

The moderating effect of national culture on the relationship between debt maturity and conditional conservatism

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Received on 07/23/2024 – Desk acceptance on 08/27/2024 – 6th version approved on 07/29/2025

Academic Editor-in-Chief: Andson Braga de Aguiar

Associate Editor: Eduardo da Silva Flores

ABSTRACT

The objective of this study was to evaluate the moderating effect of national culture on the relationship between debt maturity and conditional conservatism. This research is relevant because it presents evidence that the cultural characteristics of countries influence this relationship. Previous literature indicates that debt maturity negatively affects conservative accounting reports. National culture may affect the quality of accounting information in studies of conditional conservatism, particularly with regard to debt maturity. The results provide valuable information for investors, analysts, auditors, and other users of financial statements from companies in different countries. The sample included 16 of the countries that comprise the G20 Group and was distributed between 2010 and 2023. There were a total of 162,188 observations covering 11,350 companies. The six cultural dimensions presented by Hofstede (1980, 2001) were evaluated. We measured conditional conservatism using Khan and Watts's (2009) model. The chosen debt maturities were three, four, and five years. The results showed that national cultures with high power distance, high uncertainty avoidance, and a high long-term orientation mitigate the negative relationship between debt maturity and conditional conservatism in the companies analyzed. It can be concluded that cultural contexts lead to more or less conservative accounting practices and may indirectly influence companies' choice of debt maturity.

Keywords: national culture, debt maturity, conditional conservatism.

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This is a bilingual text. This article was originally written in Portuguese and published under the DOI 10.1590/1808-057x20252185.pt.

This article stems from a doctoral thesis defended by the author, Oderson Panosso, in 2023.



Efeito moderador da cultura nacional na relação entre a maturidade da dívida e o conservadorismo condicional

RESUMO

O objetivo deste estudo foi avaliar o efeito moderador da cultura nacional na relação entre a maturidade da dívida e o conservadorismo condicional. A relevância desta pesquisa está em apresentar evidências de que as características culturais dos países têm influência na relação entre a maturidade da dívida e o conservadorismo condicional. A literatura aponta, até o momento, que a maturidade da dívida influencia negativamente os relatórios contábeis conservadores. A cultura nacional pode influenciar a qualidade das informações contábeis inseridas nos estudos sobre o conservadorismo condicional, especificamente entre maturidade da dívida e o conservadorismo condicional. Os resultados oferecem suporte para que investidores, analistas, auditores e demais usuários de demonstrações contábeis entre empresas de países distintos. A amostra compreendeu os países que compõem o Grupo G20, totalizando 16 países, distribuídos entre os anos de 2010 e 2023. O total de observações foi de 162.188, abrangendo 11.350 empresas. Foram avaliadas as seis dimensões culturais apresentadas por Hofstede (1980, 2001). O conservadorismo condicional foi medido a partir do modelo de Khan e Watts (2009). A maturidade da dívida escolhida foi a de vencimento em 3, 4 e 5 anos. Os resultados apontaram que a cultura nacional de distância do poder, aversão à incerteza e orientação para o longo prazo amenizam a relação negativa entre a maturidade da dívida e o conservadorismo condicional das empresas analisadas. Conclui-se que contextos culturais levam a práticas contábeis mais ou menos conservadoras e podem, indiretamente, influenciar a escolha da maturidade da dívida das empresas.

Palavras-chave: cultura nacional, maturidade da dívida, conservadorismo condicional.

1 INTRODUCTION

Conditional conservatism (CC) is the tendency to recognize bad news earlier than good news (Basu, 1997; Ball et al., 2000; Ball & Shivakumar, 2005). According to Moreira et al. (2010), CC is related to the accounting tendency to require a higher degree of verification for good news to be recognized in results than for bad news. This results in the recognition of economic facts in an asymmetric and opportune manner, favoring bad news over good news (Coelho, 2010). Thus, applying the concept of conservatism (i.e., verifying good news) restricts managers' ability to manipulate earnings (Ahmed & Duellman, 2007).

According to Watts (2003a), conservatism is a mechanism that reduces the costs of agency conflicts among different stakeholders. Agency conflict may be present in contractual relationships involving asymmetric information, payments, and control rights. Consequently, indebtedness through contracts is associated with a higher degree of agency conflict between managers (shareholders) and debt holders. Debt holders generally face an informational disadvantage with limited control rights.

In a scenario of asymmetric information, external investors are incentivized to discipline internal managers to limit risk and debt maturity selection because this mitigates agency conflicts. According to agency theory,

each person acts in their own self-interest, maximizing their own interests at the expense of others. Furthermore, agency theory states that the ability to accept risk varies between shareholders and managers (Eisenhardt, 1989). According to agency theory, long-term debt increases the probability of wealth expropriation through asset substitution or profit distribution to shareholders. Thus, changes in debt maturity impact accounting practices, reflecting the level of conservatism demanded by creditors (Lee, 2015).

In this context of CC and debt maturity (MAT), studies on corporate indebtedness have advanced the idea that specific factors influence CC (Chen, 2020; Loenert & Silva, 2020). One such factor is debt structure (Ball, 2001; Watts, 2003a; Ramalingegowda & Yu, 2012; Li, 2013). Debt structure is a concept that follows studies conceptualizing debt as the proportion by which companies use financial debt (loans, financing, debentures, etc.) to finance their activities (Brito et al., 2007). Debts can be characterized based on total debt amount and debt maturity. Total debt is the value of financial debts that a company uses as a source of financing for its operations (Hasan et al., 2014), and debt maturity indicates the structure of a company's debt over time (Choi et al., 2018).

Regarding debt maturity, several reasons may justify the choice of payment terms. Nguyen and Wald (2022)

demonstrated that the selection of debt maturity affects the type of debt (issued debt or bank loans). Chang et al. (2012) state that national culture and corporate governance influence the selection of corporate debt maturity, depending on whether a country's financial system is bank-based (e.g., Japan and Germany) or market-based (e.g., the US and the UK).

In addition to these relationships, other studies have sought to identify the relationship with conservatism. Khurana and Wang (2015) found that there is a negative relationship between shorter debt terms (up to five years) and conditional conservatism because long-term financing is more closely monitored by creditors and viewed as more conservative from a manager's perspective. Some studies (Haw et al., 2014; André et al., 2015) suggest that companies presenting CC do so because of their debt structure (Zhang, 2008; Nikolaev, 2010). Conservatism allows for monitoring of debt contracts and provides quicker alerts regarding debt compliance verification based on accounting figures and creditor control.

In addition to indebtedness, a company-level variable, another factor has been investigated as related to companies' accounting conservatism: national culture (Salter & Niswander, 1995; Wronski & Klann, 2020). According to Gray (1988), national culture influences accounting development in companies and impacts their practices differently from country to country. He argues that the more a country is classified in cultural terms, the greater its influence on conservatism. Cultural differences between countries influence individual behavior and can affect relationships within organizations. The greater these differences, the more divergent administrative, organizational, and strategic practices tend to be (Ariño & De La Torre, 1998).

Therefore, this study focuses on Hofstede's (1980) cultural concepts based on the assumption that the relationship between debt maturity and conservatism can be affected by a country's cultural characteristics. This cultural alignment uses the moderating effect of cultural dimensions and is based on Gray's (1988) results. Gray built theoretical constructs and hypotheses to explain and predict differences in accounting practices according to cultural dimensions. Gray (1988) states that the link between conservatism and Hofstede's (1980) proposed dimensions is more strongly related to uncertainty avoidance. He also states that societies with a higher level of individualism tend to have greater freedom to make judgments, and that masculinity is related to the division of emotional roles between men and women.

This may reflect different views within a society. These dimensions allow for an analysis of the cultural strength of countries in pre-existing relationships.

However, research aimed at observing the direct relationship between a country's national culture and conservative accounting practices has not discussed its potential moderating effect on pre-existing relationships in a business context (Kang, 2004; Tsakumis, 2007; Zeghal & Lahmar, 2018; Guermazi & Halioui, 2020). Some studies have shown that debt negatively influences CC (Watts & Zimmerman, 1986; Lee & Steele, 2015). Companies need to present positive results more frequently to justify long-term financing (Hamdan et al., 2011), so they present less conservative reports.

Regarding debt maturity, Khurana and Wang (2015) state that there will be a negative relationship between CC and shorter debt terms (up to five years) as long-term financing (over six years) tends to be more closely monitored by creditors, inducing greater conservatism (Zhang, 2008; Haw & Nikolaev, 2010; André et al., 2015). Fauver and McDonald (2015) point out that cultural factors demand less conservatism when evaluating the choice of debt maturity for debt contracts. In short, national culture can influence the need for conservatism in contracting longer-term debt agreements, considering the existing dimensions and interpretations (Hofstede, 1980; Gray, 1988).

Thus, based on the above, the following research question is presented: What are the effects of national culture on the relationship between debt maturity and conditional conservatism? This research aims to evaluate the moderating effects of national culture on this relationship.

The results will contribute to our understanding of how financial reporting conservatism is influenced by internal (debt maturity) and external (national culture) organizational aspects. Additionally, studies observing the direct relationship between national culture and conservative accounting practices (Kang, 2004; Tsakumis, 2007; Zeghal & Lahmar, 2018; Guermazi & Halioui, 2020) did not address the moderating effect of national culture on pre-existing relationships within a business context. Armstrong et al. (2010) call for further research to better understand the role of CC in debt contracting.

This research is relevant because it presents evidence that cultural characteristics (Hofstede, 1980) influence pre-existing relationships such as representativeness, debt maturity, financing structure, and CC (Khurana & Wang, 2015; Kang et al., 2017).

2 LITERATURE REVIEW AND HYPOTHESIS JUSTIFICATION

Studies on CC typically explore the topic in two ways. The first highlights the consequences of conservatism (Lara et al., 2009; Kim & Zhang, 2016), while the second seeks to identify the motivations and incentives for conservative accounting practices (Ball & Shivakumar, 2005). Basu (1997) presents conditional accounting conservatism, or simply conditional conservatism, as a requirement for the asymmetric verification of gains and losses. CC is characterized by accounting choices (Watts, 2003b). CC estimation models have been created, complemented, adapted, tested, and criticized over the years to provide reasonable answers to research questions.

The literature has advanced the idea that specific factors influence CC (Chen, 2020; Loenert & Silva, 2020). One such factor is debt structure (Ball, 2001; Watts, 2003a; Ramalingegowda & Yu, 2012; Li, 2013). Debt structure can be characterized by its total value or term (maturity). Some studies (Barclay & Smith Jr., 1995; Choi et al., 2018) use the term “debt maturity” to indicate how corporate debt matures, i.e., whether it matures in the short or long term.

Research suggests that debt maturity can mitigate information asymmetry problems (Flannery, 1986; Berger & Udell, 1998; Ortiz-Molina & Penas, 2008). From the borrower’s perspective, companies signal that they are sound, which allows them to obtain better pricing terms in the event of subsequent loan renewals. From the creditor’s perspective, shorter maturities allow for better control and monitoring of managers (Diamond, 1993). Myers (1977) argues that shortening the maturity of outstanding debt is one way to reduce agency conflicts.

Agency conflicts are addressed in agency theory, which posits that individuals are motivated by their own interests and that self-interested action and opportunistic behavior occur as a function of specific preferences and beliefs (Lourenço & Sauerbronn, 2017). According to Bourdieu (2001), agents are part of a power field in constant conflict whose actions derive from *habitus*, a historical principle that generates social practices. Therefore, an agent’s strength depends on the volume and types of social and cultural capital they possess.

Do and Nabar (2019) highlight that conservatism may be related to a country’s growth from a macroeconomic perspective. Countries classified as emerging have more room to grow and would therefore present greater conservatism; that is, they are more conservative. According to these authors, conservatism reduces agency costs by mitigating the information asymmetry between managers and company owners. This generates more confidence in accounting information in countries with

higher risk. Conservatism also creates value by increasing the efficiency of debt contracting.

In this context of agency conflict, a reduction in the need for accounting conservatism may be reflected in shorter debt maturities. A lack of information causes creditors to provide short-term credit to protect themselves from possible default (Platikanova, 2017). Antoniou et al. (2008) suggest that shorter-term debts provide creditors with better monitoring opportunities, as managers must approach them more frequently to renew these debts (Gul & Goodwin, 2010). Khurana and Wang (2015) found a negative relationship between short-term debt (three, four, or five years) and conditional conservatism. This indicates that adopting a conservative accounting approach is more related to debt with a maturity of more than six years. Salehi and Sehat (2018) observed a negative, though not significant, relationship between maturity and conservatism in companies listed on the Tehran Stock Exchange.

Antoniou et al.’s (2008) study highlights that, in the discussion between maturity and conservatism specifically, shorter maturity is less sensitive to changes in project variations than longer maturity (Barnea et al., 1980). Consequently, companies may present less conservative reports when they have shorter-term debts in order to obtain better economic results. Kang et al. (2017) found a positive relationship between conservatism and debt maturity with longer terms. Notably, the associations between conservatism and debt maturity, as well as between conservatism and long-term debt-financed growth, are primarily observed in companies with fewer provisions. These findings suggest that demand for conservatism is not uniform across debt maturity horizons.

Considering that the literature on the conditional relationship between maturity and conservatism is still incipient, and that other contextual factors may help explain this relationship, a research gap is apparent. In this context, researchers have used the cultural characteristics of each country to explain certain accounting practices, such as conservatism (Gray, 1988; Salter & Niswander, 1995; Kanagaretnam et al., 2014; Wronski & Klann, 2020).

Therefore, the relationship between maturity and conservatism can be assessed through the moderating influence of national culture. Several authors have applied Hofstede’s (1980) national culture model in accounting studies (Combs et al., 2013; Khlif, 2016; Reisch, 2020). Hofstede (1980, 2001) identified six cultural dimensions, which he described as “basic problems that all societies have to deal with” (Hofstede, 2001, p. 29). These cultural

factors impact the accounting information reported by companies (Harrison & McKinnon, 1986; Perera, 1986; Han et al., 2010; House & Kennedy, 2013; Kwok & Tadesse, 2006).

Hofstede (1980) highlights the following cultural dimensions: (1) individualism versus collectivism (IND): describes the relationship between the individual and the group, reflected in how individuals interact and their collectivist values or loyalty; (2) high versus low power distance (PD): related to social inequality and formalized in relationships with authorities; (3) strong versus weak uncertainty avoidance (UAV): related to various ways of dealing with uncertainty about the future; (4) masculinity versus femininity (MASC): related to gender duality and the social implications of differences between the female and male genders; (5) long-term orientation versus short-term orientation (LTO): society must maintain links to the past while dealing with present and future challenges. Societies prioritize these two existential goals differently; and (6) indulgence versus restraint (INDULG): indulgence is a society that allows for the relatively free gratification of basic human desires and impulses related to enjoying life and having fun. In contrast, restraint is a society that suppresses the satisfaction of needs and regulates them through strict social norms.

In this context, Gray (1988) relates Hofstede's (1980) model to accounting values. He presents the idea that the higher a country's ranking in terms of UAV and the lower its ranking in terms of IND and MASC, the greater its probability of occupying a high rank in terms of conservatism. In addition to the dimensions related to CC highlighted by Gray (1988), Hofstede's (1980, 2001) three other cultural dimensions (PD, LTO, and INDULG) were defined. These dimensions may have moderating influences on the relationship between debt maturity and CC. The study by Kanagaretnam et al. (2014) reinforces the relationship between national culture and CC. Guermazi and Halioui (2020) confirmed this relationship in the post-IFRS period. Goodwin et al. (2000) indicate that companies in countries with a high Power Distance Index are less likely to manipulate data. Fauver and McDonald (2015) suggest that companies in countries with higher levels of individualism and greater uncertainty avoidance behave differently depending on the cultural context.

In this context, other studies have found mixed results regarding the influence of national culture on CC. Kanagaretnam et al. (2014) demonstrated that, from a manager's perspective, CC is positively associated with uncertainty avoidance and negatively associated with individualism. However, their results were obtained from a sample limited to financial companies.

Thus, the moderation of national culture (NC) in the relationship between debt maturity (MAT) and conservatism (CC) could provide a new perspective on this topic. It is assumed that the negative relationship between debt maturity and conservatism intensifies or softens as the level of a cultural characteristic increases.

The first cultural dimension is power distance (PD), which is associated with acceptance of inequality in power distribution among organizational members, as proposed by Hofstede (1980). This dimension represents the degree to which individuals with less hierarchical power accept and expect an unequal distribution of authority. While some empirical studies have not identified a significant relationship with conservatism (Sudarwan & Klann, 2020; Fogarty, 1996; Lima et al., 2016; Wronski & Klann, 2020), Goodwin et al.'s (2000) findings indicate that a national culture characterized by high PD mitigates the negative effects of the relationship between MAT and CC. This constitutes hypothesis H1.

According to Hofstede (1980), the cultural dimension of individualism (IND) refers to the degree to which individuals are integrated into primary social groups. This dimension indicates the degree to which individuals are independent from the collective. Societies with a high IND index tend to make decisions more autonomously, often influenced by excessive self-confidence (Van den Steen, 2004; Chau, 2008). According to Gray (1988), there is a negative relationship between accounting conservatism (CC) and IND. Thus, IND is expected to exert a moderating effect, enhancing the intensity of the negative relationship between MAT and CC (hypothesis H2).

The cultural dimension of uncertainty avoidance (UAV) refers to the level of stress a society experiences when faced with an unknown or unpredictable future (Hofstede, 1980). According to Gray (1988), UAV shows the strongest positive correlation with accounting conservatism, a finding supported by several empirical studies (Salter & Niswander, 1995; Sudarwan & Fogarty, 1996; Schultz & Lopez, 2001; Lima et al., 2016). In this context, it is expected that a national culture with high UAV will mitigate the negative relationship between MAT and CC, which constitutes hypothesis H3.

The cultural dimension of masculinity (MASC), in turn, refers to the extent to which dominant societal values are "masculine," i.e., related to assertiveness and the acquisition of money and goods rather than care for others, quality of life, or people (Hofstede, 1980). Some studies have found that this dimension has a negative relationship with accounting conservatism (Salter & Niswander, 1995; Salter & Lewis, 2011). Thus, it is expected

that a national culture with high MASC will strengthen the negative relationship between MAT and CC, which establishes hypothesis H4.

The cultural dimension of long-term versus short-term orientation (LTO) refers to a society that must maintain links to the past while addressing the challenges of the present and future (Hofstede et al., 2008). Societies with a predominance of short-term orientation tend to emphasize immediate results and the preservation of traditions. Conversely, cultures with high LTO tend to value perseverance, long-term planning, and adaptation to future circumstances. Thus, the greater the level of LTO in a society, the greater the degree of accounting conservatism tends to be (Wronski & Klann, 2020). Thus, a high LTO culture is expected to act as a moderating

factor, mitigating the negative relationship between MAT and CC (hypothesis H5).

The cultural dimension indulgence versus restraint (INDULG) is defined as a society that allows the relatively free gratification of basic human desires and impulses related to enjoying life and having fun (Hofstede et al., 2022). Relating this dimension to conservatism, more indulgent, life-loving societies are believed to be less conservative. According to Gray (1988), conservatism is characterized by prudence and caution; thus, more conservative accountants opt for cautious accounting to deal with the uncertainty of future events (Wronski & Klann, 2020). Thus, it is expected that an INDULG culture will strengthen the negative relationship between MAT and CC, forming hypothesis H6.

3 METHODOLOGICAL PROCEDURES

The population consists of publicly traded companies available in the Refinitiv Eikon database that belong to the G20 group of countries. This group is characterized by its significant geographical coverage, as it brings together nations from different continents (Leite & Aguilar, 2009), which contributes to analyses of different cultures. The G20 consisted of 19 countries and the European Union, which consisted of 23 countries, at the time of the 2023 Summit (Table 1).

A total of 13,598 companies in the financial sector were excluded (Dechow et al., 2012; Demonier et al., 2015; Bushman & Piotroski, 2006; Chen, 2020). According to Lee et al. (2018), financial companies are subject to different regulations, so their financial statements should not be compared with those of other sectors (Dechow et al., 2012; Demonier et al., 2015). Financial companies have a different debt structure than other sectors, which could distort the relationship between debt maturity and CC (Canton, 2019). At this stage, companies from countries that were considered unrepresentative because they had fewer than 100 companies in the database were also excluded.

Additionally, observations for which the ratio of short-term debt to total debt is less than zero or greater than one were excluded, in accordance with the study by Khurana and Wang (2015). This exclusion is necessary because the ratio of short-term debt to total debt must be between zero and one. Values below zero indicate negative debt, and values above one indicate that short-term debt exceeds total debt. Therefore, these observations were considered to likely contain error and were excluded from the sample.

The sample, which is unbalanced with a minimum of six years per company, was analyzed between 2010 and 2023 and totaled 162,188 observations. This approach was taken to achieve greater statistical robustness, as observations from companies that did not provide all the necessary information to measure CC were eliminated from the sample. For adequate chronological monitoring during inferences (Gujarati & Porter, 2011), the application of this criterion was deemed necessary. Choi et al. (2018) applied the three-year balance in their study on debt maturity, highlighting an alternative application method.

This analysis period is equivalent to 13 years of data, consistent with previous studies on conservatism (Demonier et al., 2015). The years 2020 and 2021 were included despite the pandemic, which was controlled for alongside the applied data. Cui et al. (2021) found that, during the outbreak, Chinese companies listed on the Shanghai and Shenzhen stock exchanges applied more conservative reporting compared to other companies. Nascimento et al. (2024) suggest that conservatism increased during the crisis (Table 2).

China was the most representative country, accounting for 41,719 of the total observations, followed by the United States (30,541) and India (28,945). This finding is consistent with those of other studies (Zheng et al., 2012; Farooq & Amin, 2017; Chang et al., 2020). Conversely, the countries with the fewest observations were Bulgaria (516), Greece (914), and Finland (1,049), consistent with other studies (Ashraf et al., 2016; Paredes & Wheatley, 2017; Wronski & Klann, 2020).

The CC metric was based on Khan and Watts's (2009) model, as shown in Equation 1. It is worth noting the adaptation to the original model, which replaced the

Table 1
Population Composition and Research Sample

Panel A – Sample design		
	Companies	%
Population	45,912	100.00
(-) Financial sector	5,423	11.81
(-) Non-representative countries ¹	2,759	6.00
(-) Data collection problems	24,142	52.58
Total	13,598	29.61
Panel B – Distribution of the sample by country		
Countries ¹	Companies	%
1. China	3,684	27.09
2. United States	3,462	25.46
3. India	2,803	20.61
4. Japan	1,913	12.45
5. Canada	892	5.74
6. Sweden	517	3.33
7. Poland	392	2.52
8. France	360	2.32
9. Germany	343	2.21
10. Turkey	282	1.82
11. Germany	343	2.21
12. Brazil	206	1.33
13. Russia	145	0.93
14. Australia	143	0.92
15. Bulgaria	136	0.88
16. Greece	124	0.80
Total sample	13,598	100.00

Note: ¹Countries with fewer than 100 companies in the database were considered unrepresentative.

Source: Prepared by the authors.

Leverage (Lev) variable with Time of Foundation (Found). This change was necessary because the original model could duplicate information in the measurement since

the explanatory variable “total debt” was included in the study proposal. After validating the models, possible measurement issues were mitigated.

$$\begin{aligned}
 \frac{PLS_{i,t}}{P_{i,t-1}} = & \beta_0 + \beta_1 D_{i,t} + \beta_2 R_{i,t} (\mu_1 + \mu_2 Size_i + \mu_3 MB_i + \mu_4 Found_{i,t}) + \beta_3 D_i \\
 & * R_i (\lambda_1 + \lambda_2 Size_i + \lambda_3 MB_i + \lambda_4 Found_i) \\
 & + (\delta_1 Size_i + \delta_2 MB_i + \delta_3 Found_i + \delta_4 D_i Size_i + \delta_5 D_i MB_i + \delta_6 D_i Intang_i) \\
 & + \varepsilon_{i,t}
 \end{aligned}$$

1

where: PLS_{it} = accounting result for the period (profit or loss) per share for company i in year t ; P_{it-1} = average share price for company i in year $t-1$; $R_{it} = \frac{P_{it} - P_{it-1}}{P_{it-1}}$ is the return on shares for company i in year t ; D_{it} = dummy variable that equals 1 when the return on shares for company i in year t is negative and 0 otherwise; $Size_i$ = company size according to the natural logarithm of market value; MB_i = market-to-book ratio; $Found_i$ = log of the number of

days since company i was founded in year t ; μ_j and λ_j = parameters that are invariant across companies but vary over time, estimated by annual cross-sectional regressions.

Verifying CC involves verifying the estimators generated by Equation 1. The C_Score is calculated using Equation 2, which reflects bad news (C_Score), highlighting the level of conservatism in each company.

Table 2

Composition of Companies and Their Legal Systems and Adoption of IFRS

G20 countries	Legal System	No. of Companies	Comments	IFRS adoption	Year of adoption
1. China	Code law	3,684	41,719	Yes	2006
2. United States	Common law	3,462	30,541	Yes	*
3. India	Common law	2,803	28,945	No	–
4. Japan	Code law	1,913	24,109	No	–
5. Canada	Common law	892	9,058	Yes	2011
6. Sweden	Code law	517	4,809	Yes	2005
7. Poland	Code law	392	4,351	Yes	2005
8. France	Code law	360	3,933	Yes	2005
9. Germany	Code law	343	3,508	Yes	2005
10. Turkey	Code law	282	3,193	Yes	2005
11. Brazil	Code law	206	2,591	Yes	2010
12. Russia	Common law	145	1,482	Yes	2012
13. Australia	Common law	143	1,410	Yes	2005
14. Finland	Code law	109	1,049	Yes	2005
15. Greece	Code law	124	914	Yes	2005
16. Bulgaria	Code law	136	516	Yes	2005
Total		11,350	162,188		

Note: *US GAAP throughout the analysis period.

Source: CIA and IFRS.

$$C_Score = \beta_4 = \lambda_1 + \lambda_2 Size_i + \lambda_3 MB_i + \lambda_4 Found_i$$

2

The C_Score reveals the level of CC by company and year (Khan & Watts, 2009). Thus, the higher the index found in Equation 2, the more conservative the company is. However, econometric models for estimating conservatism may be limited since the literature points to possible biases in their estimation. To minimize this limitation, we used the conservatism model presented by Khan and Watts (2009) and based on Basu's (1997) classic model, which has already been used in accounting studies.

Nevertheless, the possibility of bias in its estimation cannot be completely eliminated. However, the models presented here were tested and adjusted to better apply to the research proposal.

To test the hypotheses of moderation of national culture levels in the dimensions of individualism and uncertainty avoidance in the direct relationship between debt maturity and conservatism, the following empirical model is presented.

$$CC_{i,t} = \beta_1 + \beta_2 MAT_{i,t} + \beta_3 NC_j + \beta_4 NC_j * MAT_{i,t} + \beta_5 IFRS_{j,t} + \beta_6 ComCod_{j,t} + \beta_7 Pandem_{j,t} + \beta_8 Openness_{j,t} + \beta_9 GDP_{j,t} + \beta_{10} Exchange_{j,t} + \varepsilon_{i,t}$$

3

where: *CC* = conditional conservatism level of company *i* in period *t*; *MAT* = total debt of company *i* in period *t*, maturing in up to three, four, or five years (individual test); *NC* = dimension of national culture of country *j* (six cultural dimensions with an individual test); *IFRS* = dummy variable that equals 1 when the adoption of IFRS by company *i* in year *t* is negative and 0 otherwise; *ComCod* = legal system of country *j* (common law or code law) in year *t*; *Pandem* = dummy variable that equals 1 when company *i* is in the global pandemic period in year *t* and 0 otherwise; *Openness* = trade openness variable, represented by the sum of imports and exports over the GDP of country *j* in year *t*; *GDP* = log of the GDP of country *j* in year *t*; *Exchange* = exchange rate of country *j* in year *t*.

The control variables *IFRS*, *ComCod*, *Pandem*, *Openness*, *GDP*, and *Exchange* aim to capture variations in *CC* levels unrelated to debt maturity. These variables have already been tested in relation to *CC* in previous studies.

4 RESULTS

To understand the empirical evidence obtained in the research process, we first present the descriptive statistics of the dependent and independent variables. This shows the mean, standard deviation, median, and 25th and 75th percentiles (Table 3).

The sample consisted of 162,188 observations from 16 countries over 13 years (2010-2023). The negative value of conservatism indicates that, on average, the companies analyzed are not conservative and have a low level of conditional conservatism.

Moreira et al. (2010) note that *CC* is present in low proportions in Brazilian companies' published accounting results, a finding similar to those presented in Table 3. Li et al. (2017) found different levels of conservatism in China, particularly among state-owned companies. André et al. (2015) state that European countries have shown lower levels of conservatism since implementing IFRS. However, the level of *CC* identified in Li's (2013) study, which analyzed 35 countries between 1991 and 2007, indicates an upward trend throughout the sample period.

Regarding the independent variables related to debt maturity, the average values of debt maturing within three,

The model of national cultural characteristics proposed by Hofstede (1980) may be subject to limitations and has been criticized in other studies (McSweeney, 2002). Nevertheless, the model is widely used in the literature and is considered one of the most frequently used models in this area of research. To make the findings more robust, however, the GLOBE Project's national culture model (House et al., 2004) was also analyzed. Additionally, national culture models change over time and may not accurately represent some countries, particularly those that have undergone significant changes. Hofstede (2001) argues that culture is useful when analyzed through cultural dimensions as something that changes slowly from generation to generation.

Finally, Wooldridge (2010) points out that endogeneity problems usually originate from three causes: omitted explanatory variables, measurement errors, and simultaneity between regressions and the response variable. In our data measurement assumptions, we sought to mitigate these characteristics.

four, or five years are approximately 50% to 55% of total debt. This suggests that companies in the analyzed sample have a higher proportion of debt with longer maturities (over five years). Khurana and Wang (2015) found that the average total debt maturing in three years was 0.48, indicating that, on average, 48% of total debt matured in three years or less. The average values for four- and five-year maturities were 54.7% and 60.8%, respectively. The sample included all companies in the Compustat database from 1985 to 2007. In the study by Lee and Steele (2019), which used the sum of debt maturing in two, three, four, and five years as a proxy for debt maturity, the average was 0.20. Salehi and Sehat (2018) found a value of 0.85 for debt maturity when using the ratio of short-term debt to total debt as a proxy for the debt maturity structure of companies listed on the Tehran Stock Exchange from 2011 to 2016. The same criterion was used in studies by Fan et al. (2012) and Hasan et al. (2014). Fan et al. found a value of 0.58 in the ratio of total to long-term debt, while Hasan et al. observed an average debt maturity value of 0.53 for Australian companies from 2000 to 2015.

Table 3*Descriptive Statistics of Dependent, Independent, and Control Variables*

	Mean	SD	Minimum	25th percentile	Median	75th percentile	Maximum
CC	-0.0094	0.9554	-5.2727	0.0393	0.1907	0.2747	4.0352
DebtMat3	0.5389	0.3854	0	0	0.6548	0.8999	1
DebtMat4	0.5449	0.3889	0	0	0.6678	0.9102	1
DebtMat5	0.5526	0.3966	0	0	0.6919	0.9251	1
PD	61.5879	17.8939	31	40	68	80	93
IND	52.2388	25.5643	20	20	48	80	91
MASC	63.1676	17.5201	5	56	62	66	95
UAV	52.2340	23.6678	29	30	46	76	112
INDULG	40.4183	17.9178	16	24	36	50	78
LTO	61.3554	24.4630	21	45	51	87	88
IFRS	0.7585	0.4279	0	0	1	1	1
ComCod	0.5595	0.4964	0	0	1	1	1
Pandem	0.2604	0.4388	0	0	0	1	1
Openness	0.1675	0.2252	0	0.01	0.06	0.27	1.13
GDP	31.4281	1.8717	25.5099	30.4993	31.9436	32.7721	34.0123
Exchange	24.8248	30.1776	0.75	1	6.64	61.03	82.60
Observations	162,188						

Notes: CC = Conditional Conservatism; DebtMat3 = Debt maturing within 3 years as a percentage of Total Debt; DebtMat4 = Debt maturing within 4 years as a percentage of Total Debt; DebtMat5 = Debt maturing within 5 years as a percentage of Total Debt; PD = NC of Power Distance; IND = NC of Individualism; MASC = NC of Masculinity; UAV = NC of Uncertainty Avoidance; LTO = NC of Long-Term Orientation; INDULG = NC of Indulgence versus Restraint; IFRS = Adoption of IFRS; ComCod = Country's Legal System; Pandem = COVID-19 Pandemic Period; Openness = Level of Market Openness; GDP = Ln of the country's GDP; Exchange = Exchange rate of the country's currency; SD = Standard deviation.

Source: Prepared by the authors.

The correlations between the variables presented in Table 4 are mostly significant at the 5% level. The debt maturity independent variables (DebtMat3, DebtMat4, and DebtMat5) show a positive relationship with conservatism, with estimated correlations of approximately 0.09.

The individualism and indulgence dimensions of national culture are negatively correlated with conservatism, while uncertainty avoidance, long-term orientation, masculinity, and power distance are positively correlated. These results align with Gray's (1998) approach to the influence of culture on accounting disclosure systems.

Regarding the control variables, adherence to IFRS was negatively related to conservatism (Brunozi Júnior et al., 2015). A positive relationship was observed for the legal system (ComCod), meaning that companies in countries with a code law legal system are more conservative (Ball et al., 2000). Regarding the pandemic, the observed relationship is positively correlated with CC (Cui et al.,

2021; Nascimento et al., 2024). Trade openness, which assesses import and export capacity relative to GDP, was negatively correlated with CC. GDP was positively correlated with CC (Machado et al., 2022). Finally, each country's exchange rate showed a positive relationship with the level of CC (Bittencourt et al., 2007). These correlations are consistent with those observed in other studies that also interpret CC.

Multicollinearity was diagnosed using the variance inflation factor (VIF) statistic. Based on the results of this test, multicollinearity problems were not identified (Fávero et al., 2009). The assumption of homoscedasticity of the residuals was evaluated using the White and Breusch-Pagan tests, which indicated heteroscedasticity problems. These problems were corrected using a robust error estimator in the regression models.

Tables 5, 6, and 7 present the results of the estimated models in relation to the CC level and debt maturity of three, four, and five years, respectively. The results

Table 4
Pearson Correlation Matrix between Variables

Variables	CC	DebtMat3	DebtMat4	DebtMat5	PD	IND	MASC	UAV	LTO	INDULG	IFRS	ComCod	Pandem	Openness	GDP	Exchange
CC	1.00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
DebtMat3	0.09*	1.00	–	–	–	–	–	–	–	–	–	–	–	–	–	–
DebtMat4	0.09*	0.98*	1.00	–	–	–	–	–	–	–	–	–	–	–	–	–
DebtMat5	0.08*	0.94*	0.96	1.00	–	–	–	–	–	–	–	–	–	–	–	–
PD	0.21*	0.15*	0.13*	0.11*	1.00	–	–	–	–	–	–	–	–	–	–	–
IND	-0.28*	-0.20*	-0.19*	-0.16*	-0.84*	1.00	–	–	–	–	–	–	–	–	–	–
MASC	0.01*	0.16*	0.17	0.15	0.06	-0.2	1.00	–	–	–	–	–	–	–	–	–
UAV	0.03*	.16*	0.17	0.17	-0.25	0.15	0.44	1.00	–	–	–	–	–	–	–	–
LTO	0.28*	0.22*	0.21*	0.19	0.52	-0.82	0.46	0.08	1.00	–	–	–	–	–	–	–
INDULG	-0.28*	-0.14	-0.12	-0.10	-0.85	0.80	-0.20	0.18	-0.64	1.00	–	–	–	–	–	–
IFRS	-0.11*	-0.11*	-0.10*	-0.09*	-0.29	0.09	-0.07	-0.02	0.02	0.32	1.0	–	–	–	–	–
ComCod	-0.21*	0.20	0.20	0.19	0.28	-0.65	0.27	0.27	0.77	-0.27	0.35	1.0	–	–	–	–
Pandem	0.15*	0.07*	0.08	0.08	-0.00	0.00	-0.03	-0.02	-0.01	0.00	-0.07	-0.01	1.0	–	–	–
Openness	-0.08*	-0.16*	-0.16*	-0.13*	-0.52*	0.51	-0.31	0.15	-0.34	0.34	0.38	-0.10	-0.01	1.0	–	–
GDP	0.091*	0.22	0.21	0.19	0.43	-0.46	0.63	0.00	0.51	-0.39	-0.46	0.10	-0.04	-0.81	1.00	–
Exchange	0.157	0.21	0.21	0.19	0.26	-0.20	0.37	0.31	0.23	-0.33	-0.72	-0.12	-0.04	-0.54	0.72	1.00

Note: CC = Conditional Conservatism; Mat3Div = Debt maturing within 3 years as a percentage of Total Debt; Mat4Div = Debt maturing within 4 years as a percentage of Total Debt; Mat5Div = Debt maturing within 5 years as a percentage of Total Debt; PD = NC of Power Distance; IND = NC of Individualism; MASC = NC of Masculinity; UAV = NC of Uncertainty Avoidance; LTO = NC of Long-Term Orientation; INDULG = NC of Indulgence versus Restraint; IFRS = Adoption of IFRS; ComCod = Country's Legal System; Pandem = COVID-19 Pandemic Period; Openness = Level of Market Openness; GDP = Ln of the country's GDP; Exchange = Exchange rate of the country's currency.

***Significant at the 1% level; **5%; *10%.

Source: Prepared by the authors.

Table 5*Results of NC Moderation in the Relationship between DebtMat3 and CC*

Dependent variables CC	Analysis in relation to DebtMat3 _{it}						
	Model 1 – Without NC	Model 2 – PD NC	Model 3 – IND NC	Model 4 – MASC NC	Model 5 – UAV NC	Model 6 – LTO OLP	Model 7 – INDULG NC
	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)
Constant	2.66 (32.55)	2.2257 (27.72)	3.6079*** (40.83)	0.5721 (5.20)	3.7017*** (46.56)	7.4349*** (63.78)	3.6635*** (41.12)
DebtMat3_{it}	-0.0217*** (-5.76)	-0.0196*** (-3.51)	-0.0061 (-1.11)	-0.0159** (-2.85)	0.0028 (0.51)	0.1364 (2.48)	-0.0067 (-43.32)
NC _{it}	–	0.0058*** (30.88)	-0.0110*** (-49.97)	-0.0086*** (-33.35)	-0.0092 (-43.62)	0.0187 (60.62)	-0.0116 (-7.68)
NC_{it} * DebtMat3_{it}	–	0.0016*** (10.94)	0.0018 (-8.81)	0.0025*** (13.72)	0.0018 (9.14)	0.0005 (3.90)	0.0022 (7.68)
IFRS _{it}	-0.4051*** (-46.31)	-0.2551*** (-27.01)	-0.2098*** (-23.33)	-0.3152 (-31.75)	-0.2409 (28.29)	-0.3559 (-41.22)	-0.2060 (-23.40)
ComCod _{it}	0.6124 (83.92)	0.5050*** (72.66)	0.2513*** (35.53)	0.6177 (85.54)	0.7213 (91.50)	-0.1020 (-9.70)	0.4506 (68.35)
Pandemic _{it}	0.2595*** (19.51)	0.1985 (14.93)	0.1935 (14.76)	0.1613 (11.63)	0.1376 (10.27)	0.3866 (29.25)	0.2164 (16.63)
Openness _{it}	-0.1615*** (-12.27)	0.0996*** (7.54)	0.2331*** (-44.07)	0.1798 (10.41)	0.1679 (10.68)	-0.7569 (-46.14)	-0.1376*** (-10.25)
GDP _{it}	-0.0966*** (-40.75)	-0.0990*** (-41.05)	-0.1101*** (-44.07)	-0.0190 (-5.43)	-0.1260 (-54.82)	-0.2719 (-69.33)	-0.1156*** (-45.10)
Exchange _{it}	0.0056*** (47.63)	0.0070 (50.97)	0.0073 (53.42)	0.0057 (48.23)	0.120 (76.27)	0.0062 (51.29)	0.0062 (50.83)
Model Significance	0.000	0.000	0.000	0.00	0.00	0	0.000
R ²	21.16	21.15	23.33	21.78	23.04	25.17	23.56
Max. VIF	7.87	7.87	7.91	8.20	8.03	8.95	7.88
Durbin Watson	1.42	1.42	1.47	1.46	1.46	1.50	1.47
Year/Sector Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effect	No	No	No	No	No	No	No
No. Obs.	162,188						

Note: CC = Conditional Conservatism; DebtMat3 = Debt* maturing within 3 years as a percentage of Total Debt; PD = NC of Power Distance; IND = NC of Individualism; MASC = NC of Masculinity; UAV = NC of Uncertainty Avoidance; INDULG = NC of Indulgence versus Restraint; IFRS = Adoption of IFRS; ComCod = Country's Legal System; Pandem = COVID-19 Pandemic Period; Openness = Level of Market Openness; GDP = Ln of the country's GDP; Exchange = Exchange rate of the country's currency.

***Significant at the 1% level; **5%; *10%.

Source: Prepared by the authors.

Table 6*Results of NC Moderation in the Relationship between DebtMat4 and CC*

Dependent variables CC	Analysis in relation to DebtMat4 _{it}						
	Model 1 – Without NC	Model 2 – PD NC	Model 3 – IND NC	Model 4 – MASC NC	Model 5 – UAV NC	Model 6 – LTO NC	Model 7 – INDULG NC
	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)
Constant	2.67 (32.60)	2.2235 (27.68)	3.6267*** (41.04)	0.5706*** (5.18)	3.7164*** (46.73)	7.4426*** (63.86)	3.6781*** (41.30)
DebtMat4 _{it}	-0.0262*** (-4.69)	-0.0211*** (-3.79)	-0.0062*** (-1.12)	-0.0197*** (-3.54)	0.0013 (0.24)	0.0134 (2.44)	-0.0064 (-1.16)
NC _{it}	–	0.0060*** (31.88)	-0.0110*** (-48.60)	-0.0084*** (32.01)	-0.0092 (-42.13)	0.0187 (60.73)	-0.0116*** (-41.93)
NC _{it} * DebtMat4 _{it}	–	0.0015 (10.14)	0.0017 (8.43)	0.0022 (12.06)	0.0018 (8.75)	0.00048 (3.73)	0.0021 (7.37)
IFRS _{it}	-0.4046*** (-46.26)	-0.2556*** (-27.07)	-0.2105*** (-23.41)	-0.3174 (-31.99)	-0.2420 (-28.41)	-0.3565*** (-41.26)	-0.2064 (-23.46)
ComCod _{it}	0.6115 (83.72)	0.05055 (72.68)	0.2508*** (35.40)	0.6206 (85.73)	0.7225 (91.64)	-0.1026*** (-9.77)	0.4508 (68.42)
Pandemic _{it}	0.2584 (19.42)	0.1992 (14.99)	0.1933 (14.74)	0.1624 (11.71)	0.1375 (10.25)	0.3869 (29.30)	0.2162 (16.62)
Openness _{it}	-0.1638*** (-12.46)	0.0994 (7.53)	0.2332*** (16.38)	0.1779 (10.30)	0.1676 (10.66)	-0.7584*** (-46.32)	-0.1389*** (-10.36)
GDP _{it}	-0.0968*** (-40.83)	-0.0990*** (-41.03)	-0.1106*** (-44.29)	-0.0188*** (-5.37)	-0.1264*** (-55.00)	-0.2722 (-69.42)	-0.1160 (-45.28)
Exchange _{it}	0.0056 (47.57)	0.0069 (50.90)	0.0073 (53.49)	0.0057 (48.00)	0.0120 (76.21)	0.0062 (51.11)	0.0062 (50.75)
Model Significance	0.000	0	0.000	0.00	0.00	0	0.000
R ²	21.15	22.27	23.32	21.75	23.03	25.17	23.55
Max. VIF	7.87	7.94	7.91	8.21	8.03	8.86	7.88
Durbin Watson	1.42	1.45	1.47	1.46	1.46	1.46	1.47
Year/Sector Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effect	No	No	No	No	No	No	No
No. Obs.	162,188						

Note: CC = Conditional Conservatism; DebtMat4 = Debt maturing within 4 years as a percentage of Total Debt; PD = NC of Power Distance; IND = NC of Individualism; MASC = NC of Masculinity; UAV = NC of Uncertainty Avoidance; INDULG = NC of Indulgence versus Restraint; IFRS = Adoption of IFRS; ComCod = Country's Legal System; Pandem = COVID-19 Pandemic Period; Openness = Level of Market Openness; GDP = Ln of the country's GDP; Exchange = Exchange rate of the country's currency.

***Significant at the 1% level; **5%; *10%.

Source: Prepared by the authors.

Table 7*Results of NC Moderation in the Relationship between DebtMat5 and CC*

Dependent variables CC	Analysis in relation to DebtMat5 _{it}						
	Model 1 – Without NC	Model 2 – PD NC	Model 3 – IND NC	Model 4 – MASC NC	Model 5 – UAV NC	Model 6 – LTO NC	Model 7 – INDULG NC
	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)
Constant	2.67 (32.55)	2.2165 (27.60)	3.6480*** (0883)	0.5900*** (5.36)	3.7281*** (46.84)	7.4444*** (63.89)	3.6922*** (41.45)
DebtMat5 _{it}	-0.0317*** (-5.76)	-0.0251*** (-4.59)	-0.0090** (-1.65)	-0.0258*** (-4.71)	-0.0038 (-0.69)	0.0081 (1.51)	-0.0094** (-1.73)
NC _{it}	–	0.0063*** (33.14)	-0.0110*** (-48.16)	-0.0081*** (30.10)	-0.0091 (-39.49)	0.0188 (60.81)	-0.0116*** (-39.36)
NC _{it} * DebtMat5 _{it}	–	0.0011 (7.62)	0.0017 (7.86)	0.0018*** (9.55)	0.0016 (7.64)	0.00042 (3.17)	0.0020 (6.77)
IFRS _{it}	-0.4051*** (-46.31)	-0.2556*** (-27.06)	-0.2103*** (-23.39)	0.3183*** (-32.10)	0.2421*** (-28.44)	0.3567*** (-41.32)	0.2061*** (-23.43)
ComCod _{it}	0.6124*** (83.92)	0.5075 (72.87)	0.2503*** (35.22)	0.6240*** (86.03)	0.7233*** (91.64)	-0.1015*** (-9.67)	0.4512 (68.37)
Pandem _{it}	0.2595 (19.51)	0.2015 (15.16)	0.1933 (14.73)	0.1648 (11.88)	0.1382 (10.30)	0.3877 (29.35)	0.2164 (16.63)
Openness _{it}	-0.1615*** (-12.27)	0.0946 (7.19)	0.2360*** (15.95)	0.1665 (9.71)	0.1575 (10.13)	-0.7616 (-46.73)	-0.1455 (-10.90)
GDP _{it}	-0.0966*** (-40.75)	-0.0988*** (-40.93)	-0.1112*** (-44.51)	-0.0194 (-5.54)	-0.1267 (-55.11)	-0.2722 (-69.42)	-0.1163 (-45.40)
Exchange _{it}	0.0056 (47.63)	0.0069 (50.84)	0.0074 (53.61)	0.0057 (47.96)	0.0120 (76.17)	0.0062 (51.02)	0.0062 (50.75)
Model Significance	0.000	0.000	0.000	0.00	0.00	0	0.000
R ²	21.16	22.27	23.31	21.72	23.02	25.17	23.55
Max. VIF	7.87	7.94	7.92	9.19	8.04	7.97	7.89
Durbin Watson	1.42	1.45	1.46	1.46	1.46	1.45	1.45
Year/Sector Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effect	No	No	No	No	No	No	No
No. Obs.	162,188						

Note: CC = Conditional Conservatism; DebtMat5 = Debt maturing within 5 years as a percentage of Total Debt; PD = NC of Power Distance; IND = NC of Individualism; MASC = NC of Masculinity; UAV = NC of Uncertainty Avoidance; INDULG = NC of Indulgence versus Restraint; IFRS = Adoption of IFRS; ComCod = Country's Legal System; Pandem = COVID-19 Pandemic Period; Openness = Level of Market Openness; GDP = Ln of the country's GDP; Exchange = Exchange rate of the country's currency.

***Significant at the 1% level; **5%; *10%.

Source: Prepared by the authors.

indicate that all models were significant at the 1% level ($p = 0.000$), suggesting that the linearity assumption for the proposed model is valid. The R^2 of the estimated regression models remained between 22.22% and 25.17%. The VIF results indicate that the estimated models are free of multicollinearity issues (Fávero et al., 2009). Durbin-Watson tests indicate there is no first-order autocorrelation between the residuals. For the moderation analysis, the cultural variables were standardized by the mean.

The first model in Tables 5, 6, and 7 examined the direct relationship between debt maturity (MAT) and conditional conservatism (CC). The results revealed negative relationships for maturities of three years (-0.0217), four years (-0.0262), and five years (-0.0317). These findings corroborate those of Khurana and Wang (2015), who also found negative relationships for these three periods. The demand for conservatism may differ for each debt maturity period (i.e., short-term or long-term), which is consistent with the inherent monitoring effect associated with short-term debt (Myers, 1977). This result supports the idea that news conditioning benefits creditors (Ball et al., 2008) because it is considered a quality of accounting information; companies are more cautious about their economic results when this is the case.

The differences found can be explained by the amount of long-term debt. According to Fan et al. (2012), the United States has companies with the highest proportions of long-term debt, while China has companies with the lowest proportions. Additionally, culture can influence financial systems. According to Rajan and Zingales (1995), short-term loans give banks more power to discipline borrowers. In contrast, long-term loans with covenants only allow banks to take severe action if a covenant is violated.

According to hypothesis H1, the dimension of culture linked to power distance (PD) was predicted to attenuate the negative relationship between MAT and CC. The results confirmed this relationship, showing that the greater the extent to which members with less power within organizations accept, and even expect, power to be distributed unequally, the greater the demand for conservatism. This reduces the negative relationship between three-, four-, and five-year MAT and CC.

Hypothesis H2 predicted that the moderation of individualism (IND) would strengthen the negative relationship between MAT and CC. However, the results showed that the more individualistic a country is – which is linked to overconfidence (Chau, 2008) – the lower the conservatism, which softens the negative relationship between MAT and CC. Since higher levels of short-term debt are generated by closer monitoring policies

on the part of creditors (Platikanova, 2017; Khurana & Wang, 2015), the mitigating effect of this relationship in more individualistic societies may be associated with creditors' greater self-confidence in their choices (Fauver & McDonald, 2015). This higher level of confidence in individual-oriented societies, in turn, is reflected by less conservatism among companies in these societies with respect to MAT of three, four, and five years.

For hypothesis H3, the theoretical prediction was that uncertainty avoidance (UAV) would mitigate the negative relationship between MAT and CC. A NC of UAV indicates the extent to which a society feels threatened by uncertain situations (Hofstede, 1980, 2011). In this case, the models show that when considering the moderation between UAV and MAT, MAT is no longer a significant independent variable compared to model 1. In this case, there is an increase in the estimated standard error for the MAT coefficient and a reduction in its magnitude due to the greater explanatory potential of the UAV and moderated UAV*MAT variables. Thus, when considering national culture in terms of UAV, the effect of financing on conservatism becomes irrelevant. Conversely, higher levels of UAV lead to lower levels of conservatism (significant at 1%), though short-term debt increases tend to cause companies to become more conservative. In this short-term debt scenario, Gray's (1988) hypothesis begins to make sense.

The results related to the models considering masculinity (MASC) show that both the level of short-term debt and the degree of MASC negatively affect the level of CC, as observed by Salter and Niswander (1995) and Salter and Lewis (2011). Hypothesis H4 predicted that MASC would strengthen the negative relationship between MAT and CC. However, according to the findings of the models, the level of MASC mitigates the effect of MAT on CC. According to Hofstede (1980), cultural environments that are more connected to things and money may make management less concerned with the quality of reporting or the company's financial risk. This concept may explain the mitigating effect observed.

According to H5, a long-term orientation (LTO) would be expected to soften the negative relationship between MAT and CC. The results support this premise, showing that countries with a stronger LTO tend to have a greater demand for CC, which mitigates the negative relationship between MAT of three, four, and five years and CC. This occurs because societies that reflect on their past while dealing with present and future challenges (Hofstede et al., 2008) generated by insecurity tend to be more conservative, which mitigates the relationship.

In H6, the theoretical prediction was that indulgence (INDUL) would strengthen the negative relationship between MAT and CC. However, it was not possible to prove this premise with the results of the tested model. Thus, the more indulgent a country is, the lower its demand for CC in relation to debts of up to five years will be. More indulgent societies are more likely to enjoy life and are less conservative (Hofstede et al., 2008). According to Gray (1988), conservatism is characterized by prudence and caution. More conservative accountants opt for cautious accounting to deal with uncertainty about future events (Wronski & Klann, 2020). Therefore, in indulgent environments, the stance may be less defensive when faced with the pressure of debt of up to five years, resulting in a smoothing of the expected relationship (Table 8).

Initially, it can be seen that if creditors come from cultures that demand greater conservatism and express this demand through debt monitoring, then the demand will be greater for closely monitored debts, i.e., long-term debts (over six years) (Khurana & Wang, 2015). Conversely, short-term debts (up to five years) are less monitored and therefore less subject to creditors' demands for CC, regardless of their cultural conservatism. Thus, the difference in the demand for conservative profits between short- and long-term creditors would increase as the cultural preference for conservatism among creditors increases because this preference is transmitted more strongly in long-term debt than in short-term debt.

The results showed that a NC of PD, UAV, and LTO mitigated the relationship between MAT and CC, corroborating hypotheses H1, H3, and H5. The moderation of the negative relationship by PD is related to the reduced level of trust caused by high social inequality (Zheng et al., 2012), which generates more CC. Regarding the moderation with the inclusion of an UAV culture, studies by Aggarwal and Goodell (2009) and Kwok and

Tadesse (2006) showed that countries with a high level of uncertainty avoidance prefer predictable returns on investment, consultative management, and relationship-based transactions. This mitigates the expected negative relationship. Finally, societies focused on cultural values and concerned with a LTO have a forward-looking view (Hofstede et al., 2008). Therefore, they are more conservative in their reports (Wronski & Klann, 2020) and mitigate the negative relationship between MAT and CC.

Conversely, hypotheses H2, H4, and H6 predicted that IND, MASC, and INDULG levels would amplify the negative effects of MAT on CC. However, the results indicated the opposite. This discrepancy can be attributed to the specific characteristics of these cultural dimensions in relation to MAT. A study by Zheng et al. (2012) analyzed debt maturity and national culture in 40 countries and found that companies in countries with high masculinity and collectivism/individualism tend to use more short-term debt. This behavior leads to greater exposure to refinancing risks and consequently a need for more conservative accounting practices, which may explain the weaker relationship between MAT and CC. Societies with more indulgent cultures adopt less conservative accounting practices (Wronski & Klann, 2020); however, in the face of MAT, this resulted in less impact on CC. This suggests that in more indulgent cultural contexts, companies may intensify conservative practices to the detriment of exposure to higher short-term debt (up to five years).

It is worth noting the number of companies in the sample per country, considering that some countries, such as the U.S., China, India, and Japan, have a larger amount of data, which may generate a bias in the results influenced by these countries with a larger number of observations. Studies provide evidence that factors such as creditor protection and the characteristics of a nation's

Table 8
Summary of Hypothesis Results

Hyp.	Moderation NC x DebtMat3		Moderation NC x DebtMat4		Moderation NC x DebtMat5	
	Expected Result	Result Found	Expected Result	Result Found	Expected Result	Result Found
H1-PD	Mitigates	Mitigates*	Mitigates	Mitigates*	Mitigates	Mitigates*
H2-IND	Enhances	Mitigates*	Enhances	Mitigates*	Enhances	Mitigates*
H3-UAV	Mitigates	Mitigates*	Mitigates	Mitigates*	Mitigates	Mitigates*
H4-MASC	Enhances	Mitigates*	Enhances	Mitigates*	Enhances	Mitigates*
H5-LTO	Mitigates	Mitigates*	Mitigates	Mitigates*	Mitigates	Mitigates*
H6-INDULG	Enhances	Mitigates*	Enhances	Mitigates*	Enhances	Mitigates*

Note: * significance of results.

Source: Prepared by the authors.

financial system (market-based versus banking) influence company financing (Demirguc-Kunt & Maksimovic, 1999; Fan et al., 2012). These factors may explain the results.

Additional tests were performed using the cultural levels of the GLOBE Project (House et al., 2004).

5 CONCLUDING REMARKS

This study aimed to evaluate how national culture moderates the relationship between debt maturity and conditional conservatism. To this end, research was conducted with a sample of 11,350 companies and 162,188 observations from 16 countries. The results showed that long-term debt leads to conservative accounting practices, whereas shorter-term debt (up to five years) causes companies to present more aggressive accounting reports.

The national culture of each country was found to affect the relationship between debt maturity and the conditional conservatism of companies, as argued by Gray's (1998) cultural influence approach. Based on the findings of this study and corroborating literature, we can conclude that the cultural dimensions of PD, UAV, and LTO mitigate the negative relationship between debt maturity and conditional conservatism, while the cultural dimensions of IND, MASC, and INDUL, although significant, attenuate this relationship.

Most of the results for the cultures of power distance, group collectivism, gender egalitarianism, uncertainty avoidance, future orientation, and human orientation were corroborated in this case.

These results align with Penalva and Wagenhofer's (2019) attempts to contribute to the literature on the economic effects of the degree of conservatism in debt contracting scenarios driven by markets oriented toward third-party capital. This research also contributes to improving discussions involving cultural dimensions (Hofstede, 2001, 2022). Additionally, the study responds to the demand for research on the relationship between financial report attributes and corporate financing decisions (Armstrong et al., 2010; Kang et al., 2017).

Some opportunities for future research are suggested, such as investigating additional models of conditional conservatism and grouping countries with specific characteristics by region. Another suggestion is to broaden discussions about countries' cultures using the other levels of NC from the GLOBE Project (House et al., 2004) alongside Hofstede's work (1980, 2001, 2022),.

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DATA AVAILABILITY STATEMENT

Datasets related to this article will be available upon request to the corresponding author.

APPENDIX

The GLOBE Project (House et al., 2004) presents the following measures of national culture: power distance, uncertainty avoidance, gender egalitarianism, institutional collectivism, group collectivism, development orientation, future orientation, human orientation, and assertiveness. Cultural levels are determined by scores ranging from

1 to 7. The higher the score, the stronger the cultural characteristic present in the country. In this study, additional tests using the cultural levels described by House et al. (2004) corroborated the results for power distance, institutional and group collectivism, gender egalitarianism, future orientation, and human orientation.

APPENDIX 1

Results of NC Moderation in the Relationship between DebtMat3 and CC – National Culture Globe Project

Dependent Variables CC	Analysis in relation to DebtMat3 _{it}						
	Model 1 – Without NC	Model 2 – PD NC	Model 3 – GrColl NC	Model 4 – Egal NC	Model 5 – UAV NC	Model 6 – FutOr NC	Model 7 – HumOr NC
	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)
Constant	3.0318*** (33.17)	3.2780 (36.24)	2.8052*** (24.75)	3.9270*** (31.88)	2.7828*** (31.40)	2.7105*** (28.91)	2.3679*** (26.70)
DebtMat3 _{it}	-0.0194*** (-3.41)	-0.0200*** (-3.52)	-0.1925*** (-3.38)	-0.0135** (-2.38)	-0.0222 (-3.93)	-0.2180** (-3.81)	-0.0221 (-3.88)
NC _{it}	-	0.2705*** (19.53)	0.0080 (1.14)	-0.1406*** (-17.00)	0.2279 (47.05)	0.0388 (4.40)	0.1503 (28.67)
NC _{it} * DebtMat3 _{it}	-	0.0529 (12.95)	0.2849 (13.28)	0.0302*** (11.57)	0.0304 (12.43)	0.02926 (13.21)	0.4357 (19.58)
IFRS _{it}	-0.4014*** (-45.61)	-0.4343*** (-48.41)	-0.4117*** (-45.86)	-0.3625*** (-39.40)	-0.2885 (-32.29)	-0.4029 (-45.67)	-0.4278 (-48.06)
ComCod _{it}	0.6216 (83.31)	0.5951 (80.17)	0.6244*** (81.62)	0.5268 (61.26)	0.5087 (72.99)	0.6388 (73.79)	0.6450 (86.04)
Pandem _{it}	0.2526*** (18.85)	0.2618*** (19.46)	0.2487 (18.43)	0.2265 (16.86)	0.2140 (16.00)	0.2538 (18.60)	0.2608*** (19.20)
Openness _{it}	-0.2316*** (-15.71)	-0.1926*** (-12.70)	-0.2071*** (-13.77)	-0.1742 (-11.48)	0.0028 (2.00)	-0.2285*** (-14.67)	-0.2231 (-14.42)
GDP _{it}	-0.1087*** (-40.02)	-0.1448*** (-48.99)	-0.1065*** (-37.67)	-0.1199 (-38.56)	-0.1400 (-47.29)	-0.1087 (-40.33)	-0.1193 (-44.00)
Exchange _{it}	0.0058 (48.48)	0.0078 (52.46)	0.0057 (46.61)	0.0066 (42.71)	0.0088 (56.67)	0.0054 (39.39)	0.0062 (51.47)
Model Significance	0.000	0.000	0.000	0.00	0.00	0	0.000
R ²	21.54	21.97	21.68	21.92	23.00	21.70	22.12
Max. VIF	7.81	7.87	7.81	7.82	7.81	7.84	7.84
Durbin Watson	1.43	1.42	1.43	1.43	1.45	1.43	1.43
Year/Sector Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effect	No	No	No	No	No	No	No
No. Obs.	158,995						

Note: CC = Conditional Conservatism; DebtMat3 = Debt maturing within 3 years as a percentage of Total Debt; PD = NC of Power Distance; GrColl = NC of Collectivism within the group; Egal = NC of Gender Egalitarianism; UAV = NC of Uncertainty Avoidance; FutOr = NC of Future Orientation; HumOr = NC of Human Orientation; IFRS = Adoption of IFRS; ComCod = Country's Legal System; Pandem = COVID-19 Pandemic Period; Openness = Level of Market Openness; GDP = Ln of the country's GDP; Exchange = Exchange rate of the country's currency.

***Significant at the 1% level; **5%; *10%.

Source: Prepared by the authors.

APPENDIX 2

Results of NC Moderation in the Relationship between DebtMat4 and CC – National Culture Globe Project

Dependent Variables CC	Analysis in relation to DebtMat4 _{it}						
	Model 1 – Without NC	Model 2 – PD NC	Model 3 – GrColl NC	Model 4 – Egal NC	Model 5 – UAV NC	Model 6 – FutOr NC	Model 7 – HumOr NC
	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)
Constant	3.03 (33.15)	3.2898 (36.35)	2.8228*** (24.86)	3.9522*** (32.02)	2.7864*** (31.43)	2.7265*** (29.01)	2.3846*** (26.86)
DebtMat4 _{it}	-0.0250*** (-4.39)	-0.0251*** (-4.43)	-0.0249*** (-4.37)	-0.0175 (-3.08)	-0.0244 (-4.33)	-0.0274 (-4.81)	-0.0280 (-4.94)
NC _{it}	–	0.2786*** (20.13)	0.0101 (1.42)	-0.1399*** (16.74)	0.2311*** (-48.18)	0.0407 (4.59)	0.1508 (28.63)
NC _{it} * DebtMat4 _{it}	–	0.0456*** (11.10)	0.0245*** (11.34)	0.0266*** (10.13)	0.0281 (11.49)	0.0248 (11.17)	0.0398 (17.74)
IFRS _{it}	-0.4016*** (-45.67)	-0.4368*** (-48.70)	-0.4138*** (-46.09)	-0.3640*** (-39.56)	-0.2898*** (-32.44)	-0.4052*** (-45.93)	-0.4318*** (-48.50)
ComCod _{it}	0.6226 (83.41)	0.5983 (80.52)	0.6275*** (81.84)	0.5281 (61.27)	0.5098 (73.10)	0.6416 (74.04)	0.6477 (86.26)
Pandem _{it}	0.2534*** (18.91)	0.2639 (19.62)	0.2507 (18.58)	0.2277 (16.95)	0.2150 (16.08)	0.2558 (18.76)	0.2631 (19.38)
Openness _{it}	-0.2311*** (-15.67)	-0.1968*** (-12.99)	-0.2115*** (-14.09)	-0.1769 (-11.67)	0.0277 (1.93)	-0.2321 (-14.92)	-0.229 (-14.85)
GDP _{it}	-0.1086*** (-39.98)	-0.1453*** (-49.15)	-0.1068*** (-37.76)	-0.1204 (-38.67)	-0.1404 (-47.37)	-0.1089 (-40.39)	-0.1193 (-43.98)
Exchange _{it}	0.0058*** (48.51)	0.0078 (52.43)	0.0057 (46.54)	0.0066 (42.74)	0.088 (56.65)	0.0054 (39.35)	0.0062 (51.25)
Model Significance	0.000	0.000	0.000	0.00	0.00	0	0.000
R ²	21.54	21.94	21.64	21.89	22.98	21.66	22.07
Max. VIF	7.87	7.81	7.82	7.82	7.81	7.84	7.84
Durbin Watson	1.42	1.43	1.43	1.43	1.45	1.43	1.43
Year/Sector Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effect	No	No	No	No	No	No	No
No. Obs.	158,995						

Note: CC = Conditional Conservatism; DebtMat3 = Debt maturing within 3 years as a percentage of Total Debt; PD = NC of Power Distance; GrColl = NC of Collectivism within the group; Egal = NC of Gender Egalitarianism; UAV = NC of Uncertainty Avoidance; FutOr = NC of Future Orientation; HumOr = NC of Human Orientation; IFRS = Adoption of IFRS; ComCod = Country's Legal System; Pandem = COVID-19 Pandemic Period; Openness = Level of Market Openness; GDP = Ln of the country's GDP; Exchange = Exchange rate of the country's currency.

***Significant at the 1% level; **5%; *10%.

Source: Prepared by the authors.

APPENDIX 3

Results of NC Moderation in the Relationship between DebtMat5 and CC – National Culture Globe Project

Dependent Variables CC	Analysis in relation to DebtMat5 _{it}						
	Model 1 – Without NC	Model 2 – PD NC	Model 3 – GrColl NC	Model 4 – Egal NC	Model 5 – UAV NC	Model 6 – FutOr NC	Model 7 – HumOr NC
	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)	Coeff. (Est. t)
Constant	3.0318*** (33.10)	3.2944 (36.38)	2.8351*** (24.94)	3.9725*** (32.14)	2.7857*** (31.41)	2.7375*** (29.08)	2.3846*** (26.86)
DebtMat5 _{it}	-0.0313*** (-5.60)	-0.0320*** (-5.73)	-0.0313** (-5.60)	-0.0226 (-4.04)	-0.0300 (-5.41)	-0.0337 (-6.02)	-0.0280** (-4.94)
NC _{it}	–	0.2870*** (20.63)	0.0126 (1.77)	-0.1386*** (-16.40)	0.2356 (-49.01)	0.0433 (4.86)	0.1508 (28.63)
NC _{it} * DebtMat5 _{it}	–	0.0358 (8.45)	0.0198 (8.86)	0.0227*** (8.31)	0.0229 (9.16)	0.0197 (8.59)	0.0398 (17.74)
IFRS _{it}	-0.4022*** (-45.73)	-0.4375*** (-48.76)	-0.4142*** (-46.12)	-0.3640 (-39.57)	-0.2901 (-32.47)	-0.4057*** (-45.99)	-0.4318 (-48.50)
ComCod _{it}	0.6237 (83.60)	0.6017 (80.87)	0.6301*** (81.98)	0.5292 (61.24)	0.5123 (73.36)	0.6440 (-74.20)	0.6477 (86.26)
Pandem _{it}	0.2546*** (19.00)	0.2664 (19.82)	0.2528*** (18.74)	0.2291 (17.05)	0.2172 (16.24)	0.2581 (18.93)	0.2631 (19.38)
Openness _{it}	-0.2289*** (-15.50)	-0.2056*** (-13.60)	-0.2208*** (-14.74)	-0.1853 (-12.26)	0.0201 (1.40)	-0.2404 (-15.49)	-0.2293*** (-14.85)
GDP _{it}	-0.1084*** (-39.92)	-0.1455*** (-49.19)	-0.1069*** (-37.79)	-0.1208 (-38.75)	-0.1404 (-47.34)	-0.1089 (-40.40)	-0.1193 (-43.98)
Exchange _{it}	0.0058 (48.57)	0.0078 (52.42)	0.0057 (46.55)	0.0066 (42.83)	0.0088 (56.62)	0.0054 (39.40)	0.0062 (51.25)
Model Significance	0.000	0.000	0.000	0.00	0.00	0	0.000
R ²	21.54	21.91	21.61	21.87	22.96	21.63	22.07
Max. VIF	7.87	7.82	7.82	7.83	7.81	7.85	7.84
Durbin Watson	1.42	1.43	1.42	1.43	1.45	1.42	1.43
Year/Sector Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effect	No	No	No	No	No	No	No
No. Obs.	158,995						

Note: CC = Conditional Conservatism; DebtMat3 = Debt maturing within 3 years as a percentage of Total Debt; PD = NC of Power Distance; GrColl = NC of Collectivism within the group; Egal = NC of Gender Egalitarianism; UAV = NC of Uncertainty Avoidance; FutOr = NC of Future Orientation; HumOr = NC of Human Orientation; IFRS = Adoption of IFRS; ComCod = Country's Legal System; Pandem = COVID-19 Pandemic Period; Openness = Level of Market Openness; GDP = Ln of the country's GDP; Exchange = Exchange rate of the country's currency.

***Significant at the 1% level; **5%; *10%.

Source: Prepared by the authors.