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The impact of financial management in the soccer industry:

How do financial management strategies implemented by football clubs influence their overall economic performance and long-term sustainability within the football industry?

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Abstract

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This study aimed to investigate the impact of financial management strategies on the economic performance of soccer clubs. Through data analysis, we compared clubs of varying standings – high, medium, and low. Additionally, we employed game theory to analyze the financial health of these clubs, examining their assets and liabilities.

Quantitative research was used in this study. To carry out this study, we based our research on data collection and analysis processes such as statistics, in order to observe cause-and-effect relationships between the variables studied.

The results of our study showed that excellent financial management in soccer can help a club to aim for the top. Indeed, as our results show, good club performance is linked to good financial management, whether the club has been bought out by funds or by good management. Therefore, it seems that clubs are inspired by the best and don't aim beyond their means.

Keywords: Financial Fair Play, Financial management, Economy, Game Theory, Performance

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Glossary

DNCG	**Direction nationale du contrôle de gestion. It is an independent commission, hosted by the French Professional Football League, responsible for overseeing the accounts of professional soccer clubs in France.**
FFPR	**Financial Fair Play Regulations. A set of regulations established to prevent professional football clubs spending more than they earn in the pursuit of success, and in doing so not getting into financial problems which might threaten their long-term survival**
HRM	**Human resources management**
UEFA	**Union of European Football Associations. This is the body that oversees soccer in Europe. It is responsible for organizing the main European soccer competitions, such as the Champions League and the Euro.**

1 Introduction

1.1 Introduction

Sport has become an economic sector in its own right. Soccer is its most important dimension. There's soccer and there's other sports. It has become the most popular sport on the planet (Minquet, 2004). Indeed, today's soccer industry is a powerful economic force that transcends national borders and unites millions of fans across the globe. The soccer economy is estimated to be worth 5 billion euros in France and 400 billion worldwide (Innovant, 2023). At the heart of this industry lies a crucial element: financial management. Soccer clubs, whether modest or prestigious, face unique financial challenges and must develop sophisticated economic strategies to survive and progress in this competitive environment.

The importance of financial management in the soccer industry is undeniable. We must consider that clubs are businesses with business models and need to be analysed in this respect. Off the pitch, we need to focus on the economic and financial dynamics. Management is important and cannot be ignored but studied and integrated into the "passionate core" of soccer (Galbusera, 2019). Indeed, the industry generates huge revenues, attracts major investors, and relies on a dedicated fan base on a global scale. Inadequate financial management within soccer clubs can have far-reaching consequences, ranging from financial difficulties to a loss of competitiveness on the pitch. Thus, understanding how these clubs manage their financial resources is essential, not only for their own survival, but also for all industry players, researchers, and observers.

Today, financial management has become an essential part of every club's strategy, and sound financial decisions are crucial to ensuring their sporting competitiveness and long-term survival. Understanding how soccer clubs manage their financial resources and how this influences their performance is a crucial issue. This goes far beyond the interests of the clubs themselves, encompassing industry players, researchers who study these economic dynamics, and investors looking to maximize their returns in this fast-growing sector. On average, each professional player is responsible for the creation of 22 jobs in the French economy (Coudry, 2010). In short, the analysis of financial management in the soccer industry is of considerable importance, both economically and in sporting terms.

This thesis focuses on analyzing the interaction between financial management and the performance of soccer clubs, seeking to understand how economic choices impact sporting results and the competitive position of clubs. The importance of this research lies in the fact that soccer is much more than just sporting entertainment; it is a global industry that generates huge revenues and arouses passionate interest from fans, investors, and the media. Thus, understanding how financial management affects soccer is essential not only for those directly involved in the industry, but also for researchers and outside observers keen to grasp the economic dynamics at work.

1.2 Research Question

The central issue that emerges from this literature review concerns the optimal choice of financial model for soccer clubs, to reconcile economic stability and sporting performance. What are the impacts of financial management in the soccer industry? The rationale behind this question is based on the need to enlighten practitioners, club managers and decision-makers as to the best course of action in terms of financial management. While soccer is unquestionably a sporting spectacle, it is also a business subject to complex economic imperatives. Understanding which financial model offers the best guarantee of financial stability, while promoting sporting success. The debates surrounding financial fair play underline the need to question the implications of these regulations on the competition itself. Arguments in favour of financial responsibility must be set against legitimate questions about fairness and competitiveness between clubs. By addressing these issues, the research will aim to identify practical guidelines for clubs, while making a theoretical contribution to understanding the interactions between financial management and sporting success. In conclusion, this problematic is rooted in the complexity of soccer clubs' financial choices, offering a perspective that goes beyond economic considerations to encompass the sporting, social and community issues that underpin the soccer industry.

1.3 Thesis structure

This thesis is subdivided into 8 sections. Section 2 will cover the literature review about the main specificities of this subject such as structure of football clubs, financial fair play and finally game theory. Section 3 introduces the soccer club economics starting by a short history of business model, after that revenue sources and cost management with different examples. After that how clubs meet financial challenges by optimizing their economy. Section 4 takes a deeper look at the game theory what is it, how it works, and we will also talk about our methodology, our framework. We will also land about our strategy and talk about some descriptive statistics of the performance clubs. In section 5, we will present you and analyse the different results that we will find according to the strategy that we have chosen concerning this application of the Game theory. Finally, in section 6 we will do our conclusion and opening this thesis and is subject.

1.4 Study limitations

This undergraduate dissertation aims to explore the link between finance and soccer club performance, with the aim of offering an informative and academic analysis. Much of the information used in this dissertation comes from the Internet, due to the evolving nature of the finance sector in soccer. Although the author has taken steps to select reliable and relevant sources, it is possible that some information may be erroneous or obsolete. Readers are therefore strongly advised to verify relevant information for themselves and to consult a variety of sources for a more in-depth understanding of the subject.

2 Literature review

In this section we will see three different topics concerning the three most important key subjects of this bachelor thesis. For this purpose, we will firstly talk about the structure of football club. The second will be starting to be focused on the financial fair play, rule adopted by UEFA in 2010. Finally, the last section will be concerning the Game Theory, this theory being a financial and mathematics theory that we will use for the application of our research and for find answers to the different questions discussed previously.

2.1 Literature review about structure of football club

The organizational configuration of a soccer club plays a crucial role in its management and operation. This structure can vary according to a number of factors, including the club's size, legal structure, heritage, and internal culture. Sports management is a key responsibility involving the supervision of various aspects within the club, from strategic planning and market analysis to financial management and the training of young talent.

A competent sports manager is responsible for coordinating the activities of the club's various departments to ensure the team's success on the pitch and commercially (Futbollab,2023). As Bate Borisov club president Anatoly Kapski used to say, "The ideal structure of a club is the right people in the right places. It's not one big thing that makes the difference, but a combination of small things".

Each club has its own individual and unique organization, shaped by its environment and history. Moreover, the legal regulations defined in each country tend to influence the form of governance and organizational structure of clubs. However, it is possible to identify trends. These are based in particular on the role of the sports department and the relationship between the club owner and the manager or sporting director. One of the major difficulties faced by clubs is striking the right balance between decision-making power and the individuals within the organization who are responsible for making the most important decisions. In some cases, the ultimate authority at club level is a single individual, while in others there is a management committee or board of directors where the most crucial decisions are taken collegially.
We can identify several models of organizational structure. The organization chart in figure 1 is a basic model of club structure found in many European clubs. The top of the hierarchy is represented by the owner, either alone or accompanied by a president who makes decisions with the owner or simply on the owner's behalf (in which case he takes full responsibility for his actions). The General Manager is then the contact between the President and the rest of the departments. The latter are themselves divided into a number of distinct areas, such as sports (in which the scouts operate), administration and legal, financial management and marketing (Karl-Heinz Rummenigge,2015). This organizational structure may offer advantages in terms of rapid decision-making and strategic coherence, but it can also have disadvantages in terms of lack of transparency and accountability. The second model is the pluralist model, where several stakeholders are involved in the management and governance of the club. This may include shareholders, members, supporters, sponsors, and other interested stakeholders. In this model, decision-making is often more democratic, with wider stakeholder involvement in the decision-making process. However, this can also lead to conflicts of interest and difficulties in reaching consensus on important decisions. In England, for example, the coach is known as the "manager", and his role is different from that in other countries or leagues. In this configuration, the manager is also responsible for making decisions regarding recruitment, transfers, and the constitution of his squad of professional players. His tasks are therefore more important

here than elsewhere, where his responsibilities are generally carried out by a sporting director. The manager therefore reports directly to the chairman and has a say in all the strategic and sporting departments of the club he works for (ECA Club Management Guide, 2015).

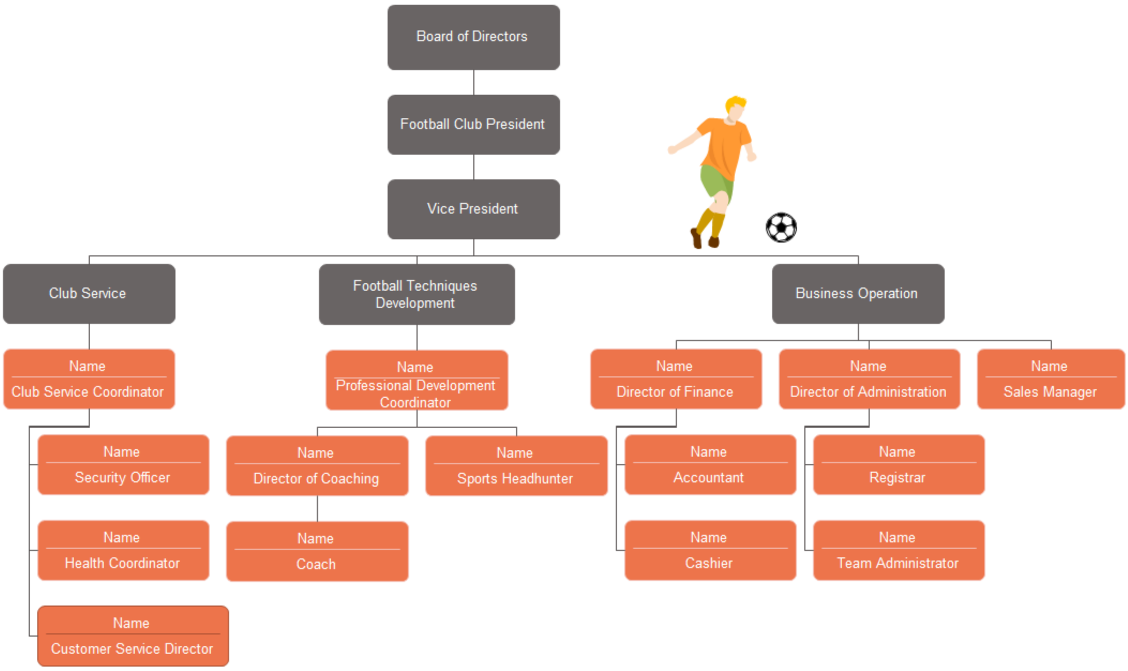

Figure 1 Roles and Responsibilities in the Football Club (ORG CHART,2015)

Finally, player recruitment is one of the most visible aspects of HRM in a soccer club. Clubs need to identify, evaluate, and attract promising talent to strengthen their squad and improve their competitiveness. This task involves a thorough analysis of the team's needs, as well as an assessment of the skills, personality and potential of each player recruited. In addition to recruitment, HRM also includes player development. Clubs invest in the training and skills development of their players to maximize their potential and performance on the pitch. This can include individual training programs, specialized coaching sessions and personalized follow-up to help players progress in their careers.

In conclusion, the structure of a soccer club is a complex, multifaceted subject that encompasses many aspects, including its organization, governance, sources of financing and human resources management. A thorough understanding of these different elements is essential to ensure the success and sustainability of a club in the world of professional soccer.

2.2 Literature review about financial Fair play

Excessive spending and other financial problems have not escaped the attention of UEFA's regulatory body. For this reason, in September 2009, the Union of European Football Associations (UEFA) developed the concept of financial fair play as an extension of its licensing rules. The FFPR framework was first introduced in 2009 but has since been revised several times before being deeded by Michel Platini in May 2010. "The aim of this concept is to reduce financial crime in European soccer (non-payment of debts owed to rival clubs or employees) and financial doping (excessive funding provided to cover losses resulting from talent-related expenditure not offset by income) ... in a manner efforts aimed at improving the financial performance of European interclub soccer and protecting its long-term viability and sustainability. (Müller, Lammert and Hovemann, 2012).
The basic idea of FFPR is to prevent football clubs from spending more than they earn. The concept takes certain income and expenditure into account when calculating whether clubs operate on a stable financial level, to prevent future financial problems and ensure the survival of clubs. The relevant expenses are salary costs, employers' costs, fees, administrative costs, other operation costs, amortization of the procedures from transfers of players, payment costs, and the relevant incomes are incomes from selling tickets, broadcasting rights, sponsorship and publicity, trading activities and other operation incomes, profits from the transfer of players, financial incomes, and additional incomes from fixed assets (Dima, 2014). Additionally, what is important to note, is that these regulations are not against debt. As long as the clubs are covering the interest payments of their debts by profits, there is not a problem with UEFA (Geey, 2016). In the case of a club failing to adhere to the regulations set, they will face sanctions, ranging from fines and losses of prize money, to transfer bans and disqualification from UEFA competitions, Champions League, or Europa League (UEFA). For small and medium-sized clubs, access to European competitions is a major source of revenue. Participation in the Champions' League group stage alone brings in 15.64 million euros for each club (Ouest France, 2023). For Sporting Portugal, for example, this represents almost 20% of annual revenues! European competitions

are a breath of fresh air for smaller clubs, and failure to qualify generally forces them to give up valuable players.

What's more, several studies have examined the impact of Financial Fair Play on European soccer clubs.

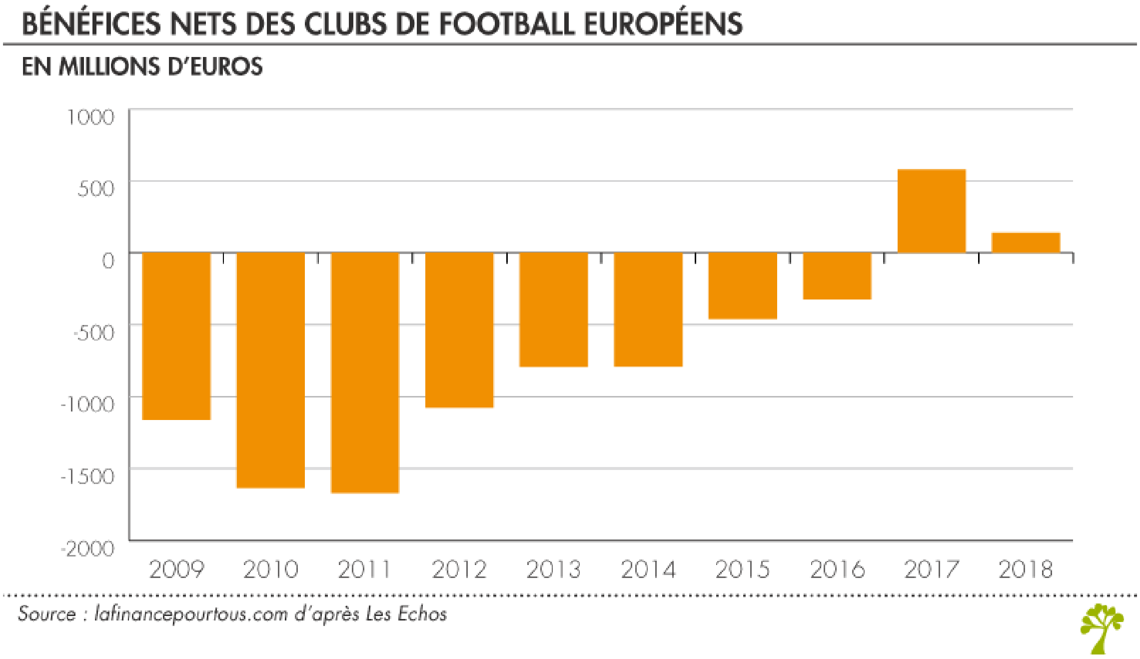

Figure 2: Net profits of European soccer clubs (Lafinancepourtous, 2018)

Indeed, as we can see from the graph, the clubs' cumulative deficit has risen from 1.7 billion euros in 2011 to a net profit of 140 million in 2018, an increase of 92% (Lafinancepourtous, 2020).

Despite its laudable aims, Financial Fair Play has also come in for criticism from some of the game's key players. Indeed, before the introduction of Financial Fair Play, some soccer clubs were able to become heavyweights of European soccer by accumulating significant financial deficits. For example, Chelsea and Manchester City were bought by a Russian oligarch in 2003 and by the Emirate of Abu Dhabi in 2008 (Pollard,2016). These new owners injected colossal sums (1 billion euros for Chelsea and 700 million euros for Manchester City) to propel these clubs to the top of European soccer in a relatively short space of time. However, the introduction of financial fair play has changed the situation for new entrants. Now, acquiring a club and taking it to the highest level has become much more difficult, as the new rules require clubs to quickly generate sufficient income to meet the FPF's financial criteria. This creates an advantage for clubs based in large cities in large countries, where it is easier to generate significant commercial revenues. For example, Paris Saint-Germain (PSG) managed to join the elite of European soccer thanks to a model similar to that of Chelsea and Manchester City, despite being reprimanded by UEFA for its financial practices. By contrast, clubs such as Malaga and AS Monaco, acquired respectively by a Qatari emir and a Russian oligarch, have had to scale back their ambitions due to the constraints imposed by financial fair play. Indeed, it is more difficult for these clubs to sell their image to sponsors and generate sufficient revenues due to their less advantageous geographical location, as is the case for Monaco, which has a small population compared to other more populated regions.

Take the case of Manchester United, regarded as England's biggest club, but which has been going downhill for some time. Indeed, figures published at the start of the 2023-2024 season showed that the club had negatively spent almost £1.2 billion or $1.5 billion in transfer fees over the previous decade (Miller,2023). Alternatively, French club PSG was sanctioned with a €60 million withholding, including a firm €20 million on future earnings from UEFA, for overspending in the transfer market (Siniecki,2023).

In conclusion, Financial Fair Play was introduced to promote the financial stability and long-term viability of European soccer clubs. While it has had a positive impact in reducing clubs' financial losses, it has also attracted criticism regarding its effect on sporting competitiveness, player mobility and competition on the transfer market. Ongoing evaluation and revision of the FPF rules are necessary to achieve a balance between financial discipline and sporting competitiveness in European professional soccer.

2.3 Literature review about Game theory

Game theory is a branch of mathematics and economics that studies strategic interactions between individuals or organizations. It examines how the decisions made by each player influence the overall outcome of the situation, considering the reactions of the other players. Game theory was developed in the mid-20th century by mathematicians and economists such as John von Neumann, John Nash, and Reinhard Selten. It is based on key concepts such as zero-sum and non-zero-sum games,

dominant strategies, Nash equilibria and repeated games (Neumann, Nash, Selten, 1920).
Game theory also has applications in many fields, from economics and biology to political science, sociology, and psychology. In economics, it is widely used to model competition between firms, auctions, wage bargaining, investments, pricing policies, and many other aspects of economic decision-making (The TechTarget Editor, 2018).
Moreover, this theory concerns the analysis of the different strategies that players can adopt, and the search for equilibria where no party has an interest in changing its strategy unilaterally. Nash equilibria are situations in which each player maximizes his gain, considering the strategies of the others.
Let's take a concrete soccer example. Suppose there are two rival soccer clubs, Marseille (A) and Paris (B) in France, who must choose their playing strategy for a crucial match. Each club has two options: attack or defend.
The payoff matrix can be represented as follows:

	A attacks	A défends
B attacks	2, 2	0, 3
B défends	3, 0	1,1

In this matrix, the first number represents A's gain, and the second number represents B's gain. For example, if A attacks and B also attacks, both clubs get a gain of 2 each. If A attacks and B defends, A gains 0 and B gains 3, and so on.
To find the Nash equilibrium in this game, we need to determine the best responses of each club to the strategies of the other.

If B attacks, A's best choice is to attack too (2 > 0).
If B defends, A's best choice is always to attack (3 > 1).
If A attacks, B's best choice is to also attack (2 > 0).
If A defends, B's best choice is also to attack (3 > 1).

So, in this example, the Nash equilibrium is that both clubs choose to attack, as this is the best response for each of them, given the other's strategy. Neither club has any interest in unilaterally changing its strategy, as this would not bring it a higher gain. This

Nash equilibrium therefore represents a stable situation in which neither party has any interest in deviating from its strategy.

Finally, game theory is present in many fields. In economics, for example, game theory is used to analyze competitive situations, enabling us to study the behavior of companies and their pricing, advertising, and production decisions. In political science, it is used to analyze political decisions in the context of public choice. It can be used to model the behavior of political players, coalitions, negotiations, compromises, and the results of political decision-making processes. For elections, game theory is also used to model interactions between political parties, candidates, and voters. It can be used to analyze campaign strategies, coalitions, voter mobilization and outcomes. In social science, it can also be used to analyze situations where individuals must make decisions to coordinate their actions. We speak of coordination games such as the prisoner's dilemma. In biology, it can be used to study the interactions between predators and their prey. We analyze the attack and defense behaviors of animals to maximize their chances of survival. Then, in computer science, game theory is used for electronic auctions. It can be used to predict buyer behavior and thus maximize profits (De Lacaze, 2023).

In conclusion, game theory provides a powerful analytical framework for understanding strategic interactions between individuals or organizations in various fields. It has important practical applications and continues to evolve through theoretical and empirical research.

3 The soccer club economics

During this section we will introduce you the soccer club economics. For doing that we will firstly contextualize the importance of economics in the running of soccer clubs. After that, we will present the different sources of revenue for soccer clubs by analyzing them. In this part we will also discuss about expense and cost management to understand the strategy put in place to ensure a club's viability. Finally, we will talk about the challenges facing soccer clubs like indebtedness. Lastly, we are going to look at some concrete examples, based on the history of some of Europe's biggest clubs.

3.1 Introduction to soccer economics

In this section we will briefly talk about the history of the soccer economics and his importance in the aim to introduce to you some contextual elements for understand from where every element comes from.

The economics of soccer have evolved significantly over the centuries, from an amateur sport played by passionate amateurs to a multinational global industry generating billions of dollars every year. It first appeared in the middle of the 19th century in the United Kingdom among working-class people, and from the outset, this fledgling sport offered sporting values such as fighting spirit, cohesion, unity, sharing and surpassing oneself (Nizet, 2020).

Initially, clubs were modest, and revenues limited, mainly from membership contributions and ticket sales, for example. The average attendance mark of 10,000 was passed before the end of the 19th century, and 20,000 before the First World War (Wikipedia, 2024).

However, with the professionalization of the sport, revenue streams have rapidly evolved. Indeed, soccer was first and foremost a leisure activity, and then gradually spawned a whole range of professions, creating an entire economic network. Players, members of the club management, technical and medical staff, coaches, and other players earn wages of varying degrees (Nizet, 2020). Before the 1970s, players were paid mediocre salaries, but in the 1980s, a real business was created, primarily in Europe, and more particularly in England. What followed was a real exponential change in salaries.

In the past, salaries were low and often not high enough to make a living from soccer alone, but today they are astronomical. They have grown steadily and at breakneck speed. In 2007, a Ligue 1 player was already earning an average of around 41,000 euros, according to France Football, although in reality there are huge disparities in salaries within the game, with the stars earning the highest salaries. Today, a Ligue 1 player earns an average of 94,000 euros a month, which is colossal compared to many other professions. These salaries have been progressively normalized by the media in particular, even though they are quite simply excessive (FranceTVinfos, 2021) (Nizet,2020).

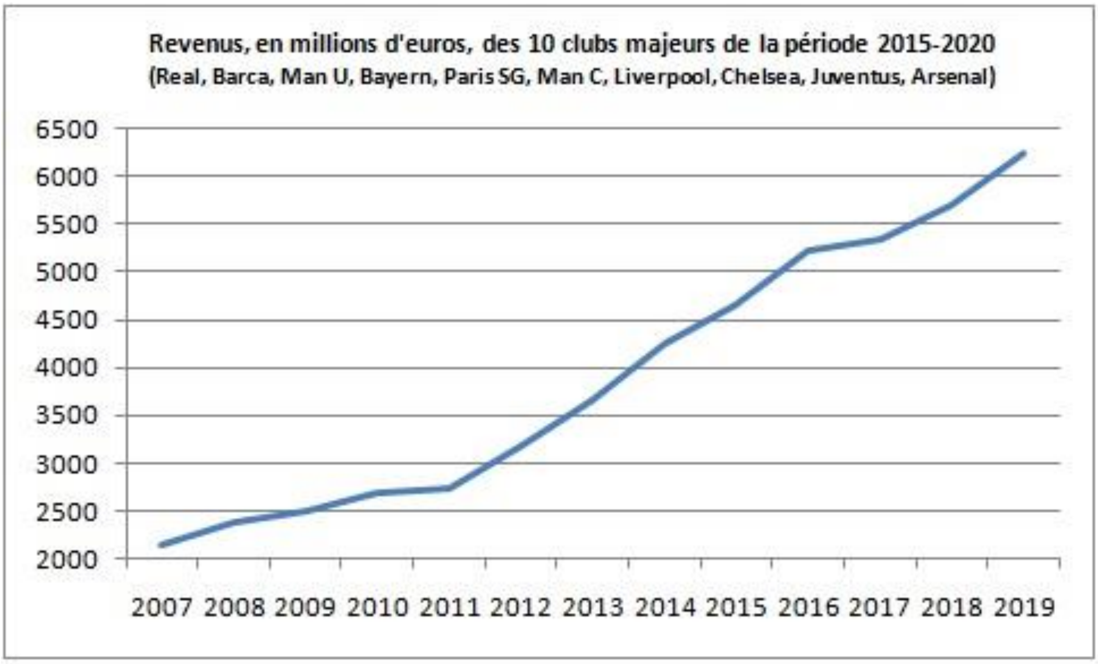

Figure 3 : revenues in millions of euros of the 10 major clubs from 2007 to 2020. (Le Monde,2020)

The 2010-2020 decade will have been one of sustained growth for the sector. Looking at the global revenues of a stable base of clubs (let's take the 10 major clubs of the second half of the decade: Real Madrid, Barcelona, Manchester United, Bayern Munich, Paris Saint Germain, Manchester City, Arsenal, Chelsea, Liverpool, Juventus), we see an increase in revenues of 191% in 12 years, in other words, an annual growth rate of 9.3% (Le Monde, 2020).

In addition, the rise of television in the 1950s and 1960s revolutionized the economics of soccer by introducing television broadcasting rights, creating new sources of revenue and global exposure for clubs.

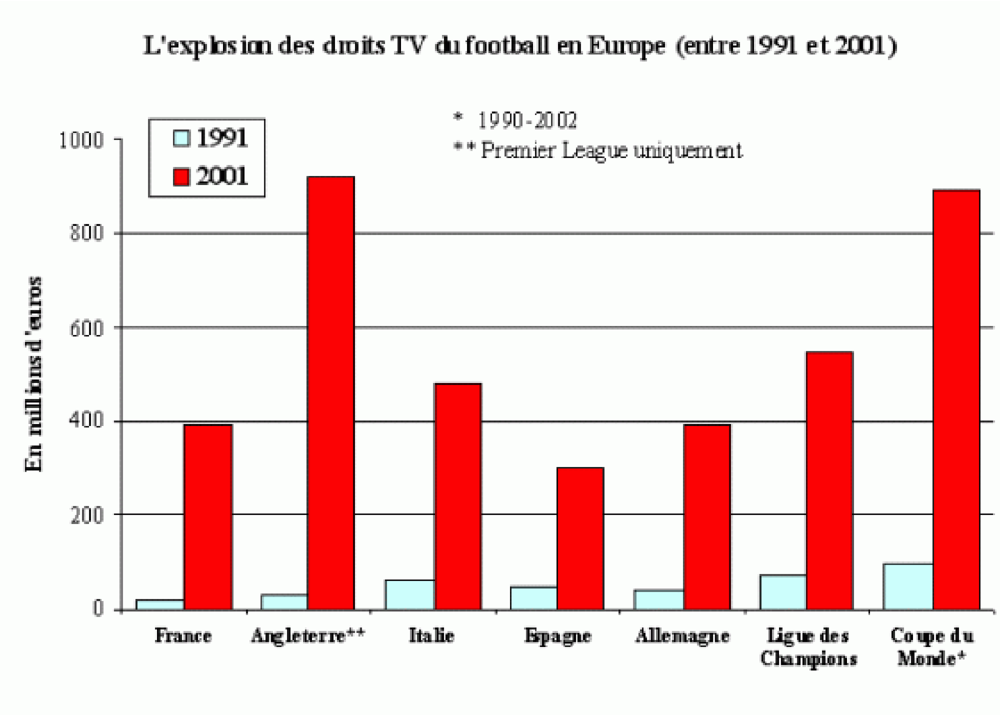

Figure 4: The explosion of soccer TV rights in Europe in millions of euros (between 1991 and 2001) (TPE Football Argent)

The graph shows that TV rights have exploded. In England, they have risen from 10 million to almost 1000 million, an increase of x100. In all the major leagues and competitions, TV rights have skyrocketed.

Finally, over the decades, soccer has become increasingly commercialized, with an increase in sponsorship partnerships, merchandising sales, and industry globalization.

Today, soccer is not just a sport, but also a major economic sector, generating billions of dollars every year. Soccer clubs have become veritable businesses, with budgets that sometimes rival those of major multinational corporations. A club's economic health is now as crucial as its performance on the pitch, and the effectiveness of its financial management can determine its long-term success. In this context, understanding the economics of soccer is essential for all stakeholders involved, from club directors to fans. The economic decisions taken by clubs have a direct impact on their ability to recruit the best players, build and maintain modern infrastructures, and engage in top-level national and international competitions. Consequently, economic analysis has become an indispensable tool for assessing a club's viability and competitiveness in today's footballing landscape.

3.2 Sources of revenue for soccer clubs

The influence of financial management in the soccer industry has been the subject of extensive research and discussion in recent years. Academics, economists, and sports enthusiasts have sought to understand the complex relationship between financial decisions and results in the world of soccer. One of the main areas of research has focused on the different sources of revenue for soccer clubs. Indeed, over the past fifty years, soccer clubs today generate revenue from three main sources: ticket sales, merchandise, broadcasting contracts and sponsorship agreements (Sources de revenues, 2018). These revenue sources play a key role in the financial stability of soccer clubs and were examined to determine their effect on competitiveness and overall success.

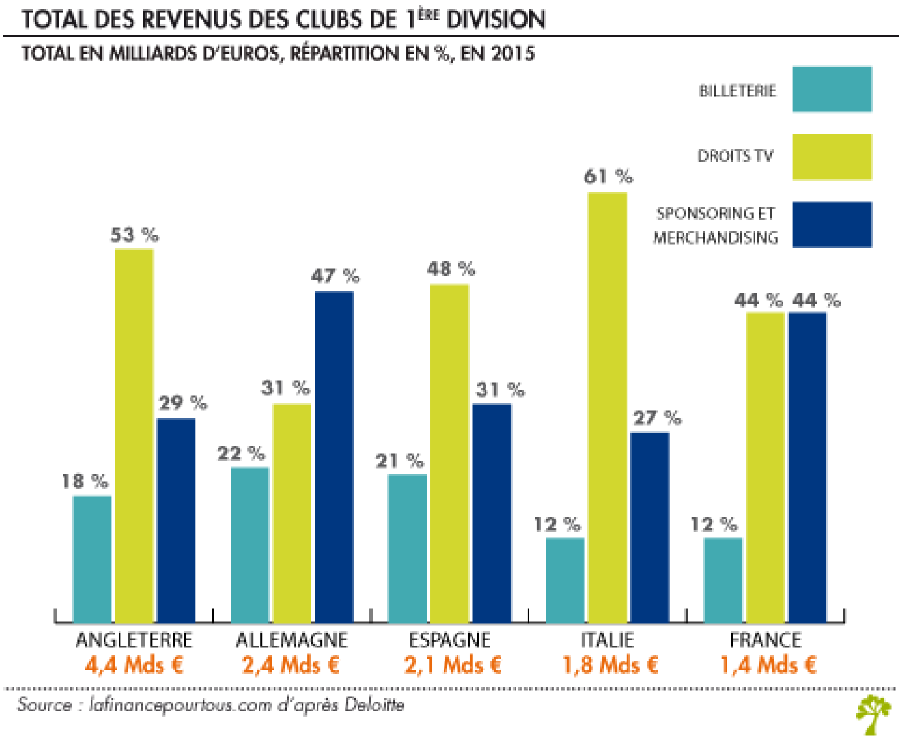

Figure 5: total club revenues in 2015 (lafinancepourtous.com, 2018)

From the data presented in the graph, TV rights in green and merchandising in dark blue play a dominant role in the five main soccer leagues. TV rights account for over 30% of revenues for each of these leagues, while merchandising contributes over 20%.

This combination of revenue sources enabled these leagues to generate revenues more than the billion-euro threshold in 2015. To delve deeper, we can take a more detailed look at the revenues of individual soccer clubs in Europe. Spanish club Real Madrid, for example, generates over €713.8 million in revenue and its new Santiago Bernabeu stadium. English club Liverpool completes the picture with revenues of €701.7 million. In fact, the Reds have made a quantum leap compared with recent years, with revenues of €559 million in 2019-2020 and €550 million in 2020-2021, thanks in particular to a large share from TV rights (€314 million) and ticket sales (€122 million) (Margueritte, 2023)

In addition, the impact of player transfers on club finances has been extensively explored. Researchers have analyzed the effects of record transfer fees, the consequences of poor investment in player acquisition. Indeed, transfer fee prices have risen by 116% in the space of 10 years, according to a study published by the CIES soccer observatory this week. For a player bought for 10 million in the 2013-2014 season, today's clubs would pay 21.6 million. (Giovanni Zidda, 2023). Brazilian player Neymar, for example, moved from Barcelona to Paris Saint-Germain (PSG) for a whopping US$230 million, making him the biggest transfer in soccer (Ameena Navab, 2022).

Finally, the financial performance of soccer clubs has become an essential element in ensuring the club's solvency and viability over time (David Alaminos, Ignacio Esteban, Manuel A. Fernandez-Gamez, 2020). Indeed, results show that a club's financial performance is determined by liquidity, debt, and sporting performance (David Alaminos, Ignacio Esteban, Manuel A. Fernandez-Gamez, 2020). Such as league standings, cup wins and performances in European competitions. Indeed, clubs earn prize money based on their position in the national league or the Champions League. The latter provides its contestants noticeably better prizes than respective national leagues, which is one of the reasons clubs fight so hard to qualify for the competition. Qualifying for the group stage alone grants a club €15.25 million, which is far more than the yearly revenue of some of the clubs. Winning all the games and naturally therefore the competition, a club would earn €82.45 million (Goal,2022). Additionally, some of the revenue generated by the competition is shared for participating clubs based on current and previous performance, similarly to the Premier League (UEFA,2023) (Goal,2022)

Position	Prize money
Winner	€20 million
Runner-up	€15.5 million
Semi-finalist	€12.5 million
Quarter-finalist	€10.6 million
Last 16	€9.9 million
Group-stage win	€2.8 million
Group-stage draw	€930,000
Qualifying for group stage	€15.64 million
Third qualifying round	€500,000
Second qualifying round	€400,000
First qualifying round	€300,000

Figure 6 Champions League Prize Money (GOAL,2022)

Some clubs have income for external financing, issuing of securities, patronage capital, etc. (Nagy, 2012). In Manchester City's 2018 financial report, it was stated that "Manchester City Football Club Limited is reliant on its ultimate parent undertaking, Abu Dhabi United Group Investment and Development Ltd ('ADUG'), for its continued financial support." This financial support has amounted to more than €1.47 billion over the last 10 years, according to the 2019 report. However, since the takeover of Sheikh Mansour (founder and owner of ADUG) in 2008, the value of the club has risen from €237 million to a staggering €2.37 billion in 2019 (Forbes, 2021). Again, comparing this to Liverpool FC, their parent company Fenway Sports Group wants to maintain sustainability and does not want to rely on big-money loans. The sustainable strategy has proven to be efficient, since the takeover of FSG in 2010, the value of Liverpool FC has risen from €458 million in 2011 to €1.92 billion in 2019 (Forbes,2021), while the debts have decreased from €98.5 million in 2012 to €13.6 million in 2019 (Liverpool FC Financial Report, 2022).

In short, diversification of revenue sources is essential to ensure the financial stability of soccer clubs in an ever-changing economic landscape.

3.3 Expense and cost management

Managing expenditure and costs represents a major challenge for soccer clubs, who must balance their budgets while maintaining their competitiveness on the pitch (Meyssonnier,2013). The main expenditure items include player and staff salaries, transfer fees and allowances, as well as operational and infrastructure costs.

First of all, player and staff salaries are often the biggest expense item for soccer clubs. The best players and coaches demand high salaries to remain competitive on the market. Clubs therefore need to manage their payroll wisely to avoid financial imbalance. In France, for example, a recent survey revealed that the 10 highest-paid footballers are PSG players. Mbappé sits at the very top of the league's wage table, far ahead of his teammates and rivals, who earn at least 5 times less than him (Lafont, 2024).

		(estimations)
1	**K. Mbappé** (Paris-SG)	**6 000 000 €**
2	O. Dembélé (PSG)	1 120 000 €
-	Marquinhos (PSG)	1 120 000 €
4	L. Hernandez (PSG)	1 110 000 €
5	M. Skriniar (PSG)	1 100 000 €
6	G. Donnarumma (PSG)	849 500 €
7	M. Asensio (PSG)	831 000 €
8	R. Kolo Muani (PSG)	750 000 €
9	A. Hakimi (PSG)	738 600 €
10	N. Mukiele (PSG)	700 000 €

Figure 7: Top 10 gross monthly salaries in Ligue 1 (L'EQUIPE, 2024)

Secondly, transfer fees and compensation linked to player transactions represent another major aspect of club spending. Player transfers can involve considerable sums, including transfer fees, agent commissions and signing bonuses. Clubs must therefore carefully assess the cost-benefit ratio of each transaction to avoid overspending (Inside FIFA, 2024).

Finally, operational and infrastructure costs include a range of costs, such as stadium running costs, facility maintenance expenses and administrative costs. Clubs need to strike a balance between investment in quality infrastructure and prudent cost management to maintain their long-term economic viability.

To ensure their economic viability, soccer clubs implement various cost management strategies. These can include negotiating reasonable wage contracts with players, sourcing young talent at lower cost, streamlining operational processes to reduce overheads, and planning long-term infrastructure investments. By adopting a proactive and balanced approach to cost management, clubs can improve their financial health while maintaining their competitiveness on the pitch (Fastercapital, 2024).

3.4 Financial challenges in soccer

Soccer clubs face a series of financial challenges that threaten their long-term viability. One of the main challenges is excessive debt, often caused by massive investment in player transfers and infrastructure without proper financial planning. For example, Tottenham is the most indebted club in the 2021-2022 season, with a debt of 1.007 billion euros, followed by Spain's capital club, Real Madrid, with a debt of 967 million euros, and their rivals FC Barcelona, with a debt of 841 million euros (CNEWS, 2023). For Real Madrid, these UEFA results can be explained by the coronavirus pandemic. The Spanish club borrowed 205 million euros in April 2020. The club also had to finance the renovation of its stadium, the Santiago Bernabeu, to the tune of 225 million euros (CNEWS, 2023).

In addition, there is constant pressure to maintain high sporting performance while guaranteeing financial stability. Clubs are often faced with a dilemma between investing in the team to succeed on the pitch and limiting spending to avoid financial problems.

In addition, financial regulations such as Financial Fair Play impose further constraints by limiting clubs' spending and requiring financial equilibrium. While these regulations aim to promote economic viability and financial transparency, they can also restrict clubs' ability to compete in the transfer market and invest in long-term development. As a result, these financial challenges have significant consequences for clubs' long-term financial health, with an increased risk of financial default, sporting downgrading and organizational disruption. Clubs must therefore be prudent in their financial management and strike a delicate balance between sporting ambition and financial responsibility to ensure their long-term survival in a complex and competitive economic environment (François, 2021).

3.5 Real Madrid’s business model

Real Madrid CF is arguably the most successful team in the history of football, having won the Champions League 13 times, more than any other team, and the national league of Spain a record 34 times, 12 times more than its rival FC Barcelona (UEFA.com, 2023). Real Madrid has had and still has, some of the best players of the history on their ranks. This is mostly thanks to their transfer policy, which roots back to the 1950s and 1960s. This policy even has its own name, the “Galáctico” policy, which simply means buying multiple world-class footballers for large fees in successive seasons. In the early days, examples were the purchase of the likes of Alfredo Di Stefano and Ferenc Puskas, who are widely considered as one the best players in the history (former winning the Ballon d’Or on two occasions and the latter having the award for the most beautiful goal of the year named after him). Real Madrid has a brand business model.

The initial Galáctico era commenced in 2000, coinciding with Florentino Perez's presidency at Real Madrid. During this period, the club made significant signings including Luis Figo, Zinedine Zidane, Cristiano Ronaldo, David Beckham, Michael Owen, Robinho, and Sergio Ramos between 2000 and 2005. Despite criticism from some quarters regarding the emphasis on high-profile signings, the commercial impact of these acquisitions cannot be denied. By leveraging the marketing potential of these players worldwide, Real Madrid ascended to the pinnacle of revenue generation in the footballing world by the 2005-2006 season. Despite the substantial €275 million investment in these transfers, the club's revenue surged from €81 million in 1997-98 to €292 million in 2005-06 (Deloitte, 2008) This period saw both triumphs and setbacks for Real Madrid. One criticism leveled against the club was the tendency to sign players primarily for marketing purposes, potentially at the expense of team cohesion. Notably, the signing of David Beckham in 2003 for €37.5 million, despite already having a right-winger in Figo, was perceived as a strategic move aimed at capitalizing on Beckham's popularity, particularly in Asia. This proved lucrative as Real Madrid's pre-season tour in Asia following Beckham's arrival yielded €10 million in revenue, further solidifying the club's commercial dominance, and surpassing even Beckham's former club, Manchester United, in terms of revenue generation.

The second “Galáctico” era witnessed the signings of prominent players such as Kaka, Cristiano Ronaldo, Gareth Bale, James Rodriguez, and several others between 2009 and 2014, amounting to a total expenditure of €483 million. This period also saw a remarkable surge in Real Madrid's revenue, climbing from €366 million in 2009 to €757 million in 2020 (Deloitte, 2021). These signings propelled Real Madrid to the top of revenue rankings among football clubs until 2016, with a resurgence in 2019. The financial impact of these acquisitions was exemplified when Cristiano Ronaldo departed for Juventus in 2018 for €100 million. Despite being the highest fee ever paid for a player over 30 years old and the most expensive transfer by an Italian club, Juventus capitalized on Ronaldo's commercial appeal. Within the first 24 hours of the transfer, Juventus sold 520,000 Ronaldo jerseys, generating a staggering €51 million in revenue (Forbes, 2021). Furthermore, the value of Juventus' sponsorships doubled, and the club gained approximately 36 million followers on Instagram following Ronaldo's transfer, with 1.4 million new followers joining in the week before his arrival. This underscores the undeniable brand value and commercial impact of Cristiano Ronaldo as a global football icon.

In recent years, the significance of social media has surged, with a vast majority of fans actively engaging on various platforms such as Instagram, Twitter, and Facebook. Both clubs and players leverage social media as a pivotal tool to connect with fans, expand their reach, and cultivate their brand identity. Through strategic use of social media, clubs and players can not only attract new followers but also engage them effectively, disseminate information, and foster a sense of community. Moreover, the substantial followings amassed by clubs and star players translate into a lucrative audience for sponsors,
prompting increased investment in sponsorship deals, as exemplified by the case of Ronaldo. In the contemporary landscape, the ability to differentiate through innovative

social media strategies has become paramount, particularly given the limitations on live match attendance. As such, clubs strive to stand out by devising creative and engaging content that resonates with fans, thereby reinforcing their brand presence and enhancing fan engagement in the digital realm.

4 Methodology and Research Framework

In this section, we will focus on the methodology and research framework we will be using. To do this, we will analyze the financial statements of a number of clubs in France. Next, we will introduce you to game theory and explain the importance of this tool for club performance, with the different game models used. Then we will present the results on club performance using these tools.

4.1 Data collection

In this section, we describe in detail the different data sources used for our study on the impact of financial management on the performance of soccer clubs. Indeed, we will rely on soccer clubs' annual financial statements as a complement to annual reports which provide information on their activities. Finally, we will integrate statistical data on the clubs' sporting performance.

4.1.1 Club financial statements

To begin with, let's take a look at the French Ligue 1 championship. It's one of the top five leagues in Europe, with teams such as Olympique de Marseille, Paris Saint-

Germain, Olympique Lyonnais and AS Monaco.

CUMULATIVE INCOME STATEMENT In thousands of euros	2018/2019	2020/2021	2021/2022	VARIATION 2021/2022 vs 2020/2021
Broadcasting rights	900,786	835,654	729,240	-13%
Sponsors - Advertising	414,882	451,271	652,783	+45%
Gate receipts	201,123	7,905	225,321	+2,750%
Other income (including merchandising)	385,639	319,433	419,101	+31%
TOTAL NON-TRANSFER EARNINGS	**1,902,430**	**1,614,263**	**2,026,445**	**+26%**
Total payroll	1,085,370	1,239,578	1,460,370	+18%
Social security charges	303,726	346,911	299,841	-14%
Transfer fees	397,035	535,844	494,672	-8%
Agents' fees	104,223	119,235	120,386	+1%
Other expenses	715,222	530,722	745,023	+40%
TOTAL NON-TRANSFER EXPENSES	**2,605,576**	**2,772,290**	**3,120,292**	**+13%**
OPERATING RESULT (LOSS)	**-703,146**	**-1,158,027**	**-1,093,847**	**+6%**
PROFIT (LOSS) FROM TRANSFERS	**634,998**	**320,548**	**381,054**	**+19%**
CURRENT OPERATING INCOME	**-68,148**	**-837,479**	**-712,793**	**+15%**
Financial profit (loss)	-51,464	-40,052	-40,163	-0%
Exceptional profit (loss): Other	-15,384	-4,117	18,368	+546%
Corporation tax	-17,740	10,170	3,550	-65%
Except. profit (loss): Write-offs/reversals Current accounts	26,295	225,590	149,087	-34%
NET PROFIT (LOSS)	**-126,441**	**-645,888**	**-581,951**	**+10%**

The context of the 2020/2021 season, strongly marked by the health crisis, is very different from that of the 2021/2022 season.
Therefore, a comparison to the 2018/2019 season, the last pre-Covid season, has been added.

Figure 8 : Cumulative income statement of Ligue 1 (DNCG, 2022)

Thanks to this income statement, we can analyze Ligue 1's financial performance and determine whether the league posted profits or losses. Looking at the bottom line, we see that in the 2018/2019 season, Ligue 1 posted a negative result due to many expenses. The 2020/2021 season was marked by a health crisis that led to a drop in net income, resulting in a deficit of -645,000€. However, the following year saw an improvement in results, with an increase of 10%.

Next, we will take a look at a few French clubs. It is essential to analyze the income statement for the 2021/2022 season to observe each club's spending.

The case of Olympique de Marseille

OLYMPIQUE DE MARSEILLE

SASP + OM ASSOCIATION + OM DEVELOPMENT + OM OPERATIONS + OM MEDIA

PROFIT AND LOSS ACCOUNT

	K€
Broadcasting rights	57,021
Sponsors - Advertising	55,350
Gate receipts	28,793
Other income	96,385
TOTAL OPERATING INCOME	**237,549**
Total payroll	135,491
Amortisation of transfer compensation	28,383
Players' agents / Intermediaries fees	10,369
Other expenses	80,192
TOTAL OPERATING EXPENSES	**254,435**
OPERATING RESULT (LOSS)	**-16,886**
PROFIT (LOSS) FROM TRANSFERS	**-15,983**
Financial profit (loss)	-1,214
Exceptional profit (loss) : Other	3,083
PROFIT (LOSS) BEFORE TAX	**-31,000**
Income tax	0
NET PROFIT (LOSS)	**-31,000**

Figure 9 : Profit and loss account of Marseille (DNCG, 2022)

According to this income statement, the club receives €237,000 in support from TV rights, sponsors, and jersey contracts. However, its expenses amount to 254,000€, mainly due to staff remuneration and amortization of transfer indemnities, among others. In the end, the net result was -31,000€, which means that the club ended the season in deficit. It's important to note that despite these financial difficulties, the club is maintaining its high ambitions, aiming to win the championship and recruit top players.

The case of Paris Saint Germain

PARIS SAINT-GERMAIN

SASP + ASSOCIATION + PSG MERCHANDISING + SESE + PSG HANDBALL + SNC TRAINING CENTER + PSG JUDO

PROFIT AND LOSS ACCOUNT

	K€
Broadcasting rights	139,192
Sponsors - Advertising	377,160
Gate receipts	57,229
Other income	96,035
TOTAL OPERATING INCOME	**669,616**
Total payroll	729,019
Amortisation of transfer compensation	147,315
Players' agents / Intermediaries fees	39,440
Other expenses	155,340
TOTAL OPERATING EXPENSES	**1,071,114**
OPERATING RESULT (LOSS)	**-401,498**
PROFIT (LOSS) FROM TRANSFERS	**31,836**
Financial profit (loss)	1,133
Exceptional profit (loss) : Other	-6,857
PROFIT (LOSS) BEFORE TAX	**-375,386**
Income tax	6,674
NET PROFIT (LOSS)	**-368,712**

Figure 10: Profit and loss account of Paris (DNCG, 2022)

Here, we focus on the case of PSG, one of the richest clubs in the world, aiming to become the most powerful on a global scale. We see that the club receives support amounting to almost €770,000 from TV rights, advertising, and match revenues. However, its expenses amount to €1,071,000 million, mainly due to staff remuneration and amortization of transfer indemnities, among others. In the end, the net result is -368,000€, meaning that the club ends the season in deficit.

The case of Stade Brestois 29

STADE BRESTOIS 29

SA + ASSOCIATION

PROFIT AND LOSS ACCOUNT

	K€
Broadcasting rights	17,364
Sponsors - Advertising	11,049
Gate receipts	4,152
Other income	11,797
TOTAL OPERATING INCOME	**44,362**
Total payroll	29,510
Amortisation of transfer compensation	6,804
Players' agents / Intermediaries fees	3,626
Other expenses	12,656
TOTAL OPERATING EXPENSES	**52,596**
OPERATING RESULT (LOSS)	**-8,234**
PROFIT (LOSS) FROM TRANSFERS	**19,887**
Financial profit (loss)	-774
Exceptional profit (loss) : Other	3,141
PROFIT (LOSS) BEFORE TAX	**14,020**
Income tax	-1,807
NET PROFIT (LOSS)	**12,213**

Figure 11: Profit and loss account of Brest (DNCG, 2022)

Here, we take a look at Stade Brestois, one of the most modest clubs in France. Indeed, we can see that their total revenues amount to €44,000, while their total expenses amount to €52,000. As a result, the club's net income is positive at €12,000. All this shows that the club manages its resources responsibly and does not seek to exceed its means.

An analysis of the income statements shows that there are significant differences between the clubs. PSG's revenues are more than three times those of Olympique de

Marseille, and more than fifteen times those of Stade Brestois. However, despite these differences, only Stade Brestois recorded a positive net result.

4.1.2 Statistical Data on Sports Performance

We will be integrating statistical data on clubs' sporting performance, including information on match results, league rankings, performance in national and international competition, and other indicators of sporting success.

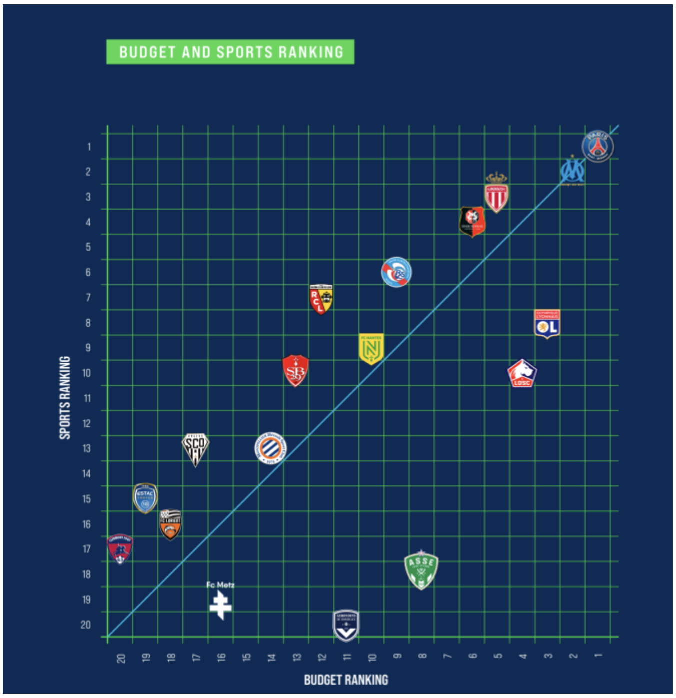

Figure 12 :Budget and sports ranking of Ligue 1 (DNCG, 2022)

This graph shows a club's sporting performance in relation to its budget. On the x-axis is the ranking based on each club's budget, and on the y-axis is the sporting ranking for the 2021-2022 season.

It can be seen that the correlation between the budget and sporting rankings is quite strong, particularly for the biggest budgets. Here, the 9 richest clubs are in the league's top 10. However, Lens, the club with the 12th-highest budget, finished 7th in the championship, while Saint-Etienne, the club with the 8th-highest budget, finished 18th.

Then, in the French championship, we can identify 3 groups of teams:

- Group 1: clubs with a payroll more than 70 million euros. 80% of these clubs have qualified for European Cups, and none have been relegated in the last eleven seasons. The main risk for these clubs is failure to qualify for the Champions' League group stages.

- Group 2: clubs with a wage bill of between 30 and 70 million euros. Only 5% have been relegated in the last eleven seasons. Of all these clubs, around one in five has qualified for a European Cup over the same period (Europa League: 13%, Champions League: 5%).

- Group 3: clubs with a payroll of less than 30 million euros. Over a quarter of these clubs (27%) have been relegated, and only 1% have qualified for European Cups (Europa League only) over the last eleven seasons.

SPORTS RESULTS BASED ON PAYROLL (2011/2012 TO 2021/2022 SEASONS)

PAYROLL	SHARE OF RELEGATED TEAMS	SHARE OF TEAMS MAINTAINED WITHOUT EUROPEAN CUPS	SHARE OF TEAMS QUALIFIED FOR THE EUROPA LEAGUE	SHARE OF TEAMS QUALIFIED FOR THE CHAMPIONS LEAGUE
ABOVE €70 MILLION	0%	20%	22%	58%
BETWEEN €30 AND 70 MILLION	5%	77%	13%	5%
BELOW €30 MILLION	27%	72%	1%	0%

Figure 13: Sports results based on payroll of Ligue 1 (DNCG, 2022)

Finally, in the world of soccer, sporting results have a real impact on revenues. Indeed, at the end of a season, four scenarios are possible for a Ligue 1 team:

-relegation to Ligue 2
-maintenance in Ligue 1 without qualification for the European Cup
-qualification for the Europa League or Champions League

These four scenarios have far-reaching consequences for club revenues:

-Relegation: on average, revenues excluding transfers for the two Ligue 1 teams relegated after the 2020/2021 season (Nimes and Dijon) fell by €13.4m and €8.8m respectively between 2020/2021 and 2021/2022. Each club has lost 55% and 30% of its revenues respectively.

-Europa League qualification: this competition generates up to €30m in revenue for clubs, thanks to UEFA audiovisual rights and ticket sales.

-Champions League qualification: the competition generates revenues ranging from €71.5m (Lille) to €100.8m (PSG) for clubs, from UEFA audiovisual rights and ticket sales. These revenues depend on the club's performance in the competition. In the 2020/2021 season, PSG, having played the semi-finals (behind closed doors), received 56 M€ more than this season (for audiovisual rights alone).

4.2 Analytical approach

In our study, game-theoretic modeling enables us to analyze the strategic interactions between clubs, players, agents, and leagues in different soccer situations. For example, if 2 clubs are interested in the same player, each club must decide how much it is willing to pay to acquire the player. Using game theory, we can model this situation as an auction game where clubs compete to obtain the player while maximizing their profit.

Desired player	Club A	Club B
Possible actions	Club A offers x amount to acquire the player	Club B proposes an amount y to acquire the player
Payoffs	If Club A proposes an amount x and Club B proposes an amount y, Club A's payoff is determined by the player's	Similarly, Club B's payoff is determined by the player's value minus the amount offered y.

	value minus the proposed amount x.	
Strategies (Each club must decide on the maximum amount it is prepared to pay for the player, considering the player's value to its team and the other club's potential action).	Club A may choose to offer an aggressive amount to maximize its chances of winning the player, but this can also lead to overbidding and overpayment.	Club B can adjust its offer according to Club A's offer, considering the player's value and its own available resources.

In this case, we can use the Nash equilibrium. The Nash equilibrium in this auction game occurs when both clubs bid amounts that maximise their own profits, knowing that the other club does the same. This can lead to a situation where one of the clubs wins the auction by bidding the highest amount, while the other club withdraws to avoid an overbid and a financial loss.

Using this modelling, we can analyse the optimal bidding strategies for each club and predict the outcome of the auction based on the amounts offered by each club. This approach allows us to understand the strategic interactions between clubs in the player acquisition process, providing valuable insights for decision-making.

4.2.1 Impact of décisions on sports performance.

In our assessment of football clubs' financial decisions, let's look at some concrete examples involving well-known clubs to illustrate the impact of these decisions on their sporting performance. Indeed, take Paris Saint-Germain (PSG), which has been active on the transfer market, recruiting big-name players such as Neymar for €222 million and Kylian Mbappé for €180 million in 2017 (L'EQUIPE, 2017) This strategy of investing heavily in world-class talent has strengthened PSG's position on the pitch and increased its chances of success in domestic and European competitions. This season, the club from the capital won the championship and the 3 other national trophies. On the European stage, the club reached the last 16 against Zinedine Zidane's Real Madrid. Since PSG was taken over by Qatar in 2011, the club has really changed dimension. The directors set ambitious targets and provided considerable resources, including €100 million to recruit players in the summer of 2011. Many talented players signed for the club, including Zlatan Ibrahimovic, Marco Verratti, David Beckham, and Thiago Silva (Wikipedia, 2013). On the domestic scene, the Paris club crushes everything in its path, as they are champions 9 times out of a possible 12 in the league and have won 31 trophies in total since the takeover (Wikipedia, 2023). However, this has also created pressure for other clubs to increase their spending to remain competitive, which has fuelled escalating prices on the transfer market.

Another example is Athletic Bilbao, a Spanish club known for its recruitment policy based on promoting young local talent through its academy. In order to wear the Athletic Bilbao jersey, you need to have a link with the Basque Country, which comprises 7 provinces (4 in Spain: Vizcaya, Alava, Guipuzcoa and Navarre; 3 in France: Labourd, Basse-Navarre and Soule). In all, that's more than 3 million inhabitants. This creates a sense of belonging among the people, which facilitates integration. The youngest members of the community are educated to be part of Athletic and to know its history (Boudet, 2016).

By focusing their resources on developing young players, Athletic Bilbao has managed to keep transfer costs relatively low compared to other clubs. While this approach limits their ability to compete with teams with larger budgets, it fosters a strong club identity and team cohesion, which has led to periodic success on the pitch. For example, the club recently won the Spanish Cup in 2024, adding to Bilbao's growing list of honours (Athletic Club, 2024).

By evaluating these examples, we gain a better understanding of how football clubs' financial decisions, such as transfer spending and recruitment policies, influence their sporting performance. This analysis allows us to identify the most effective strategies for maximising success on the pitch while ensuring sustainable financial management.

5 Results

The objective of this section is to present the results obtained through our study of the impact of financial management on the sporting performance of football clubs. Having analysed in depth the financial data, strategic decisions, and sporting performance of clubs, we are able to provide valuable insights into the complex relationships between these different aspects. In this section, we will examine the key findings from our analysis and highlight the practical implications for football clubs as well as the prospects for further research in this area. By looking closely at the results of our study, we can better understand how clubs' financial decisions influence their success on the pitch and identify the most effective strategies for achieving sustainable sporting performance.

5.1 Impact of financial decisions

Financial decisions, such as transfer spending and investment in infrastructure, play a crucial role in the sporting performance of football clubs. Clubs that choose to invest heavily in the recruitment of high-profile players can strengthen their position on the pitch by attracting world-class talent. However, this strategy can also lead to competitive pressures, contributing to price escalation in the transfer market. On the other hand, strategies focused on developing young local talent offer the advantage of keeping transfer costs down and fostering team cohesion. However, these clubs may be limited in their ability to compete with teams with bigger budgets, which may influence their long-term sporting performance. Thus, the choice of financial decisions has a direct impact on the competitive dynamics and sporting performance of football clubs, underlining the importance of making informed decisions to achieve a balance between immediate competitiveness and long-term stability.

5.2 Importance of Strategic Financial management

The importance of strategic financial management for football clubs cannot be underestimated. It is essential not only to maximise their chances of success on the pitch, but also to ensure their long-term viability. By adopting a strategic approach to financial management, clubs can judiciously balance their spending across key areas such as player transfers, wages, infrastructure investment and other aspects. This allows them to create a solid foundation for sustained sporting success while preserving their long-term financial health. Indeed, prudent financial management ensures that clubs can maintain a high level of competitiveness on the pitch while avoiding the risks of over-indebtedness or financial crisis. Strategic financial management is therefore an essential pillar of the overall performance and stability of professional football clubs.

5.2.1 Case study of FC Barcelona

Considering the analytical approach considered after data collection, a preliminary conclusion emerges, offering illuminating insights into the dynamics between financial management and soccer club performance.

Taking FC Barcelona, one of the world's most prestigious clubs, as an example, crucial observations emerge. In 2021, the club's balance sheet showed a debt of 1.173 billion euros, with cash flow problems and a considerable wage bill. The adverse effects of the Covid-19 pandemic have inevitably led to a drop in revenue for the Catalan club, with the suppression of ticketing income one of the main factors. Barça has failed to meet its financial targets (Glenn Ceillier,2021).

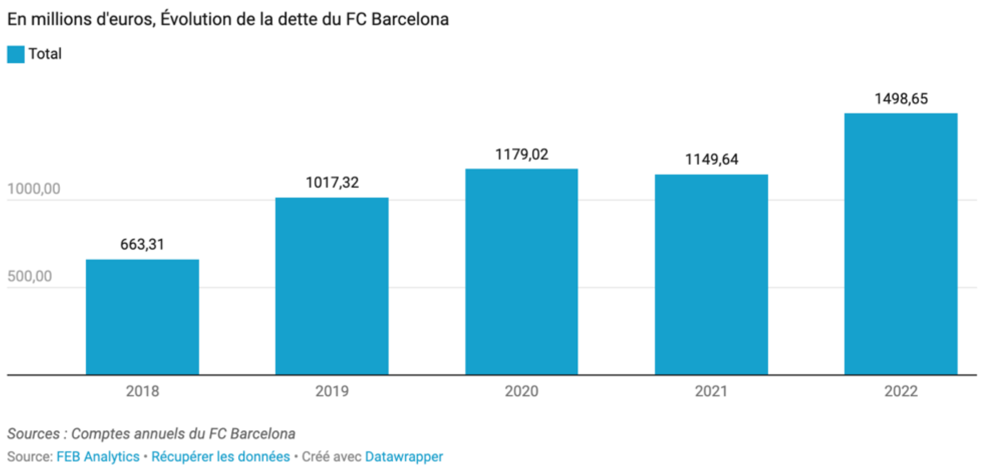

Figure 14: Evolution of FC Barcelona debt in millions of euros (FC Barcelona annual accounts)

We can observe that over the last 5 years, debt has increased by an average of 22% per year. Starting at 663 million euros in 2018, debt reached 1498 million euros in 2022 (Abdoulaye Samb,2023).

However, in the face of these financial challenges, the club's chairman has put in place strategies to avoid imminent bankruptcy. Indeed, since 2022, the club has once again become a major player on the European soccer scene, thanks to partnership agreements and asset disposals. The first contract was signed with Spotify, a music platform that provided the club with the cash it needed to carry out its day-to-day operations, such as paying overdue wages and signing several players. So, to earn even more cash, the Catalan giant began to sell shares in its assets, selling 10% of revenues from TV rights to the Spanish championship to a company earning them 207 million euros in the immediate future (Capital, 2022).

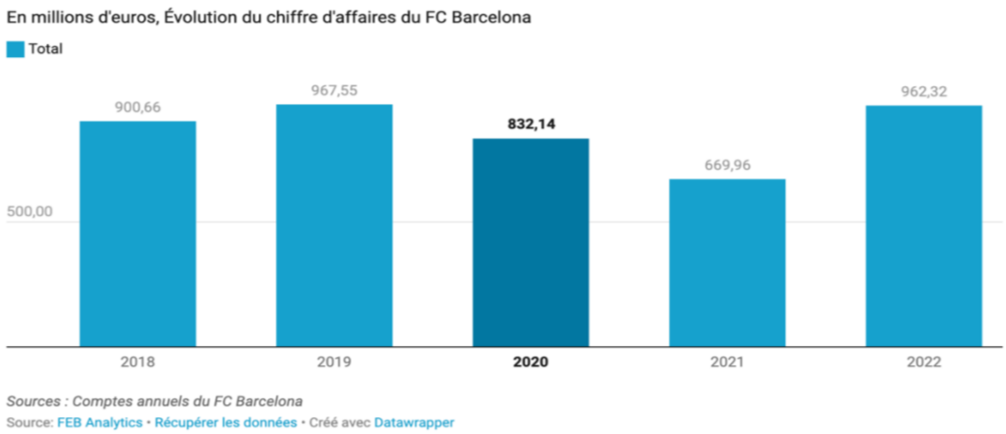

Figure 15: FC Barcelona sales in millions of euros (FC Barcelona annual accounts)

The graph shows a decline in sales from 2020 onwards. However, a significant upturn is noted in 2022, when the club recorded a 43.6% improvement in total sales. This rebound led to sales of 962 million, representing an increase of 314.12 million euros. (Abdoulaye Samb,2023).

In conclusion, after two years marred by debt problems, FC Barcelona has successfully embarked on a recovery process that has considerably boosted its economic activity. The reopening of the Camp Nou to the public and cost control measures have been key factors in the club's dynamic recovery for the 2021/2022 season. These initiatives have had a clear positive impact on the club's sporting performance, propelling it to the top of the Spanish league in the 2022/2023 season, demonstrating remarkable resilience in the face of financial challenges.

6 Conclusion and opening

6.1 Results analysis and conclusion

In this final section of our thesis, we will answer to our research's questions and our problematic thanks to the results that we previously find. Finally, we will sum up the most important findings of our research in this section. Our empirical findings that we find will be combined to present relevant answers to the designated research questions.

During this thesis the main objectives of The Author was to explore and examine if a financial management strategy implemented by football clubs influence their overall economic performance and long-term sustainability within the football industry. In that aim we have firstly provide you a complete overview about the structure of football club and the financial fair play in the aim to make you understand its functionality, how it works and the benefits and drawbacks. As we have seen at the beginning of this thesis the world of soccer continues to develop and improve. During this thesis we have also studies the soccer club economics by looking at different sources of revenue, such as TV rights and ticket sales, using real-life examples such as Real Madrid.

In order to analysis this problematic, we utilized the Game theory developed by John von Neumann, John Nash et Reinhard Selten in the mid-twentieth century. (Neumann, Nash, Selten, 1920). This utilization of this mathematical theory has enabled us to show how theory can be used in the world of sports, in this case soccer. It can be used to recruit players or to create their own strategy during a match.
Then, we have used the profit and loss accounts of the Ligue 1 clubs and then of certain clubs in particular. The aim of this analysis was to show the different expenses of the clubs and to observe their level of wealth and whether they knew how to manage their portfolios.

Finally, we can come back to our research questions that we elaborated together at the beginning of this thesis. Our first research question was: How do financial management strategies implemented by football clubs influence their overall economic performance and long-term sustainability within the football industry? Thus, as we have seen during our study and the various results that we have obtained, the financial management strategies implemented by soccer clubs have a significant impact on their overall economic performance and long-term viability in the soccer industry. By taking a close look at these strategies, we understand how they shape soccer's financial landscape and determine clubs' ability to thrive in an ever-changing competitive environment.

6.2 Openings for future study

This thesis has offered in-depth insight into the impact of financial management on the performance and sustainability of soccer clubs in the sports industry. However, this vast and dynamic field continues to offer many opportunities for research and development. For example, it could be interesting to base work on artificial intelligence in the world of soccer. Can we use it? What difference would it make to financial management?

In fact, this tool is becoming more and more important in our society, and is beginning to be integrated into a number of fields, including soccer.

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Appendices