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Financial regulation on earnings quality: a comparative analysis in Brazilian and European football

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ABSTRACT

This research aims to analyze the impact of financial regulations on the earnings quality of Brazilian and European football clubs. This study addresses the gap in existing literature covering the impact of regulations on European football by analyzing the impact of Programa de Modernização da Gestão e de Responsabilidade Fiscal do Futebol Brasileiro on Brazilian clubs' earnings quality and comparing it with the European context. This research is relevant due to the unique financial and regulatory landscape of Brazilian nonprofit football clubs, providing a distinct context for analyzing the impact of financial regulation. Our findings may be of interest to policymakers who could consider implementing similar programs in other countries. The sample comprises 67 football clubs (21 English, 21 Italian, and 25 Brazilian), totaling 976 firm-year observations. The analysis spans from 2010 to 2022 for the Brazilian context and from 2006 to 2022 for the European context. We analyze accruals earnings management and conditional conservatism models to examine the influence of those regulations across Brazilian and European football clubs, comparing the results prior to and after their implementation. Results indicated that regulatory changes have reduced discretionary earnings practices across these countries, indicating their effectiveness in fostering accurate financial reporting and transparency. However, the conditional conservatism analysis further reveals a decrease in conditional conservatism post-regulation in Brazil, with clubs recognizing losses less promptly, while no significant effect was observed in English and Italian clubs. This highlights the complex and divergent impacts of regulations on financial reporting behaviors in the global football industry.

Keywords: financial regulation, earnings quality, football clubs.

1. INTRODUCTION

Football, the most popular sport globally, holds significant cultural and economic importance. In 2021, European football generated €29.5 billion in revenue, while the Brazilian market was comparatively smaller, with 500 million euros in 2022 (Deloitte, 2023; O Globo, 2023). Despite this success, many football clubs, particularly in Europe and Brazil, face persistent financial challenges such as overinvestment, poor governance, and insolvency (Alaminos & Fernández, 2019; Minatto & Borba, 2021; Scelles et al., 2018; Szymanski, 2017; Szymanski & Weimar, 2019). To address these financial challenges, regulatory frameworks such as the Union of European Football Associations (UEFA)'s Financial Fair Play (FFP) and Brazil's Programa de Modernização da Gestão e de Responsabilidade Fiscal do Futebol Brasileiro (PROFUT) have been introduced to enforce financial discipline and enhance transparency.

The FFP was implemented in Europe to bring rationality to European football club finances (Peeters & Szymanski, 2014). The regulation requires clubs to address issues such as minimizing losses and reducing debt (Dimitropoulos et al., 2016; Dimitropoulos & Koronios, 2018). In Brazil, the implementation of PROFUT, through Lei nº 13.155/2015, aimed to establish principles and practices of fiscal and financial responsibility and transparent management for professional football entities. Some of those aspects related to accounting information are inspired by the FFP regulation, such as the spending limit on players' salaries. Most of the major clubs adhered to such regulation, as it made it possible to renegotiate tax debts, extend deadlines, and reduce fines and interest. It is important to add that the objective of those two programs is

different, since one is a refinancing program and the other is a compliance and regulatory law.

However, the implementation of these regulations creates complex incentives that directly impact the earnings quality of football clubs. In theory, regulations like FFP and PROFUT demand rigorous principles of fiscal responsibility, independent auditing, and transparent management, which should inhibit accounting manipulation. Yet, in practice, the strict financial targets imposed – such as limits on players' salaries and the necessity to reduce deficits – can generate strong pressures.

Brazilian football clubs, in the majority, are structured as nonprofit organizations (Dantas et al., 2015). Therefore, most clubs' owners are their associates. Recently, Lei 14.193/2021 incentivized clubs to transform into the so-called Sociedade Anônima do Futebol (SAF), where the capital would be sold to investors and the ownership structure would change (Gomes et al., 2022). This structure is not typical for European football clubs, since most can be classified into one of three groups: privately owned football firms, public football corporations, and members' associations with their legal personality (Franck, 2013).

While the existing literature has extensively examined earnings quality in European football entities (e.g., Dimitropoulos et al. [2016], Dimitropoulos and Koronios [2018], and Guevara et al. [2021]), limited attention has been given to emerging markets like Brazil. Nonprofit football clubs in Brazil operate under distinct financial and regulatory conditions, providing a unique context to analyze the impact of financial regulations. This study addresses the gap by examining how PROFUT, a unique regulatory framework in Brazil, influences earnings quality. Using accrual-based earnings management and conditional conservatism models, it provides empirical evidence from an emerging market and compares these findings with Europe's mature football industry. Additionally, we contribute to the literature by comparing the effectiveness and impact of these regulations with those in major European football markets. Furthermore, research is scarce on earnings quality within nonprofit organizations and the role of financial regulations in this sector (Lassoued, 2022; Wen et al., 2019).

Using accrual-based earnings management and conditional conservatism models (Ball & Shivakumar, 2006; Dechow et al., 1995), this research addresses a gap in the literature by providing novel evidence from an emerging market characterized by nonprofit clubs. It also examines how financial regulations shape reporting practices, comparing their effectiveness in Brazilian and European contexts. The findings have significant implications for policymakers and football clubs. Policymakers can assess the benefits of similar regulatory programs in other regions, while football clubs can use these insights to improve compliance and financial management. By examining the distinct challenges faced by nonprofit clubs in Brazil and profit-oriented clubs in Europe, this study advances understanding of how financial governance impacts football as both a cultural and economic phenomenon.

2. LITERATURE REVIEW

2.1. Regulations and Earnings Management

Earnings management occurs when managers use judgment in financial reporting and structuring transactions to deceive stakeholders about a company's underlying economic performance or influence contractual outcomes based on accounting numbers. However, judgment in financial reporting is essential to make reports more informative, as it is present in many economic events recorded from estimates (Healy & Wahlen,

1999). The use of models that capture distortions that may indicate lower earnings quality is highlighted in the literature (Dechow et al., 2010).

Regulations are used in the literature as an external factor influencing earnings management practices. Implementing these regulations may create incentives that affect managers' accounting choices (Dechow et al., 2010). While some studies suggest that regulations can reduce earnings management practices (Dimitropoulos et al., 2013; Hughes et al., 2012), others indicate that the incentives in these regulations can stimulate managers' opportunistic behavior and increase earnings management (Dimitropoulos et al., 2016).

Dimitropoulos (2011), a pioneer in applying the earnings management model in football clubs, analyzes the impact of corporate governance practices on earnings management. The results indicated that these mitigated the manipulation of earnings, and clubs with greater independence from the board and fewer board members showed higher quality profits.

In European football, some studies analyze the impact of FFP on earnings quality (Dimitropoulos et al., 2016; Dimitropoulos & Koronios, 2018) as well as economic and sports performance (Ahtiainen & Jarva, 2020; Freestone & Manoli, 2017; Morrow, 2013). From the implementation of such regulations, considered an exogenous factor, it was expected that the clubs' economic structure would change since issues such as insolvency and mismanagement of resources were latent.

Likewise, the results of Dimitropoulos et al. (2016), through the analysis of the impact of FFP on earnings management in European football clubs, suggest that regulation reduced earnings quality. The authors state that, despite the quality of information, managers seek to present an image to stakeholders that clubs are financially robust. Therefore, based on the incentives present in the FFP, regulation reduced the quality of the information in that context.

Studies on earnings management reveal a complex interplay between managerial discretion in financial reporting and external regulatory pressures. Researchers like Healy and Wahlen (1999) acknowledge the necessity of managerial judgment in reporting, despite its potential for misleading stakeholders about a company's real economic state. On the other hand, studies on the football sector highlight the mixed effects of regulations like the FFP in European football on earnings management practices. While some findings suggest that regulations can mitigate earnings manipulation by enforcing stricter accounting standards (Dimitropoulos et al., 2013; Hughes et al., 2012), others indicate that they might incentivize opportunistic behaviors among managers, thereby worsening earnings quality (Dimitropoulos et al., 2016).

The FFP was implemented in Europe to bring discipline and rationality to European football club finances (Peeters & Szymanski, 2014). The regulation requires clubs to address issues such as minimizing losses and reducing debt (Dimitropoulos et al., 2016; Dimitropoulos & Koronios, 2018). Similarly, in Brazil, the implementation of PROFUT aimed to establish principles and practices of fiscal and financial responsibility and transparent management for professional football entities. Some of those aspects related to accounting information are directly inspired by the FFP regulation, such as the spending limit on players' salaries.

Regulations are used in the literature as an external factor influencing earnings management practices. Implementing these regulations may create incentives that affect managers' accounting choices (Dechow et al., 2010). While some studies suggest that regulations can reduce earnings management practices (Dimitropoulos et al., 2013; Hughes et al., 2012), others emphatically indicate that the severe incentives in these regulations can stimulate managers' opportunistic behavior and increase earnings

management (Dimitropoulos et al., 2016). Based on the preceding discussions, the following research hypotheses are proposed:

- H₁: implementing financial regulations is associated with increased earnings management in football clubs.
- H_{1a}: implementing PROFUT is associated with increased earnings management in Brazilian football clubs.
- H_{1b}: implementing FFP is associated with increased earnings management in English and Italian football clubs.

2.2. Regulations and Accounting Conservatism

Basu (1997) states that conservatism is defined as managers' tendency to require more verification to recognize good news than bad news in financial statements. In this way, accountants use the conservatism rule that one should not anticipate profits, but all losses, being cautious concerning the company's future expectations (Santiago et al., 2015).

Stakeholders may prefer more conservative information to protect their risks, which reduces the risk of presenting overvalued numbers (Guo et al., 2020). More specifically, regulators favor more conservative information to avoid criticism when organizations file for bankruptcy (Dimitropoulos et al., 2016; Watts, 2003).

The chronic issue of insolvency among European football clubs has been identified by Szymanski (2017) as requiring a solution. Likewise, Minatto and Borba (2021) have noted that most Brazilian football clubs face significant liquidity challenges and are highly leveraged. Biddle et al. (2020) conducted research using a sample of U.S. listed firms and found that unconditional and conditional accounting conservatism could effectively reduce the risk of bankruptcy. Given the prevalence of financial distress within the football industry, it may be an appropriate context to investigate conditional conservatism.

The application of conditional conservatism models in football clubs is restricted to the study by Dimitropoulos et al. (2016). The authors analyzed the effect of FFP implementation in European football clubs and its respective association with conditional conservatism (Ball & Shivakumar, 2005). The results indicated that the regulation made clubs less conservative, postponing the recognition of expenses and reducing earnings quality. In environments with pressure for positive economic results, such as European and Brazilian football clubs, managers may be encouraged to present boosted current profits by delaying the recognition of expenses (Dimitropoulos et al., 2016).

In conclusion, the concept of accounting conservatism plays a crucial role in shaping financial reporting practices and safeguarding stakeholder interests. The mandatory adoption of International Financial Reporting Standards (IFRS) and regulatory frameworks like FFP has been fundamental in altering the circumstances of accounting conservatism, especially within the European football industry. The divergent impacts highlighted by various studies underscore the delicate balance between maintaining regulatory compliance and ensuring financial transparency. As firms and football clubs navigate these regulatory waters, the shift in accounting conservatism underscores the broader implications for financial stability and the integrity of financial reporting. The tension between regulatory objectives and managerial practices presents a unique avenue for exploring how changes in accounting standards and enforcement mechanisms influence financial decision-making and risk management strategies across different sectors.

Given the above, the following research hypotheses are elaborated:

H₂: adopting regulations is associated with reducing conditional conservatism in football clubs.

H_{2a}: adopting PROFUT is associated with reducing conditional conservatism in football clubs.

H_{2b}: the adoption of FFP is associated with reducing conditional conservatism in football clubs.

3. METHODS

3.1 Sample and Period

The population comprises Brazilian and Italian and English football clubs. Those leagues were selected given that they publish financial statements and are considered among the group of major leagues in the European context. Two criteria address the research objective, considering the varying implementation and adherence periods for different regulations in each group (Brazil and Europe). First, we analyze the impact of adhering to PROFUT on Brazilian clubs. This regulation was implemented in 2015, and the study period covers 2010 to 2022. The clubs that did not adhere to PROFUT in 2015 are Palmeiras and Chapecoense. This enables us to analyze the impact of the regulation on the reporting quality and the degree of accounting conservatism of the clubs.

Besides, we only analyze a club if it has published all the accounting information necessary for the analysis during the period. We do not include the period before 2010 for Brazilian clubs, as most clubs did not publish their financial statements for those years.

Second, we analyze the impact of the FFP regulation on European football clubs. As a result, UEFA put measures in place to limit financial deficits called FFP regulations. This regulation was implemented in the 2011/2012 season, with sanctions for noncompliance effective from the end of 2013/2014 (Francois et al., 2022; Gallagher & Quinn, 2020; Garcia-del-Barrio & Agnese, 2023), and the study period covers the years from 2006 to 2022.

We impose a limit of at least 40% participation in the first division of the main championship of each country. Given the differences from the first to second and lower divisions in terms of regulation, economic and sporting performance, we justify this threshold. For European football clubs, this implies at least seven appearances in the first division; for Brazilian football clubs, this represents at least five participations. We only analyze a club if it has published all the necessary accounting information for the analysis during the period.

In Table 1, we describe the clubs that compose the sample and the number of observations. There are 21 English clubs, 21 Italian clubs, and 25 Brazilian clubs. Due to clubs that do not have available financial information on the website, from the maximum of 1014 observations (357 observations for each European country and 325 for the Brazilian football clubs), we have 976 observations with available information to employ in the analyses. We acknowledge the presence of differing national accounting standards (e.g., IFRS in Europe and converging standards in Brazil) but emphasize that our analysis of earnings quality and conservatism, which relies on accruals-based models, is sufficiently comparable as it focuses on discretionary managerial choices within a broadly converging global reporting environment

Table 1*Sample*

Club	Country	n	Club	Country	n
Arsenal	England	17	Napoli	Italy	16
Aston Villa	England	17	Palermo	Italy	12
Burnley	England	17	Parma	Italy	16
Chelsea	England	17	Roma	Italy	17
Crystal Palace	England	12	Sampdoria	Italy	16
Everton	England	17	Sassuolo	Italy	11
Fulham	England	17	Torino	Italy	17
Leicester City	England	17	Udinese	Italy	15
Liverpool	England	17	América Mineiro	Brazil	13
Manchester City	England	17	Athletico Paranaense	Brazil	13
Manchester Utd	England	17	Atlético Goianiense	Brazil	11
Newcastle Utd	England	17	Atlético Mineiro	Brazil	13
Southampton	England	17	Avaí	Brazil	13
Stoke City	England	17	Bahia	Brazil	12
Sunderland	England	17	Botafogo	Brazil	13
Swansea City	England	15	Ceará	Brazil	9
Tottenham	England	17	Chapecoense	Brazil	11
Watford	England	17	Corinthians	Brazil	13
West Brom	England	17	Coritiba	Brazil	13
West Ham	England	17	Cruzeiro	Brazil	13
Wolves	England	17	Figueirense	Brazil	13
Atalanta	Italy	17	Flamengo	Brazil	13
Bologna	Italy	17	Fluminense	Brazil	13
Cagliari	Italy	15	Goiás	Brazil	13
Catania	Italy	9	Grêmio	Brazil	13
Chievo	Italy	14	Internacional	Brazil	13
Empoli	Italy	8	Palmeiras	Brazil	13
Fiorentina	Italy	17	Ponte Preta	Brazil	13
Genoa	Italy	16	Santos	Brazil	13
Hellas Verona	Italy	9	São Paulo	Brazil	13
Inter	Italy	17	Sport	Brazil	13
Juventus	Italy	17	Vasco	Brazil	13
Lazio	Italy	17	Vitória	Brazil	12
Milan	Italy	17			

Source: *Prepared by the authors.*

3.2 Earnings Quality

3.2.1 Accrual earnings management

This study employs the Dechow et al. (1995) model to estimate discretionary accruals (DA). The estimation is conducted for each year and country. A regression is estimated for each year and sector using the Jones (1991) model. Eq. 2 shows Jones' (1991) model, which was adapted by Dimitropoulos et al. (2016). The main change was the substitution of the fixed asset value with the intangible asset value, due to the patrimonial characteristic of football clubs. Since some European football clubs did not

publish the statement of cash flow, we calculate the total accruals using the balance sheet approach (Dechow et al., 1995), explained in Eq. 1.

$$ACC_{it} = \Delta(AR_{it} - Cash_{it}) + \Delta(AP_{it} - DEBT_{it}) - DA_{it} \quad (1)$$

where ACC_{it} is the total accrual value for club i in period t , AR_{it} is accounting receivables for club i in period t , $Cash_{it}$ is the cash and equivalents for club i in period t , AP_{it} is accounting payables for club i in period t , $Debt_{it}$ is debt for club i in period t , DA_{it} is depreciation and amortization expense for club i in period t , $\Delta Revenues$ is the change in revenue of club i in period t , Int_{it} is the value of intangible assets for club i in period t , and e_{it} = error term of the regression and the α 's are the estimated coefficients. Notably, this research uses the DA estimated through the Jones (1991) model.

$$\frac{ACC_{it}}{TA_{it-1}} = \alpha_1 \frac{1}{TA_{it-1}} + \alpha_2 \frac{\Delta Revenues_{it}}{TA_{t-1}} + \alpha_3 \frac{Int_t}{TA_{t-1}} + e_{it} \quad (2)$$

where ACC_{it} is the total accrual value for club i in period t , TA_{it-1} is the total asset value of club i in period $t-1$, $\Delta Revenues$ is the change in revenue of club i in period t , Int_{it} is the value of intangible assets for club i in period t , and e_{it} = error term of the regression and the α 's are the estimated coefficients. Notably, this research uses the DA estimated through the Jones (1991) model.

Based on the estimation of the model proposed by Jones (1991), the estimated coefficients are used to calculate DA using the model by Dechow et al. (1995), as shown in Eq. 3.

$$ACCD_{it} = \hat{\alpha}_1 \frac{1}{TA_{it-1}} + \hat{\alpha}_2 \frac{\Delta Revenues_{it} - \Delta AR_{it}}{TA_{t-1}} + \hat{\alpha}_3 \frac{Int_t}{TA_{t-1}} - \frac{ACC_{it}}{TA_{it-1}} \quad (3)$$

where $ACCD_{it}$ is the absolute value of the estimate of DA for club i in period t , TA_{it-1} is the total asset value of club i in period $t-1$, $\Delta Revenues$ is the change in revenue of club i in period t , ΔAR is the change in accounts receivable for club i in period t , Int_{it} is the value of intangible assets for club i in period t , ACC_{it} is the total accrual value for club i in period, and the α_i 's are the estimated coefficients of the regression of the Jones model (1991).

From the DA estimated using the model by Dechow et al. (1995), the econometric model is proposed, which is used to test the hypotheses. This model is based on the study by Dimitropoulos et al. (2016).

The study uses the pre- and post-regulation periods as the main variables of the model. For Brazilian clubs, the pre-period is from 2010 to 2014, and the post-period is from 2015 to 2022; for European clubs, the pre-period is from 2006 to 2011, and the post-period is from 2012 to 2022. Control variables are used for each European country, and the econometric models are presented in Eq. 4.

$$ACCD_{it} = a_0 + a_1 Period + a_2 Asset\ Turnover_{it} + a_3 Profitability_{it} + a_4 Leverage_{it} + a_5 Liquidity_{it} + a_6 Division_{it} + a_7 Sport\ Performance_{it} + a_8 COVID + e_{it} \quad (4)$$

where $ACCD_{it}$ is estimated DA for club i in period t , period are the indicator variables of period that assume the value 1 for post-regulation years and 0 for the pre-regulation

period, asset turnover is the revenue divided by total assets, profitability is the ratio of operational profit and total assets, liquidity is the current assets divided by current liabilities, leverage is the obligations divided by total assets, division is a categorical variable that assumes the value of the division that the club disputed, from 1 to 4, and e_{it} is the regression error term, and the α 's are the estimated coefficients of the regression.

The inclusion of control variables is theoretically grounded in previous earnings quality literature. Asset turnover and profitability are included to control for financial performance, as Dimitropoulos et al. (2016) note that poorer economic performance might incentivize managers to engage in earnings manipulation to mask financial distress. Leverage and liquidity act as proxies for bankruptcy risk and financial constraints; according to Biddle et al. (2020), highly leveraged or illiquid entities face greater pressure from creditors, increasing the likelihood of discretionary practices to avoid violating debt covenants. Division controls for the economic relevance and varying levels of scrutiny between the top-tier and lower-tier leagues. Finally, COVID is included to control for the exogenous macroeconomic shock that impacted sports revenues globally.

3.2.2 Conditional conservatism model

Ball and Shivakumar (2005) proposed the base model to estimate the conditional conservatism model, as presented in Eq. 5.

$$\Delta NI_{it} = \alpha_0 + \alpha_1 D\Delta NI_{it-1} + \alpha_2 \Delta NI_{it-1} + \alpha_3 D\Delta NI_{it-1} \times \Delta NI_{it-1} + \varepsilon_{it} \quad (5)$$

where ΔNI_{it} is the change in net income (loss) for club i in period t , $D\Delta NI_{it-1}$ is a dummy variable that takes the value 1 if the change in net income in the previous year is negative and 0 otherwise, ΔNI_{it-1} is the change in net income (loss) for club i in period $t-1$, ε_{it} is the regression error term and α 's are the estimated regression coefficients. It should be noted that the total asset value weights all variables at the beginning of the period.

To analyze the influence of regulation on the conditional conservatism of football clubs, the adapted model proposed in the study by Dimitropoulos et al. (2016) is used, as well as formulas 6 (European clubs model) and 7 (Brazilian clubs model).

$$\begin{aligned} \Delta NI_{it} = & \alpha_0 + \alpha_1 D\Delta NI_{it-1} + \alpha_2 \Delta NI_{it-1} + \alpha_3 D\Delta NI_{it-1} \times \Delta NI_{it-1} + \alpha_4 FFP_{it} + \\ & \alpha_5 FFP_{it} \times D\Delta NI_{it-1} + \alpha_6 FFP_{it} \times \Delta NI_{it-1} + \alpha_7 FFP_{it} \times \Delta NI_{it-1} \times D\Delta NI_{it-1} + \\ & DUMMY_COUNTRIES + \varepsilon_{it} \end{aligned} \quad (6)$$

$$\begin{aligned} \Delta NI_{it} = & \alpha_0 + \alpha_1 D\Delta NI_{it-1} + \alpha_2 \Delta NI_{it-1} + \alpha_3 D\Delta NI_{it-1} \times \Delta NI_{it-1} + \alpha_4 PROFUT_{it} + \\ & \alpha_5 PROFUT_{it} \times D\Delta NI_{it-1} + \alpha_6 PROFUT_{it} \times \Delta NI_{it-1} + \alpha_7 PROFUT_{it} \times \Delta NI_{it-1} \times \\ & D\Delta NI_{it-1} + \varepsilon_{it} \end{aligned} \quad (7)$$

where ΔNI_{it} is the change in net income (loss) for club i in period t , $D\Delta NI_{it-1}$ is a dummy variable that assumes the value 1 if the change in profit in the previous year is negative and 0 in the case otherwise, ΔNI_{it-1} is the change in net profit (loss) for club i in period $t-1$, FFP_{it} is the period indicator variable for European clubs that takes the value 1 for post-regulation years and 0 for the pre period, $PROFUT_{it}$ is the period indicator variable for Brazilian clubs that takes the value 1 for post-regulation years and 0 for the pre-period, and ε_{it} = regression error term, and the α 's are the estimated coefficients of the regression.

Notably, the total asset value weights all variables at the beginning of the period.

We estimate a panel regression with unbalanced data for both earnings quality models, conducting one regression for each continent. Considering the characteristics of the European national championships, the unbalanced data is obligatory for European football clubs because we use data for the participants of the first division. Since the championships are structured as a double round-robin system with promotion and relegation, four clubs each year are obliged to change obligatory on the sample. We also use an unbalanced sample for Brazilian football clubs, since previous research has pointed out that some clubs have not published all the financial statements in the period covered in this study (Minatto & Borba, 2021; Oliveira et al., 2022). Furthermore, the Brazilian championship's promotion and relegation system, where four clubs are relegated annually, inherently contributes to the unbalanced nature of the sample. Concerning the estimation strategy, we employ an ordinary least squares (OLS) model with pooling, fixed effects (FE), and robust standard errors for club and year.

Regarding the regression assumptions, we performed the Durbin-Watson and Breusch-Pagan tests to check residual autocorrelations and heteroskedasticity. We analyze the variance inflation factor statistic to assess multicollinearity.

4. RESULTS

4.1 Descriptive Statistics

Table 2 presents the descriptive statistics of the economic and sporting variables of English, Italian, and Brazilian football clubs. We divide the table into four panels, where Panel A presents English clubs, Panel B presents Italian clubs, Panel C presents Brazilian clubs, and Panel D presents the statistics of the total sample. To verify the statistical significance of the differences between the pre- and post-regulation periods presented in the descriptive statistics, we applied the Mann-Whitney *U* test for continuous non-parametric variables. This explains the highly significant p-values ($p < 0.001$) observed across the sample, even in cases where the absolute differences between the medians appear marginal, such as in the Italian context.

Table 2
Descriptive statistics

Panel A – England							
Variable	n	Pre-regulation		n	Post-regulation		p-value
		Median	SD		Median	SD	
Asset turnover	117	0.71	0.59	231	0.75	0.48	0.00***
Profitability	117	-0.13	0.43	231	-0.03	0.35	0.00***
Leverage	117	1.10	1.10	231	0.84	0.85	0.00***
Liquidity	117	0.37	1.10	231	0.54	0.87	0.00***
DA – Jones	117	0.01	0.34	231	0.01	0.29	0.00***
ADA – Jones	117	0.17	0.23	231	0.14	0.21	0.00***
DA – Dechow	117	-0.09	0.27	231	-0.10	0.22	0.00***
ADA – Dechow	117	0.14	0.19	231	0.12	0.18	0.00***
Points per match	117	1.50	0.42	231	1.40	0.44	0.00***
Panel B – Italy							
Asset turnover	109	0.62	0.31	192	0.60	0.26	0.00***
Profitability	109	-0.03	0.16	192	-0.03	0.16	0.00***

Leverage	109	0.70	0.21	192	0.76	0.24	0.00***
Liquidity	109	0.64	0.38	192	0.75	0.45	0.00***
DA – Jones	109	0.00	0.24	192	-0.01	0.23	0.00***
ADA – Jones	109	0.12	0.17	192	0.12	0.15	0.00***
DA – Dechow	109	-0.06	0.17	192	-0.09	0.16	0.00***
ADA – Dechow	109	0.09	0.15	192	0.11	0.12	0.00***
Points per match	109	1.40	0.38	192	1.50	0.44	0.00***
Panel C – Brazil							
Asset turnover	88	0.41	0.69	200	0.63	0.83	0.00***
Profitability	88	-0.04	0.30	200	0.00	0.35	0.00***
Leverage	88	0.08	0.12	200	0.15	0.12	0.00***
Liquidity	88	0.95	1.40	200	1.20	1.80	0.00***
DA – Jones	88	0.33	0.29	200	0.27	0.33	0.00***
ADA – Jones	87	0.01	0.27	200	0.02	0.29	0.00***
DA – Dechow	88	-0.08	0.50	200	-0.01	0.82	0.00***
ADA – Dechow	87	0.11	0.20	200	0.13	0.21	0.00***
Points per match	87	-0.01	0.28	200	-0.02	0.25	0.00***
Panel D – Full sample							
Asset turnover	314	0.60	0.56	623	0.65	0.58	0.00***
Profitability	314	-0.0549	0.33	623	-0.0218	0.31	0.00***
Leverage	314	0.83	1.10	623	0.87	1.20	0.00***
Liquidity	314	0.45	0.77	623	0.49	0.65	0.00***
DA – Jones	313	0.011	0.29	623	0.09087	0.27	0.00***
ADA – Jones	313	0.13	0.2	623	0.13	0.19	0.00***
DA – Dechow	313	-0.0657	0.24	623	-0.065	0.22	0.00***
ADA – Dechow	313	0.094	0.19	623	0.10	0.17	0.00***
Points per match	314	1.50	0.38	623	1.40	0.41	0.00***

ADA = absolute discretionary accrual; DA = discretionary accrual; SD = standard deviation.

Statistical significance: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: Prepared by the authors.

Panel A highlights significant improvements in English clubs' profitability and asset turnover following FFP, alongside a reduction in leverage, suggesting enhanced financial sustainability. Regulatory changes appear to have reduced earnings management, promoting greater financial transparency. Conversely, Italian clubs (Panel B) experienced stable profitability but decreased asset turnover and increased leverage post-FFP. These shifts reflect nuanced financial adaptations, such as greater reliance on debt and subtle changes in accounting practices, with a slight increase in earnings management.

Panel C explores Brazilian clubs' responses to PROFUT, revealing improvements in asset turnover, liquidity, and short-term financial health, while leverage remained stable. Changes in DA point to shifts in earnings management practices, potentially signaling less transparent reporting. Panel D synthesizes the findings across England, Italy, and Brazil, revealing a slight overall increase in profitability and asset turnover, alongside varying leverage trends. These results provide a comparative perspective, showing both convergence and divergence in financial strategies under regulatory regimes. Notably, this aligns with Francois et al. (2022) and Marotz et al. (2020), while contrasting with Dimitropoulos et al. (2016), underscoring how differing contexts and

timeframes shape outcomes.

The results contribute to understanding the broader effects of financial regulation on football clubs' financial strategies, highlighting the complex interplay between policy and practice. While regulations in England promoted financial discipline and transparency, Italian and Brazilian clubs faced challenges balancing debt and profitability. Variations in DA and capital structures across regions offer valuable insights into the effectiveness of regulatory interventions. This cross-national analysis informs policymakers and stakeholders about the nuanced impacts of financial regulations on the sports industry, emphasizing the importance of tailored approaches for sustainable growth.

4.2 Accrual Earnings Management

Table 3 presents the results of the accrual earnings management models using pooled OLS (POLS) and FE per country, analyzing the impact of financial regulations on earnings quality.

Table 3*Accrual earnings management*

	England		Italy		Brazil	
	POLS	FE	POLS	FE	POLS	FE
Intercept	-33.368***		-17.372**		-7.047	
Regulation	-0.143***	-0.139***	-0.064*	-0.065*	-0.061*	-0.070*
Asset turnover	0.137***	0.102**	0.069	0.062	0.069**	0.047
Profitability	0.009	-0.002	-0.157*	-0.168	-0.059	-0.004
Leverage	0.008	0.0009	0.037	0.033	0.052***	0.094***
Liquidity	-0.018**	-0.022*	0.004	-0.006	0.078	0.076
Points	0.017	0.021	-0.032*	-0.021	0.097*	-0.057
Promotion	0.043	0.051	0.005	-0.003	-0.016	0.053
Relegation	-0.017	-0.023	-0.078*	-0.077+	0.045	-0.001
Division	0.129***	0.128***	0.150**	0.129*	-0.057	0.011
COVID	0.035	0.029	0.033	0.031	-0.065*	-0.072*
Year	0.017***	0.015***	0.009**	0.008**	0.003	0.003
Num. obs.	348	348	301	301	287	287
R ²	0.376	0.429	0.260	0.288	0.426	0.522
R ² adj.	0.355	0.373	0.232	0.206	0.403	0.455

*FE = fixed effects; POLS = pooled ordinary least squares.**Statistical significance: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.***Source:** *Prepared by the authors.*

In England, the significant negative coefficient for regulation highlights its effectiveness in reducing DA, suggesting improved earnings quality post-regulation. Asset turnover positively correlates with earnings quality, implying that financially successful clubs are less likely to engage in earnings manipulation. However, factors like profitability, leverage, and liquidity do not exhibit consistent significance, while higher-division clubs show a greater likelihood of manipulation, possibly due to increased stakeholder scrutiny and economic stakes.

In Italy, regulatory impacts on earnings quality are evident but less pronounced compared to England. Asset turnover retains a weaker positive correlation with earnings quality, and profitability demonstrates a negative relationship in the POLS model but loses significance in FE, suggesting contextual complexities. Similar to England, leverage and liquidity lack a clear relationship with earnings quality, underlining the unique financial dynamics within the Italian football market. This moderate regulatory effect suggests a need for further analysis of external factors influencing the Italian context.

Brazil's PROFUT regulation also improved earnings quality, echoing the patterns in England and Italy. Notably, COVID-19 had a distinct negative effect on earnings quality, highlighting the pandemic's disruptive financial impact on Brazilian clubs. Asset turnover positively correlates with earnings quality, while leverage stands out as a significant factor, suggesting unique financial management behaviors among Brazilian clubs. The FE model demonstrates superior explanatory power in Brazil, supported by higher R^2 values and econometric tests, underscoring its robustness. Across all countries, the findings confirm a positive regulatory impact on earnings quality, with variations influenced by regional financial and institutional contexts.

The overall analysis of the results across England, Italy, and Brazil highlights a common pattern. The implementation of regulations positively impacts the earnings quality of football clubs. This finding is consistent across all three countries, though the magnitude of the impact varies. Contrary to what was expected in H_1 based on previous literature (Dimitropoulos et al., 2016), the regulation positively influenced the clubs by reducing earnings management. Consequently, we formally reject hypotheses H_1 , H_{1a} , and H_{1b} . The empirical evidence unequivocally demonstrates that the implementation of financial regulations served as a constraint on managerial discretion, leading to improved earnings quality across the sample, rather than an increase in manipulation.

While asset turnover generally shows a positive relationship with earnings quality, the effects of profitability, leverage, and liquidity are more varied and less conclusive. These discrepancies suggest that each country's financial environment and specific regulatory contexts significantly determine how different financial metrics influence earnings quality.

4.3 Conditional Conservatism

Table 4 presents the results of the conditional conservatism models using POLS and FE per country.

Table 4
Conditional conservatism

	England		Italy		Brazil	
	POLS	FE	POLS	FE	POLS	FE
Intercept	-0.092		-0.038		-0.091	
DNI	-0.586	-0.714*	-0.528*	-0.590***	-1.222	-1.092
DummyNI	0.107	0.160	0.047	0.061*	0.032	0.045

DNI × DummyNI	0.103	0.182	0.063	0.126	0.932	0.838
Regulation	0.027	0.041	0.011	0.0002	0.041	-0.024
DNI × Regulation	0.190	0.263	0.216	0.249	0.739	0.610
DummyNI × Regulation	-0.023	-0.032	-0.027	-0.012	0.127	0.204
DNI × DummyNI × Regulation	-0.132	-0.178	-0.053	-0.137	-1.354	-1.334*
Num. obs.	306	306	259	259	238	238
R ²	0.174	0.206	0.132	0.181	0.418	0.454
R ² Adj.	0.155	0.128	0.108	0.085	0.401	0.372

DNI = delta lagged net income; DummyNI = dummy net income; FE = fixed effects; POLS = pooled ordinary least squares.

*Statistical significance: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.*

Source: Prepared by the authors.

For English and Italian football clubs, the three-variable interaction term (DNI × DummyNI × Regulation) was not statistically significant. This lack of confirmation for hypothesis H_{2b} is an important empirical finding. It reveals that the strict financial sustainability targets of FFP did not force European club managers to make poor reporting decisions or to artificially delay loss recognition to forge compliance, contrary to what the initial hypothesis predicted. The presence of strong external market mechanisms and stringent auditing standards typical of these major European leagues likely prevented any material shift in the timeliness of loss recognition, maintaining the integrity of their reporting.

In contrast, Brazilian football clubs exhibited a significant negative effect of regulation on conditional conservatism in the FE model. This indicates a decrease in conservatism, with clubs recognizing losses less promptly post-regulation. The unique structural and institutional dynamics of Brazilian clubs – many of which operate as associations with government creditors rather than corporate entities – help explain this finding. Unlike in Europe, financial disclosures play a reduced role for creditors in Brazil, where government enforcement tools and direct access to information mitigate reliance on traditional financial statements.

These results underscore the importance of context-specific factors in shaping financial reporting practices. While European clubs benefit from concentrated ownership structures that promote strategic financial decision-making, Brazilian clubs face challenges tied to dispersed governance and reliance on government creditors. The findings corroborate Dimitropoulos et al. (2016), suggesting that less timely loss recognition is characteristic of financial environments where stakeholders have limited reliance on financial disclosures. Hypotheses H₂ and H_{2a} could not be confirmed due to the lack of significance in European models, while H_{2b} highlights the nuanced effects of regulatory frameworks on conditional conservatism in Brazil.

In summary, the analysis of conditional conservatism across England, Italy, and Brazil, as demonstrated in Table 4, reveals varying degrees of financial reporting conservatism influenced by net income, regulatory frameworks, and other financial indicators. Brazil exhibits a more pronounced reaction to financial changes in terms of conservatism, especially when compared to England and Italy. The statistical significance and interaction effects among different variables suggest that financial reporting practices are considerably shaped by local economic conditions and regulatory environments. This underscores the complex dynamics of financial conservatism and its dependency on regional factors, pointing to the importance of context-specific analysis in understanding global financial reporting behaviors.

The lack of statistical significance in most variables in the econometric models

suggests that financial statements, typically relied upon by investors and creditors, may not hold the same level of importance in the Brazilian context. A key reason for this is the organizational structure of football clubs in Brazil, which operate as associations rather than corporate entities. This structure leads to a more dispersed financial system compared to the European model, where ownership is often concentrated, and clubs are managed more like businesses. In Europe, this concentrated ownership structure allows for better financial control and strategic decision-making based on financial data.

In contrast, in Brazil, the primary creditor is often the government, which has different enforcement tools and access to information beyond the usual financial disclosures. Government creditors, unlike private investors, can demand additional guarantees or information directly from the clubs, reducing their reliance on standard financial statements to assess financial health. This divergence in creditor behavior helps explain why financial disclosures might not play as significant a role in the Brazilian context as they do in European football, where private creditors rely heavily on such data for risk assessment. Regarding public enforcement in Brazil, it is pivotal in ensuring that the fiscal benefits of debt refinancing are strictly coupled with transparency requirements, as the application of administrative sanctions remains a necessary deterrent against the strategic financial reporting behaviors and reduced conservatism observed in the post-regulation landscape.

This divergence in institutional and ownership structures helps explain the lack of significant effects found in the econometric models for England and Italy, and the negative effect observed in Brazil. The different financial environments in Brazil, Italy, and England highlight the varying roles of conditional conservatism in each setting, shaping the financial reporting outcomes accordingly.

Considering the hypotheses formulated, H_2 , H_{2a} , and H_{2b} , only H_{2b} could be discussed since the variables were not statistically significant in the European models. The negative effect of Brazilian football clubs does not permit rejecting the null hypothesis formulated. This finding corroborates the results of Dimitropoulos et al., (2016), which suggested that managers recognized losses in a less timely manner through unrealized accruals.

5. CONCLUDING REMARKS

This paper aimed to analyze the impact of financial regulations on earnings quality in Brazilian and European football clubs. We analyzed two specific regulations on the football industry: the FFP in England and Italy and the PROFUT in Brazil. The metrics analyzed in the earnings quality context were accrual earnings management and conditional conservatism.

The analysis of financial data from football clubs in England, Italy, and Brazil, before and after the implementation of regulations, revealed significant insights into the impact of these regulatory frameworks on club finances. The data demonstrates a generally positive influence on asset turnover and profitability across all regions, suggesting that these regulations have been effective in enhancing financial performance and promoting fiscal responsibility, as discussed in the literature (Francois et al., 2022; Marotz et al., 2020). Notably, the decrease in leverage and increase in liquidity also indicated a shift towards more sustainable financial practices and improved short-term financial stability. However, the varied responses in terms of leverage and liquidity across different countries highlight the complexity of implementing universal financial regulations in diverse economic environments. Furthermore, the changes in earnings

management practices, as evidenced by the DA and absolute DA values, except for English clubs, suggest an increase in earnings manipulation after the implementation of FFP and PROFUT.

However, in the multivariate analyses, the evidence from English, Italian, and Brazilian football clubs provides a compelling narrative on the impact of regulatory changes on accrual earnings management. Across all three countries, regulations have a broadly positive impact, suggesting a reduction in discretionary earnings practices and an incentive for more accurate financial reporting. This trend reflects the effectiveness of regulatory frameworks in mitigating earnings manipulation. The distinct effects of COVID-19 in Brazil also emphasize the influence of external economic factors on club finances and reporting practices. This suggests a regulatory trade-off: although PROFUT reduced blatant manipulation, the pressure on non-profit clubs to meet solvency targets may incentivize a strategic, optimistic delay in recognizing losses. This finding offers a vital policy implication: PROFUT legislators should consider strengthening the enforcement of financial integrity and accountability mechanisms to ensure that fiscal compliance does not undermine the foundational principle of accounting conservatism, thereby mitigating future financial risk for Brazilian clubs.

Concerning conditional conservatism, the results indicated that the regulation did not significantly impact accounting conservatism in English and Italian clubs. However, in Brazilian clubs, a significant adverse effect in the FE model indicated a decrease in accounting conservatism post-regulation, aligning with previous research suggesting delayed loss recognition (Dimitropoulos et al., 2016). The study's findings contribute to understanding how regulatory changes affect accounting practices differently across national football leagues.

This study presents some methodological limitations. Firstly, the study relies on publicly available financial statements, which may vary in quality and detail, especially across countries with changing accounting standards and practices. This can introduce inconsistencies in the data, potentially affecting the accuracy of the analysis. The limitation of data availability is particularly relevant, as some clubs did not publish complete financial information, leading to an unbalanced dataset. This could skew the results, as the sample may not fully represent the broader population of football clubs. There are potential missing qualitative control variables that could affect earnings quality, and we could not measure and include them in econometric models.

Finally, future research must move beyond simply expanding geographic samples or timeframes. We recommend that subsequent studies investigate the role of political connections and the 'capture theory' within regulatory bodies, examining how local political influence affects the enforcement of financial penalties in sports. Additionally, the recent transition of several Brazilian clubs from nonprofit associations to corporate entities (the SAF model) provides a unique quasi-natural experiment. Future research should explore whether this shift towards corporate governance and private ownership definitively resolves the conservatism deficit identified in this study, permanently altering the earnings quality dynamics in emerging football markets.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The entire dataset supporting the results of this study can be made available upon request to the authors.

DECLARAÇÃO DE USO DE INTELIGÊNCIA ARTIFICIAL

The authors declare that no generative artificial intelligence was used at any stage of the production of this manuscript (including research, writing, data analysis, formula generation, or the creation of graphic elements).

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