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CRCMG CONSELHO REGIONAL DE CONTABILIDADE DE MINAS GERAIS

ENTERPRISE RISK MANAGEMENT AND QUALITY OF ACCOUNTING INFORMATION IN LATIN AMERICA

ENTERPRISE RISK MANAGEMENT E QUALIDADE DA INFORMAÇÃO CONTÁBIL NA AMÉRICA LATINA

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ABSTRACT
Enterprise Risk Management (ERM) is a comprehensive and systematic framework for identifying, assessing, and managing an organization's overall exposure to risk. This study investigates the impact of ERM adoption on the quality of accounting information among 283 public companies across Latin America from 2010 to 2019. ERM adoption was measured using the ERM Index (Gordon et al., 2009), while the quality of accounting information is evaluated through measures of value relevance (Ohlson, 1995) and conditional conservatism (Basu, 1997) were used to assess accounting information quality. The empirical results indicate that ERM adoption is positively and significantly associated with both value relevance and conditional conservatism. These findings suggest that a holistic approach to risk management enhances the informativeness and timeliness of financial reporting. This study contributes to the literature by providing empirical evidence that ERM improves key quality attributes of accounting information in emerging markets, thereby mitigating information asymmetry and facilitating more informed investment decisions.

Keywords: Risk Management. Enterprise Risk Management. Earnings Quality. Accounting Conservatism. Value Relevance.

RESUMO
O *Enterprise Risk Management* (ERM) é uma estrutura abrangente e sistemática para identificar, avaliar e gerenciar a exposição geral de uma organização ao risco. Este estudo investiga o impacto da adoção do ERM na qualidade da informação contábil entre 283 empresas de capital aberto na América Latina, de 2010 a 2019. A adoção do ERM foi mensurada utilizando o Índice ERM (Gordon et al., 2009), enquanto a qualidade da informação contábil avaliada por meio de medidas de *value relevance* (Ohlson, 1995) e conservadorismo condicional (Basu, 1997) para avaliar a qualidade da informação contábil. Os resultados empíricos indicam que a adoção do ERM está positiva e significativamente associada tanto à *value relevance* quanto ao conservadorismo condicional. Esses achados sugerem que uma abordagem holística à gestão de riscos aumenta a informatividade e a tempestividade dos relatórios financeiros. Este estudo contribui para a literatura ao fornecer evidências empíricas de que o ERM melhora os principais atributos de qualidade da informação contábil em mercados emergentes, mitigando assim a assimetria de informação e facilitando decisões de investimento.

***Palavras-chave*:** Gestão de Riscos. *Enterprise Risk Management*. Qualidade dos Lucros. Conservadorismo Contábil. *Value Relevance*.

Wagner Dantas de Souza Junior
Doutor em Ciências Contábeis e Administração pela Universidade Regional de Blumenau (FURB). Mestre em Contabilidade pela Universidade Estadual do Oeste do Paraná (UNIOESTE). Especialista em Finanças e Controladoria pela Universidade Norte do Paraná (UNOPAR). Graduado em Administração pela Universidade Estadual do Oeste do Paraná (UNIOESTE). E-mail: wdsouza@furb.br. http://lattes.cnpq.br/7941373398113476. https://orcid.org/0000-0002-5991-8209

Ricardo Artur Spezia
Mestre em Ciências Contábeis pela Fundação Universidade Regional de Blumenau (FURB). Graduado em Ciências Contábeis pela Fundação Universidade Regional de Blumenau (FURB). E-mail: rspezia@furb.br. http://lattes.cnpq.br/1221834401788223. https://orcid.org/0000-0001-6387-7019

Marcia Zanievicz da Silva
Doutora em Ciências Contábeis e Administração pela Universidade Regional de Blumenau (FURB0. Mestre em Contabilidade pela Universidade Federal de Santa Catarina (UFSC). Graduada em Ciências Contábeis pela Fundação Universidade Regional de Blumenau (FURB). É professora da FURB no Programa de Pós-Graduação em Ciências Contábeis (PPGCC). E-mail: mzsilva@furb.br. http://lattes.cnpq.br/6016030949912648. https://orcid.org/0000-0003-1229-7705

Tarcísio Pedro da Silva
Doutor em Ciências Contábeis e Administração pela Universidade Regional de Blumenau (FURB). Mestre em Ciências Contábeis pela Universidade Regional de Blumenau (FURB). Especialista em Contabilidade Gerencial e Custos pela Universidade Regional de Blumenau (FURB). Graduado em Ciências Contábeis pela Universidade Regional de Blumenau (FURB). É professor da FURB no Programa de Pós-Graduação em Ciências Contábeis (PPGCC). E-mail: tarcisio@furb.br. http://lattes.cnpq.br/4860526637401659. https://orcid.org/0000-0002-2370-791X

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1 INTRODUÇÃO

Corporate scandals remain a recurrent phenomenon that adversely affects capital markets. Accounting failures that occurred in the United States at the beginning of the 21st century (Gordon & Loeb, 2011), raised serious concerns regarding the transparency of financial reporting and the robustness of corporate governance structures, ultimately leading to the enactment of the Sarbanes-Oxley Act (SOX).

The main instrument to constrain opportunistic managerial behavior is the production of high-quality accounting information. Since the seminal study by Ball and Brown (1968), accounting scholars have focused on understanding attributes that make accounting information 'quality' (Schipper & Vincent, 2003; Dichev, Graham, Harvey, & Rajgopal, 2013; Beyer, Guttman, & Marinovic, 2019). Some studies have developed specific empirical models to evaluate these attributes, such as conservatism (Basu, 1997) and the value relevance (Ohlson, 1995) of information.

The analysis of the quality of accounting information is relevant to the organization's stakeholders, such as shareholders, creditors, government, among others, so that they can form judgment and make decisions based on the information contained in the financial report (Beyer et al., 2019). In this regard, there are also efforts by international organizations such as the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) to standardize and raise the quality of financial reporting worldwide (IASB/FASB, 2010).

In parallel with these initiatives, there has been growing concern about strengthening risk management within organizations. Historically, risk management research was fragmented, focusing on individual types of risks and isolated analytical methods (Renn, 1998; Beasley, Clune, & Hermanson, 2005).

More recently, conceptual frameworks such as Enterprise Risk Management (ERM) instituted by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), transform the risk management paradigm into a systematic and integrated approach, aligned with strategy and performance to encompass the firm's total risks (COSO, 2017).

Enterprise Risk Management (ERM) mitigates earnings management by enhancing organizational transparency and strengthening the oversight of managerial practices, thereby aligning decision-making with long-term strategic objectives. Through the implementation of structured processes for risk identification, assessment, and mitigation, ERM reduces the likelihood of accounting manipulation aimed at meeting short-term performance targets. In addition, robust governance mechanisms and more effective internal controls increase managerial accountability, rendering earnings management practices riskier and more easily detectable. As a result, ERM promotes higher quality in financial reporting and reinforces the trust of investors and other stakeholders (Jaber & Shah, 2024).

Several studies have devoted attention to the impact of ERM on managerial activity, such as firm performance and value (Hoyt & Liebenberg, 2011; McShane, Nair, & Rustambekov, 2011; Baxter, Bedard, Hoitash, & Yezegel, 2013; Berry-Stölzle & Xu, 2018), stock price informativeness (Ghafoor & Hassan, 2018) and accounting information quality, from the perspective of accruals and earnings management (Adedayo, Sylvester, & Amiolemen, 2019; Yasa, Wirakusuma, & Suaryana, 2020; Bhuiyan, Salma, Roudaki, & Tavite, 2020; Johnston & Soileau, 2020), after implementing this risk approach.

While previous research has shown that ERM can reduce earnings management and enhance financial transparency, little is known about its effect on specific attributes of accounting information quality. Two key attributes are conservatism and value relevance. Conservatism refers to the tendency of financial statements to recognize losses more quickly than gains, promoting prudence and reducing information asymmetry (Basu, 1997). Value relevance measures the extent to which accounting figures reflect firm market value, indicating how useful the information is for investors' decision-making (Ohlson, 1995). Investigating these attributes allows a deeper understanding of how ERM influences the overall quality of financial reporting.

Research results have been positive in the direction of showing that ERM reduces earnings management and improves the informativeness of accounting information. In this sense, this paper proposes to investigate the attributes of conservatism and value relevance of accounting information not covered so far. For this, the following question was developed: **what is the influence of using ERM on the quality of accounting information?**

Therefore, the objective of this research is to analyze the influence of ERM on the quality of accounting information of companies in Latin America. The sample comprises 283 non-financial public companies from Latin America, covering the period 2010–2019, totaling 2,830 firm-year observations. To achieve the purpose of the study, the use of ERM is measured by the ERMI index proposed by Gordon, Loeb, and Tseng (2009). The quality of accounting information is measured by the value relevance model of Ohlson (1995) and the conditional conservatism of Basu (1997).

Latin America provides a suitable research setting due to its economic volatility, institutional heterogeneity, and regulatory diversity, which contribute to heightened information asymmetry and agency conflicts. Moreover, capital markets in the region have adopted IFRS, improving cross-country comparability. Despite the growing importance of Latin American economies, empirical evidence on the interplay between ERM and accounting information quality remains limited, making the region an appropriate context for extending the literature (Jacomossi et al., 2019).

The study is theoretically justified by the analysis of the impacts of the integrated risk management approaches, such as ERM, on management processes, culture, strategy and their impact on performance (Nocco & Stulz, 2006). The adoption of ERM has an impact on the firm's value (Hoyt & Liebenberg, 2011) and on the quality of financial information (Johnston & Soileau, 2020) and can be a useful mechanism for decision-making by external users. Thus, this highlights the relevance of studies that analyze the relationship between the ERM and accounting information attributes in different contexts to assess the effectiveness of this system.

In summary, the main research results indicate that the relationship between ERM and value relevance is positive and significant. Likewise, the relationship between ERM and conditional conservatism is positive and significant. Therefore, the ERM contributes to raising the quality of the accounting information disclosed in addition to reducing accruals and earnings management, making the information useful for investors and minimizing information asymmetry in the market. Thus, it is concluded that the adoption of ERM is beneficial for organizations from the point of view of accounting information users.

In addition to this introduction, the paper is structured as follows. Section 2 discusses the theoretical relationship between risk management and accounting information quality. Section 3 describes the methodological procedures. Section 4 presents the empirical analysis and discussion of results. Section 5 concludes with final remarks and implications.

2 THEORETICAL FRAMEWORK

2.1 Corporate Risk Management and Enterprise Risk Management (ERM)

The concept of risk, as defined by Renn (1998), refers to the possibility of human actions or events leading to consequences that affect aspects of what human value. From an economic perspective, risk is defined by the probability of occurrence of an event and the social assessment of its undesirable effects, considering individual utilities. Accordingly, the consequences of risk are perceived as economic gains or losses that impact both individuals and society.

Traditionally, corporate risk management was silo-based, unstructured and fragmented, with each department managing its own risks independently (Arena, Arnaboldi, & Azzone, 2010). Global corporate scandals in the late 1990s prompted regulatory responses to strengthen governance, such as the Sarbanes-Oxley Act (SOX) in the US (Gordon & Loeb, 2011), along with organizational and internal control reforms to protect investors and stakeholders (Bebchuk & Weisbach, 2010). Strategic risk management has also become a key concern for boards and executives aiming to preserve the firm's business model (Drew, Kelley, & Kendrick, 2006).

In this context, the traditional, compartmentalized approach evolved into Enterprise Risk Management (ERM), a holistic and integrated framework for identifying, assessing, monitoring, and mitigating all types of risks across the organization, systematically aligned with corporate strategy and performance objectives (COSO, 2004; 2017). Unlike traditional risk management, ERM emphasizes cross-functional coordination, proactive risk mitigation, and integration with strategic and operational decision-making.

ERM employs a variety of tools and methodologies, including risk mapping, probability-impact matrices, key risk indicators (KRIs), mitigation plans, and continuous reporting to senior management. In practice, ERM can involve the creation of independent risk committees reporting to the board, the implementation of hedging strategies to manage financial exposures, and comprehensive risk assessments for strategic initiatives. These practices distinguish ERM from traditional models by promoting integration, foresight, and organization-wide accountability

Empirical research on ERM has primarily explored its determinants, implementation processes, and managerial effectiveness (Beasley et al., 2005; Nocco & Stulz, 2006), as well as its implications for firm performance and value (Hoyt & Liebenberg, 2011; McShane et al., 2011; Baxter et al., 2013; Berry-Stölzle & Xu, 2018). For instance, Beasley et al. (2005) found that ERM implementation is positively associated with the presence of a risk director, board independence, executive support, Big Four audits, and firm size. Nocco and Stulz (2006) argue that companies adopting ERM can gain competitive advantages by managing risks holistically, aligning macro-level strategic objectives with micro-level employee actions and compensation schemes. Hoyt and Liebenberg (2011) demonstrated that US insurers with ERM achieved approximately 20% higher market value, while Berry-Stölzle and Xu (2018) found that ERM reduces the cost of equity, enhancing shareholder value.

The empirical evidence thus far suggests that ERM benefits organizations by improving governance, performance, and firm value. However, its implications for the quality of accounting information, including specific attributes such as conservatism and value relevance, remain underexplored. Examining these dimensions is crucial, as high-quality accounting information enables more informed investor decisions and greater market transparency, bridging the gap between risk management practices and financial reporting outcomes.

2.2 Quality of Accounting Information and ERM

According to the IASB and FASB, accounting information is classified as having quality when its focus is the generation of usefulness for the user of this information (IASB/FASB, 2010). To qualify as a quality aspect, accounting information must have attributes such as understandability, relevance, reliability, and comparability of the information disclosed, which are characteristics that make them useful for those who use them, such as: investors, creditors, employees, suppliers and other interested parties.

Thus, accounting information quality is a concept better understood with reference to an environmental context in which its usefulness can be classified as important to users (Schipper & Vincent, 2003). Initial studies on the quality of accounting information can be considered since the work Ball and Brown (1968), who point out the value of accounting for business and its informativeness to explain the price of shares in the capital market.

There are numerous studies in this field of knowledge, including, for example, the analysis of value relevance (Ohlson, 1995), conditional conservatism (Basu, 1997), earnings persistence (Schipper & Vincent, 2003), earnings management related to accruals or operational decisions (Beyer et al., 2019), among other topics.

According to Dichev et al. (2013), the high quality of reported earnings is related in approximately 50% to non-discretionary accruals in American companies, which are accumulated results from the recognition, measurement, and disclosure of accounting facts without interference from managers. However, about 20% of American companies manage earnings to increase investors' perception of earnings persistence, reducing the quality of information disclosed.

The lack of accounting information quality may reflect specific risks inherent to the business (Wang, Lin, Werner, & Chang, 2018), thus, recent studies focus on evaluating the relationship between risk management and the quality of disclosed financial information.

Baxter et al. (2013) investigates the factors associated with high-quality ERM and its relationship to performance in US financial services companies. The results suggest that higher ERM quality is associated with better accounting performance. Furthermore, in contrast to economic crisis environments, the returns of companies with higher quality ERM are higher during the market recovery.

The study by Wadesango, Mhaka and Wadesango (2017) relates risk management and internal auditing as mechanisms that contribute to the quality of financial reporting at universities in Zimbabwe. Among the results, it is evident that ERM's risk management and an effective corporate governance structure ensure that the criteria that universities define as quality of financial reporting can be met.

Wang et al. (2018) when examining the impact of earnings management on raising external financing in Taiwanese companies and include risk management with ERM as a moderating factor in this relationship. The results suggest that companies with weaker ERM programs were more likely to use earnings management from real activities to raise external financing. Thus, the effectiveness of ERM relates to reducing earnings management and raising the quality of earnings.

Adedayo et al. (2019) analyze the impact of ERM on the accounting quality of Nigerian financial companies. The results indicate that there is no significant association between risk management and accounting information quality during the pre-ERM period. However, in the period after ERM implementation, this relationship became positive and significant, indicating that the adoption of ERM improves the quality of accounting information, by reducing discretionary accruals and earnings management.

As a result of previous studies, the literature suggests the existence of a positive association between the adoption of corporate risk management by the ERM and the quality of accounting information in financial reports, with an emphasis on capital market agents and specifically on the informativeness of the share price (Baxter et al., 2013; Wang et al., 2018; Adedayo et al., 2019).

Following Ball and Brown (1968), Schipper and Vincent (2003) and Dichev et al. (2013), it is known that accounting income reflects the result generated by the operation and is related to future cash flows, being a proxy for the informativeness of stock prices. Therefore, it is expected that an increase in the informational capacity of earnings from an integrated risk management for firms that adopt ERM. Based on the above, the following research hypothesis was developed:

H1 - There is a positive relationship between the use of ERM and the value relevance of accounting information.

Another attribute of accounting information quality that presupposes caution in the judgment necessary for accounting estimates in conditions of uncertainty is conservatism (IASB/FASB, 2010). According to Basu (1997), from the perspective of information transparency, companies can be encouraged not to disclose reliable information for the capital market, depending on the managers' incentives, when they should be influenced by conservative information disclosure practices. Also, according to the author, the condition of accounting conservatism can reduce information asymmetry in the market.

Ghafoor and Hassan (2018) analyze factors that influence the informativeness of stock prices of companies in the region of Islam, segregating the sample into firms that comply with the Shari'ah code of practice of Islam and those that do not. The results indicate that practices established by religion do not reduce information asymmetry in the capital market. However, ERM practices have a negative impact on stock price synchronicity, which suggests for the context analyzed that ERM can reduce asymmetric information and increase stock price informativeness – indicating an improvement in the quality of accounting information. This result also suggests that ERM can reduce market information asymmetry through other uninvestigated channels, such as accounting conservatism.

Yasa, Wirakusuma and Suaryana (2020) searched for empirical evidence on the effect of leverage, free cash flow, corporate governance, growth, and risk management on the quality of results of Indonesian banks. The results indicate that the variables leverage, managerial ownership and risk management have a negative and significant effect on the quality of results. The free cash flow and growth variables have a positive and significant effect on earnings quality. Thus, they conclude that a high level of risk management indicates that bank administrators are conservative in relation to corporate profits reported to the market.

Bhuiyan et al. (2020) examine the association between the existence of a risk committee, quality of financial reporting and auditing prices in publicly traded companies in Australia. Among the results, it is mentioned that the existence

of a risk management structure via the risk committee reduces the level of discretionary accruals, reducing the degree of earnings management and increasing the quality of reported accounting information. The excessive use of accruals reduces the quality of earnings and is opposed to the notion of conservatism, which advocates providing reliable information that is not overly optimistic.

Complementarily, Johnston and Soileau (2020) examine the association between an ERM corporate risk management program and the error in estimating accounting accruals in publicly traded US companies. The results indicate that having an ERM program reduces the accrual estimation error.

The studies surveyed are consistent with the notion that ERM improves executives' understanding of business processes and reduces potential risks. It was shown that the use of ERM can reduce asymmetric information (Ghafoor and Hassan, 2018) and the use of accounting accruals that modify the reported accounting profit (Bhuiyan et al., 2020; Johnston & Soileau, 2020; Yasa et al., 2020).

Conditional accounting conservatism is an attribute of accounting information quality that reflects the tendency of financial statements to recognize losses more promptly and fully than gains (Basu, 1997; IASB/FASB, 2010). This prudential approach promotes reliability and transparency, as it reduces the likelihood of overstating assets or profits and mitigates information asymmetry between managers (information suppliers) and investors or other stakeholders (information users). More conservatism enhances the quality of financial information by providing a more cautious and credible representation of a firm's performance and risk exposure. Conversely, a lower degree of conservatism may inflate reported earnings or asset values, increasing the potential for earnings management and reducing the usefulness of information for decision-making.

However, differences in the level of conservatism between information suppliers and consumers can create informational problems. If managers are more conservative than investors expect, the reported results may underestimate the firm's performance, potentially leading to overly cautious investment decisions or undervaluation of assets. On the other hand, if managers are less conservative than the market anticipates, information may appear overly optimistic, increasing information asymmetry and the risk of misinformed decisions. The alignment between accounting conservatism and users' expectations is therefore crucial to ensure the usefulness and credibility of financial reporting (Salehi et al., 2021).

Enterprise Risk Management (ERM) can influence accounting conservatism by providing managers with a systematic and integrated view of internal and external risks. By anticipating potential adverse events, ERM encourages more prudent accounting estimates and the timely recognition of losses, reducing overly optimistic projections and mitigating earnings management. In this context, ERM can strengthen conditional conservatism and, consequently, enhance the quality of accounting information (Wang et al., 2018; Johnston & Soileau, 2020).

Based on this reasoning, the following hypothesis is proposed:

H2 - There is a positive relationship between the use of ERM and conditional accounting conservatism.

Therefore, based on the formulated hypotheses, a positive association is expected between ERM and value relevance, as well as between ERM and accounting conservatism. In summary, this section outlined the conceptual foundations of ERM as an integrated approach to risk management, accounting information quality, thereby substantiating the theoretical linkage between these constructs and supporting the development of the study's hypotheses. The following section describes the research design, data, and methodological procedures employed in the analysis.

3 METHODOLOGY

3.1 Design and sample

This study is classified as descriptive, documentary, and quantitative (Marconi & Lakatos, 2004). It relies on secondary data obtained from the annual financial statements published by non-financial public companies in Latin America, available in the Eikon Refinitiv® database, covering the period from 2010 to 2019.

The 2010-2019 timeframe was selected for three main reasons. First, it provides a sufficiently long horizon to capture variations in corporate governance practices, risk management adoption, and accounting conservatism across different economic cycles, thereby allowing more robust statistical inferences. Second, this decade encompasses significant institutional and regulatory developments in Latin American capital markets, including the post-2008 global financial crisis adjustments and the strengthening of disclosure requirements, which directly influence both ERM implementation and financial reporting quality. Third, data availability and comparability across firms in the Eikon Refinitiv® database is more consistent during this period, ensuring reliability in the construction of the variables and enhancing the validity of the empirical analysis.

The research population consists of 1,083 companies from Central and South America. Firms with missing data necessary for variable computation or with negative shareholders' equity were excluded, resulting in a sample of 283 firms and 2,830 firm-year. Afterwards, outlier observations with extreme values in 3 standard deviations for the variables were excluded, leaving 283 firms and 2,812 observations in the final sample.

Table 1 presents the study sample by country within Latin America. The countries with largest representation in the sample are Argentina, Brazil, Chile, Mexico, and Peru.

Table 1. Sample of companies by country in Latin America

#	Country	Final Sample	
		Number of firms	%
1	Argentina	40	14.1%
2	Brazil	70	24.7%
3	Cayman Islands	1	0.4%
4	Chile	74	26.1%
5	Colombia	4	1.4%
6	Mexico	54	19.1%
7	Peru	38	13.4%
8	Puerto Rico	1	0.4%
9	British Virgin Islands	1	0.4%
	Total	283	100%

Source: data research (2025).

After presenting the design and sample, the next section presents the variables used in the research.

3.2 Variables

3.2.1 ERM Index

To measure the use of Enterprise Risk Management by companies, an independent variable of the study, the ERM Index (ERMI) proposed by Gordon et al. (2009). This index is based on the structure of COSO (2004), calculated from four indicators in the dimensions: strategy, operation, reporting and compliance and is presented in Equation 1.

$$\text{ERMI} = \sum_{K=1}^{1} \text{Estrategy} + \sum_{K=1}^{1} \text{Operation} + \sum_{K=1}^{1} \text{Report} + \sum_{K=1}^{1} \text{Conformidity} \qquad (1)$$

The strategic dimension represents the creation of competitive advantage and achievement of strategic objectives, according to Jacomossi et al. (2019) and is expressed in Equation 2.

$$\text{Estrategy} = \frac{\text{Sales} - \mu_{\text{sales}}}{\sigma_{\text{sales}}} \qquad (2)$$

Where refers to the firm's annual sales; is the average sales of all firms in the same industry; and is the standard deviation of sales in the industry. In ERM, a firm's strategy is often assessed through deviations in sales, as revenue performance directly reflects the execution of strategic objectives. Deviations highlight potential strategic risks, such as shifts in demand, competitive pressures, or internal inefficiencies, allowing proactive adjustments. This approach provides a tangible indicator of how well the firm's strategy aligns with actual outcomes and integrates risk management with strategic planning.

The operation dimension is related to operational efficiency that reduces the risk of failure of the business system (Gordon et al., 2009) The dimension calculation is expressed in Equation 3.

$$\text{Operation} = \frac{\text{Sales}}{\text{Total Assets}} \qquad (3)$$

Whererefers total assets reported on the firm's balance sheet as of December 31. In ERM, operational performance is often measured as sales over total assets to assess how efficiently a firm generates revenue from its resources. This ratio helps monitor strategic execution, identify potential risks such as underutilized assets or market fluctuations, and integrate risk assessment with operational performance. By linking revenue to total assets, ERM provides a tangible indicator of strategic and operational risk exposure.

The reporting dimension refers to the adequacy of financial reporting that reduces the risk of entity controls (Gordon et al., 2009). This indicator is formed by the relationship between normal and abnormal accruals, expressed in Equations 4, 5 and 6.

$$\text{Report} = \frac{(\text{Normal Accruals})}{(\text{Normal Accruals}) + (\text{Abnormal Accruals})} \quad (4)$$

The calculation of normal accruals (Jacomossi et al., 2019) is obtained by Equation 5.

$$AT_{ij} = (\Delta AC - \Delta Cx) - (\Delta PC - \Delta Div) - Dep \quad (5)$$

Where AT refers normal accruals, refers annual variation of the firm's current assets account; is annual variation of the firm's cash and cash equivalents account; is variation of the firm's current liabilities account; refers change in the firm's short-term debt account; is the sum of depreciation and amortization. The abnormal accruals (Jacomossi et al., 2019) are calculated by Equation 6.

$$ACT = \alpha_1 \left(\frac{1}{TA_{t-1}}\right) + \alpha_2(\Delta REV_t - \Delta REC_t) + \alpha_3(PPE_t) + \varepsilon_t \quad (6)$$

Where refers Total Accruals; is total assets of firm i in the year t-1; is variation in firm i's gross revenue between years t and t-1, weighted by total assets at the end of period t-1; refers change in accounts receivable from firm i between years t and t-1, weighted by total assets at the end of period t-1; is fixed assets at firm i in year t, weighted by total assets at the end of period t-1; is regression residual for firm i in year t.

The compliance dimension reflects the firm's compliance with laws and regulations applicable to the business. The greater the compliance management, the less likely the overall risk of business system failure (Gordon et al., 2009; Jacomossi et al., 2019). Equation 7 expresses the calculation of this indicator.

$$\text{Conformidity} = \frac{\text{Auditor's fees}}{\text{Total Assets}} \quad (7)$$

Where Auditor's fees refer to the payments made to the independent auditor of firm i in year. The compliance dimension is measured as auditor fees over total assets, reflecting the firm's investment in external oversight to ensure adherence to laws and regulations. Higher relative spending on audits indicates stronger monitoring and control mechanisms, which reduces the likelihood of regulatory breaches and system failures, capturing the effectiveness of the firm's compliance management.

Together, these four dimensions - strategy, operations, reporting, and compliance - provide a comprehensive measure of the firm's ERM implementation. While each dimension captures a specific aspect of risk management, their combination reflects the integrated approach advocated by COSO (2004), linking strategic planning, operational efficiency, financial reporting quality, and regulatory compliance into a unified framework.

3.2.2 Value relevance and conditional conservatism

To measure the quality of accounting information, a dependent variable of the study, two variables were constructed: i) value relevance of the information, which informs the significance of accounting information to explain stock prices; and ii) conditional conservatism, which measures the timely recognition of losses in relation to gains, indicating the quality of accounting information through the timeliness of reported information. Complementarily, size was considered as a control variable in the study.

Value relevance was assessed using the Ohlson (1995) valuation model, as specified in Equation 8.

$$P_{it} = \beta_0 + \beta_1 LPA_{it} + \beta_2 PLA_{it} + \varepsilon_{it} \qquad (8)$$

Where is the share price adjusted by dividends and stock splits of firm i in period; is the earnings per share of firm i in period t; is the equity per share of firm i in period t. In this research, firms with value relevance of the identified accounting information receive value 1 as a dummy variable for the regression calculation.

After estimating Equation (8), a firm-period observation is assigned a dummy value of 1 if the estimated accounting information significantly explains its stock price during the period, indicating that the information is value relevant. Otherwise, the firm receives a 0, signaling that the accounting information did not exhibit significant value relevance in that period.

Conditional conservatism was measured by the Basu (1997) model, which relates reported accounting earnings to stock returns, specified in Equation 9.

$$LL_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 R_{it} + \beta_3 R_{it} * DR_{it} + \varepsilon_{it} \qquad (9)$$

Where is the net profit of firm i in period t scaled by the market value in t-1; dummy variable where 1 represents a negative return in period t and 0 a positive return in period t; change in the market value of firm i in period t scaled by the market value in t-1.

After estimating Equation (9) for each firm-period observation, a firm is assigned a dummy value of 1 if the coefficient β_3 (the interaction between returns and the negative-return dummy) is positive and statistically significant. This indicates that losses are recognized more promptly than gains, reflecting conditional conservatism. If β_3 is not positive or not significant, the firm receives a 0, indicating the absence of conditional conservatism for that period.

The premise of the conditional conservatism model is that the market timely recognizes economic losses contained in the reported earnings, presenting a positive and higher coefficient for , which expresses the interaction *, in relation to , which captures the response of profit when the return is positive.

In this case, profits will be conservative when + captures the response of the relationship between accounting result and return when returns are negative or when is greater than zero and statistically significant. Therefore, indicates whether losses are recognized more promptly than gains, signaling conditional conservatism. Firms exhibiting conditional conservatism are assigned a dummy of 1; otherwise, 0.

Figure 1 summarizes the definitions, calculations, and expected signs of all variables used in the study.

#	Variable	Calculation	Expected Ratio	Expected Ratio
Dependent	Value Relevance (VR)	-The RV is estimated by Equation 8. - A dummy variable 1 is assigned if it presents VR or 0 otherwise.	N/A	Ohlson (1995)
Dependent	Conditional Conservatism (CC)	-The CC is estimated by Equation 9. - A dummy variable 1 is assigned if it presents CC or 0 otherwise.	N/A	Basu (1997)
Independent	Enterprise Risk Management (ERMI)	Enterprise Risk Management Index - Equation 1	(+)	Gordon et al. (2009)
Control	Size (SIZE)	Natural logarithm (total gross revenue)	(+)	Jacomossi et al. (2019)

Figure 1. Research variables
Note: N/A = not applicable, because variable dummy variables no expected sign.
Source: own elaboration (2025).

After describing the research variables, the next subsection presents the data analysis procedures used.

3.3 Data analysis procedures

Among the data analysis procedures, an initial descriptive summary of the variables was performed. Subsequently, Pearson's linear correlation was employed to examine the strength and direction of associations between the variables. Finally, the multiple linear regression technique (OLS) was applied, with robust standard errors estimated using White's correction.

To examine the relationship between ERMI, VR, and CC, four regression models were estimated, differing by the inclusion of the control variable SIZE. For each model, the OLS assumptions of residual normality, homoscedasticity, absence of multicollinearity, and serial autocorrelation (Hsiao, 2014) were evaluated.

Equations 11 and 12 specify the relationship between ERMI and value relevance to test Hypothesis 1, whereas Equations 13 and 15 represent the relationship between ERMI and conditional conservatism to test Hypothesis 2.

$$\text{Model 1: } VR_{it} = \beta_0 + \beta_1 ERMI_{it} + \varepsilon_t \quad (11)$$

$$\text{Model 2: } VR_{it} = \beta_0 + \beta_1 ERMI_{it} + \beta_2 SIZE_{it} + \varepsilon_{it} \quad (12)$$

$$\text{Model 3: } CC_{it} = \beta_0 + \beta_1 ERMI_{it} + \varepsilon_{it} \quad (13)$$

$$\text{Model 4: } CC_{it} = \beta_0 + \beta_1 ERMI_{it} + \beta_2 SIZE_{it} + \varepsilon_{it} \quad (14)$$

Where is the value relevance measure of the accounting information of company i in period t; is the measure of conditional conservatism of the accounting information of company i in period t; is the use of ERM by company i in period t; is the size of company i in period t; and are the regression parameters and is the residual of the regression.

Although only firm size was included as a control variable, this choice aimed to maintain a parsimonious model and facilitate interpretation with the available sample. It is acknowledged, however, that the omission of additional controls may introduce endogeneity concerns, as unobserved factors could simultaneously affect both dependent and independent variables. More sophisticated statistical models, such as those used by Yasa, Wirakusuma, & Suaryana (2020), Bhuiyan, Salma, Roudaki, & Tavite (2020), and Johnston & Soileau, allow for panel effects, heteroskedasticity adjustments, or weighted regressions, but were not employed here to preserve methodological transparency and consistency with classical approaches (Ohlson, 1995; Basu, 1997).

Similarly, although the dependent variables are dummies and could be estimated using Logit or Probit models, linear regressions were preferred for direct interpretability of coefficients and to focus on the conversion of value relevance and conditional conservatism measures into dummy variables. Future research may extend the model by incorporating additional controls and employing more advanced econometric techniques to address these limitations.

4 ANALYSIS AND DISCUSSION OF RESULTS

Table 2 presents the descriptive summary of the independent variables ERMI and SIZE. The average level of ERMI adoption across the sample is 0.48, which is lower than the value reported by Jacomossi et al. (2019) in a study focused on the Brazilian context, where the mean was 0.98. The average firm size, measured by gross revenue, is approximately US$ 738 million, obtained from the antilogarithm of 20.42.

The average profit of the firms corresponds to approximately 5% of their market value over the period. Around 10% of the firms reported negative returns. Furthermore, the coefficient β_3, estimated from the Basu (1997) model, was approximately 3%, greater than zero and statistically significant, indicating the presence of conditional conservatism on average among the sample firms.

In estimating value relevance using the Ohlson (1995) model, the regression intercept (β_0) was found to be statistically significant and approximately ten times greater than the coefficients of the independent variables. This result suggests that accounting information, on average, is incorporated into the stock prices of the firms in the sample. The average share price was US$ 4.16, while the average book value per share was approximately three times the equity per share.

Table 2. Descriptive summary of study variables

	Minimum	Mean	Median	Maximum	Standard Deviation
Conditional Conservatism (CC)					
LL	-9.69	0.05	0.07	8.71	0.71
DR	0.00	-	-	1.00	-
R	-1.00	0.10	-0.03	8	0.65
R*DR (*)	-1.00	0.03	-	8	0.40
Value Relevance (VR)					
P (***)	0.00	4.16	1.41	99.45	8.58
LPA	-96.46	-0.04	0.05	66.98	3.51
PLA	-61.30	3.15	0.98	99.49	8.94
Enterprise Risk Management Index and controls					
ERMI	-5.97	0.48	0.54	5.85	1.04
SIZE	10.91	20.42	20.15	43.05	2.79

Significance level: 1% (*), 5% (**) and 10% (***).
Source: data research (2021).

Subsequently, Pearson's correlation analysis was conducted, as presented in Table 3. The results indicate a weak but statistically significant association between CC and ERMI; a weak and positive, though not significant, correlation between ERMI and SIZE; and a weak and negative, yet not significant, relationship between ERMI and VR. Overall, there is no evidence of strong correlations among the variables.

Table 3. Pearson Correlation

	ERMI	VR	CC	SIZE
ERMI	1.00			
VR	-0.00	1.00		
CC	0.04*	-0.03***	1.00	
SIZE	0.02	-0.15*	0.02	1.00

Significance level: 1% (*), 5% (**), and 10% (***).
Source: data research (2025).

Before interpreting the regression results, diagnostic tests were conducted to ensure the adequacy and reliability of the estimated models (M1–M4), as presented in Table 4. Residuals in all models were normally distributed, indicating that OLS assumptions regarding error terms are not violated. The Variance Inflation Factor (VIF) ranged from 1.16 across all models, well below the common threshold of 10, suggesting no multicollinearity issues.

Heteroscedasticity tests, such as the Breusch-Pagan test, confirmed constant variance of residuals, while the Durbin-Watson statistic indicated no autocorrelation for M1 (2.01) and mild autocorrelation for M2–M4 (1.42–1.43). Finally, the Hausman test supported the use of the fixed-effects specification, ensuring estimator consistency. Having confirmed the adequacy of the models, the regression results are now presented.

The M1 model has an explanatory power of 17% (R^2) and indicates that there is a positive but non-significant relationship between ERMI and CC. The M2 model, with an R^2 of 52%, indicates a positive and significant relationship between ERMI and CC, of positive and significant at the 10% level. Thus, controlled by size, there is a positive relationship between ERMi use and accounting conservatism in Latin American firms – not being rejected H1.

The M3 model has an R^2 of 52% and points to a positive and significant relationship between ERMi and VR up to 10% of statistical significance. Likewise, M4 confirms the positive relationship between ERMi and VR, considering control for size, suggesting that there is a positive relationship between the use of ERM and the value relevance of accounting information in Latin American firms. Therefore, H2 is not rejected from the study.

Table 4. OLS regression with fixed effects

	Conservatism Conditional (CC)		Value Relevance (VR)	
	M1 (Eq.11)	M2 (Eq. 12)	M3 (Eq. 13)	M4 (Eq. 14)
C	0.08 (0.00)*	1.60 (0.00)*	0.81 (0.00)*	1.60 (0.00)*
ERMI	0.00 (0.66)	0.01 (0.08)***	0.01 (0.08)***	0.01 (0.08)*
SIZE	-	-0.03 (0.00)*	-	-0.03 (0.00)*
VIF	1.16	1.16	1.16	1.16
R^2	0.17	0.52	0.52	0.52
F Stat	3.05*	11.51*	11.49*	11.51*
Durbin-Watson	2.01	1.43	1.42	1.43
Hausman test	1.47	-	0.00	-

Significance level: 1% (*), 5% (**), and 10% (***).
Source: data research (2025).

The results indicate a positive relationship between the adoption of Enterprise Risk Management (ERM) and the value relevance of accounting information in Latin American firms. This suggests that firms implementing an integrated risk approach, as captured by the ERMI, enhance the informativeness of stock prices through the timely and reliable reporting of earnings, a finding particularly relevant in the context of developing economies where market efficiency is lower compared to developed markets.

Consistent with the studies of Hoyt and Liebenberg (2011), Berry-Stölzle and Xu (2018), and Adedayo et al. (2019), ERM adoption enables firms to anticipate and manage specific risks, allowing managers to develop competitive strategies that improve overall performance. Market participants recognize these benefits, as evidenced by the positive association between ERM implementation and the market's response to reported accounting information.

Additionally, the analysis demonstrates a positive relationship between ERM and conditional accounting conservatism, indicating that firms with robust risk management practices tend to recognize losses more promptly than gains. This finding aligns with the holistic notion of risk encompassed in the ERM framework (Nocco & Stulz, 2006), which fosters a corporate culture of proactive risk assessment and cautious decision-making. The conservative accounting posture observed in these firms suggests that the principles of prudence extend beyond operational and strategic management to the reporting of financial information, thereby improving the reliability and credibility of accounting data.

These results corroborate prior findings by Baxter et al. (2013), who associate higher ERM quality with improved accounting performance, and extend the work of Ghafoor and Hassan (2018) by demonstrating that conditional conservatism reduces information asymmetry. Moreover, the findings complement Yasa et al. (2020), highlighting that risk management contributes to the accounting conservatism of non-financial firms in emerging markets.

In conclusion, this study provides empirical evidence that ERM not only strengthens corporate risk management but also enhances key attributes of accounting information quality - namely, value relevance and conditional conservatism. These improvements, in turn, contribute to greater transparency and informativeness in capital markets, supporting more informed investment decisions in emerging economies.

5 FINAL REMARKS

Integrated and systematic risk management represents a contemporary approach to corporate risk, developed in response to global corporate scandals at the turn of the 21st century, aiming to strengthen corporate governance and managerial decision-making. The Enterprise Risk Management (ERM) framework exemplifies this integrated approach, assessing the totality of organizational risks and aligning them with firm strategy and performance.

This study addressed an emerging research gap regarding the impact of ERM on accounting information quality, focusing on attributes less explored in the literature - value relevance and conditional conservatism. Using a sample of 283 non-financial public companies in Latin America over the period 2010–2019 (2,830 observations), ERM adoption was measured of the ERMI (Gordon et al., 2009), value relevance by Ohlson's model (1995), and conditional conservatism by Basu's model (1997).

The results indicate a positive and significant relationship between ERM adoption and both the value relevance and

conditional conservatism of accounting information. These findings suggest that firms with integrated risk management practices provide more informative and timely financial reporting, enhancing stock price informativeness and reducing information asymmetry in emerging capital markets.

The positive association between ERM and conditional conservatism indicates that firms with structured risk management frameworks tend to recognize economic losses more promptly than gains. This finding reflects a cautious managerial approach to risk, which permeates the accounting function, resulting in timely reporting and conservative accounting estimates. Such behavior aligns with the premise of integrated ERM that encourages proactive identification of risks and strategic planning to mitigate potential losses, corroborating studies by Baxter et al. (2013) and Yasa et al. (2020).

Taken together, the findings indicate that ERM adoption simultaneously enhances both the relevance and conservatism of accounting information. While value relevance improves the informativeness of financial reporting for market participants, conditional conservatism ensures a prudent and timely recognition of economic losses, mitigating the risks of overly optimistic accounting estimates. This dual effect underscores the role of ERM as a governance mechanism that strengthens both managerial decision-making and external reporting reliability.

These results are particularly pertinent in the context of Latin America, where market volatility, institutional weaknesses, and less mature governance practices can exacerbate information asymmetry. By adopting ERM, firms in this region appear better equipped to manage uncertainties and provide reliable accounting information, thereby increasing investor confidence and promoting more efficient capital allocation.

The positive and significant relationship between ERM adoption and value relevance suggests that firms implementing integrated risk management enhance the informativeness of reported earnings for investors. By systematically identifying and mitigating risks, these firms reduce uncertainty and signal greater reliability of accounting information. This outcome is consistent with prior studies in developed markets, such as Hoyt e Liebenberg (2011), and extends the evidence to Latin American firms, demonstrating that ERM adoption can strengthen market perception and contribute to higher stock price informativeness even in more volatile and less mature markets.

This study further contributes to the literature by extending the ERMI framework to a longitudinal setting over ten years and applying it in a Latin American context, demonstrating its relevance for constructing a robust metric of ERM adoption in emerging economies.

From a practical standpoint, the findings suggest that managers who implement comprehensive ERM systems can enhance both operational oversight and financial reporting quality. Investors benefit from increased transparency and informativeness of stock prices, while researchers gain empirical evidence on the positive effects of ERM adoption in emerging economies, supporting and extending prior studies focused on developed markets.

Limitations of the study include incomplete financial data for some firms across Latin American countries and reliance on secondary measures to capture ERM adoption. Future research may explore the relationship between ERM and other attributes of accounting information quality, such as reliability, comparability, and understandability, and test alternative metrics for capturing integrated risk management practices.

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