Is debt always bad? An analysis of football clubs with uncovered liabilities

Helysson Filipe Marques Ribeiro[1], Marcelo Machado De Freitas[2].

ABSTRACT

This study aimed to understand the relationship between indebtedness and sports performance in Brazilian football clubs. The economic and financial indicators of 14 football clubs between 2020 and 2022 were analyzed, ranked by the ranking of the Brazilian Football Confederation. To this end, descriptive statistics and Spearman's matrix were used to investigate the correlations, seeking to understand how indebtedness affects the positioning and performance of these clubs. The descriptive statistical analysis of the teams showed disparity, indicating that the correlation between the CBF ranking and indicators such as General Indebtedness and Indebtedness Composition was significant only when including the clubs without uncovered liabilities. This suggests that, for clubs in general, as the position in the ranking increases, the debt also tends to increase. In addition, the findings of the research offer a contribution to the sports management of Brazilian football clubs, by providing data and conclusions that can guide improvements in the financial situation of these entities.

Keywords: Brazilian soccer, Indebtedness, Economic and financial indicators, Sports management.

INTRODUCTION

Soccer in Brazil is more than a sport, it is a passion rooted in history since the beginning of the nineteenth century, when Charles Miller, from São Paulo, introduced the sport in the country (SANTOS, 2002). Since the arrival of football in 1894, Brazil has collected a victorious trajectory on the field, winning the men's football world championship in 2002, confirming itself as the greatest champion of the competition. Nakamura (2015) points out that, over the years, football has become a phenomenon of significant social, cultural and economic proportions, ceasing to be a leisure activity and generating increasing revenues for clubs and involving several brands and sponsors, gaining a business perspective.

With the process of professionalization of football, clubs began to invest in quality players, attracting revenues from advertisers and sponsors (JAHARA, MELLO & AFONSO, 2016). In this context, the professionalization of responsible and professional management has become essential, aiming to maximize sports performance and financial results.

In addition, the need for professionalization of the management of football clubs is so relevant that it resulted in the enactment of Law No. 13,155 of 2015, establishing the Program for the Modernization of Management and Fiscal Responsibility of Brazilian Football (PROFUT). This

---

[1] Federal University of Santa Catarina - SC
[2] Federal University of Santa Catarina - SC

program imposes a series of requirements in order to improve transparency and efficiency in the management of sports entities, requiring, for example, the publication of financial and accounting statements on their own websites after submission to an independent audit. Requiring not only the publication, but also the adaptation to the norms and standardizations of these statements.

For Nascimento (2019), the analysis of sports performance in relation to financial performance is important so that clubs can evaluate the way they use their resources, and where they distribute their efforts, so that they can win titles.

The incessant search for better sports results has driven the trend of increasing indebtedness of football clubs (REZENDE; DALMATIUS, 2015). To perform in the championships and, consequently, generate revenue, clubs face the need to invest in the squad, increasing expenses with salaries. This phenomenon is highlighted by (Ferreira et al 2018), revealing that the indebtedness of clubs has been growing over the years.

The indebtedness of football clubs is a complex issue that demands special attention, as it can compromise the financial sustainability of sports institutions (FERREIRA et al. 2018). According to Lucente and Bressan (2015), the search for better players and the need for investments in infrastructure and marketing strategies can lead clubs to become excessively indebted, compromising their finances and putting their economic stability at risk.

As a result, the sports and financial balance resulting from the professionalization of financial management has been an important factor in football clubs, so much so that previous academic studies have evaluated some indicators in order to measure the economic and financial performance of these entities, such as indebtedness Oliveira, Borba and Ferreira (2018), gross revenue (Nascimento, 2019), salary expenses (Ferri, Macchioni, Maffei & Zampella, 2017).

Ferreira, Marques and Macedo (2018) suggest that clubs should focus on achieving leveling sports and financial results. Therefore, a sports entity should not focus only on its performance within the four lines, since it can result in financial insecurity, on the other hand if the objective is directed mostly to the financial, the result in the championships can be compromised.

Oliveira, Borba and Ferreira (2018) concluded that Brazilian clubs showed growth in operational and financial indebtedness between 2011 and 2017. In addition, it was revealed that of the 120 balance sheets analyzed, 52 had uncovered liabilities. Thus, 52 observations showed in their balance sheets the balance of the liabilities accounts greater than the assets accounts.

Thus, what can be concluded is that even with so many debts, renegotiations and incentives from the Government, clubs still have a strong dependence on third-party capital to maintain their activities. Within this context, the present article has as a research problem to understand what is the relationship between indebtedness and sports performance of Brazilian football clubs?

In this context, the present research is justified by proposing to investigate whether indebtedness affects the ability of clubs to achieve results on the field. In addition, fans, members, government, press and sponsors should be aware of the indebtedness of the teams, since they reach, in some cases, hundreds of millions of reais, and may even involve amounts of public resources.

In addition, this study gains relevance by examining and interpreting the data provided in the financial reports of the clubs, aiming to understand and evaluate the current financial scenario of each organization, analyzing the sectoral and individual aspects of each club. It is intended, therefore, that the research is conducted through the analysis of economic and financial indicators established in the literature on the subject.

OBJECTIVE

The objective of this work is to understand what is the relationship between indebtedness and sports performance of Brazilian football clubs between 2020 and 2022.

THEORETICAL FRAMEWORK

In this section, the theoretical aspects of this research are discussed and are arranged according to the following sections: football as a business; the economic and financial indicators used; and previous studies on football clubs.

FOOTBALL AS A BUSINESS

Since its implementation in Brazil, football has undergone several changes and adaptations. It was considered an elitist sport, limited to only one class of society, as many did not have access to the sport. This condition lasted until the 1930s, when football ceased to be just an amateur sport, becoming professional. In addition, it was during this period that blacks began to be accepted in soccer clubs (SANTOS, 2002, pg. 33).

In the mid-1970s, the players advanced in the demand for the professionalization of the sport with the conquest of the regulation in the CLT. This advance provided a favorable condition for the structure of the teams, with the emergence of other professionals who provided direct services, such as physicians, physical trainers, physiotherapists, nutritionists, psychologists and computer teams (AIDAR, 2000, pg. 33).

Football became popular and soon gained other social strata. Aidar (2000) divides the consumption of soccer into two classes: i) indirect consumers - press (both written and on radio and TV), sports lotteries, sponsors in sports materials; ii) direct consumers - the fan and football lover.

With the increasing number of stakeholders involved, there was a greater need to create a regulation also in the accounting aspect. One of the legislative milestones that concern this issue occurred with the publication of Decree No. 80,228 in 1977.

Decades later, in 1998, the Pelé Law (Law No. 9,615, of March 24, 1998) was enacted, with the objective of boosting accounting practice in clubs by encouraging transparency and professionalization in sports administration. The legislation sought to promote the development and democratization of sport in Brazil, protecting the rights of athletes, establishing standards for the management of clubs, and regulating labor relations in sports.

With regard to the standardization of financial statements, in 2003 the NBC ITG 2003 was created. Its objective is to establish guidelines, criteria and procedures for the dissemination of data, facilitating its analysis, comparison and monitoring. Thus, we sought to ensure that the Financial Statements accurately and transparently reflected the entity's real economic and financial situation (WERLANG, 2016).

Finally, in 2021, the Football Corporation Law (SAF) was instituted, amending Laws No. 9,615, of March 24, 1998, and 10,406, of January 10, 2002 (Civil Code). As mentioned by Cardoso et al. (2022), the Football Corporation Law aims to professionalize football management in the country by attracting investors and establishing governance, control, and transparency measures.

ECONOMIC AND FINANCIAL INDICATORS

An important way to analyze the financial and economic aspects of an entity is through indicators/ratios. This approach provides users of the accounting information with a technical and detailed analysis, allowing for a more in-depth understanding of the organization's financial health and performance.

According to Gitman (2010, pg. 48), the analysis of the indices is mainly based on the data provided by the income statement and the balance sheet. This analysis comprises techniques for calculating and interpreting financial indicators, used to evaluate and monitor a company's performance.

According to Azzolin (2019, pg. 133), indicators represent measures and tools that capture relevant information. They are made up of financial data that helps assess the financial condition of a business or organization.

According to Assaf Neto (2020), the indicators contribute to extracting information related to the company's situation through the list of elements contained in the financial statements. It classifies the ratios into the following groups: liquidity, operational, profitability, debt and structure, equity analysis, and value creation.

In this study, the indicators used will be Profitability, Liquidity, and Indebtedness and Structure. The indices and formulas used in the research are shown in Chart 1.

Table 1 - Formulas and Indices used

Acronym	Index	Meaning
And	Indebtedness	Amount of third-party capital. Equation: Current Liabilities + Non-Current Liabilities
EG	Indebtedness General	Indicates the portion of the company's total assets financed by creditors. The higher this ratio, the greater the amount of third-party capital employed in generating profits. (GITMAN, 2010) Equation: (Current Liabilities + Non-Current Liabilities) / (Current Assets + Non-Current Assets)
EC	Composition of the Indebtedness	It represents the list of liabilities and aims to identify what percentage of the company's debts correspond to short-term debts (AZZOLIN, 2012) Equation: Current Liabilities / (Current Liabilities + Non-Current Liabilities)
LC	Liquidez Corrente	It measures the ability to pay in the short term. (MARION, 2010) Equation: Current Assets / Current Liabilities
ML	Net Profit Margin	The net profit margin is the proportion of sales that is after deducting all costs and expenses, including interest, taxes, and preferred stock dividends. (GITMAN, 2010) Equation: Fiscal Year Net Income* / Sales Revenue
Note: * Gitman uses the nomenclature "Profit available to common shareholders", in this study we will call it Net Income for the Fiscal Year.		

Source: Adapted by the author based on studies by Gitman (2010), Azzolin (2012), Marion (2010), Sanvicente (1987).

PREVIOUS WORK

Entities with negative equity or also referred to as "short liabilities" are companies that have more liabilities than assets. Therefore, companies in these conditions may present financial risks and risks of bankruptcy. Within the reality of football clubs it is no different, since many clubs are in this condition. Ferreira et al (2018) reveal, in their study, that of the clubs in series A and B of the Brazilian football championship, of the 120 balance sheets analyzed, 52 presented the condition of uncovered liabilities.

Indebtedness in football can lead to a number of problems. Many clubs end up taking on unsustainable debt, where the value of their assets and cash balances is not enough to cover their obligations. In addition, high indebtedness can result in restrictions on player salaries, possibly affecting the quality of the squad (MOURAO, 2012). On the other hand, not all debt is bad. Matarazzo (2010) indicates that, in general, a company should seek financing through third-party capital when the rate of return on assets exceeds the cost of debt.

Some researchers have investigated and sought to investigate connections between companies' indebtedness and their sports performance. Chart 2 shows some related studies.

Table 2 - Studies related to the indebtedness of football clubs

Author	Key Considerations
GÖLLÜ (2012)	In this study, the possible impact of the financial performances of Turkey's top football clubs was investigated. Variables from the teams' financial statements were used as a measure of their financial performance and the sports results in the league as a performance indicator. The results of this study indicated that there was no correlation between the sports performances of the clubs and the financial performances.
Rodrigues (2015)	This study examined the determinants of indebtedness of 54 football clubs from seven European countries during the sports seasons from 2008/2009 to 2012/2013. The results indicate that the tangibility of the assets and the sports performance of the clubs are positively related to their level of indebtedness. In addition, the profitability, size and intangibility of assets are negatively associated with club indebtedness.
Ferreira et al (2018)	It sought to identify the characteristics of the liabilities of Brazilian football clubs. An increase in the indebtedness of Brazilian football clubs has been identified over the years, leading them to frequently resort to external resources. It was found that 43.33% of the balance sheets had uncovered liabilities. Despite the benefits of PROFUT, the total amount of liabilities of the 20 clubs increased after joining the program.
Santos et al (2020)	The research sought to examine the relationship between the debt ratio and the characteristics of Brazilian football clubs, according to the CBF classification in 2015. A study was conducted over the years 2013, 2014 and 2015. Using *Spearman*'s correlation analysis and descriptive statistics, the results indicated that clubs with better return on cash on equity tend to underperform in the Brazilian league, reflected in a lower ranking position.
Batista and Cajaíba (2021)	They investigated whether the economic and financial indicators were linked to the sporting results of the four largest clubs in São Paulo. It was identified that, for Palmeiras and Corinthians, higher revenues correlated with better sports results, while lower revenues correlated with worse results. However, there was no statistically significant correlation between other variables, such as salary expenses, EBIT and debt markers, and sports performance of the clubs in the sample.
Ferreira, H.L et al (2023)	The results showed that sports performance and adherence to PROFUT had a significant and positive impact on the level of indebtedness of clubs. This suggests that clubs with better sporting performance and that have joined PROFUT tend to have a greater share of third-party capital in their capital structure. The results raise questions about the effectiveness of PROFUT in increasing the financial balance of clubs, highlighting the need to evaluate the program and the monitoring and regulation mechanisms.

Source: Prepared by the author (2024).

Thus, it can be seen that the studies show mixed results: some studies indicate that there is a correlation between indicators of indebtedness and sports performance, while other studies have not been able to identify this correlation.

METHODOLOGY

This section is intended to present the research model adopted in the study. Here, aspects related to the characterization of the research will be outlined, as well as details about the data collection process.

CHARACTERIZATION OF THE RESEARCH

As for the objectives, the present study is framed as a descriptive research, as it intends to describe characteristics of a population. According to Gil (2002), the primary objective of descriptive research is the detailed description of the characteristics of a given population, as well as the investigation of the relationships between the variables of interest.

The study approach is classified as a quantitative research. For Fonseca (2022), qualitative research seeks to quantify and analyze data objectively, using large and representative samples of the population. This approach uses mathematical language to describe relationships between variables and explain phenomena.

Regarding the data collection methods, the study adopted a documentary approach, as it used data from the financial statements obtained through the clubs' websites. Documentary research, defined by Gil (2002), is characterized by the use of information that has not yet undergone an analytical treatment or that can be elaborated according to the objectives of the study as primary sources of data.

SAMPLING AND DATA COLLECTION

The survey population consists of the top 20 clubs in the 2022 Brazilian Football Confederation (CBF) ranking. This ranking is a widely recognized measure used to evaluate the sporting performance of football clubs in Brazil. It is based on criteria such as participation and performance in national competitions, such as the Brazilian Championship and the Copa do Brasil. The ranking reflects the performance of the clubs over a given period. This same indicator was also used in the studies by Ferreira et al (2018), Santos, E.R. et al (2020) and Batista and Cajaiba (2021). Finally, it will be possible to analyze if there is a relationship between the indebtedness of the clubs and their position in the ranking, which will contribute to understanding whether the financial aspect influences the sporting success of the teams. The ranking with the 20 clubs is shown in Table 1.

Table 1 - Score and ranking of the top twenty in the *2022 CBF* ranking.

Position	Punctuation	Team	Position	Punctuation	Team
1°	17.054	Flamengo	11th	10.841	Fortress
2°	14.584	Palmeiras	12th	10.261	Bahia
3°	14.572	Atlético MG	13th	9.537	Ceara
4°	14.336	Society	14th	9.034	Cruzeiro
5°	13.512	Athletic	15th	8.860	MG America
6°	12.816	Saints	16th	8.548	Atlético GO
7°	12.604	Sao Paulo	17th	8.468	Chapecoense
8°	12.108	International	18th	8.376	Botafogo
9°	11.100	Brazil	19th	8.206	Vasco da Gama
10°	11.064	Corinthians	20th	7.789	Red Bull Bragantino

Source: CBF (2022).

The study collected the documents available directly on the websites of the football teams and/or federations in each state. Therefore, the statements for 2020, 2021 and 2022 were analyzed. The collection of the statements took place between March and April 2024, and many clubs had not posted their 2023 statements on their websites.

Regarding the period of analysis of the balance sheets, its justification stems from the criterion adopted by the CBF ranking, which considers the average score of the last five years of the teams. In this sense, the 2022 ranking was based on the average score of the teams between 2018 and 2022. In addition, the use of rankings is supported by the fact that these generally represent the most outstanding and successful in the sports scene during the period under review. This allows for a more detailed and representative investigation of the teams that occupy the top positions in the ranking, which, in general, are the most influential and visible in the Brazilian football panorama.

In order to define the sample, the study selected the top 20 clubs in each year of the ranking. Then, only the clubs that remained in the top 30 of the standings were separated, totaling 17 teams. Of these 17, the clubs with uncovered liabilities were identified. Finally, the teams that remained with uncovered liabilities in the years 2020 and 2022 were identified, reaching seven clubs.

The clubs Botafogo de Futebol e Regatas, Club de Regatas Vasco da Gama and Esporte Clube Bahia were excluded from the comparison due to the absence of financial statements in at least one of the years of the survey, making data collection and analysis unfeasible.

Therefore, for this study, the main object of analysis (sampling) was defined as the clubs listed below (chart 3).

Table 3 - Clubs that remained with uncovered liabilities between 2020 and 2022.

Qty.	Team
1	Grêmio Foot-Ball Porto Alegrense
2	Santos Football Club
3	Sao Paulo Football Club
4	Cruzeiro Esporte Clube
5	Fluminense Football Club
6	Sport Club Corinthians Paulista
7	Chapecoense Football Association

Source: Survey data (2024).

After collecting the clubs' financial statements, including the Balance Sheet and the Income Statement, the data were processed in electronic spreadsheets to calculate the economic and financial ratios.

For this study, we opted for the correlation test of *Spearman*. The correlation coefficient of *Spearman* It ranges from -1 to +1, where +1 indicates a perfectly positive correlation, -1 indicates a perfectly negative correlation, and 0 indicates no correlation. The parameters for defining the degree of correlation of the variables are described in Table 2.

Table 2 - Conventions of the degree of correlation

Interval (+/-)	Correlation interpretation
0.00 to 0.19	Very weak
0,20 a 0,39	Weak
0,40 a 0,69	Moderate
0,70 a 0,89	Strong
0,9 a 1,00	Very strong

Source: Baba, Vaz and Costa (2014)

To achieve the results, the study used the JAMOVI software, using the non-parametric correlation tool (correlation test *Spearman*). JAMOVI is a statistical platform designed to meet the needs of researchers and analysts who want to conduct statistical analysis.

DEVELOPMENT

ANALYSIS AND PRESENTATION OF ECONOMIC AND FINANCIAL INDICATORS

Financial Statements are documents that aim to provide data on a company's financial and equity situation. They provide detailed information about business assets, liabilities, and equity, as well as the results of operations. In addition, they serve to demonstrate the efficiency of management and the accountability of resources by managers (CORREIA AND GANZAROLLI, 2018).

Within this same perspective, Matarazzo (2010) defines indicators as a measure that expresses the relationship between accounts or groups of accounts in the Financial Statements, intended to highlight a specific aspect of a company's economic or financial situation.

Thus, the research used the calculations of the indicators in Chart 1 to obtain an overview of the teams over the years. Table 1, in turn, shows the calculation of all the indexes previously established.

Table 1 - Presentation of the indicators of clubs with uncovered liabilities

	EG	THAT	LC	ML	TWO PEOPLE
São Paulo					
2022	1,27	0,52	0,45	0,06	0,04
2021	1,29	0,43	0,48	-0,23	-0,11
2020	1,22	0,57	0,37	-0,36	-0,17
Fluminense					
2022	1,50	0,37	0,22	0,02	0,01
2021	1,58	0,39	0,17	-0,01	-0,004
2020	1,54	0,36	0,23	-0,02	-0,01
Corinthians					
2022	1,09	0,60	0,48	0,02	0,01
2021	1,10	0,66	0,50	0,01	0,004
2020	1,11	0,66	0,39	-0,27	-0,11
Grêmio					
2022	1,38	0,49	0,32	-0,33	-0,20
2021	1,19	0,40	0,45	0,03	0,03
2020	1,24	0,39	0,48	0,10	0,09
Santos					
2022	2,34	0,50	0,32	0,05	0,06

2021	2,71	0,48	0,28	0,11	0,18
2020	3,08	0,53	0,13	-0,50	-0,57
Cruzeiro					
2022	0,88	0,38	0,28	3,83	0,38
2021	3,86	0,38	0,08	-0,94	-0,39
2020	3,10	0,37	0,12	-1,91	-0,67
Chapecoense					
2022	8,16	0,03	2,11	0,17	0,27
2021	7,46	0,40	0,15	-0,83	-2,34
2020	5,60	0,59	0,08	-1,13	-1,38
Legend: EG - General Indebtedness; CE - Composition of Indebtedness; LC - Current Liquidity; ML - Net Margin; ROA - Return on Assets					

Source: Prepared by the author according to research data (2024).

In 2022, Chapecoense recorded the highest Overall Indebtedness, followed by Santos in second place. On the other hand, Cruzeiro and Corinthians had the lowest values. In the years 2021 and 2020, Chapecoense also led the EG, while Cruzeiro, which had one of the lowest values in 2022, occupied second place in the previous two years.

As for the Composition of Indebtedness, Sport Club Corinthians Paulista had the highest values during the three years analyzed. In 2022, São Paulo was in second place, while Chapecoense and Fluminense recorded the lowest values. In 2021 and 2020, Cruzeiro and Fluminense stood out with the lowest rates.

As for Current Liquidity, Chapecoense demonstrated high liquidity, reaching a value of 2.11 in 2022, which places it as the club with the highest ratio this year. It should be noted that the club was champion of Serie B in 2020, gaining access to Serie A in 2021. In the other years, this value did not exceed 1.00. Cruzeiro and Fluminense recorded relatively low current ratios in the same year. In 2021 and 2022, Corinthians and Grêmio, respectively, had the highest liquidity ratios, while Cruzeiro and Chapecoense had the lowest values, respectively.

With regard to Net Margin, it is necessary to analyze Cruzeiro's performance. In 2020, the club had the lowest net margin among all clubs, but in 2022, it became the club with the highest net margin of 3.83. This significant increase was due to accounting adjustments, as the club transitioned from an association to a Football Corporation (SAF), resulting in a reclassification of revenues. In this context, part of the revenue was not recognized in the "Operating Revenues" and was broken down as "Other Operating Revenues" in the Income Statement for the Fiscal Year (P&L), which had a positive impact on the calculation of this ratio. On the other hand, in 2022, the clubs with the lowest Net Margin were Grêmio, Corinthians and Fluminense. Overall, clubs had a net margin close to zero or negative, indicating that little value was left after all of the clubs' expenses were deducted from their revenues.

Current Ratio data reveal that the maximum value found was 2.11. On the other hand, the minimum value was 0.030. On average, the liquidity of the analyzed clubs is around 0.3850, with a

median of 0.3200, indicating an asymmetric distribution of the data. The standard deviation of 0.4200 indicates a certain variability in liquidity levels between clubs.

For comparison purposes, the study chose to analyze clubs that did not have uncovered liabilities. Table 2 shows the values of the indicators of these clubs.

Table 2 - Presentation of the indicators of clubs without uncovered liabilities

	EG	THAT	LC	ML	TWO PEOPLE
Flamengo					
2022	0,70	0,49	0,88	0,12	0,12
2021	0,81	0,42	0,83	0,17	0,17
2020	0,98	0,54	0,40	-0,17	-0,11
Palmeiras					
2022	0,91	0,37	0,50	0,02	0,01
2021	0,95	0,52	0,37	0,14	0,20
2020	1,13	0,47	0,29	-0,28	-0,22
Athlético					
2022	0,37	0,68	0,51	0,14	0,04
2021	0,37	0,62	0,77	0,26	0,06
2020	0,40	0,50	1,04	0,41	0,13
Internacional					
2022	0,84	0,46	0,22	0,0029	0,0008
2021	0,84	0,35	0,31	0,0023	0,0006
2020	0,83	0,33	0,33	-0,35	-0,01
América MG					
2022	0,67	0,41	0,21	-0,15	-0,10
2021	0,58	0,31	0,45	-0,05	-0,02
2020	0,54	0,37	0,27	-0,18	-0,04
Ceará					
2022	1,14	0,53	0,62	0,04	0,12
2021	0,87	0,42	0,83	0,0022	0,01
2020	0,84	0,55	0,45	0,0039	0,01
Atlético MG					
2022	0,88	0,56	0,09	0,18	0,04
2021	0,90	0,42	0,16	0,21	0,06
2020	0,96	0,46	0,09	0,03	0,01
Legend: EG - General Indebtedness; CE - Composition of Indebtedness; LC - Current Liquidity; ML - Net Margin; ROA - Return on Assets					

Source: Prepared by the author according to research data (2024).

Clubs that do not have uncovered liabilities presented General Indebtedness values below 1.00 (one). It was expected that the effect of overall indebtedness would be greater in clubs with uncovered liabilities, since this condition indicates that liabilities are greater than assets.

With regard to the Composition of Indebtedness, Athletico and Ceará were the clubs with the highest values among those without uncovered liabilities. These results were above clubs such as Fluminense, Chapecoense and Cruzeiro. In addition, the numbers achieved were very close to those of Corinthians and São Paulo, which recorded the highest values according to Table 3.

Continuing with the analyses, in Current Liquidity, teams with no overdraft liabilities demonstrated a better short-term repayment capacity compared to those with overdraft liabilities. The

exception is Chapecoense, which reached 2.11 LC in 2022, matching Flamengo but below Athletico, which was the club with the highest LC among all clubs.

In the Net Margin analysis, the teams maintained a net margin close to zero, both for those with uncovered and for those without, which indicates that even for clubs that do not have an uncovered liability, there is a difficulty in converting revenues into profits.

Finally, the Return on Assets of entities with uncovered liabilities, in general, remained below that of clubs without uncovered liabilities.

DESCRIPTIVE STATISTICS AND CORRELATION

This section proposes to verify if there is a relationship between the indebtedness of clubs and their sports performance. The data for calculations was taken directly from the clubs' Standardized Financial Statements. The study collected the information of seven clubs with uncovered liabilities between the years 2020 and 2022, resulting in 21 observations.

Table 3 presents the descriptive statistics of the indices calculated in Table 1, together with the data of the CBF ranking score for the three years and the variable "End", which represents the total liabilities of the clubs.

Table 3 - Descriptive statistics of clubs with uncovered liabilities

Variable	Note.	Average	Median	Standard deviation	Minimal	Maximum
Rk_CBF	21	11.886,2380	11.870,0000	2.109,9360	8.468,0000	15.180,0000
End	21	790.900,0480	740.757,0000	396.985,3190	128.908,0000	1.464.838,0000
EG	21	2,5100	1,5000	2,1130	0,8800	8,1600
CE	21	0,4520	0,4300	0,1380	0,0300	0,6600
LC	21	0,3850	0,3200	0,4200	0,0800	2,1100
ML	21	-0,1010	0,0100	1,0400	-1,9100	3,8300
ROA	21	-0,2320	0,0040	0,6140	-2,3400	0,3800

Source: Survey data (2024).

The detailed analysis of Table 3 reveals that the average score of the CBF ranking over the three years is 11,886.238 points. However, there were significant variations between the clubs and the years evaluated. The lowest value recorded was 8,468 points, achieved by Chapecoense in 2022. On the other hand, the maximum value was obtained by Grêmio, reaching 15,180 points in 2021.

Among the seven teams analyzed, Corinthians stood out with the highest amount of indebtedness (Total Liabilities) recorded in 2021. On the other hand, the average indebtedness between these clubs reached 790,900. Finally, Chapecoense stood out with the lowest total liabilities recorded in 2020, totaling 128,908.

The analysis of Table 3 also reveals that the average General Indebtedness of the clubs is around 2.51. The standard deviation, in turn, totaled 2.11, indicating a certain dispersion of the data in relation to the mean. The lowest General Indebtedness ratio found was 0.88, while the maximum reached 8.16, showing a wide variation in the levels of indebtedness among the clubs analyzed.

As for the Composition of Indebtedness, the maximum value found was 0.66, while the minimum was 0.03. The standard deviation, which indicates the dispersion of the data in relation to the mean, was recorded at 0.1380, suggesting some variability in the levels of indebtedness composition among the clubs analyzed. On average, the clubs had a debt composition ratio of approximately 0.4520.

Regarding the Current Ratio data, the maximum value found was 2.11. On the other hand, the minimum value was 0.030. On average, the liquidity of the analyzed clubs is around 0.3850, with a median of 0.3200, indicating an asymmetric distribution of the data. The standard deviation of 0.4200 indicates a certain variability in liquidity levels between clubs.

Net Margin data reveals an average of -0.1010, which indicates a negative result on average for the clubs analyzed. The median of 0.0100 suggests an asymmetric distribution of the data, with some clubs showing positive net margins and others negative. The standard deviation is 1.0400. Cruzeiro presented for this same index the minimum value of -1.9100 and the maximum of 3.8300.

Finally, the ROI values indicate a negative average of -0.2320, suggesting that, on average, the clubs analyzed are not generating a positive return on their assets. The median of 0.0040 reveals that most of the clubs had a profitability close to zero. The minimum value is -2.3400, referring to the Chapecoense club and the maximum 0.38, for Cruzeiro.

Again, in order to make a comparison between clubs with overdraft liabilities and clubs without overdraft liabilities, Table 4 was elaborated, containing a descriptive analysis of the 14 clubs, resulting in 41 observations. It is noteworthy that Vasco, Botafogo and Bahia did not provide the full set of financial statements in at least one year and were therefore excluded from the analysis.

Table 4 - Descriptive statistics of the 14 clubs

Variable	Note.	Average	Median	Standard deviation	Minimal	Maximum
Rk_CBF	42	11.878,4152	12.156,0000	3.266,3430	8.468,0000	17.054,0000
End	42	744.224,1086	753.318,5000	455.420,6390	35.263,6700	1.71e+6
EG	42	1,6300	1,0950	1,7340	0,3700	8,1600
CE	42	0,4590	0,4600	0,1180	0,0300	0,6800
LC	42	0,4217	0,3500	0,3530	0,0800	2,1100
ML	42	-0,0376	0,0070	0,7400	-1,9100	3,8300
ROA	42	-0,1047	0,0100	0,4530	-2,3400	0,3800

Source: Survey data (2024).

The data in Table 4 reveal that the clubs have an average General Indebtedness of approximately 1.63, which places them below the clubs with uncovered liabilities. This trend is confirmed by the median, which is also lower. The club with the lowest Overall Indebtedness was Athletico, with a value of 0.37, while the highest Overall Indebtedness remained with Chapecoense.

Regarding the Composition of Indebtedness, it is observed that the clubs have, on average, a value of 0.4590 for the index. Clubs with uncovered liabilities reached values very close to this. Even with this similarity, the standard deviation of 0.118 indicates that while the average is relatively consistent, there is some variation across clubs in terms of the composition of their indebtedness.

The Current Ratio of the teams was around 0.4217, surpassing the clubs with uncovered liabilities. However, the median remained very close when compared. This suggests that, on average, clubs have enough current assets to cover their short-term obligations. However, it is important to note that this measure varies considerably between clubs, as indicated by the standard deviation of 0.3530.

Compared to clubs with overdraft liabilities, the Net Margin (ML) of clubs in general (-0.0376) is slightly lower than that of clubs with overdraft liabilities (-0.1010). While the median of clubs in general is 0.0070, that of clubs with uncovered liabilities is 0.0100, indicating a moderate difference between the two groups. The wingers remained the same in both groups with maximum (3.83) and minimum (-1.91) of the same team, Cruzeiro.

It can be observed that the average ROA of clubs in general (-0.1047) is slightly higher than that of clubs with uncovered liabilities (-0.2320). The median of clubs in general (0.0100) is also slightly higher than that of clubs with uncovered liabilities (0.0040), which may indicate a slight difference between the two groups. The standard deviation of clubs in general (0.4530) is lower than that of clubs with uncovered liabilities (0.6140), suggesting a smaller dispersion of data among clubs in general. Both groups have a minimum value of -2.3400 and a maximum value of 0.3800, i.e., the extremes of the data are similar in both groups.

The results evidenced with the analysis of the correlation between the sports performance and the financial performance of the clubs with uncovered liabilities can be seen in Table 5, which contains Spearman's correlation matrix.

Table 5 - Correlation between the variables *(Spearman)* of the clubs with uncovered liabilities

Variables	Rk_CBF	End	EG	THAT	LC	ML	TWO PEOPLE
Rk_CBF	1,0000						
End	0,1870	1,0000					
	0,4170						
EG	-0,2220	-0,4490*	1,0000				
	0,3320	0,0410					
CE	0,2480	0,3420	-0,3900	1,0000			

	0,2770	0,1300	0,0810				
LC	0,1180	0,2540	-0,5610**	0,2250	1,0000		
	0,6090	0,2670	0,0080	0,3280			
ML	-0,0510	-0,1480	-0,3790	-0,1810	0,6120**	1,0000	
	0,8250	0,5220	0,0900	0,4340	0,0030		
ROA	-0,0140	-0,0900	-0,3870	-0,2050	0,5930**	0,9850***	1,0000
	0,9510	0,6990	0,0830	0,3730	0,0050	< 0,0010	
Note: Significance * < 0.05; ** < 0.01; < 0.001							

Source: Survey data (2024).

According to Table 5, the EG (General Indebtedness) and End (Total Liabilities) presented a correlation coefficient of -0.4490, with a significance level of 0.0410. This indicates a moderate negative correlation between these two variables. The value of the negative correlation coefficient suggests that, in general, as the General Indebtedness of clubs decreases, Total Liabilities tend to increase, and vice versa.

In the analysis of the relationship between the variable Rk_CBF (CBF Ranking) and the variables End (Total Liabilities), EG (General Indebtedness) and CE (Composition of Indebtedness), the results indicate a weak and non-significant correlation in all cases.

The correlation between LC (Current Ratio) and EG (General Indebtedness) was -0.5610, with a significance level of 0.0080, resulting in a moderate and significant correlation. The correlation between ML (Net Margin) and LC was 0.6120, with a significance level of 0.0030, classified as a strong and significant correlation. The relationship between ROA (Return on Assets) and LC showed a correlation coefficient of 0.5930, with a significance level of 0.0050, also indicating a strong and significant correlation. Finally, the correlation between ROA and ML was 0.9850, with a significance level of less than 0.0010, revealing a very strong and highly significant correlation.

In order to broaden the analysis, a correlation analysis was also performed using all football clubs (with uncovered liabilities and without uncovered liabilities). The results can be seen in Table 6.

Table 6 - Correlation between variables *(Spearman)* for the 14 clubs

Variables	Rk_CBF	End	EG	THAT	LC	ML	TWO PEOPLE
Rk_CBF	1,0000						
End	0,414**	1,0000					
	0,0060						
EG	-0,1570	0,0910	1,0000				
	0,3200	0,5660					
CE	0,1730	0,0910	-0,0760	1,0000			
	0,2740	0,5650	0,6310				
LC	0,2120	-0,2100	-0,375*	0,1760	1,0000		
	0,1770	0,1820	0,0140	0,2650			
ML	0,2650	-0,0260	-0,371*	0,1290	0,457**	1,0000	
	0,0900	0,8710	0,0160	0,4150	0,0020		

ROA	0,2240	-0,1150	-0,3040	0,0430	0,0518***	0,952***	1,000
	0,1540	0,4670	0,0500	0,7870	< 0,001	< 0,001	
Note: Significance * < 0.05; ** < 0.01; <0.001							

Source: survey data (2024).

The correlation between Rk_CBF (CBF ranking score) and End (Total Passive) was 0.414**, with a significance level of 0.0060. This indicates a moderate positive correlation between these two variables. The value of the positive correlation coefficient suggests that, in general, as the score in the CBF ranking increases, the Total Liabilities of the clubs also tend to increase, and vice versa.

The correlation between LC (Current Ratio) and EG (General Indebtedness) was -0.375*, and a significance level of 0.0140. This indicates a moderate negative correlation between these two variables. The negative correlation coefficient suggests that, in general, as the Current Liquidity of clubs increases, a downward trend in Overall Indebtedness is expected.

The results indicate a moderate negative correlation between Net Margin (ML) and General Indebtedness (EG). As observed in the analysis, the correlation between these variables was -0.371*, with a significance level of 0.0160.

The results reveal a weak and non-significant correlation between Return on Assets (ROA) and Current Ratio (LC), with a correlation coefficient of 0.0518*** and a significance level of less than 0.001. On the other hand, a very strong and highly significant correlation was observed between ROA and Net Margin (ML), with a correlation coefficient of 0.952*** and a significance level of less than 0.001.

FINAL THOUGHTS

The purpose of this research was to examine the relationship between the financial and sporting performance of football clubs facing uncovered liabilities. For this, economic and financial indicators obtained from the financial statements for the period from 2020 to 2022 were used. In addition, descriptive analysis of the data was used, seeking to identify the behavior of the variables, together with the *Spearman* matrix, used to investigate the correlation.

The descriptive statistical analysis of the teams revealed that there is no definitive conclusion about the relationship between the financial situation and sports performance. Some clubs had poor financial indicators, but managed to position themselves well in the ranking, even occupying the first places in certain cases. On the other hand, teams that recorded good financial ratios did not necessarily occupy the first places among the 20 clubs listed in the ranking.

The matrix of *Spearman* indicates that there is no significant correlation between the CBF ranking score and the indicators of Indebtedness, General Indebtedness and Composition of

Indebtedness, when only clubs with uncovered liabilities are considered. However, when including in the analysis the clubs without uncovered liabilities, a moderate correlation was observed between the CBF ranking and Indebtedness (Total Liabilities), suggesting that as the position in the ranking increases, the indebtedness (Liabilities) also tends to increase.

Thus, the results of the research allow us to contribute to the literature, since there is no clear conclusion about the existence of a relationship between economic and financial indicators (including the indebtedness of clubs) and their eventual sports performance. When all 14 clubs (with uncovered liabilities and without uncovered liabilities) are analyzed together, the results indicated that the higher the debt of the clubs, the better their sporting performance will be.

A limitation of the research was the difficulty of accessing the financial statements of the clubs over the three years due to the lack of availability of these documents on some official websites, requiring a search in other sources, such as the websites of the state sports federations.

For future studies, it is recommended to expand the sample size and the period of analysis, as well as to include other variables, such as salary expenses, degree of financial leverage and points achieved in series A and B championships.

REFERENCES

AIDAR, A. C. K.. The transformation of management model in soccer. 2000. Available at: https://hdl.handle.net/10438/2906.

AZZOLIN, J. L.. Analysis of financial statements. IESDE BRASIL SA, 2012.

BRAZIL (1964). Law No. 13,155, of August 4, 2015. Establishes fiscal and financial responsibility principles and practices and transparent and democratic management for professional soccer entities; establishes special installments for debt recovery by the Union. Brasília, DF: Presidency of the Republic, 2024. Available at: https://www.planalto.gov.br/ccivil_03/_ato2015-2018/2015/lei/l13155.htm. Accessed April 7, 2024.

BABÁ, R. K.. VAZ, M. S. M. G.. COSTA, J. Correction of agrometeorological data using statistical methods. Revista Brasileira de Meteorologia, 29(4), p. 5151-526, 2014. Available at: https://www.scielo.br/j/rbmet/a/TJPzfbvqdFbXpvHVkYRTxHk/?lang=en.

LIMA BATISTA, E. .; DA SILVA CAJAIBA, K. . Relationship between Economic-Financial Performance and Sports Performance of the main Soccer Clubs in the State of São Paulo. Cadernos de Ciências Sociais Aplicadas, [S. l.], v. 18, n. 32, p. 173-190, 2021. DOI: 10.22481/ccsa.v18i32.9252. Available at: https://periodicos2.uesb.br/index.php/ccsa/article/view/9252. Accessed June 7, 2024.

CARDOSO, C. P.; COSTA, M. C.; BRUTTI, T. A.; SCHEFFER, D. da C. D. A Creation of the Soccer Joint-Stock Company and the Application of Law 11.101/2005. Revista Ilustração, v. 3, n. 1, 2022. Available at: https://journal.editorailustracao.com.br/index.php/ilustracao/article/view/76. Accessed April 25, 2024.

BRAZILIAN FOOTBALL CONFEDERATION - CBF. National Ranking of Clubs 2020. Available at: https://www.cbf.com.br/futebol-brasileiro/noticias/index/palmeiras-lidera-ranking-nacional-de-clubes-da-cbf-em-2019. Accessed April 23, 2024.

BRAZILIAN FOOTBALL CONFEDERATION - CBF. National Ranking of Clubs 2021. Available at: https://www.rankingcbf.com/ranking-2021. Accessed April 23, 2024.

BRAZILIAN FOOTBALL CONFEDERATION - CBF. National Ranking of Clubs 2022. Available at: https://www.rankingcbf.com/ranking-2022. Accessed April 23, 2024.

CORREIA, Alisson Gomes; DE MOURA GANZAROLLI, Tiago Figueiredo. Indebtedness and Financial Leverage. ID on line. Revista de psicologia, v. 13, n. 43, p. 593-613, 2019.

DA FONSECA, João José Saraiva. Handbook of scientific research methodology. João José Saraiva da Fonseca, 2002.

FARIAS, E. S.; WERLANG, G.; DA SILVA, L. M. M. The Relationship Between Financial Health And Sports Performance Of Brazilian Professional Football Clubs. Revista De Contabilidade Dom Alberto , v. 10, n. 19, p. 120-141, June 15, 2022. Available at: https://revista.domalberto.edu.br/revistadecontabilidadefda/article/view/721.

FERREIRA, Hugo Lucindo; MARQUES, José Augusto Veiga da Costa; MACEDO, Marcelo Alvaro da Silva. Economic-Financial Performance and Sports Performance: an analysis with Brazilian football clubs. Contextus: Revista Contemporânea de Economia e Gestão, Fortaleza, v. 16, n. 3, p. 124-150, Sep./Dec. 2018. Available at: http://www.repositorio.ufc.br/handle/riufc/49145. Accessed April 7, 2024.

FERRI, Luca, et al. Financial versus sports performance: The missing link. International Journal of Business and Management, v. 12, n. 3, p. 36-48, 2017. Available at: https://pdfs.semanticscholar.org/5d50/01582f56c2206f2d63e15d54be8e6b7d109b.pdf. Accessed May 25, 2023.

FERREIRA, H.L.; ANDRADE, D.L.I., JUNIOR; PIVA, T.A. Influence of Sports Performance and ProFut Adherence on the Debt Level of Football Clubs in Brazil. Podium, Sao Paulo, v. 12, n. 1, p. 88-111, Jan 2023. Available at: https://www.proquest.com/scholarly-journals/influência-do-desempenho-esportivo-e-da-adesão-ao/docview/2771104294/se-2?accountid=26642.

GIL, Antonio Carlos. How to develop research projects. Editora Atlas SA, 2002.

GITMAN, Lawrence J. et al. Principles of financial management. 2010.

JAHARA, R. C.; MELLO, J. A. V. B.; AFONSO, H. C. A. G.. Proposal of a Standard Index and Financial Performance Analysis of Brazilian Soccer Clubs in the Serie A in 2014. PODIUM Sport, Leisure and Tourism Review, [S. l.], v. 5, n. 3, p. 20–40, 2016. Available at: https://periodicos.uninove.br/podium/article/view/9527. Accessed April 7, 2024.

LUCENTE, A. R.; BRESSAN, P. R.. Analysis of financial ratios: Case study of Sport Club Corinthians Paulista from 2008 to 2013. PODIUM Sport, Leisure and Tourism Review, v. 4, n. 3, p. 185-196, 2015. Available at: https://dialnet.unirioja.es/servlet/articulo?codigo=5327113. Accessed April 7, 2024.

MARION, José Carlos. Analysis of financial statements. São Paulo: Atlas, v. 305, 2005.

MATARAZZO, Dante Carmine. Financial statement analysis: basic and managerial approach. 7th ed. São Paulo: Atlas, 2010.

MOURAO, Paulo. The indebtedness of Portuguese soccer teams – looking for determinants. Journal of Sports Sciences, v. 30, n. 10, p. 1025-1035, 2012.

NAKAMURA, W.T. (2015). Reflections on the management of soccer clubs in Brazil. Journal of Financial Innovation, v.1, n.1, p.40-52, 2015. Available at: https://www.researchgate.net/publication/282553636_Reflections_on_the_Management_of_Soccer_Clubs_in_Brazil. Accessed April 7, 2024.

NASCIMENTO, J. V. do et al (2019). Comparison between economic performance and sports performance of the Brazilian Serie A Football Championship clubs in 2018. 2019. Florianópolis: Congresso UFSC, 2019. Available at: https://repositorio.ufsc.br/handle/123456789/203940. Accessed April 7, 2024.

OLIVEIRA, M. C.; BORBA, J. L.; FERREIRA, D. D. M. Characteristics of Liabilities of Brazilian
Football Clubs: What Do the Financial Statements Say? São Paulo: Congresso USP, July 25,
2018. Available at:
https://congressousp.fipecafi.org/anais/18UspInternational/ArtigosDownload/1139.pdf.
Accessed April 7, 2024.

REZENDE, A. J.; DALMÁCIO, F. Z.. Corporate governance practices and performance indicators of
football clubs: an analysis of structural relationships. Contabilidade Gestão e Governança, v.
18, n. 3, 2015. Available at: https://revistacgg.org/index.php/contabil/article/view/878.
Accessed April 7, 2024.

RODRIGUES, R.J.F. Determinants of Indebtedness of European Football Clubs. 2015. 37. (Order No.
28802089) - Universidade de Lisboa (Portugal), Portugal, 2015. Available at:
https://www.proquest.com/dissertations-theses/os-determinantes-do-endividamento-dos-
clubes/docview/2632941235/se-2?accountid=26642.

SANTOS, L. M. V. V. The evolution of management in Brazilian soccer. 2002. PhD Thesis. Available
at: https://repositorio.fgv.br/server/api/core/bitstreams/e8eb75a2-acff-4e9e-9362-
713060841093/content. Accessed April 7, 2024.

GÖLLÜ, Emre. Impact of the financial performances of incorporations of football clubs in the
domestic league on their sportive performances: A study covering four major football clubs in
Turkey. Pamukkale Journal of Sport Sciences, v. 3, n. 1, p. 20-29, 2012.

SANTOS, E. R. dos; BOTINHA, R. A.; TAROCCO FILHO, J.; MARQUES, S. A.. Indebtedness in
sports entities: an analysis of the characteristics of "A" series clubs of the CBF.
CONTABILOMETRIA - Brazilian Journal of Quantitative Methods Applied to Accounting,
Monte Carmelo, v. 7, n. 1, p. 1-14, Jan.-Jun./2020. Available at:
https://www.revistas.fucamp.edu.br/index.php/contabilometria/article/view/1660. Accessed
April 26, 2024.

SANVICENTE, Antonio Zoratto. Financial administration. Atlas, 1983.

ROSS, Stephen A. et al. Financial administration. AMGH Editora, 2015.