguments, hypothesis 2 is proposed.

Hypothesis 2: There was an increase in the share of third-party capital after the pandemic.

2.3.3 Profitability Indicators

Profitability indicators assess how effectively a company generates profits from its invested resources (Martins et al., 2018). These indicators are affected by both internal and external factors. According to Santos et al. (2024), internal factors include the company's operations and management, while external factors pertain to macroeconomic variables and market conditions. Regarding internal factors, Carvalho et al. (2017) note that the ROE (Return on Equity) of Brazilian companies can directly reflect their operational characteristics, particularly when analyzed through net margins and asset turnover, which demonstrate the company's ability to produce returns on equity.

Regarding external factors, macroeconomic variables like GDP and the exchange rate can influence profitability indicators. These variables typically enhance a company's ability to generate profit during growth periods, whereas in downturns they can substantially reduce returns (Jacques et al., 2020).

During the Covid-19 pandemic, the healthcare sector experienced a noticeable increase in demand for its products and services, which likely led to significant improvements in profitability indicators. However, according to the Abundance Paradox Theory, this growth may only be temporary. Although the sector initially experienced a "boom," once demand stabilizes or declines, profitability indicators often fall. This may indicate unsustainable growth that will become apparent when external factors and demand return to normal levels. In light of this, hypothesis 3 is introduced.

Hypothesis 3: There was a drop in the profitability indicators of companies in the healthcare sector after the pandemic.

3 METHODOLOGY

To analyze the behavior of liquidity ratios, capital structure, and profitability of healthcare companies listed on B3 before, during, and after the Coivd-19 pandemic, a descriptive study was conducted using financial data, employing a quantitative approach in light of the Abundance Paradox Theory. The population includes publicly traded companies listed on B3 in the healthcare sector from 2018 to 2024. Financial data were collected from the Economatica platform, which is divided into four subsectors: medicines and other products, medical services (hospitals, analysis, and diagnostics), equipment, and trade and distribution. During the analysis period (2018 to 2024), 23 companies were identified, constituting the final sample for the study.

Although identifying subsectors enables more detailed analysis, an overall approach was chosen. This choice is supported by the limited number of observations in each subsector, which could reduce the statistical power required for comparison tests between periods (Dancey et al., 2017). Additionally, because the primary goal is to understand the pandemic's systemic effects from the perspective of the Paradox of Abundance Theory, the overall analysis more effectively captures macroeconomic trends common across sectors.

3.1. Data Collection

For data analysis, the following information was collected from Economática: net revenue, liquidity indicators, equity structure (third-party capital and net worth), and profitability (ROE and ROA). The data spans a quarterly time series from 2018 to 2024. This analysis covers three distinct periods, considering that the Emergência de Saúde Pública de Importância Nacional (ESPIN) due to Covid-19 was declared by the Ministry of Health on February 3, 2020, and ended on April 22, 2022. Therefore, the time periods are as follows:

- Before the pandemic (first quarter of 2018 to first quarter of 2020);
- During the pandemic (second quarter of 2020 to second quarter of 2022), and
- Post-pandemic (from the third quarter of 2022 to the third quarter of 2024).

The quarterly frequency was chosen to enable a more precise and comparable analysis of the indicators over time. The indicators collected on the Economática Platform are listed in Table 1.

Table 1 – Economic-Financial Indicators

Indexes	Calculation Formula	Interpretation
Net Revenue	Net Revenue DRE	Total value received from the sale of its products or services, after deducting the costs of sale.
Current Ratio (CR)	Current Assets / Current Liabilities *100	Demonstrates the company's ability to meet short-term obligations.
Third-Party Capital	Total Net Debt / Net Worth *100	Represents the total amount of third-party capital in relation to equity (debt).

Indexes	Calculation Formula	Interpretation
ROE (average)	LL/PL*100	Expresses the ability to generate profit relative to the owners' investment.
ROA	LL/ Active *100	Signals the ability to generate profit relative to all invested Capital.

Legend: DRE = Income Statement; LL = Net Profit; PL = Equity; ROE = Return on Equity; ROA = Return on Assets.
Source: Economatica – adapted by the authors

As shown in Table 1, the current liquidity ratio was used as a representative of the liquidity indicator. To analyze capital structure, specifically the involvement of third-party capital, the third-party capital ratio was used. Additionally, for profitability indicators, the focus was on ROE and ROA. It is assumed that ROE measures the company's efficiency in using shareholders' capital to generate profit, whereas ROA assesses the company's effectiveness in converting assets into profit.

3.2. Data Processing

Data processing involved comparing the averages of financial indicators across three analysis periods. To determine if the differences between these periods are statistically significant, analysis of variance (ANOVA) was used. This method assesses whether there are meaningful differences among the indicator averages at three points: before, during, and after the Covid-19 pandemic (França, 2023).

This methodology follows the approach used in previous studies (Araújo et al., 2021; Santos et al., 2024), in which quarterly data are analyzed to identify patterns in economic and financial behavior across different phases of crises. The use of ANOVA enables simultaneous comparisons of periods and helps detect variations in financial indicators in response to the pandemic (Dancey et al., 2017).

Because the sample data were not normally distributed, nonparametric tests were used. The Friedman test for repeated measures was adopted. In this test, data are transformed into ranks by ordering the values of each experimental unit in ascending order. The Friedman test assesses whether significant differences exist among the medians of the conditions under study, accounting for the relative order of the data (Fadeyi, 2021). If the test reveals a significant difference, it is concluded that at least one condition differs from the others. However, the test does not specify which periods differ, so post-hoc tests, specifically the Multiple Comparisons test (Durbin-Conover), are necessary. This non-parametric approach is robust to asymmetrical distributions and outliers, making it a practical alternative when the assumptions of ANOVA are not met (Dancey et al., 2017).

The data includes 23 companies in the health economics sector of B3. These companies vary in size, from smaller firms with assets of approximately R$250 million to those with assets exceeding R$90 billion. They also serve different economic roles; some focus on hospital management, drug manufacturing, distribution and marketing, or production and supply of equipment. Table 2 summarizes information on stock exchange trading and asset size for the companies in the sample.

Table 2 – Information about health companies

Company	Subsector	Start of trading of shares	Total Assets in thousands of R$	Number of Shares in thousands
ALLIAR	Hospital Services, Analyses, and Diagnostics	28/10/2016	2.669.811	118.080
BAUMER	Equipment	20/05/1970	249.925	9.785
BIOMM	Medicines and Other Products	03/02/2014	344.698	89.100
BLAU	Trade and Distribution	19/04/2021	3.053.528	177.681
DASA	Hospital Services, Analyses, and Diagnostics	19/11/2004	26.213.200	747.048
D1000VFARMA	Trade and Distribution	10/08/2020	1.548.519	50.603
FLEURY	Hospital Services, Analyses, and Diagnostics	17/12/2009	11.579.968	545.041
HAPVIDA	Hospital Services, Analyses, and Diagnostics	25/04/2018	73.186.145	7.495.107
HYPERA	Trade and Distribution	18/04/2008	24.508.751	632.909
KORA SAUDE	Hospital Services, Analyses, and Diagnostics	13/08/2021	4.704.610	768.481

LIFEMED	Equipamentos	06/01/2020	317.560	2.576
MATER DEI	Hospital Services, Analyses, and Diagnostics	16/04/2021	5.171.451	382.043
NORTCQUIMICA	Medicines and Other Products	03/02/2014	331.376	11.878
ODONTOPREV	Hospital Services, Analyses, and Diagnostics	01/12/2006	2.163.973	552.496
OUROFINO S/A	Medicines and Other Products	21/10/2014	9.181.154	508.285
ONCOCLINICAS	Hospital Services, Analyses, and Diagnostics	10/08/2021	1.279.009	53.768
PROFARMA	Trade and Distribution	26/10/2006	4.937.926	122.611
PAGUE MENOS	Trade and Distribution	02/09/2020	8.988.598	538.978
DIMED	Trade and Distribution	03/08/1984	3.077.470	148.852
QUALICORP	Hospital Services, Analyses, and Diagnostics	29/06/2011	4.509.325	279.248
RAIADROGASIL	Trade and Distribution	03/07/2007	20.094.412	1.714.382
REDE D OR	Hospital Services, Analyses and Diagnostics	10/12/2020	90.342.356	2.254.607
VIVEO	Trade and Distribution	09/08/2021	10.186.693	320.047

Source: B3 – adapted by the authors

4. RESULTS

Table 3 presents the selected health-sector indicators for the periods preceding, during, and following the pandemic. Overall, the sector exhibits liquidity ratios indicating its ability to meet obligations across all sample periods, as current assets exceed current liabilities in every period. Therefore, it is assumed that companies have enough assets to cover their liabilities, including in the short term.

Regarding capital structure, the equity-to-debt ratio is confirmed. The debt-to-equity ratio measures the proportion of capital financed by debt relative to net worth, indicating the level of financial leverage. After the pandemic, this ratio averaged 42.29% and had a median of 44.64%, indicating that the companies analyzed began to rely more on debt. Although this suggests increased dependence on debt, net worth still exceeds debt, indicating a relatively balanced financial structure.

Profitability ratios indicate healthcare companies' ability to generate profits, as measured by ROE and ROA. Both experienced a sharp decline after the pandemic, showing decreased financial efficiency.

Table 3 – Descriptive Statistics of the Indicators

Index	Before		During		After	
	Average	Median	Average	Median	Average	Median
Net Revenue*	1.259,2	821,1	1.677,3	936,4	2.359,1	1.146,9
Current Ratio (CR)	1,79	1,58	2,02	1,66	1,97	1,52
Third-Party Capital	39,20	40,34	36,73	32,11	42,29	44,64
ROE (average)	4,10	3,47	3,96	3,19	1,63	2,04
ROA	1,89	1,61	1,69	1,19	0,87	0,88

Legend: *In millions of R$ adjusted for inflation
Source: Economática – adapted by the authors.

Subsequently, analysis of variance tests were performed. Initially, it was verified whether the sample data followed a normal distribution to determine whether a parametric (ANOVA) or non-parametric (Friedman) test was appropriate (Dancey et al., 2017). AS shown in Table 4, all indicators exhibited non-normal distributions. Therefore, the nonparametric Friedman test was used to compare the medians of the periods before, during, and after the Covid-19 pandemic. In addition, the Multiple Comparisons test (Durbin-Conover) was applied to verify the difference between the periods.

Table 4 – Normality and Friedman Tests

Index	Friedman's Test	Multiple Comparisons		
		1-2	1-3	2-3
Net Revenue	<,001*	<,001*	<,001*	0,021*
Current Ratio (CR)	<,001*	<,001*	0,273	0,008*
Third-Party Capital	<,001*	0,954	0,009*	0,007*
ROE (average)	<,001*	0,122	0,015*	<,001*
ROA	<,001*	0,47	<,001*	<,001*

Legend: Reject H0 with 5% significance.
Source: Prepared by the authors.

The results indicated statistically significant differences in the medians across the three periods analyzed for all indicators. The Friedman test results showed statistically significant differences among the three periods ($p < 0.001$), with the average increasing from R$1,259.2 million in the pre-pandemic period to R$2,359.1 million in the post-pandemic period. Despite this notable rise in healthcare sector sales, revenue growth did not lead to improvements in profitability indicators. This suggests that higher sales may have been offset by increased operating costs and financial expenses, thereby hampering companies' financial efficiency during the period examined.

Current Liquidity showed a significant difference only between two pairs of periods: before and during the pandemic, and during and after the pandemic. There was no significant difference between the pre- and post-pandemic periods, indicating that the health sector returned to the pre-crisis liquidity level. This difference was evident both before and during the pandemic, when the current liquidity ratio increased from 1.58 to 1.66. After the pandemic, liquidity decreased to 1.52, a level significantly different from that during the pandemic. This movement in liquidity reflects a cycle of economic euphoria during the pandemic, which was reversed after the critical period ended. During the pandemic, the health sector had higher liquidity despite high demand for its services, but this liquidity later returned to earlier levels. These findings do not allow us to reject hypothesis 1 and reinforce the idea that periods of economic euphoria increase the sector's liquidity and its ability to meet obligations.

The capital structure, as indicated by the Third-Party Capital measure, also showed statistically significant differences between the periods before and after the pandemic, as well as between the periods during and after the pandemic. Before and during the pandemic, third-party capital stayed steady, with a median of 32.11. However, in the post-pandemic period, it rose significantly to 44.64, the highest debt level observed during this period. This suggests that the healthcare sector became more reliant on third-party capital after the pandemic, possibly due to higher global interest rates at that time (Holston et al., 2023). Likewise, this result does not allow us to dismiss hypothesis 2, as the share of third-party capital increased following the pandemic.

The profitability indicators also showed significant results in the Friedman test at a 5% significance level. Profitability, measured by ROE and ROA, was notably lower in the post-pandemic period than during the pandemic. The median ROE decreased from 3.19 to 2.04, while the median ROA declined from 1.19 to 0.88. These findings emphasize a notable drop in the operational efficiency of the analyzed companies, which started generating less profit per unit of invested capital after the pandemic.

The ROA values indicate that, in the healthcare sector, starting with R$100 in assets, the firm generated R$1.61 in net profit during the pre-pandemic period. During the pandemic, this value decreased to R$1.19; in the post-pandemic period, it fell to R$0.88. The median analysis indicates that, in the post-pandemic period, half of the observations are above R$0.88 and half are below. Additionally, in the percentile analysis, 25% of companies reported a negative indicator of R$0.36 in the same period. In the upper percentiles, 75% of companies reported lower net profit, ranging from R$2.38 to R$1.36. These data reinforce the decline in the healthcare sector's overall ability to generate net profit from its assets. These findings also support hypothesis 3, which posits that the reversal of economic euphoria affects the healthcare sector by reducing its profitability.

To better understand the decline in the ROA profitability indicator from the pandemic period to the post-pandemic period, Table 5 presents the components of this indicator, specifically total assets and consolidated profit (i.e., net profit plus the result of minority shareholders).

Table 5 - Descriptive Statistics – Total Assets and Consolidated Profit adjusted for inflation.

Items	Total Assets			Consolidated Profit		
	Before	During	After	Before	During	After
Median	3.466,5	4.508,2	4.922,9	32,3	35,5	18,9
25º percentile	994,4	1.602,3	1.659,8	3,4	7,1	-12,6
50º percentile	3.466,5	4.508,2	4.922,9	32,3	35,5	18,9
75º percentile	6.820,3	7.586,8	12.046,9	126,1	113,3	87,6
Friedman p-value	0,001*			0,022*		

Note: Values are in millions of R$. * Significant at 95%.
Source: Prepared by the authors.

According to Friedman's repeated measures test, complemented by Durbin-Conover's Multiple Comparisons, it was found that the median Total Assets of healthcare companies showed statistically significant differences between the three periods analyzed. Before the pandemic, the median total assets of the companies were R$3.4 billion, increasing to R$4.5 billion during the pandemic and reaching R$4.9 billion in the post-pandemic period. This increase suggests sustained asset expansion, possibly driven by infrastructure investments, asset acquisitions, and growth in demand for healthcare services.

Conversely, the companies' consolidated profits declined sharply in the post-pandemic period. During the pandemic, the median consolidated profit was R$35.5 million; it declined to R$18.9 million thereafter. Additionally, the 25th percentile paints an even more concerning picture: many companies reported losses after the pandemic, with losses of approximately R$12.6 million. This decline can be attributed to higher operating costs, increased financial expenses due to higher debt levels, and shrinking profit margins, despite revenue growth.

The gap between the rise in Total Assets and the decline in Consolidated Profit indicates that the Brazilian healthcare sector struggled to translate its asset growth into solid financial results. This suggests that operational inefficiencies may have occurred and that costs rose during the period studied. It was also seen that healthcare companies' total assets increased in all periods analyzed. However, this growth did not lead to higher consolidated profits.

The Theory of the Paradox of Abundance suggests that episodes of economic euphoria can lead companies and sectors to pursue paths that are not necessarily beneficial, highlighting the paradoxical effects of abundance. In the healthcare sector examined, economic growth during the pandemic led to a steady rise in net revenue and greater liquidity. In other words, the healthcare sector received more resources than it committed to during this period.

The Brazilian regulatory environment changed during the pandemic, which may explain companies' financial performance in the sector. The enactment of Law 13.979/2020 and the declaration of a Public Health Emergency of National Importance (ESPIN) enabled greater flexibility in public procurement processes, the purchase of supplies, and the approval of medicines, thereby increasing liquidity observed during the pandemic (Nobre & Aguiar, 2020). Companies could accelerate their buying and selling processes, reducing the timeframes that typically define the sector, which may partly account for the sustained growth in net revenue over the three periods analyzed. The public health policies implemented also contributed to these results. The Federal Government launched an unprecedented investment program totaling over R$540 billion to combat the pandemic, allocating R$106 billion through specific extraordinary Covid-19 credits (Ministry of Health, 2022). This large volume of public resources created an environment of financial abundance that may have directly impacted the liquidity indicators of the companies studied. The government's strategy of expanding healthcare capacity by creating ICU beds and acquiring medical equipment generated extraordinary demand for private-sector goods and services, boosting net revenue and improving liquidity indicators during the pandemic. Furthermore, the creation of financing mechanisms, facilitated by BNDES with subsidized rates and extended terms, partly explains the rise in third-party capital participation observed after the pandemic (BNDES, 2020).

However, with the end of the pandemic, debt levels increased, while profitability indicators declined sharply. This situation indicates growth that, although it occurred during the pandemic, was insufficient to sustain proportional returns after the health crisis ended. In summary, the health sector expanded, but its ability to generate profit did not keep pace with asset growth.

This research broadens the understanding of financial dynamics in the health sector during the pandemic. While Goulart et al. (2023) examined the periods before and during the pandemic and noted increases in liquidity, assets, and net margin, their findings do not account for the significant declines in profitability indicators observed here, which could be due to differences in time frames. Goulart et al. (2023) focused on a period when demand for health services was at its highest, driven by the urgency of the pandemic. In contrast, this study also covers the post-pandemic period, during which economic incentives declined, and financial costs increased.

Another important point is that, according to Goulart et al. (2023), asset growth was associated with more stable financial performance in the analyzed subsectors, such as medical services. However, in the post-pandemic period, as this study shows, this growth was insufficient to sustain profitability, indicating structural weaknesses that were obscured by the pandemic's economic euphoria.

Therefore, while the study by Goulart et al. (2023) emphasizes the immediate and positive impact of the pandemic on the sector, this work provides a more comprehensive perspective by examining the reversal of these indicators in the following period, highlighting the significance of analyzing complete economic cycles and the lasting effects of moments of euphoria.

In this context, the Paradox of Abundance Theory provides an additional perspective for sectoral and business analyses during periods of economic euphoria. The theory warns that positive indicators from these times can hide vulnerabilities that threaten sustainable development. This warning is critical to prevent major surprises in economic and financial indicators when euphoria ends. In this research, it was found that, following the pandemic, liquidity declined, dependence on third-party capital increased, and profitability indicators declined, reinforcing the paradoxical effects of economic abundance.

5. CONCLUSION

This study examined the behavior of net revenue, liquidity indicators, equity structure, and profitability of healthcare companies listed on the B3 stock exchange during the periods before, during, and after the Covid-19 pandemic, from the perspective of the Abundance Paradox Theory. This theory proposes that periods of economic abundance can produce contradictory effects, leading to adverse long-term outcomes. Applied to Brazilian healthcare companies listed on B3, the analysis aimed to determine whether the economic euphoria seen during the pandemic was reflected in the economic and financial indicators and whether it reversed after the critical period ended.

The results revealed significant effects on the companies' financial dynamics. Regarding liquidity ratios, current liquidity increased during the pandemic but declined in the post-pandemic period, indicating a reversal of a temporary increase in payment capacity. This behavior supports the hypothesis that the sector experienced a cycle of economic euphoria followed by an adjustment in financial conditions.

Regarding the asset structure, the post-pandemic increase in the share of third-party capital indicates greater reliance on debt, suggesting that companies turned to external financing to support operations and investments in the new economic environment. This finding emphasizes the challenge of balancing asset growth with financial stability.

Profitability indicators, particularly return on assets (ROA), declined significantly in the post-pandemic period, indicating a decrease in the efficiency with which companies convert their assets into profits. This decline can be linked to the slowdown in extraordinary pandemic-related demand and the rise in operational and financial costs, which affected the sector's ability to sustain the profitability levels observed during the crisis.

The findings support the assumptions of the Abundance Paradox Theory, which warns of the dangers of periods of economic euphoria hiding structural weaknesses, leading to unsustainable financial performance over the long term. The analysis indicates that although the pandemic briefly increased liquidity and asset growth in the sector, these gains were reversed in a post-crisis period characterized by higher debt and lower profitability.

The implications of these findings emphasize the importance of carefully analyzing economic and financial indicators during times of euphoria. If this euphoria is transient, it may suggest a paradox that limits sustainable development, with profitability indicators reversing as assets grow and third-party capital participation increases. A practical implication of this research is highlighted by the innovation suggested by the Theory of the Paradox of Abundance, which shows that companies, across sectors, have capitalized on favorable economic conditions. However, these can also create factors that hinder the maintenance of the results achieved.

Although this research was conducted in the health sector, it suggests that this perspective can also be applied to other areas of the Brazilian economy that experienced significant growth during the pandemic, such as the supermarket and e-commerce sectors. For instance, the supermarket sector saw a real sales increase of 9.36% in 2020 and contributed significantly to formal job creation during that period (ABRAS, 2021). Similarly, the e-commerce sector experienced annual growth of over 40%, driven by the digitization of small businesses and increased demand for essential products (IDV, 2020). However, some of this growth may prove unsustainable in the post-pandemic period, owing to shifts in consumer behavior and the gradual return to normalcy (Reis et al., 2024). Analyzing these sectors can reinforce the relevance of the Abundance Paradox Theory, demonstrating that sectors benefiting from positive shocks, like the health sector, may have their vulnerabilities amplified when the economic euphoria ends. These sectors thus present opportunities for future research.

Finally, the findings of this research emphasize the importance of integrating macroeconomic and sectoral analyses into corporate studies, particularly during periods of high volatility. Recognizing how periods of economic euphoria can produce temporary effects or conceal underlying vulnerabilities is crucial for managers and investors when developing sustainable and resilient strategies in the face of future booms and downturns. Therefore, multiple sectors, not just health, can be analyzed through the lens of the Abundance Paradox Theory and economic and financial analysis.

REFERENCES

Agência Nacional de Saúde Suplementar (2024). Boletim Covid-19: ANS atualiza dados sobre utilização dos planos. Recuperado de https://www.gov.br/ans/pt-br/assuntos/noticias/covid-19/boletim-covid-19-ans-atualiza-dados-sobre-utilizacao-dos-planos-de-saude.

Araújo, J., Pereira, P. G., Holanda, A. P., & Oliveira, T. E. (2021). Rentabilidade e crise: Estudo nas empresas de consumo cíclico. Brazilian Journal of Business, 3(2), 1455–1468.

Associação Brasileira de Supermercados. (2021, 15 de fevereiro). Setor supermercadista registra crescimento de 9,36% em 2020. ABRAS. https://www.abras.com.br/clipping/noticias-abras/72398/setor-supermercadista-registra-crescimento-de-936-em-2020

Ayati, N., Saiyarsarai, P., & Nikfar, S. (2020). Short and long-term impacts of COVID-19 on the pharmaceutical sector. DARU Journal of Pharmaceutical Sciences, 28, 799–805.

B3. (2024). Critério de classificação. Recuperado de https://www.b3.com.br/pt_br/produtos-e-servicos/negociacao/renda-variavel/acoes/consultas/criterio-de-classificacao/#:~:text=Para%20a%20classifica%C3%A7%C3%A3o%20das%20empresas,proporcional%20%C3%A0s%20participa%C3%A7%C3%B5es%20acion%C3%A1rias%20detidas

BNDES - Banco Nacional de Desenvolvimento Econômico e Social. (2020). Programa de apoio emergencial ao combate da pandemia do coronavírus. https://www.bndes.gov.br/wps/portal/site/home/financiamento/produto/programa-apoio-emergencial-coronavirus

BNDES - Banco Nacional de Desenvolvimento Econômico e Social. (2020). BNDES crédito direto emergencial. https://www.bndes.gov.br/wps/portal/site/home/financiamento/produto/bndes-credito-direto-emergencial

Bartels, Y. L., Reina, D., & Muniz, J. P. (2023). Efeitos da pandemia nos indicadores econômico-financeiros das empresas pertencentes ao segmento de bens industriais, no Brasil. In *Anais do 5º Congresso UFU de Contabilidade* (pp. xx-xx). Universidade Federal de Uberlândia.

Brasil. Tribunal de Contas da União. (2021). *Acórdão 2461 de 2021 – Plenário. TC 016.873/2020-3. Relatório de Acompanhamento acerca dos Reflexos das Mudanças nas Regras Orçamentárias e Fiscais de 2020 Relativas à Pandemia de Covid-19*. Brasília: TCU.

Bresser-Pereira, L. C., Marconi, N., & Oreiro, J. L. (n.d.). Doença Holandesa. In *Structuralist Development Macroeconomics*. Routledge. Recuperado de https://www.bresserpereira.org.br/papers-cursos/Cap.5-DutchDisease.pdf

Brito, G. A. S., Corrar, L. J., & Batistella, F. D. (2007). Fatores determinantes da estrutura de capital para empresas latino-americanas. *Revista de Administração Contemporânea* 11(1), 27–46.

Carvalho, F. P. de, Maia, V. M., Louzada, L. C., & Gonçalves, M. A. (2017). Desempenho setorial de empresas brasileiras: Um estudo sob a ótica do ROE, Q de Tobin e Market to Book. *Revista de Gestão, Finanças e Contabilidade*, 7(1), 149–163.

Chaves, M. S., Silva, D. C. C., & Silva, C. de C. (2020). As implicações das desonerações impostas pela Lei Kandir sobre a educação básica no Estado do Pará: Evidências de um paradoxo da abundância. *Revista de Administração e Negócios da Amazônia*, 12(1), 78–90.

Dancey, C. P., Reidy, J. G., & Rowe, R. (2017). *Estatística sem matemática para as ciências da saúde*. Penso.

Dantas Júnior, A. F., Diniz, J. A., Freire de Morais, L. M., & Dantas de Oliveira, L. S. (2020). O impacto dos royalties do petróleo no desenvolvimento dos municípios brasileiros. In *Anais do XIV Congresso ANPCONT* (pp. xx-xx). ANPCONT.

Delgado, D. (2021). Estrutura de capital e desempenho de empresas brasileiras de capital aberto: Evidências empíricas. (Dissertação de Mestrado). Escola de Economia de São Paulo, Fundação Getúlio Vargas.

Fadeyi, O. B. (2021). Robustness and comparative statistical power of the repeated measures ANOVA and Friedman test with real data. (Dissertação de Doutorado). Wayne State University.

França, A. (2023). ANOVA de medidas repetidas. *Blog Psicometria Online*. Recuperado de https://www.blog.psicometriaonline.com.br/anova-de-medidas-repetidas/

Goulart, S. Q. C., Oliveira, E. R. de, Santos, G. C. dos, Paranaíba, A. de C., & Neto, B. J. F. (2023). COVID-19: Como a pandemia afetou o desempenho econômico-financeiro das empresas do setor de saúde listadas na B3—Contextus – *Revista Contemporânea de Economia e Gestão*, 21, e81813.

Guedes, L., Queiroz, L. A., Rolim, E., Nazário, L., & Torres, L. (2016). Bolha imobiliária ou acomodação de preços? O processo de (des)valorização de imóveis residenciais em Natal/RN, entre os anos de 2013 e 2015. In *Anais da 16ª Conferência Internacional da LARES* (pp. xx-xx). São Paulo, Brasil.

Heresi, R. (2022). Reallocation and productivity in resource-rich economies. SSRN. https://doi.org/10.2139/ssrn.4010615

Holston, K., Laubach, T., & Williams, J. C. (2023). The natural rate of interest after the pandemic. *CEPR-VoxEU*. Recuperado de https://cepr.org/voxeu/columns/natural-rate-interest-after-pandemic

IBGE - Instituto Brasileiro de Geografia e Estatística. (2024). Sob efeitos da pandemia, consumo de bens e serviços de saúde cai 4,4% em 2020, mas cresce 10,3% em 2021. Recuperado de https://tinyurl.com/mw2ku2m2

IDV – Instituto para Desenvolvimento do Varejo. (2020, 27 de julho). Vendas online no Brasil crescem 47% no 1º semestre: maior alta em 20 anos. https://www.idv.org.br/noticia/vendas-online-no-brasil-crescem-47-no-1o-semestre-maior-alta-em-20-anos

Jacques, K. A. S., Borges, S. R. P., & Miranda, G. J. (2020). Relações entre os indicadores econômico-financeiros e as variáveis macroeconômicas dos segmentos empresariais da B3. RACEF – Revista de Administração, Contabilidade e Economia da Fundace, 11(1), 40–59.

Limbong, G. (2022). Analysis of the company's financial performance before and during the COVID-19 pandemic (2019-2020) in pharmaceutical sector companies listed on the IDX. Jurnal Manajemen, 10(2), 1-13.

Martins, E., Diniz, J. A., & Miranda, G. J. (2018). Análise didática das demonstrações contábeis (2ª ed.). São Paulo: Atlas.

Ministério da Saúde. (2022, dezembro). Governo Federal investiu mais de R$ 540 bilhões para o enfrentamento da pandemia no Brasil. https://www.gov.br/saude/pt-br/assuntos/noticias/2022/dezembro/governo-federal-investiu-mais-de-r-540-bilhoes-para-o--enfrentamento-da-pandemia-no-brasil

Morandim, G. de B., Conceição, E. V., & Santos, D. F. L. (2020). Avaliação de bolhas no mercado brasileiro de capitais: um estudo setorial. RACEF – Revista de Administração, Contabilidade e Economia da Fundace, 11(3), 121–139.

Nikolov, B., Schmid, L., & Steri, R. (2019). Dynamic corporate liquidity. Journal of Financial Economics, 132(1), 76–102.

Nobre, E. S. M., & Coêlho Aguiar, S. (2020). Lei nº 13.979/2020 e o regime emergencial da dispensa de licitação do coronavírus. Revista Controle - Doutrina e Artigos, 18(2), 77–108. https://doi.org/10.32586/rcda.v18i2.631

Organização Mundial da Saúde. (2024). Programa Global de Liderança Laboratorial (GLLP). Recuperado de https://www.who.int/initiatives/global-laboratory-leadership-programme.

Pamplona, J. B., & Cacciamali, M. C. (2017). O paradoxo da abundância: Recursos naturais e desenvolvimento na América Latina. Estudos Avançados, 31(89), 251–270.

Reis, J. V., Taimo, S. M. C., Miranda, G. J., de Almeida, N. S., & de Souza, S. S. (2024). Janelas de oportunidade para IPOS: um estudo das empresas de tecnologia brasileiras na pandemia. *Revista Catarinense da Ciência Contábil, 23, e3508-e3508.*

Santos, T. C. L., Marques, A. V. C., & Miranda, G. J. (2024). Enquanto uns choram outros vendem lenços: Indicadores econômico-financeiros das empresas do setor de tecnologia da informação em tempos de incerteza. Revista Ambiente Contábil, 16(1), 22–41.

Silva, M. C., & Ramos, M. A. (2022). PESTAL: uma análise das variáveis macroambientais e suas relações com indicadores setoriais de retorno do investimento. Revista de Gestão e Projetos – GeP, 13(1), 25–45.

Santos, M. B., & Rodrigues, V. R. dos S. (2017). Eficácia do Fundo de Participação dos Estados e Distrito Federal para Promoção do Equilíbrio Socioeconômico no Brasil: Uma análise empírica para o período de 1993 a 2013. In XI Congresso ANPCONT, 3 a 6 de junho de 2017, Belo Horizonte, MG.

Santos, M., & Santos, J. O. (2008). Avaliação da liquidez da empresa por métodos alternativos. RIC - Revista de Informação Contábil, 2(2), 43–60.

Silva, E. de S., & Silva Filho, L. A. da. (2020). Determinantes do comércio internacional de commodities minerais brasileiras – 2000-2018. In XVIII Encontro Nacional da Associação Brasileira de Estudos Regionais e Urbanos – ENABER, Salvador – Bahia, 7 a 9 de outubro de 2020.

Silveira, F., Miranda, W., & Sousa, R. P. de. (2024). Post-COVID-19 health inequalities: Estimates of the potential loss in the evolution of the health-related SDGs indicators. PLOS ONE, 19(7).

Varela, D. M., Campos, R. T., Araújo, J. A. de, & Barbosa, V. S. (2018). Hipótese do Paradoxo da Abundância na África Subsaariana. Revista de Estudos Internacionais (REI), 9(1), 78-88.

RMC

The Journal of Accounting of Minas Gerais is an Open Access quarterly journal, published by Conselho Regional de Contabilidade de Minas Gerais - ISSN: 2446-9114
Journal of Accounting of Minas Gerais, Volume 26, Number 3, Article 7, Pages 92 - 106, september/december 2025. Available at: https://revista.crcmg.org.br/rmc
DOI: https://doi.org/10.51320/rmc.v26i3.1732

CRCMG
CONSELHO REGIONAL DE CONTABILIDADE DE MINAS GERAIS

INCENTIVES, MOTIVATION, AND PERFORMANCE OF EMPLOYEES: A CASE STUDY IN A GARMENT MANUFACTURING FIRM

INCENTIVOS, MOTIVAÇÃO E DESEMPENHO DE FUNCIONÁRIOS: ESTUDO DE CASO EM UMA INDÚSTRIA DE CONFECÇÃO

ABSTRACT
The purpose of our study was to evaluate the effect of incentive provision on the performance of employees from the operational sector of a garment manufacturing firm. Therefore, we conducted a case study with a mixed-method approach, involving structured questionnaires applied to employees, in which we obtained 29 answers, interviews with two managers, and statistical analysis of performance data provided by the firm, covering a period of 213 days, between March 2022 and October 2023. Results show that incentives have a positive and immediate impact on performance, especially in the short term. Peaks in productivity were observed on days when incentives were provided, as well as on the days leading up to the incentive distribution. However, this effect tends to gradually diminish in the subsequent days. Panel data analysis revealed that the positive effect is partially significant and only for the day before the incentives are distributed. Factors such as clarity in goal setting and a healthy work environment were highlighted as essential for maximizing the positive effects of incentives. The study emphasizes the importance of management strategies based on reward systems aligned with organizational objectives, contributing to more effective people management practices. Furthermore, the research provides data for the formulation of organizational policies that promote greater engagement and productivity in industrial settings.

Keywords: Motivation. Rewards. Incentives.

RESUMO
O estudo teve como objetivos analisar quais fatores influenciam a motivação e avaliar o efeito do fornecimento de incentivos sobre o desempenho de colaboradores do setor operacional de uma indústria de confecções. Para isso, foi realizado um estudo de caso com abordagem mista, que envolveu a aplicação de questionários estruturados aos colaboradores, com a obtenção de 29 respostas, entrevistas com duas gestoras e análise estatística dos dados de desempenho fornecidos pela indústria, referentes a um período de 213 dias, entre março de 2022 e novembro de 2023. Como resultados, observou-se que os incentivos exerceram impacto positivo e imediato sobre o desempenho, especialmente no curto prazo, sendo identificados picos de produtividade nos dias de fornecimento e na véspera da distribuição de incentivos. Por outro lado, verificou-se que esse efeito diminui gradativamente nos dias subsequentes. Contudo, os resultados da análise de dados em painel evidenciam que o efeito positivo se mostrou parcialmente significativo, restrito apenas ao dia anterior à atribuição dos incentivos. Fatores como a clareza nas metas estabelecidas e um ambiente de trabalho saudável foram destacados como essenciais para maximizar os efeitos positivos dos incentivos. O estudo destaca a relevância de estratégias de gestão baseadas em sistemas de recompensas alinhados aos objetivos organizacionais, contribuindo para práticas mais eficazes de gestão de pessoas. Além disso, a pesquisa fornece dados para a formulação de políticas organizacionais que promovam um maior engajamento e produtividade em ambientes industriais.

Palavras-chave: Motivação. Recompensas. Incentivos.

Elias Marinato Abreu
Graduado em Sociologia pela Universidade Federal Fluminense – UFF (2017) e Graduando em Ciências Contábeis pela Universidade Estadual do Paraná – UNESPAR. E-mail: eliasmarinato@gmail.com. ORCID: https://orcid.org/0009-0000-8992-2076. Lattes: http://lattes.cnpq.br/7069197951790820

Matheus Ricardo Almeida
Graduando em Ciências Contábeis pela Universidade Estadual do Paraná – UNESPAR. E-mail: almeida.m.r1998@gmail.com. ORCID: https://orcid.org/0009-0008-7305-986X. Lattes: http://lattes.cnpq.br/9936466504994822

Ricardo Suave
Pós-Doutor (2022) e Doutor (2018) em Controladoria e Contabilidade pela Universidade de São Paulo – FEA USP, mestre em Contabilidade pela Universidade Federal de Santa Catarina – UFSC (2013) e graduado em Ciências Contábeis pela Universidade do Estado de Santa Catarina – UDESC (2011). Professor adjunto do curso de Ciências Contábeis da Universidade Estadual do Paraná (UNESPAR), Campus de Campo Mourão-PR. E-mail: ricardo.suave@unespar.edu.br. ORCID: https://orcid.org/0000-0002-9149-2658. Lattes: http://lattes.cnpq.br/3848432448357348

Journal of Accounting of Minas Gerais - ISSN 2446-9114 – Open Access quarterly journal, published by Conselho Regional de Contabilidade de Minas Gerais (CRCMG). Received: 6th May 2025. Proofread: 12th September 2025. New alterations: 5th November 2025. Accepted: 4th December 2025, by Dra. Lara Cristina Francisco de Almeida Fehr and Dr. Nálbia de Araújo Santos. Published: 26th December 2025. Published by: CRCMG

1 INTRODUCTION

This study examines how financial and non-financial incentives affect the performance of employees in the focal organization. In this sense, motivation supports the exertion of effort toward specific organizational goals, with motivational forces described as extrinsic or intrinsic and guiding the direction, intensity, and persistence of performance behaviors (Cerasoli et al., 2014). Thus, motivation is viewed as a driving force behind the pursuit of fulfilling individual or collective needs and desires, leading individuals to act with a certain level of effort to achieve their goals (Antunes, 2011).

Management accounting plays an important role in motivating employees to improve their performance, which organizations can achieve through the use of incentives (Bonner et al., 2000). When considering some of the main management accounting frameworks (Ferreira & Otley, 2009; Malmi & Brown, 2008; Simons, 1995), incentives emerge as a ubiquitous element.

Theoretically, providing incentives leads to additional effort, which in turn increases task performance, although different mechanisms can shape this relationship (Bonner et al., 2000). Nevertheless, Garbers and Konradt (2014) show, based on meta-analytic evidence, that the relationship between incentives and performance is consistently positive, both at the individual and team levels.

Employees who work in an organization typically do not have interests that fully align with the organization's preferences; instead, they seek to satisfy a range of personal needs (Prendergast, 2008). Thus, if individuals do not find ways to satisfy their expectations at work, they will not feel motivated and will perceive the relationship as exploitation rather than exchange (Zonatto et al., 2017).

Given the importance of keeping employees motivated through incentives to enhance their performance, it is essential to understand the dynamics that influence this motivation and how it affects organizational commitment (Kontoghiorghes, 2025). Accordingly, studies indicate that, rather than merely designing incentive schemes with the expectation of increasing performance, it is important to understand the contextual factors that shape this relationship (Alves & Lourenço, 2023; Bonner et al., 2000; Landry et al., 2017). Moreover, it is also important to examine the possible effects of motivation and incentives at different points in time relative to when incentives are provided (Figueiredo et al., 2025; Frankort & Avgoustaki, 2022).

In light of the above, the following research question emerges: Which factors influence motivation, and what is the effect of assigning incentives on the performance of employees in the operations department of a garment manufacturing firm? To address this question, the study aims to analyze which factors influence motivation and to assess the effect of assigning incentives on the performance of employees in the operations department of a garment manufacturing firm. To achieve these purposes, the study examined aspects that influence employees' motivation using questionnaires administered to them, as well as interviews conducted with the company's management. In addition, the analysis included performance data provided by the focal company.

This study first contributes by analyzing factors that affect employees' motivation and job satisfaction (Alkandi et al., 2023; Trivedi et al., 2024). Studies from this perspective have shown, for example, that organizational commitment is related to job satisfaction (Westover et al., 2010) and that rewards are among the most powerful motivators driving job satisfaction (Chepkwony & Oloko, 2014). Thus, organizations need to develop policies that create conditions to motivate their employees and make them feel satisfied with the work they perform (Cuenca & Constantinov, 2016).

As a practical contribution, the study suggests actions to help firms retain qualified, loyal, motivated employees who are committed to the organization's success (Alniaçik et al., 2012), so they can maximize their performance (Park & Kim, 2023). Understanding the factors that motivate employees can represent a competitive advantage for firms, both in terms of talent retention and in terms of overall firm performance. Likewise, testing and identifying the effects of different incentive designs also enables firms to find better ways to motivate employees and increase productivity.

In theoretical terms, this study adds to the literature that examines the relationship between incentives and performance (Bonner et al., 2000). Although this literature points to a positive relationship between incentives and performance (Garbers & Konradt, 2014), different studies identify circumstances that interfere in this relationship. For example, evidence indicates that providing only financial incentives is not, by itself, sufficient to increase performance, which contradicts agency theory (Alves & Lourenço, 2023). Thus, by considering discussions on the most appropriate ways to design incentive systems (Garbers & Konradt, 2014; Park & Kim, 2023) and on the temporal horizon of incentive effects (Frankort & Avgoustaki, 2022), this study also contributes insights into factors identified as important for improving employees' working conditions.

Finally, by identifying relevant factors for employee motivation, together with analyzing the effectiveness of different incentive systems, our study generates a social contribution aligned with Sustainable Development Goal (SDG) 8, Decent Work and Economic Growth, and with SDG 9, Industry, Innovation, and Infrastructure. Thus, while supporting firms and their sustainability, these efforts also help ensure that organizations can fulfill their role of providing work and livelihoods for people.

2 LITERATURE REVIEW

2.1 Management Control System (MCS)

Managerial control is one of the elements of organizations' strategy process and, more specifically, represents one of the administrative mechanisms that help implement strategies (Govindarajan, 1988; Mintzberg et al., 2006). It can be understood as the process of guiding organizations toward viable patterns of activity in an uncertain environment, by exerting the organizational role of enabling managers to influence the behavior of other organizational members in line with adopted strategies, using different information systems for this purpose (Berry et al., 2005; Anthony & Govindarajan, 2008).

Control is the process of monitoring a firm's activities to ensure that they are consistent with plans and that objectives are achieved (Drury, 2004). At the organizational level, a management control system requires information obtained through different control mechanisms, such as action or behavioral control, cultural or social control, and results control (Ouchi, 1979; Drury, 2004).

Action or behavioral controls involve observing individuals' actions while they perform their tasks; that is, it occurs when a person takes responsibility for the work of others, giving them instructions and monitoring their actions (Mintzberg, 1979). This type of control is appropriate when cause–effect relationships are well understood, so that if the appropriate means are followed, the expected results will occur (Drury, 2004).

Cultural and social controls allow reciprocal monitoring among different organizational actors through group norms and values. This type of control is appropriate when neither cause–effect relationships are well understood, nor results are easily measurable (Ouchi, 1979).

Finally, results controls involve collecting and issuing reports with information on the outcomes of work effort and consist of the following stages:

i) establishing performance measures that minimize undesirable behavior;
ii) setting performance targets;
iii) measuring performance; and
iv) providing rewards and punishments.

These controls are considered synonymous with management accounting systems (Drury, 2004). This type of control is appropriate when results are easily measurable, and the cause–effect relationships may or may not be well understood (Ouchi, 1979). Therefore, management accounting systems are an integral part of organizations' formal control structure (Waterhouse & Tiessen, 1978) and are responsible for providing information on how an organization uses its resources and for assessing the results achieved (Anthony & Reece, 1975).

The process of guiding the organization toward viable patterns of activity in a changing environment (Berry et al., 2005) does not subsist without a structured MCS that stimulates, guides, and informs managers about the relevant elements to be observed when seeking information that supports the development of the organization's management process (Frezzati et al., 2011).

Performance management and reward systems are important aspects of MCSs and play a significant role in developing strategic plans, analyzing organizational objectives, and compensating individuals (Chenhall, 2008). Therefore, a compensation system can be used to align or motivate individuals' expectations with those of the organization (Anthony & Govindarajan, 2008).

For Simons (1995), motivation, monitoring, and reward for achieving specific goals are embedded in the context of the diagnostic control system, which is used to motivate, monitor, and reward the achievement of specified goals. Malmi and Brown (2008) state that remuneration and rewards are based on symbols, such as employee retention and the encouragement of cultural control through group rewards, and, to conclude, Ferreira and Otley (2009) argue that rewards result from performance evaluation and are a logical aspect to be considered within the system.

It is worth noting that the literature provides abundant empirical applications of these frameworks, confirming the role of remuneration in management controls, whether based on Simons' (1995) study (Barros & Ferreira, 2022; Speklé et al., 2017), on Malmi and Brown (2008) (Altoé et al., 2018; Berg & Madsen, 2020), or on Ferreira and Otley (2009) (see the review by Franco-Santos & Otley, 2018).

2.2 Compensation and incentives

The concept of remuneration has evolved in a comprehensive way, going beyond the traditional financial meaning and encompassing the overall economic return that employees receive in exchange for the work performed (Krauter, 2009). Remuneration or compensation is related to the financial or non-financial benefits that an employee receives in exchange for their work and dedication and is divided into direct and indirect compensation. Whereas direct compensation refers to payments made to employees in the form of salary, bonuses, awards, or commissions, indirect compensation involves the provisions contained in collective labor agreements, as well as the benefits and service plans offered by the organization, which include vacation, bonuses, tips, allowances, and others (Chiavenato, 2024).

Firms that better remunerate their executives and employees tend to show superior performance compared with those that offer lower remuneration. Employees are more motivated to work when they believe that their efforts will

result in rewarding performance (Leite & Hein, 2019). To motivate employees to behave in ways that are aligned with the organization's objectives, it is essential that the firm provide incentives. These incentives can be either positive or negative and influence employees in different ways. Such stimuli are designed to satisfy individuals' needs within the organizational context, in which positive incentives (for example, bonuses or promotions for meeting targets) increase the satisfaction of individual needs, whereas negative incentives (for example, warnings or loss of bonuses for not meeting targets) decrease that satisfaction (Anthony & Govindarajan, 2008).

Incentives are essential in MCSs, playing a fundamental role in motivating employees to improve their performance and, in doing so, achieve organizational objectives (Santos, 2011). Granting incentives is an essential control mechanism to motivate all employees in the organization to achieve the targets set by the firm (Anthony & Govindarajan, 2008).

According to Malmi and Brown (2008), the purpose of remuneration is to motivate individuals and increase their performance by creating congruence between personal goals and objectives and those of the organization. It is worth noting that remuneration should be analyzed beyond cybernetic controls (in the typology of the management control system as a package), because while these involve aspects such as quantification and performance standards, there are forms of remuneration that go beyond this scope, such as employee retention and cultural controls through group-based rewards (Malmi & Brown, 2008).

Reward or incentive systems are linked to a set of material and immaterial benefits which main purpose is to reinforce job satisfaction, productivity, and organizational functioning. Employees obtain rewards based on their performance within the firm (Bilhim, 2004). The objectives of these systems are to attract and retain employees, reducing staff turnover and motivating workers both in terms of productivity and the organizational health of firms (Rito, 2006).

In addition, for an incentive system to be effective and motivating, it is essential that rewards are directly linked to employees' individual objectives. Employees need to understand that their roles are aligned with the organization's strategic objectives (Santos, 2011). In this context, rewards can be defined as tangible or intangible. Tangible rewards include prizes granted to employees for meeting goals established by the organization. In turn, intangible rewards involve recognition through public praise or career advancement resulting from an employee's accomplishment (Soares, 2009).

Finally, all companies adopt a complex reward system to align their employees with organizational objectives. In this context, organizations distribute these incentives based on each employee's contributions (Chiavenato, 2024).

2.3 Previous studies

Marcelino (2019) examined the effect that the Management Control System (MCS) has on the mental state and attitudes of employees in a large Brazilian food company. The results show that the MCS, as part of the organizational environment – together with organizational climate and management and leadership actions – constitutes a construct that can exert some influence on employees' Psychological Capital. The study emphasizes that the MCS can enhance individuals' potential, helping the organization gain competitive advantage. It can also bring benefits from an individual perspective, that is, for employees, since job satisfaction and affective organizational commitment are important attitudes as workers develop a sense of identity in the workplace.

Moraes' (2005) study investigated the possible links between the motivational phenomenon and the dimensions of commitment in an organizational setting at a Brazilian higher education institution. The results showed that extrinsic motivation is related to instrumental commitment, whereas intrinsic motivation is related to affective commitment. In this case, when workers are motivated by the benefits arising from performing their activity, they tend to show commitment to the organization that is based mainly on aversion to the costs associated with changing jobs. But when workers are motivated by the satisfaction of carrying out their activities, they display affective commitment, which is related to their level of involvement with the company.

By analyzing employees in a Brazilian public hospital, Grohmann et al. (2013) investigated how work motivation affects workers' commitment, satisfaction, and performance. They observed that motivation, commitment, and job satisfaction moderately influence employees' professional performance. They also found that there is no direct relationship between motivation and performance. Thus, to increase professional performance, workers must not only be motivated but also satisfied and committed to their work.

Focusing on employees in the administrative sector of a large internationalized industrial organization, Zonatto et al. (2017) analyzed the influence of work motivation on organizational commitment. They showed that workers whose motivation stems from the satisfaction of performing their activities and from the benefits associated with doing so have affective commitment, which is related to their emotional involvement with the company. They also found that the higher workers' level of education, the lower their affective and instrumental commitment, and that the analyzed employees are not concerned about unemployment or about the costs associated with leaving the company.

By examining how the characteristics of goals and rewards influence the motivation of civil servants in the public sector of Minas Gerais, Rodrigues et al. (2011) found that the overall evaluation of the goal system and the overall evaluation of the reward system did not show significant influences on motivation. They also observed that the aspects that influence motivation, in decreasing order of importance, are the value a person assigns to the reward received, the perception that performance leads to a reward, and the civil servant's belief in their own ability to carry out the work. The study showed that the management with goals and rewards has the potential to increase the motivation of the public servants analyzed.

Aguiar and Pimentel (2017) emphasize in their analysis the motivational effect and the composition of compensation on financial and market performance, both at contemporaneous and lagged levels. The results indicated that there is a relationship between compensation and performance, such that firms that pay higher compensation achieve higher performance levels in both the short and the long term.

In Machado's (2017) study, it was shown that incentive systems influence several aspects within the organization and represent an important variable that must be properly designed and implemented to have a real impact on the company. The study analyzed the influences of incentives on employees' satisfaction, their well-being, and their organizational performance. The results highlight the importance of the reward system, showing a positive influence on several variables, such as satisfaction, well-being, and organizational performance.

In the study by Nascimento et al. (2019), a systematic review was conducted to investigate the influence of reward systems on organizational motivation. The review revealed that in 71% of the cases analyzed there was a direct and positive relationship between the implementation of reward systems and increased motivation at work. Moreover, the study showed that different types of rewards create conditions for employees to feel more motivated.

In summary, the reviewed studies show the relationship between MCSs and incentives with organizational performance, as well as related variables such as employees' satisfaction, commitment, and motivation. A well-implemented MCS can maximize individuals' potential and, consequently, help the organization achieve a competitive advantage, with evidence that the MCS positively influences employees' psychological capital, leading to higher satisfaction and affective commitment at work.

Goal and reward systems have an impact on employees' motivation, especially when workers perceive value in the rewards and believe in their ability to perform the work (Machado, 2017). Therefore, the relationship between MCSs and incentives with performance and other variables is complex (Marcelino, 2019). Implementing an efficient MCS, together with a well-designed incentive system, is crucial for improving organizational performance and creating a satisfactory and committed work environment (Nascimento et al., 2019; Zonatto et al., 2017).

2.4 Hypotheses development

For the performance data of employees collected in the company, we formulated and tested the following hypotheses. The first hypothesis assumes a positive relationship between incentives, on the day they are granted, and employees' performance. As highlighted in a meta-analysis, the relationship between the provision of incentives and performance is consistently positive (Garbers & Konradt, 2014). In this sense, the granting of incentives becomes one of the pillars of management accounting, because to align individuals' behavior, it is necessary to offer something in return (Bonner et al., 2000; Cabral et al., 2024).

Seminal research and recent studies show the positive effect of incentives (Nascimento et al., 2019). For example, evidence indicates that the effect is positive in cases such as incentives from government programs that support academic publications (AlShareef et al., 2023). However, given the results of studies on the topic, caution is needed, because several indicate that this positive relationship is context-dependent (Alves & Lourenço, 2023; Awasthi & Pratt, 1990; Park & Kim, 2023).

When considering the design of incentive systems, several types can be used, such as monetary, nonmonetary, and other benefits, and many firms use a combination of more than one type of incentive (Alves & Lourenço, 2023). There is another type of incentive, called a noncontingent incentive and very common in the market (Cerasoli et al., 2014), which is offered on a fixed or variable schedule and is not tied to the achievement of a predetermined performance level. Providing celebratory parties for employees, which is the incentive considered in the present study, fits the category of non-contingent incentive.

From a theoretical standpoint, noncontingent incentives do not produce significantly positive effects on performance, because when the incentive is not linked to performance, employees do not feel as motivated as in the case of contingent incentives (Deci, 1972; Podsakoff et al., 1982). Even so, there is evidence of aspects that can be positively related to performance in the case of non-contingent incentives. Manohar et al. (2017) found that although performance under non-contingent incentives is lower than under contingent incentives, it is still higher than when no additional incentive is offered. Córdova et al. (2021) report in their findings that non-contingent incentives are beneficial for inducing the adoption of new behaviors.

Taking these findings into account, we state the first hypothesis as follows:

H1: The relationship between incentives and employees' performance on the day the incentive is granted is positive.

The second hypothesis also assumes that the positive relationship between the granting of incentives and performance holds for the day before and the day after the incentive is granted. This premise is based on the idea that incentives are a form of extrinsic motivation that generate expectations among employees (Figueiredo et al., 2025). As employees anticipate receiving an incentive, current performance may be higher due to the expectation of the reward, and performance after the incentive may also be higher as a response to the incentive (Frankort & Avgoustaki, 2021). Furthermore, subsequent performance is higher when employees perceive the incentive as a form of recognition (Yang et al., 2022).

In this sense, we formulate the second hypothesis as follows:

H2: The relationship between incentives and employees' performance on the day before and the day after the incentive is granted is positive.

3 METHODOLOGY

This study is characterized as descriptive in terms of its objectives, as it describes the dynamics related to incentives, motivation, and performance in an organization. Regarding the approach, it is classified as mixed methods, since the analyses use both qualitative and quantitative data. Finally, with respect to the procedures, it is a case study. Regarding data collection techniques, the study used performance data provided in spreadsheets, questionnaires, interviews, and observation.

3.1 Data collection

Our paper is a case study because this procedure allows for an in-depth analysis. Accordingly, the research sought methodological triangulation, drawing on qualitative and quantitative data obtained through: a) a questionnaire administered to the organization's employees, allowing participants to play an active role not only as objects of study but also as self-assessment subjects; b) interviews with managers; c) analysis of spreadsheets; and d) observation of the company under study.

We carried out our study in a manufacturing firm located in Paraná - Brazil, operating in the garment industry since 2000, which employs 49 workers and has an average production of 11,100 pieces per month. We justify the choice of this company because it uses an incentive system that establishes performance targets and provides both contingent and non-contingent remuneration linked to those targets. The sample comprised 29 employees from the operations department and 2 from the management area, representing 63% of the company's workforce, who volunteered to respond to the research instruments. The interviews were conducted with the management team, which consists of two individuals. One of the managers is the owner of the company, and the other holds the position of general manager, having worked at the firm for 14 years and initially holding a position in the operations department.

3.1.1 Questionnaire and interview guide

Data collection took place through the administration of a structured questionnaire with closed-ended questions to the organization's employees (see Tables 2, 3, and 4 in the results section). Using this instrument, employees evaluated statements aimed at assessing constructs related to goal difficulty and importance, participation in goal setting, feedback on goal attainment, overall evaluation of the goal system, and the expectancy, instrumentality, and valence of rewards. The statements were rated on a Likert-type scale ranging from 01 (strongly disagree) to 07 (strongly agree).

We conducted interviews with management using an open-ended questionnaire (Table 1) to identify initiatives implemented by the company's leadership to inspire and motivate those under their direction, thereby eliciting the best from each employee in favor of collective performance.

Table 1 - Interview guide with management

1. Do you foster, among employees, the necessary conditions to provide quick responses to the company's challenges?
2. Do you promote competency development plans for employees?
3. Do you promote training plans for employees?
4. Are you open to suggestions from your employees?
5. Do you acknowledge your employees' skills?
6. Do you assess the contribution of each employee (or group) to the company's results?
7. Do you identify which employees need training?
8. Do you identify new talent?
9. Do you evaluate the compensation system?
10. Do you design reward programs?
11. Do you provide feedback to employees?
12. In your opinion, what are the effects of granting incentives on employees' performance?

Source: Prepared based on Rodrigues et al. (2011), Pires et al. (2015), and Zonatto et al. (2017).

Both questionnaires were developed based on the studies by Rodrigues et al. (2011), Pires et al. (2015), and Zonatto et al. (2017). The administration of the instruments took into account ethical aspects, as described in the Informed Consent Forms (ICFs), in which all procedures related to the research project and the option to participate or not were explained clearly and objectively to employees and to the organization's management.

At that time, all employees were informed of the researchers' commitment to preserve the privacy and confidentiality of the research data. We collected the data in a way that we maintained confidentiality, and we committed not to disclose this information in any manner that could, even remotely, allow the identification of employees or of the company's name. In this sense, each questionnaire received only a number, without any linkage to the respondent.

3.1.2 Performance archival data

Additionally, we used spreadsheets with production performance data provided by the company for months in which some non-contingent incentive was offered. Specifically, on the dates considered, gettogethers were held with employees during working hours. The data refer to the following months:

a) March 2022 and 2023 – International Women's Day;
b) April 2023 – Company anniversary;
c) May 2022 and 2023 – Mother's Day and Seamstress's Day;
d) August 2022 and 2023 – Father's Day;
e) October 2022 and 2023 – Children's Day;
f) November 2022 – International Men's Day.

The analysis considered only performance data from months in which some incentive was provided. For this reason, although the full period from March 2022 to October 2023 spans 1 year and 8 months, only 10 months were used in this analysis. Within this period, we collected data only for those 10 months, given that in those months some incentive was granted to employees. In addition, the analysis used performance data only for employees who remained with the company throughout the entire period.

Employees' performance data refers to a percentage relative to the target set for each day. For example, employee 3, who works as a seamstress and was absent on one of the days observed, achieved an average performance of 100% on all days worked. By contrast, employee 4, who also works as a seamstress and was not absent on any of the days observed, achieved an average performance of 109% on all days worked.

3.2 Data analysis

We analyzed the questionnaire items answered by employees using descriptive statistics, after organizing the database and performing the calculations in Excel. We analyzed the interview responses from the company's management by defining main categories based on the information obtained.

With respect to the available production performance data, which include performance observations for several employees over several days (periods), we conducted a panel data statistical analysis using Stata software. The dataset contains information for 18 employees over a period of 213 days for each employee, resulting in 3,834 observations.

The estimated model is as follows:

$$Perf_{it} = a_i + \beta_1 \cdot incent_{it} + \beta_2 \cdot gender_{it} + \beta_3 \cdot pre_{it} + \beta_4 \cdot post_{it} + \beta_5 \cdot absent_{it} + \varepsilon_{it}$$

Where:
perf: dependent variable that represents employees' performance.
incent: binary variable that takes the value 1 on incentive days and 0 on all other days.
pre: binary variable that takes the value 1 on the day preceding an incentive day and 0 on all other days.
post: binary variable that takes the value 1 on the day following an incentive day and 0 on all other days.
gender: binary control variable that takes the value 1 for female and 0 for male.
absent: binary control variable that takes the value 1 on days of absence or when performance was not recorded, and 0 on all other days.

We decided to analyze whether there is also a difference in performance on days preceding the provision of such incentives, given that incentives in the company usually occur on commemorative dates. In the same logic of effects that extend beyond the incentive day itself, we also examine the effect on subsequent days.

4 RESULTS

We then carried out a descriptive study after compiling the data, with the aim of presenting the demographic variables of the population under study, and found that, in the operations department, the seamstress position predominates,

79% of employees have up to 10 years with the company, 87% have at most a high school education, and 90% have held the same positions since they were hired.

4.1 Employees' satisfaction and motivation

Next, we present the questions administered to the company's employees (Tables 2, 3, and 4) in order to capture their perceptions of motivation levels and the dimensions of commitment in the organizational environment.

Table 2 - Questions regarding motivation for work

Regarding your motivation for work, indicate how much you agree with the following statements, using 1 for "strongly disagree," 2 for "disagree," 3 for "slightly disagree," 4 for "neither agree nor disagree," 5 for "slightly agree," 6 for "agree," and 7 for "strongly agree."	Number of employees	Maximum	Minimum	Mean	Mode	Median	Standard Deviation
I have autonomy to carry out my activities efficiently.	29	7	2	6.000	7	7	1.581
I am satisfied with working at this company.	29	7	3	6.310	7	7	1.072
I have the freedom to express my opinions.	29	7	2	5.448	7	6	1.549
The company responds to my opinions.	29	7	2	5.069	6	5	1.486
I feel adequately compensated for the level of effort involved in performing my activities.	29	7	1	5.000	6	6	1.669
I feel professionally valued.	29	7	2	5.517	7	6	1.724
I have a good relationship with my supervisor.	29	7	4	6.517	7	7	0.871
I have a good relationship with my coworkers.	29	7	1	5.586	7	6	1.701
I feel that my job is stable.	29	7	3	6.172	7	6	0.966
I am satisfied with how the company's physical workspace is managed.	29	7	2	5.621	7	6	1.656
The goals that are set are difficult to achieve.	29	7	1	4.483	4	4	2.011
I am satisfied with the rewards for achieving goals.	29	7	2	5.621	7	6	1.801
I am committed to achieving the goal.	29	7	4	6.586	7	7	0.825
I feel that the company motivates me to work in a team.	29	7	1	5.414	7	6	1.973

Source: Research data. Instrument adapted from Rodrigues et al. (2011), Pires et al. (2015), and Zonatto et al. (2017).

Among the results shown in Table 2, regarding work motivation, the statements related to employees' effort to achieve goals and to having a good relationship with their supervisor displayed the highest levels of agreement, with mean scores of 6.586 and 6.517, respectively. Job satisfaction with working at the company appears to be the third-highest level of agreement.

Goal setting is a mechanism intended to motivate individuals (Locke & Latham, 2002) and can consequently lead to higher pay and performance (Machado, 2017). In this case, more motivated employees can positively have influence in aspects such as commitment and satisfaction (Zonatto et al., 2017). Regarding good relationships with supervisors, the literature also reports a positive effect on motivation, satisfaction, performance, and commitment (Dulebohn et al., 2012; Mynt et al., 2016).

Still regarding the results shown in Table 2, among the statements with the lowest levels of agreement among employees are the one related to the difficulty of achieving goals, with a mean of 4.483, and the one concerning how adequately employees feel they are compensated for the level of effort involved in performing their activities, with a mean of 5.00.

The low level of agreement with the statement about goals may indicate that employees consider them easy, and evidence suggests that goals that are too easy or too difficult are not suitable for motivation and performance (Locke & Latham, 2002; Höpfner & Keith, 2021). In turn, paying a salary that satisfies employees is also important for their motivation. Since salary alone does not function as an incentive, this aspect supports Alves and Lourenço's (2023) result that the granting of incentives cannot be considered sufficient motivation to align employees' behavior with organizational objectives.

Table 3 - Aspects that motivate employees to work at the company most

Regarding your motivation for work, indicate how much you agree with the following statements, using 1 for "strongly disagree," 2 for "disagree," 3 for "slightly disagree," 4 for "neither agree nor disagree," 5 for "slightly agree," 6 for "agree," and 7 for "strongly agree."	Number of employees	Maximum	Minimum	Mean	Mode	Median	Standard Deviation
The salary.	29	7	1	5.655	7	6	1.587
Autonomy.	29	7	1	5.379	7	6	1.801
The work I do.	29	7	3	6.138	7	7	1.125
Professional growth.	29	7	2	5.379	7	6	1.720
Lack of alternatives.	29	7	1	2.655	1	2	1.932

Source: Research data. Instrument adapted from Rodrigues et al. (2011), Pires et al. (2015), and Zonatto et al. (2017).

According to the results shown in Table 3, among the statements presented, the work employees perform is the one with the highest level of agreement, with a mean of 6.138. Performing work gives individuals opportunities to build their identity, interact and obtain social support, and find a purpose that is worth dedicating themselves to, spending time on, facing challenges, acquiring status, and earning income (Zanelli et al., 2010). By contrast, lack of alternatives is the statement with the lowest level of agreement among employees, with a mean of 2.655. The lack of job options is not a determining factor for employees to remain in the organization, given the high employability in the garment manufacturing segment, which, according to the Paraná Agência Estadual de Notícias (2024), was the second-largest employer in the state in the current year.

Table 4 - What would improve employees' motivation to perform their work in the company

Regarding your motivation for work, indicate how much you agree with the following statements, using 1 for "strongly disagree," 2 for "disagree," 3 for "slightly disagree," 4 for "neither agree nor disagree," 5 for "slightly agree," 6 for "agree," and 7 for "strongly agree."	Number of employees	Maximum	Minimum	Mean	Mode	Median	Standard Deviation
The purchase of new equipment	29	7	1	5,759	7	7	1,725
29	7	1	5.759	7	7	1.725	1,546
An increase in bonuses	29	7	1	6,310	7	7	1,391
29	7	1	6.034	7	7	1.546	1,895
An increase in salary							
29	*7*	*1*	*6.310*	*7*	*7*	*1.391*	
Improved relationships in the work environment	*29*	*7*	*1*	*5.345*	*7*	*6*	*1.895*

Source: Research data. Instrument adapted from Rodrigues et al. (2011), Pires et al. (2015), and Zonatto et al. (2017).

Regarding the results shown in Table 4, with respect to improving employees' motivation to perform their work, a salary increase is the option with the highest level of agreement among employees, with a mean of 6.310. Even if employees feel adequately compensated for the level of effort involved in performing their activities (Table 2), they see their salary as their main or only source of family livelihood. The salary aspect is important, for example, when considering the findings of Goerg et al. (2020), which indicate that in a system where workers can set their own wages, they tend to choose higher wages, perform better, and show greater motivation.

In turn, improved relationships in the work environment is the option with the lowest level of agreement among employees, with a mean of 5.345. Because people spend a significant amount of time at work, such relationships can influence several aspects. Evidence shows, for example, that when there are good relationships at work, including friendships, this contributes to relational energy and peer organizational citizenship behaviors, which can benefit motivation and engagement (Xiao et al., 2020).

4.2 Management's commitment to organizational motivation

Reward systems are an important tool for organizational motivation, and, in this sense, it is not enough to simply implement them; they must also be managed with a view to continuous improvement. The following sections present the main topics that emerged from the interviews conducted with the company's management, specifically employee suggestions, training, performance evaluation, and incentive systems.

Regarding employees' suggestions, management believes that the company's openness to listening to workers can create a better work environment. Collaborative communication between employees and management aims to solve common problems. Therefore, it is essential for the organization to encourage participation and create more open communication channels (Deetz, 2010), which allows for the construction of truly democratic environments that foster the exchange of diverse ideas. This aspect is also important for designing an effective incentive system, because beyond seeking performance improvement and alignment with organizational objectives, it is necessary to offer something that meets employees' expectations and keeps them motivated (Cerasoli et al., 2014).

Regarding the need for the organization to promote training plans for employees, management acknowledges the need to expand the provision of professional training for employees, who are key players in the organizational development process. In this sense, beyond preparing people for their roles, it is necessary to consider that training can also have positive effects on job satisfaction, in addition to performance (Ouabi et al., 2024).

When asked about verifying the contribution of each employee or group to the company's results, Manager 1 replied: "Yes, absolutely! Each employee's contribution is directly linked to the company's results (...)". From this perspective, it is necessary to keep employees motivated, since their involvement can lead to greater commitment to organizational goals (Ahmad et al., 2023). Evidence shows a positive relationship between employees' commitment and engagement and organizational performance (Adam & Alfawaz, 2025).

Regarding the evaluation of the compensation system, Manager 1 stated that "the company is always innovating and seeking new awards and bonuses to ensure that compensation stays ahead of the market". To create rewards that truly motivate, they must be desired by employees; thus, managers play a key role in identifying the rewards to be implemented so that they generate expectations (Vroom, 1964) among employees. In addition, firms that offer higher compensation tend to generate better performance (Aguiar & Pimentel, 2017).

With regard to reward programs, it is worth noting that the company designs reward programs, as shown in question 10 (Table 1), adopting structures and practices aligned with the organization's strategic objectives to achieve competitive advantage by maximizing employees' performance (Rosa, 2012). According to Pontes (2007), the opportunity for professional growth is one way to recognize and reward employees' performance, prompting them to put more effort into their tasks in order to obtain greater rewards (Herpen, 2007).

4.3 Analysis of the effect of providing incentives

Initially, Table 5 presents the descriptive statistics for the employees' performance variable.

According to the results in Table 5, when comparing the incentive day with the other days, performance is 0.87% higher on the incentive day, even though employees worked one hour less. When examining the comparison between the day before the incentive is provided and the other days, performance on the previous day is 1.33% higher. In the comparison between the day following the incentive and the other days, there is a 0.85% reduction in performance relative to the remaining days.

According to expectancy theory (Vroom, 1964), one can expect employees to increase their work effort, since the theory posits that the greater their expectation of a reward and the greater its personal value, the higher their motivation to act, thereby contributing to the results achieved by the organization.

Table 5 - Descriptive statistics for performance by incentive days

Comparison between the incentive day and the other days		
	On the incentive day	**Other days**
Mean	0.9380	0.9293
Standard deviation	0.0126	0.0035
Comparison between the previous day and the other days		
	On the previous day	**Other days**
Mean	0.9423	0.9290
Standard deviation	0.0125	0.0035

Comparison between the subsequent day and the other days		
	On the subsequent day	**Other days**
Mean	0.9218	0.9303
Standard deviation	0.0143	0.0035
Comparison by gender		
	Male	**Female**
Mean	0.9054	0.9453
Standard deviation	0.0053	0.0043

Source: Research data.

On the other hand, the achievement of targets may reflect the role of the organization's management in motivating followers and ensuring that they have the necessary conditions to obtain solid results through their own efforts. According to Manager 1, "incentives really motivate employees, encouraging them to pursue better results. They become more interested in improving because they know they will have opportunities for growth and greater rewards. I believe incentives are essential to driving the pursuit of new results". Leadership plays a major role in engaging and valuing followers, influencing them to achieve goals (Dulebohn et al., 2012; Robbins, 2005). The negative result, in turn, may express a certain emptiness or a post-goal euphoria until the employee recovers from internal pressures and starts to direct effort toward the targets set for the next period.

Regarding the panel data analysis (Table 6), the panel in this study is considered long, as there are more periods of observation than individuals observed (Fávero, 2015). Before estimating the model itself, we carried out several tests to determine how the model should be estimated (Fávero, 2015). The first is the Hausman test ($p = 0.998$), whose result indicates that the model should be estimated with random effects. Subsequently, the Wooldridge test ($p = 0.008$) and the Pesaran test ($p = 0.000$) suggest problems related to first-order serial correlation in the error terms and contemporaneous correlation, respectively. To address these issues, and as shown in Table 5, models were estimated with clustered robust errors (Model 1) and with Driscoll–Kraay standard errors (Model 2).

According to the results shown in Table 6, although the coefficient remains the same in both models, the standard error and p-value change. First, regarding the provision of incentives, the coefficient is positive, meaning that on days when some incentive is provided, performance is 0.3% higher. However, this result is not significant for both models. The coefficient for the day before incentives are provided is also positive, with performance 0.7% higher these days, and this effect is significant only in the clustered-errors model ($p = 0.046$). This result may indicate that the expectation of some incentive or reward can have a positive effect on performance.

Table 6 - Effects of incentives on performance

Variables	**Model 1 - Clustered**			**Model 2 - Driscoll-Kraay**		
	Coefficient	**Standard dev.**	**p-value**	**Coefficient**	**Standard dev.**	**p-value**
Incentive day	0.003	0.005	0.561	0.003	0.012	0.794
Gender	0.031	0.048	0.517	0.031	0.104	0.766
Previous day	0.007	0.004	0.046	0.007	0.010	0.477
Subsequent day	-0.005	0.007	0.476	-0.005	0.012	0.659
Absent	-0.928	0.050	0.000	-0.928	0.012	0.000
Constant	0.932	0.033	0.000	0.932	0.077	0.000
Observations			3834			3834
Individuals			18			18
R^2			0.4741			0.4741
p Q^2			0.000			0.000

Source: Research data.

It is also observed that, although not statistically significant, the effect on performance is 3.1% higher for females and 0.5% lower on days following the provision of incentives. Whereas on the previous day there is some anticipation regarding incentives, the result for the subsequent day may reflect the opposite logic and have a negative effect on performance. However, we emphasize that this result is not significant. Finally, as expected, the value of the coefficient for absence is equal to the mean performance, but negative and significant ($p = 0.000$), since there is no recorded performance when employees are absent or do not record their performance.

Although the statistical tests were not significant, through the participant observation we indicate that the implementation of incentives or celebrations has a positive effect on employees' performance.

Although the statistical tests were not significant, through the participant observation we indicate that the implementation of incentives or celebrations has a positive effect on employees' performance. We observed that, on days with events such as theatre performances, dance shows, barbecues, or parties, there is a significant increase in employees' motivation, which directly translates into higher productivity. Thus, non-financial incentive elements not only affect productivity but also contribute to aspects such as employees' satisfaction and engagement with organizational goals.

5 CONCLUSION

This study aimed to analyze the effects of granting incentives on the performance of employees in the operational sector of a garment company. The study sample comprised 29 operational employees and 2 managers from the organization, representing 63% of the company's workforce. We collected data using procedures such as document analysis, participant observation, interviews, and questionnaires. For the analysis, we used descriptive statistics for the questionnaire data, we also applied descriptive and inferential statistics to performance observed over a 213-day period, and content analysis was conducted for the interviews.

The results showed that employees' effort to achieve targets and a good relationship with supervisors were the attributes that most motivated participants. Implementing a goal-based reward policy and establishing an open communication channel between managers and employees proved to be relevant strategies for fostering engagement with organizational objectives, as well as boosting efficiency and effectiveness. These findings reinforce the importance of balancing intrinsic and extrinsic rewards, as discussed by Rito (2006), who highlights that intrinsic rewards such as autonomy and recognition foster long-lasting bonds with the organization.

The results also show that financial and non-financial incentives have a positive impact on performance, especially in the short term, with productivity peaks on incentive days and on the days before incentives are granted. Activities such as theatre performances, dances, barbecues, or parties were associated with increased employee motivation and productivity, reinforcing the relevance of practices that balance extrinsic and intrinsic motivation. This finding is consistent with Machado (2017), who found that reward systems explain up to 40.4% of the variance in employee satisfaction and 31.6% of the variance in perceived organizational performance.

Furthermore, the results showed that even with a one-hour reduction in the working day on the incentive distribution day, employees' performance was higher compared with the other days. This indicates that incentives not only boost productivity but also contribute to a more engaged and productive work environment. On the other hand, the analysis of the subsequent day revealed a drop in performance compared with the other days, indicating the need for complementary practices to sustain motivation and productivity. However, the panel data analysis results show that the positive effect is only partially significant and only for the day preceding the allocation of incentives.

As theoretical contributions, the study is valuable in demonstrating the positive effect, in terms of expectations, that incentives create in workers and in their performance. In this sense, although the findings are in line with other studies showing that the effect of incentives on performance is not universal, the study demonstrates another condition under which incentives can be beneficial. In addition, the study contributes by highlighting aspects that employees consider relevant for improving motivation and satisfaction.

Considering managerial implications for practice, the study provides evidence of what employees consider important in an incentive system and which aspects need to be encouraged to increase motivation. Taking these aspects into account—such as creating expectations about incentives, the relationship between supervisors and subordinates, goal difficulty, and salary increases—and aligning them with the expectations of both employees and management can lead to better outcomes in terms of performance, motivation, and satisfaction.

With regard to limitations, this study was restricted to a single organization and a limited number of participants, which prevents the results from being generalized. There are also limitations related to how managers and employees answered the questions, which are inherent to the data collection instruments. Since there are only two managers, one of whom is the owner of the organization, the responses may have been aimed at improving the organization's image. Similarly, in the case of employees, the answers may not necessarily reflect their opinions, nor is it possible to ensure that the questions were clearly understood.

This study may serve as a starting point for developing further, more in-depth research, with more representative samples of employees from the same sector and expanded analyses for different sectors and cultural contexts. It is also recommended to investigate the long-term impact of incentives and to combine qualitative and quantitative methods to explore management practices, strategic alignment, and reward policies, thereby contributing to an improved understanding of the effectiveness of incentive systems in organizational settings.

REFERENCES

Adam, N., & Alfawaz, A. (2025). Enhancing organizational performance: how gender diversity enhances employee engagement and commitment. Humanities and Social Sciences Communications, 12(1), 1-11. https://doi.org/10.1057/s41599-025-04441-7

Agência Estadual de Notícias. 790 mil pessoas: Paraná atinge maior número de trabalhadores na indústria da história. Retrieved from: https://www.aen.pr.gov.br/Noticia/790-mil-pessoas-Parana-atinge-maior-numero-de-trabalhadores-na-industria-da-historia.

Aguiar, A. B. de, & Pimentel, R. C. (2017). Remuneração de executivos e desempenho no mercado brasileiro: relações contemporâneas e defasadas. Revista de Administração Contemporânea, v. 21, p. 545-568. https://doi.org/10.1590/1982-7849rac2017160228

Ahmad, F., Hossain, M. B., Mustafa, K., Ejaz, F., Khawaja, K. F., & Dunay, A. (2023). Green HRM practices and knowledge sharing improve environmental performance by raising employee commitment to the environment. *Sustainability*, *15*(6), 5040. https://doi.org/10.3390/su15065040

Alkandi, I. G., Khan, M. A., Fallatah, M., Alabdulhadi, A., Alanizan, S., & Alharbi, J. (2023). The impact of incentive and reward systems on employee performance in the Saudi primary, secondary, and tertiary industrial sectors: A mediating influence of employee job satisfaction. *Sustainability*, *15*(4), 3415. https://doi.org/10.3390/su15043415

Alniaçik, U., Alniaçik, E., Akçin, K., & Erat, S. (2012). Relationships between career motivation, affective commitment and job satisfaction. *Procedia-Social and Behavioral Sciences*, *58*, 355-362. https://doi.org/10.1016/j.sbspro.2012.09.1011

AlShareef, M. R., Alrammah, I. A., Alshoukani, N. A., & Almalik, A. M. (2023). The impact of financial incentives on research production: Evidence from Saudi Arabia. *Scientometrics*, *128*(5), 3067–3089. https://doi.org/10.1007/s11192-023-04692-8

Altoé, S. M. L., Pacheco, V., & Espejo, M. M. dos S. B. (2019). Estilos de liderança e o uso do sistema de controle gerencial: evidências do efeito moderador do nível de formação de gestores de topo. *Advances in Scientific and Applied Accounting*, *11*(2), 224–245. Retrieved from https://asaa.emnuvens.com.br/asaa/article/view/420

Alves, I., & Lourenço, S. M. (2023). An exploratory analysis of incentive packages and managerial performance. *Journal of Management Control*, *34*(3), 377–409. https://doi.org/10.1007/s00187-023-00360-3

Anthony, R. N., & Govindarajan, V (2008). *Sistemas de Controle Gerencial*. Grupo A.

Anthony, R. N., & Reece, J. S. (1975). *Management accounting: text and cases*. (5a ed). Richard D. Irwin.

Antunes, V. R. R. (2011) *Perfil motivacional dos educadores de infância do Concelho de Torres Novas,* Universidade Lusófona de Humanidades e Tecnologias, Lisboa, Portugal.

Awasthi, V., & Pratt, J. (1990). The effects of monetary incentives on effort and decision performance: The role of cognitive characteristics. *The Accounting Review*, *65*(4), 797–811. https://doi.org/10.2307/247651

Barros, R. S., & Ferreira, A. M. D. S. D. C. (2022). Management control systems and innovation: a levers of control analysis in an innovative company. *Journal of Accounting & Organizational Change*, *18*(4), 571-591. https://doi.org/10.1108/JAOC-09-2020-0137

Berg, T., & Madsen, D. Ø. (2020). The evolution of a management control package: a retrospective case study. *Journal of Applied Accounting Research*, *21*(4), 763-781. https://doi.org/10.1108/JAAR-10-2019-0148

Berry, A. J., Broadbent, J., & Otley D. (2005). *Management control: theories, issues and performance*. (2a ed). Palgrave Macmillan.

Bilhim, J. A. F. (2004). *Gestão estratégica de recursos humanos*. (4a ed). Instituto Superior de Ciências Sociais e Políticas.

Bonner, S. E., Hastie, R., Sprinkle, G. B., & Young, S. M. (2000). A review of the effects of financial incentives on performance in laboratory tasks: Implications for management accounting. *Journal of Management Accounting Research*, *12*(1), 19-64. https://doi.org/10.2308/jmar.2000.12.1.19

Cabral, J. R., Horz, V., & Lunardi, M. A. (2024). Sistema de medição de desempenho habilitante: efeito na motivação, nas atitudes gerenciais e no desempenho gerencial. *Estudios Gerenciales*, *40*(172), 258-270. https://doi.org/10.18046/j.estger.2024.172.6436

Cerasoli, C. P., Nicklin, J. M., & Ford, M. T. (2014). Intrinsic motivation and extrinsic incentives jointly predict performance: A 40-year meta-analysis. *Psychological Bulletin*, *140*(4), 980–1008. https://doi.org/10.1037/a0035661

Chenhall, R. H. (2008). Accounting for the Horizontal Organization. *Handbooks of Management Accounting Research*, 3(4/5), 517–550. https://doi.org/10.1016/S1751-3243(07)03001-5

Chepkwony, C. C., & Oloko, M. (2014). The relationship between rewards systems and job satisfaction: A case study at teachers' service commission-Kenya. *European Journal of Business and Social Sciences*, *3*(1), 59-70.

Chiavenato, I. (2024). *Remuneração, Benefícios e Relações de Trabalho - Como Reter Talentos na Organizaçã*o. (8a ed). Atlas.

Córdova, A., Imas, A., & Schwartz Perlroth, D. (2021). Are non-contingent incentives more effective in motivating new behavior? Evidence from the field. Retrieved from https://repositorio.uchile.cl/handle/2250/185637

Cuenca, C. L., & Constantivov, J. G. (2016). *Gestão de pessoas e desenvolvimento de equipes*. UniCesumar.

Deci, E. L. (1972). The effects of contingent and noncontingent rewards and controls on intrinsic motivation. *Organizational behavior and human performance*, *8*(2), 217-229. https://doi.org/10.1016/0030-5073(72)90047-5

Deetz, S. (2010). Comunicação Organizacional: fundamentos e desafios. In MARCHIORI, Marlene (org.) Comunicação e organização: reflexões, processos e práticas. Difusão Editora.

Drury, C. (2004). *Management and cost accounting*. (6a ed). Thomson Learning.

Dulebohn, J. H., Bommer, W. H., Liden, R. C., Brouer, R. L., & Ferris, G. R. (2012). A meta-analysis of antecedents and consequences of leader-member exchange: Integrating the past with an eye toward the future. *Journal of Management*, *38*(6), 1715-1759. https://psycnet.apa.org/doi/10.1177/0149206311415280

Fávero, L. P. (2015). Análise de dados (1ª ed). Elsevier.

Ferreira, A. & Otley, D. (2009). The design and use of performance management systems: An extended framework for analysis. *Management Accounting Research*, 20(4), 263-282. https://doi.org/10.1016/0361-3682(85)90030-3

Figueiredo, E., Margaça, C., García, J. C. S., & Ribeiro, C. (2025). The Contribution of Reward Systems in the Work Context: A Systematic Review of the Literature and Directions for Future Research. *Journal of the Knowledge Economy*, 1-35. https://doi.org/10.1007/s13132-024-02492-w

Franco□Santos, M., & Otley, D. (2018). Reviewing and theorizing the unintended consequences of performance management systems. *International Journal of Management Reviews*, *20*(3), 696-730. https://doi.org/10.1111/ijmr.12183

Frankort, H. T. W., & Avgoustaki, A. (2021). Beyond Reward Expectancy: How Do Periodic Incentive Payments Influence the Temporal Dynamics of Performance? *Journal of Management*, *48*(7), 2075-2107. https://doi.org/10.1177/01492063211016032

Frezatti, F.; Rocha, W.; Nascimento, A. R. do; & Junqueira, E. (2011). *Controle gerencial: uma abordagem da contabilidade gerencial no contexto econômico, comportamental e sociológico*. (1a ed). Atlas.

Garbers, Y., & Konradt, U. (2014). The effect of financial incentives on performance: A quantitative review of individual and team-based financial incentives. *Journal of Occupational and Organizational Psychology*, *87*(1), 102–137. https://doi.org/10.1111/joop.12039

Goerg, S.J., Kube, S., & Radbruch, J. (2020). *Self-Set Salaries and Creativity. Schmalenbach Business Review*, 72, 399–425. https://doi.org/10.1007/s11573-020-00985-z

Govindarajan, V. A. (1988). Contingency approach to strategy implementation at the businessunit level: integrating administrative mechanisms with strategy. *Academy of Management Journal*, 31(4), 828-853.

Grohmann, M., Cunha, L., & Silinske, J. (2013). Relações entre motivação, satisfação, comprometimento e desempenho no trabalho: estudo em um Hospital Público. In: IV *Encontro de Gestão de Pessoas e Relações de Trabalho*, *Brasília/DF*.

Herpen, M. F. M. V. (2007). *Pay, promotions, and performance: essays on personnel economics*, University of Groningen, Netherlands.

Höpfner, J., & Keith, N. (2021). Goal missed, self hit: Goal-setting, goal-failure, and their affective, motivational, and behavioral consequences. *Frontiers in psychology*, *12*, 704790. https://doi.org/10.3389/fpsyg.2021.704790

IEMI (2023). Instituto de Estudos e Marketing Industrial. Retrieved from: https://iemi.com.br

Kontoghiorghes, C. (2015). Linking high performance organizational culture and talent management: satisfaction/motivation and organizational commitment as mediators. *The International Journal of Human Resource Management*, *27*(16), 1833–1853. https://doi.org/10.1080/09585192.2015.1075572

Krauter, E. (2009). *Contribuições do sistema de remuneração dos executivos para o desempenho financeiro: um estudo com empresas industriais Brasileiras*, Universidade de São Paulo, São Paulo, Brazil. https://doi.org/10.11606/T.12.2009.tde-29052009-092957

Landry, A. T., Gagne, M., Forest, J., Guerrero, S., Seguin, M., & Papachristopoulos, K. (2017). The relation between financial incentives, motivation, and performance. *Journal of personnel Psychology*, 16(2), 61-76. https://doi.org/10.1027/1866-5888/a000182

Leite, M. & Hein, N. (2019). Relação entre Remuneração dos Executivos e o Desempenho Econômico e Financeiro em Empresas Brasileiras. *Revista de Gestão, Finanças e Contabilidade*, *9*(1), 17-36. https://doi.org/10.18028/rgfc.v9i1.6078

Locke, E. A.; Latham, G. P. (2002). Building a Practically Useful Theory of Goal Setting and Task Motivation: A 35-Year Odyssey. *American Psychological Association*, *57*(9), 705-717. https://psycnet.apa.org/doi/10.1037/0003-066X.57.9.705

Machado, D. C. (2017). Sistema de recompensas: contributo para a satisfação no trabalho, Iscte - Instituto Universitário de Lisboa, Lisboa, Portugal. http://hdl.handle.net/10071/15390

Malmi, T., & Brown, D. A. (2008). Management control systems as a package-Opportunities, challenges and research directions. *Management Accounting Research*, *19*(4), 287-300. https://doi.org/10.1016/j.mar.2008.09.003

Manohar, S. G., Finzi, R. D., Drew, D., & Husain, M. (2017). Distinct Motivational Effects of Contingent and Noncontingent Rewards. *Psychological Science*, *28*(7), 1016-1026. https://doi.org/10.1177/0956797617693326

Marcelino, C. V. (2019). *Sistema de Controle Gerencial: o papel das alavancas de controle no Capital Psicológico e seus impactos na satisfação no trabalho e no comprometimento organizacional*, Universidade de São Paulo, São Paulo, Brazil. https://doi.org/10.11606/T.12.2019.tde-03042019-170519

Mintzberg, H. (1979). *The structuring of organizations*. Prentice Hall.

Mintzberg, H.; Lampel, J.; Quinn, J. B.; & Ghoshal, S. (2006). O processo da estratégia. (4a ed). Bookman.

Moraes, F. (2005). *Comprometimento organizacional e motivação dos professores de uma instituição de ensino superior*, Universidade do Vale do Itajaí, Biguaçu, Brazil.

Mynt, S. S. et al. (2016). An analysis of employee satisfaction of private banks in Myanmar. *International Business Management*, *10*(1), 101-114. Retrieved from: http://docsdrive.com/pdfs/medwelljournals/ibm/2016/101-114.pdf.

Nascimento, R. F. do; Canteri, M. H. G; & Kovaleski, J. L. (2019). Impacto dos sistemas de recompensas na motivação organizacional: revisão sistemática pelo método PRISMA. *Revista Gestão & Conexões*, v. 8, n. 2, p. 44-58. https://doi.org/10.13071/regec.2317-5087.2019.8.2.23541.44-58

Ouabi, Z., Douayri, K., Barboucha, F., & Boubker, O. (2024). Human Resource Practices and Job Performance: Insights from Public Administration. *Societies*, *14*(12), 247. https://doi.org/10.3390/soc14120247

Ouchi, W. G. (1979). A conceptual framework for the design of organizational control mechanisms. *Management Science*, 25(9), 833-848. https://doi.org/10.1287/mnsc.25.9.833

Park, R., & Kim, J. (2023). Differential effects of autonomy on employee satisfaction and organizational performance depending on the type of financial incentives: Evidence from a four-wave panel of Korean companies. *The International Journal of Human Resource Management*, *34*(19), 3656–3686. https://doi.org/10.1080/09585192.2022.2144407

Pires, R. V., Carvelo, L. R., & da Silva, J. H. (2015). Motivação no trabalho - estudo sobre o nível de satisfação dos trabalhadores em uma confecção. *Revista Científica Hermes*, *14*, 176–200. https://doi.org/10.21710/rch.v14i0.203

Podsakoff, P. M., Todor, W. M., & Skov, R. (1982). Effects of leader contingent and noncontingent reward and punishment behaviors on subordinate performance and satisfaction. *Academy of management journal*, *25*(4), 810-821. https://doi.org/10.5465/256100

Pontes, B. R. (2007). *Administração de cargos e salários: carreira e remuneração*. (12a ed.). Qualtymark.

Prendergast, C. (2008). Intrinsic motivation and incentives. *American Economic Review*, *98*(2), 201-205. DOI: 10.1257/aer.98.2.201

Rito, P. N. (2006). O sistema de recompensas remunerações e benefícios. *Revista TOC*, 80, 44-55. http://hdl.handle.net/10400.19/7897

Robbins, S. P. (2005). *Comportamento organizacional*. (11ª ed). Pearson Prentice Hall.

Rodrigues, W. A.; Neto, M. T. R.; & FILHO, C. G. (2011). As influências na motivação para o trabalho em ambientes com metas e recompensas: um estudo no setor público. *Revista Administração* Pública, *48*(1), 253-273. https://doi.org/10.1590/S0034-76122014000100011

Rosa, A. I. V. (2012). *Sistema de recompensas: estudo de um caso*. [Dissertação de Mestrado, Escola Superior de Ciências Empresariais, Instituto Politécnico de Setúbal, Setúbal, Portugal].

Santos, C. J. E. dos (2011). *Avaliação de desempenho e sistema de incentivos*. [Dissertação de Mestrado, Instituto Universitário de Lisboa]. http://hdl.handle.net/10071/2857

Simons, R. (1995). Levers of Control: How Managers Use Innovative Control Systems to Drive Strategic Renewal". Harvard Business Press, 1995.

Soares, F. S. F. (2009). *Sistemas de recompensa como estratégia de melhoria de produtividade em organizações de software*. [Dissertação de Mestrado, Centro de Informática, Pós-Graduação em Ciência da Computação, Universidade Federal de Pernambuco] Repositório Digital da UFPE. https://repositorio.ufpe.br/handle/123456789/2371

Speklé, R. F., van Elten, H. J., & Widener, S. K. (2017). Creativity and control: A paradox—Evidence from the levers of control framework. *Behavioral Research in Accounting*, *29*(2), 73-96. https://doi.org/10.2308/bria-51759

Trivedi, S. K., Srivastava, J., Patra, P., Singh, S., & Jena, D. (2024). Recognize and thrive: Predicting employees' satisfaction towards fairness in reward and recognition system using explainable machine learning and text mining. *Global Knowledge, Memory and Communication*. Advance online publication. https://doi.org/10.1108/GKMC-11-2023-0416

Vroom, V H. (1964). Work and motivation. New York: Wiley, 331 p. (Carnegie Institute of Technology, Pittsburgh. PA). Retrieved from: https://garfield.library.upenn.edu/classics1985/A1985AKX9100001.pdf

Waterhouse, J. H.; & Tiessen, P. A. (1978). Contingency framework for management accounting systems research. *Accounting, Organizations and Society*, 3, 65-76. https://doi.org/10.1016/0361-3682(78)90007-7

Westover, J., Westover, A., & Westover, L. (2010). Enhancing long-term worker productivity and performance: The connection of key work domains to job satisfaction and organizational commitment. *International Journal of Productivity and Performance Management, 59*(4), 372-387. https://doi.org/10.1108/17410401011038919

Xiao, J., Mao, J. Y., Quan, J., & Qing, T. (2020). Relationally charged: How and when workplace friendship facilitates employee interpersonal citizenship. *Frontiers in Psychology*, *11*, 190. https://doi.org/10.3389/fpsyg.2020.00190

Yang, T., Jiang, X., & Cheng, H. (2022). Employee Recognition, Task Performance, and OCB: Mediated and Moderated by Pride. *Sustainability*, *14*(3), 1631. https://doi.org/10.3390/su14031631

Zanelli, J. C; Silva, N. & Soares H. P. (2010). Orientação para aposentadoria nas organizações: projetos para o pós-carreira. Porto Alegre: ARTMED.

Zonatto, V. C. da S.; Silva, A. da & Gonçalves, M.; (2017). Influência da motivação para o trabalho no comprometimento organizacional, *Revista de Administração IMED, 8*(1), 169-190. https://doi.org/10.18256/2237-7956.2018.v8i1.2180