University of Reading

Football and Finance: Essays on the impact of regulation, governance strategies and covid-19

PhD Finance

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Abstract

Football is the most popular sport globally, with audiences worldwide. European football has experienced tremendous growth in the past thirty years and is not just a source of entertainment but a vital contributor to countries' economies as an industry. While the literature is growing with insights into various aspects of the game and business, some gaps exist. This thesis contributes to the literature with three essays on regulation, governance strategies and covid-19.

The first paper provides evidence of the impact of UEFA's financial fair play (FFP) regulation on clubs' financial performance. We use panel data from 37 clubs and the difference-in-differences model to investigate the impact of FFP. The results indicate that while the profitability and indebtedness of clubs exposed to FFP improved, only the improvement in profitability is statistically significant. The result is robust to alternative definitions of exposed clubs and placebo tests. The findings provide evidence for regulators and valuable information to clubs for strategic planning.

The second paper contributes to the literature on the relationship between on-field and off-field performances. We use a mixed method case study approach to analyse the competitive and financing strategies and financial management and how they influenced Manchester United and Chelsea's on-field and off-field performances. The results show that financial regulation, managerial turnover and the role of the sporting director, in addition to the interplay of competitive and financing strategies and financial management, influence on-field and on-field success. The findings provide possible strategies for new and existing club owners.

The final paper contributes to the literature on the impact of covid-19 on clubs' financial performance, using panel data from 36 English clubs. The result suggests that the clubs'

profitability, indebtedness and financial stability deteriorated during the pandemic due to lost matchday revenue, though only the deterioration in profitability is statistically significant.

Declaration

I confirm that this is my own work and the use of all material from other sources has been properly and fully acknowledged.

Mobolaji Oluwafisayo Alabi

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List of Acronyms

BER Break-Even Requirement

CCFF Covid Corporate Financing Facility

EPL English Premier Leagues

FFP Financial Fair Play

FSR Financial Sustainability Regulation

GFC Global Financial Crisis

IFRS International Financial Reporting Standard

NHS National Health Service

NTFP Net transfer fees paaid

UEFA Union of European Football Associations

UK United Kingdom

1. Thesis Introduction

1.1. Introduction

The primary goal of football clubs is to win matches and trophies while continuing to exist as a business. However, in the quest for on-field success, some European clubs took excessive risks, which led to the Union of European Football Associations (UEFA) introducing the Financial Fair Play (FFP) regulation to address the issue. The regulation and other developments in the football industry impacted how clubs could compete to achieve their primary goal. Furthermore, with football matches played behind closed doors to minimise the spread of the covid-19 virus, the pandemic tested the financial resilience of the football industry because clubs lost matchday revenue for a year and a half.

This thesis is a combination of three intertwined papers investigating the impact of regulation, a global pandemic and governance strategies on English football clubs' off and on-field performances. The first paper examines the financial impact of the FFP regulation on the financial performance of English Premier League (EPL) clubs. The second paper is a case study of Chelsea and Manchester United and examines the relationship between on-field and off-field performances in achieving football and financial success. Finally, the third paper investigates the financial impact of the covid-19 pandemic on the financial performance of top English football clubs.

The next section of this chapter provides a background on the football and finance landscape in Europe and England and outlines this research's importance. Also, it explores the football finance literature, identifies the gaps which are the basis for each paper, and explains the methodological approach adopted and the contributions of this thesis to the existing literature.

1.1.1. Overview

Football is the biggest and the most followed sport globally. In 2020, 15 football clubs ranked in the world's top 20 most followed sports teams. Cristiano Ronaldo's 477m followers as of October 2022 on Instagram is the largest on the social media platform, surpassing entertainment superstars such as Beyonce and Justin Bieber. Football exists within a socially constructed world where fans, players, executives, advertising partners, media, merchandise producers, security staff, and grounds persons work in individual but connected activities to create an entertainment product (Parnell et al., 2021). Football, especially in Europe, is part of the families' social fabric, and not even two World Wars halted the sport (Reade & Singleton, 2021).

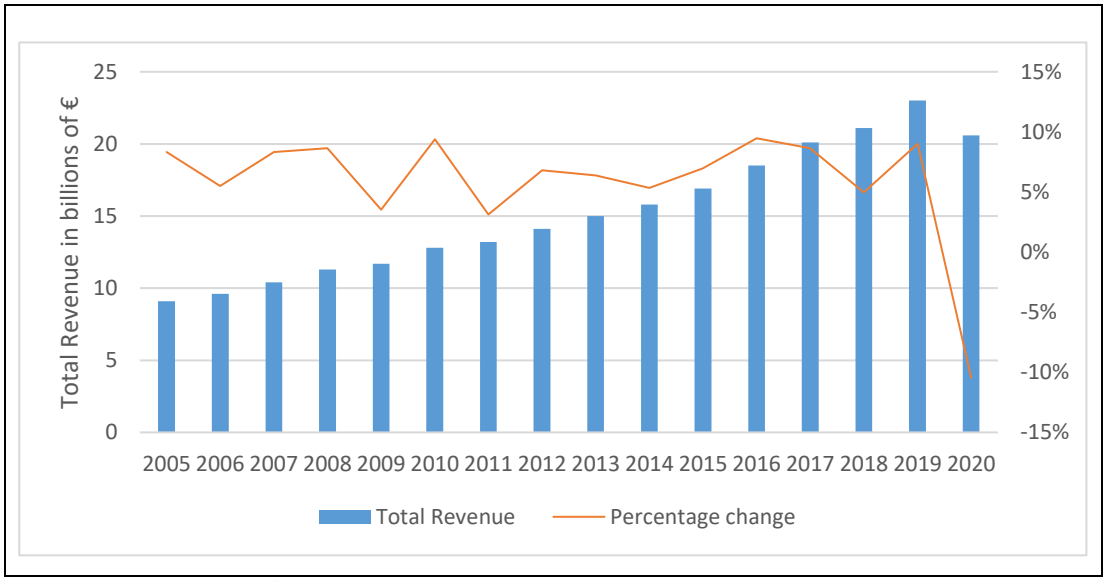
Football's contribution to society is not limited to its entertainment value. In 2017, the EPL contributed £3.3bn in tax revenue to the United Kingdom (UK government), equivalent to the annual salaries of 86,000 police officers or the cost of training 42,000 nurses (Ernst & Young, 2019). In 2020, the EPL contributed £7.6bn to the UK's Gross Domestic Product and attracted 528,000 tourists who spent £442m while in the country (Ernst and Young, 2022). Also, a flagship health programme called the Premier League Health, organised by EPL clubs in their stadium environment, led to improved health-seeking behaviour of hard-to-engage men who previously did not consult their General Practitioners (Pringle et al., 2013). During the covid-19 pandemic, football clubs in England supported the National Health Service (NHS) in their local communities with funding, accommodation and parking spaces, and logistics for distributing personal protective equipment (Ernst and Young, 2022).

Three recent events highlight the economic and social importance of football in England. First, during the pandemic, where non-essential services and social gatherings were banned, the UK government granted permission for the EPL to resume three months after its suspension in March 2020, with the then Foreign Secretary stating that it would "lift the spirits of the nation"

(McGuinness, 2020). In addition, financial considerations played a big part in the decision to resume football because of the agreement with broadcasters for a specific number of live games in a football season. Second, in 2021 fans of the six EPL clubs that signed up for the European Super League (ESL) protested against their clubs' involvement in the project and, with the help of the football organisations and the UK government, pressured their clubs to withdraw their participation in the ESL. The protest at Manchester United escalated and resulted in the police ejecting the fans that had broken into the club's Old Trafford stadium. Third, the UK government, which had frozen the assets of Chelsea's owner Roman Abramovich because of links to the Russian government that invaded Ukraine, issued a special license for Chelsea to continue its business operation, pending an enforced sale. Thus, football is an integral aspect of its fans' social lives.

The relationships within the football ecosystem – football clubs creating a symbolic identity to which fans feel attached – were instrumental in European football's resilience and growth during the Global Financial Crisis (GFC) that plunged most sectors into recession between 2008 and 2010, see Figure 1.1.

Figure 1.1: European Football's Annual Revenue



Notes: The author created this figure using revenue data published by UEFA in its annual benchmark reports. Total revenue increased even during the 2008 GFC – with the only dip in 2020 caused by the impact of Covid-19.

A vital contributing factor to football's revenue increase is the technological advancement in satellite television that enabled live broadcast of football matches to global audiences. For example, the broadcast revenue of the EPL, the highest contributor to European football's revenue, increased by over 3,800% between 1992 and 2019 (Sports Business Institute, 2019). This global popularity of football and its revenue growth attracted foreign direct investment – as of 2022, 14 of the 20 EPL clubs have foreign owners.

Despite the revenue growth and foreign investment, European football's and the EPL's bottom line performance worsened with the governance strategies, objectives of club owners, and the absence of regulation highlighted in the literature as the cause of the paradox. In response, UEFA introduced the FFP regulation in 2011 to address the financial issues in European football and updated it in 2022 with the Financial Sustainability Regulation (FSR). Thus, studying the football industry is vital because of its popularity and contributions to the economy and governmental and regulatory interventions.

1.2. Papers Summary and Contributions

1.2.1. Football and financial regulation

1.2.1.1. Summary and gaps in the literature

UEFA introduced FFP – which only applies to clubs competing in UEFA competitions – in response to consecutive and increasing financial losses accompanying significant revenue growth. Before FFP, there were no expenditure limits on player-related expenditure (wages and transfer fees) or the source of funding that financed it. Football clubs spent most of their revenue on acquiring players to improve their chances of on-field success – some clubs spent 100% of their revenue on only player-related expenditures, excluding other operational expenses. To fund the losses, the clubs took loans from banks and their owners, which

increased their indebtedness and led to negative equity in some extreme cases. With the likelihood of bankruptcy – inability to repay creditors as of when due – increasing because of the persistent losses and rise in indebtedness, the FFP limited football clubs to €5m in losses over three financial years and enforced the regulation with financial and sporting sanctions. Also, FFP prohibits clubs from acquiring players through loans from owners or banks.

UEFA designed the financial constraints introduced by FFP to encourage clubs to spend what they earn in revenue and expect a reversal in the trend that led to the precarious financial situation in European football. Because on-field success correlates with player-related expenditure, some studies (Budzinski, 2014; Sass, 2016; Vöpel, 2013) predicted that FFP would ossify competitiveness, but evidence in the literature (Birkhäuser et al., 2019; Gallagher & Quinn, 2020; Garcia-del-Barrio & Rossi, 2020; Plumley et al., 2019) indicates varying impact across leagues in Europe.

Regarding FFP's primary focus, financial performance, some studies have found profitability improvement; For example, Caglio et al. (2019) studied the big five European leagues – English, Spanish, French, German and Italian – between 2005 and 2015 and found evidence that profitability had improved post-FFP and attribute this to improved management of the revenue to cost ratio. Ahtiainen and Jarva (2020) studied the same leagues between 2008 and 2016 and found evidence indicating a reduced probability of clubs reporting losses. However, Ahtiainen and Jarva (2020) disaggregated their study and found significant evidence of improved profitability in the Spanish league, while the evidence for German and English leagues was weak. Also, Francois et al. (2022) studied English and French leagues simultaneously between 2008 and 2018 and found evidence of improved profitability only in the English league. The authors believe factors such as regulatory regimes – the French league introduced its domestic financial regulation in 1984 – and the size of broadcast deals in the leagues are possibly responsible for the difference in the FFP outcomes.

In addition to improved profitability, UEFA expected the indebtedness in European football to reduce because by restricting spending to earned income and prohibiting loans to fund player acquisitions, clubs' cash flow would increase, thereby increasing their capacity to repay their debt. Caglio et al. (2019) studied the impact of FFP on indebtedness using debt to cash flow as their measure and found that while it had improved, the improvement was not statistically significant. Similarly, Plumley et al. (2020) studied financial stability in English football using Altman's (1968, 2013) Z-scores and found that while it had improved for clubs in the EPL, the finding was statistically insignificant. Some other studies found that FFP induced changes in clubs' business models. For example, Dimitropoulos and Scafarto (2021) and Nicoliello and Zampatti (2016) found that, in addition to limiting expenditure to earned revenue, Italian clubs are now more efficient in selling players for profit to adhere to FFP. Also, Özaydın's (2020) study of the Russian league found that Russian clubs have shifted their focus to buying younger and high-potential players to reduce their expenditures.

The summary of the literature above indicates some gaps. Caglio et al. (2019), Ahtiainen and Jarva (2020) and Francois et al. (2022) findings indicate two things; FFP's impact varies across periods and leagues. For example, by studying two additional years, Francois et al. (2022) study found a statistically significant improvement in the profitability of English clubs compared with Ahtiainen and Jarva's (2020) study, which found weak evidence for improved profitability. Also, Francois et al. (2022) study found significant improvement in the EPL but not in the French league, and they posited that the EPL's broadcast deal possibly contributed to the league's improved profitability. Furthermore, UEFA announced adjustments to the FFP to isolate the impact of covid-19 and later replaced the regulation with the FSR in 2022. Thus, FFP, in its original form, was operational between 2011 and 2019, providing a definite period to assess the regulation's impact.

1.2.1.2. Contributions to the football and financial regulation literature

Given the summary of the relevant literature and its gaps, the first empirical paper of this thesis (Chapter 2) examines the financial impact of FFP on the financial performance of EPL clubs during the entire period of the regulation – 2011 to 2019. In particular, this paper answers two questions; First, did the profitability of EPL clubs exposed to FFP improve after the introduction of the regulation? Second, did the indebtedness of EPL clubs exposed to FFP improve after the regulation's introduction? We used panel data from 37 English clubs based on their frequency of participation in the EPL and hand-collected profitability and indebtedness information from their financial statements. We selected the EPL because the league was the most significant contributor to European football's revenue, losses and debt. Thus, the league presents a unique setting to assess the effectiveness of the FFP in improving indebtedness and profitability.

We use the difference-in-differences approach to identify the impact of FFP on the financial performance of EPL clubs. We find that the profitability of EPL clubs exposed to FFP increased significantly post-FFP. Our profitability finding is consistent with previous studies (Ahtiainen & Jarva, 2020; Caglio et al., 2019; Dimitropoulos & Scafarto, 2021; Francois et al., 2022; Özaydın, 2020), especially that of Francois et al. (2022) who compared the English and French League. Consistent with Dimitropoulos and Scafarto (2021) and Nicoliello and Zampatti's (2016) studies of Italian clubs, post-FFP EPL clubs' are more efficient in realising profit when selling players. However, we find that EPL clubs' profitability reduces when the value of broadcast deals increases because of increased player investment, and foreign-owned clubs are more loss-making than their British counterparts.

Regarding indebtedness, we find that while it reduced post-FFP, the improvement was not statistically significant. Our finding is consistent with Caglio et al. (2019) and Plumley et al. (2020) studies. We find that the increase in profitability has not translated to a significant

reduction in indebtedness because clubs reinvest the profit into player acquisition. Also, we find that instalment payments for players' transfer fees increased post-FFP and have increased clubs' debt. Again, broadcast revenue negatively impacts indebtedness because of increased transfer activity. Our results are robust to alternative definitions of clubs affected by FFP and placebo tests.

This paper contributes to the literature on the impact of FFP on financial performance in the following ways. To our knowledge, this paper is the first to assess the impact of FFP on the EPL as a stand-alone league, thus enabling us to control for environment-specific determinants of profitability and indebtedness. Finally, we analyse the impact of the FFP throughout the life cycle of the regulation (2011 to 2019) and include seven prior years for comparison.

1.2.2. Football and governance strategies

1.2.2.1. Summary and gaps in the literature

Chelsea and Manchester United are the most successful English clubs in the past twenty years, having won nineteen and eighteen trophies under the ownership of Roman Abramovich and the Glazer family, respectively; However, both club owners faced opposition within ten months of each other. Roman Abramovich was sanctioned by the UK government and forced to sell Chelsea for having ties to the Russian government. Manchester United fans protested the Glazers' ownership of the club because of their role in the failed attempt to introduce the ESL. A key question that various club stakeholders and academics ask is, given the correlation between on-field success and expenditure, what is the relationship between the off-field financial performance of a club and its on-field success?

Measuring the relationship between on-field and off-field performance is complex because selecting appropriate variables that capture the industry's uniqueness is challenging. However, Plumley et al. (2017) study, through rigorous literature review and factor analysis, provided a

foundation of variables – revenue, pre-tax profit/loss, net asset/liabilities, net funds/debt, league points, attendance spread, and game variance – for measuring on-field and off-field performance in football. More broadly, Grundy's (2004) case study of four EPL clubs – Chelsea, Manchester United, Leeds United and Arsenal – covered the interdependence of competitive and financing strategy and financial management to understand how they balanced their sporting ambitions with financial performance. Grundy (2004) found that owners must allocate limited resources to achieve sporting success and that clubs' histories intensely influence their competitive expectations. Also, historical success improves financial capacity and impacts clubs' competitive strategy. For example, Arsenal's limited on-field success resulted in the club selling players for profit to fund its on-field ambition, while Manchester United's commercial success – due to historical success – financed its competitive strategy. Grundy (2004) noted that the football industry is dynamic, requiring clubs to proactively monitor their financial management and financing strategy to remain competitive. For example, Roman Abramovich's purchase of Chelsea and the accompanying unlimited financing threatened Manchester United's dominance in English football.

The revenue growth in football and increased investment from foreign owners changed the landscape of European football. For example, wealthy individuals or corporate entities purchase clubs – with or without a history of success – and invest significantly in buying players and winning trophies. Some studies (Jones & Cook, 2015; Rohde & Breuer, 2016; Wilson et al., 2013) have found that foreign-owned clubs achieve better on-field outcomes than domestically-owned clubs because of their win-maximisation objective and financial capacity. However, the financial performance of foreign-owned clubs – and others following the same model – deteriorates because their revenue growth is not commensurate with player investments. The introduction of FFP restricted financing of football expenditure to earned income, necessitating clubs to adapt their business models to avoid sanctions.

Due to the size of player investments and stakeholders' expectations, managerial turnover increased because of unsatisfactory on-field performances (Bryson et al., 2021a, 2021b). Some studies (Rocaboy & Pavlik, 2019; Trequattrini et al., 2019; Wilson et al., 2019) find a positive on-field impact from sacking managers, while others (Bryson et al., 2021a; Van Ours & Van Tuijl, 2016) conclude that it is short-lived and performances regress to the mean. Thus, the sporting director role – covering the club's competitive strategy and playing and non-playing staff recruitment – has become vital and prevalent in European football to maintain competitiveness during frequent managerial changes (Parnell et al., 2022; Parnell et al., 2018).

These changes – financial regulation, managerial changes, and the importance of a sporting director – in addition to the financing and competitive strategies and financial management highlighted by Grundy (2004) and the variables highlighted by Plumley et al. (2017), characterise the present footballing landscape.

1.2.2.2. Contributions to the football and governance strategies literature

The second paper of this thesis (Chapter 3) extends Grundy's (2004) study and adapts variables highlighted in Plumley et al. (2017) study, in addition to recent developments in football, to analyse the relationship between on-field and on-field performance. We selected Chelsea and Manchester United for the case study for four reasons. First, both clubs have been the most successful EPL clubs in the past twenty years. Second, both clubs were the first top EPL clubs purchased by foreign owners. Third, both clubs takeovers happened within two years. Finally, the club owners have recently faced opposition.

The paper adopts a mixed-method dual case study research method to narrate and analyse the relationship between the on-field and off-field performances of Chelsea and Manchester United between 2003 and 2021. We hand-collected financial, organisation structure, and on-field performance information from the clubs' financial statements, press releases and other publicly

available databases. The paper covered and divided the result of the case study analysis into pre-FFP, post-FFP and covid-19 periods.

The paper finds differences and similarities in the operating model and on-field success of Chelsea and Manchester United. To finance their takeovers, the Glazers purchased Manchester United through a mix of their private funds and bank loans, while Roman Abramovich financed the purchase of Chelsea exclusively through private funds. Before FFP, loans from Roman Abramovich without specific repayment dates and the club's revenue funded Chelsea's football operation and competitive strategy. However, due to FFP's restrictions, Chelsea adopted selling players for profit to replace the loans from its owner to fund its operating activities. Manchester United did not change its business model because it relied on its revenue growth – commercial revenue in particular post-FFP – to fund its operating activities.

Chelsea frequently changed its managers during the period – a total of fifteen changes – and won a trophy within two years of sacking a manager. Roman Abramovich appointed a sporting director within a year of owning the club, which likely contributed to the stability of competitive strategy despite the frequent managerial changes. In contrast, the Glazers favoured a more patient approach with only five managerial changes. Manchester United was not as successful as Chelsea when it sacked its managers, possibly because the club only appointed its first sporting director in 2021.

Manchester United was more profitable than Chelsea even during the pandemic because of its operating model, though its total net finance cost between 2005 and 2021 exceeded Chelsea's by £727m because of interest-bearing loans. As of 2021, Manchester United's debt was at a similar level as when the Glazers took over, while Chelsea's is significantly lower because the new owners paid off the loans owed to Roman Abramovich – which was the majority of Chelsea's debt.

This paper contributes to the literature in the following ways. First, it extends Grundy's (2004) case study by covering seventeen additional years for two clubs in the author's case study. Similar to Grundy (2004), we find that financing strategy strongly impacts a club's financial management and competitive strategy. For example, Roman Abramovich, who financed Chelsea's football activities, frequently changed managers when on-field success was not commensurate with the level of investment. The Glazers' focused on growing Manchester United's commercial revenue to fund the club's football activity because of interest repayments on the bank loans used to finance the club's takeover. Second, by covering an extended period, we included recent developments in the football industry in this paper and analysed their impact on the relationship between on-field and off-field success in football. For example, we find that the restrictions of FFP changed the competitive strategy of Chelsea, which previously relied on its owner for funding for its players' transfers and other operating activities. Also, we find that the presence of a sporting director when clubs sack their managers is vital in maintaining a club's competitive strategy. For example, Manchester United, who only appointed a sporting director in 2021, did not achieve as much success when it changed its managers compared with Chelsea, who had always had someone in the role since 2005.

1.2.3. Football and covid-19

1.2.3.1. Summary and gaps in the literature

While football survived – and thrived – during the GFC of 2008, the covid-19 pandemic presented possibly the most significant crisis in football's history. With economic activity in almost every industry at a standstill, for the first time, football competition organisers cancelled or suspended football in March 2020. However, football matches resumed in May 2020 behind closed doors for the last quarter of the 2019/2020 football calendar year. The disruptions caused by covid-19 impacted football by wiping out matchday revenue for a season and a quarter –

the final nine games of the 2019/2020 season and the entire 2020/2021 season. Covid-19 impacted broadcast and commercial revenue because of their indirect links to matchday attendance (Bond et al., 2022; Buraimo & Simmons, 2008; Henderson, 2010). Compounding the impact of the pandemic, clubs' expenses which consist primarily of players' wages, are fixed and contractually binding.

The literature on covid-19 and football has focused on the impact of the absence of crowds on home advantage and refereeing decisions (Almeida & Leite, 2021; Bryson et al., 2021; Fischer & Haucap, 2021; Herold et al., 2021; McCarrick et al., 2021; Ramchandani & Millar, 2021; Reade et al., 2022; Wunderlich et al., 2021), stadium attendances and spread of the virus (Olczak et al., 2021; Reade et al., 2021; Reade & Singleton, 2021), prospective financial implications (Bond et al., 2022; Kennedy & Kennedy, 2021; Maguire, 2021) and stock market returns of on listed clubs (Bedir et al., 2022; Fühner et al., 2021). Consequently, this paper examines the financial impact of covid-19 on football clubs. We focus on the impact of covid-19 on the financial performance of top English football clubs.

1.2.3.2. Contributions to the literature

Given the gap in the literature on the impact of covid-19, Chapter 3 of this thesis examines covid-19's impact on the financial performance of top English clubs. Specifically, this paper answers three questions; First, did covid-19 significantly impact the profitability of top English clubs? Second, did covid-19 significantly impact top English clubs' indebtedness? Third, did covid-19 significantly impact the financial stability of top English clubs? We used the same data as Chapter 2 and extended it by collecting the financial information for the covid-19 years 2020 and 2021.

This paper contributes to the literature as, to our knowledge, the first empirical study of covid-19's impact on the financial performance of English clubs. To identify the impact of covid-19

on the financial performance of top English clubs, we ran OLS regressions. We find statistically significant evidence illustrating that the profitability of top English clubs worsened during the pandemic, attributed mainly to the significant fall in matchday revenue. Also, EPL clubs' profitability was the most affected by the pandemic primarily because their expenses increased during the covid-19 years.

For indebtedness and financial stability, we find that while it worsened for top English clubs during the covid-19 years, the deterioration was not statistically significant. We attribute the absence of significance to the fact that clubs reduced their player acquisition investment to cope with the loss of revenue. Also, EFL clubs' indebtedness and financial stability were the most impacted by the pandemic. Surprisingly, relegation from the EPL improves clubs' financial stability, possibly because of the parachute payments the EPL pays and relegated clubs selling their best players in anticipation of reduced revenue.

The following chapter of this thesis is the first paper that examines the impact of FFP on the financial performance of EPL clubs. The chapter begins with an introduction summarising the financial landscape of European and English clubs pre-FFP, the existing literature, the paper's objective, the methodology adopted, the findings and conclusions. The second section of the paper is an in-depth literature review that covers the pre-FFP financial situation in European football, the objective of football clubs, the reasons why they overspend, financial doping, details of the FFP regulation and its criticisms, a review of studies that assessed FFP's impact and a theoretical framework for the paper. The third section explains the data and research methodology adopted for the paper and presents the descriptive statistics for the data. In section four, we present the individual and combined results of our assessment of FFP's impact on profitability and indebtedness, along with robustness checks. Finally, section five concludes the paper with a discussion of the paper's findings, contributions, limitations and future research areas.

2. The Financial Impact of Financial Fair Play Regulation: Evidence from the English Premier League

2.1. Introduction

In 2010, despite rapid and consistent growth in revenue, football clubs in the top five European leagues – English, Spanish, German, Italian and French– reported €1.6bn in financial losses (a 33% increase from 2009) along with unprecedented debt levels of €19.1bn (a 1% increase from 2009) (UEFA, 2011). The contradictory financial situation was caused by football clubs, in search of sporting success, excessively investing in acquiring players (wages and transfer fees expenses) because of the correlation between on-field success and player-related expenditure (Forrest & Simmons, 2002b; Hall et al., 2002; Szymanski, 2003). Against this backdrop, the regulator of European football, UEFA, announced the introduction of the Financial Fair Play (FFP) regulation in 2011 to curtail the poor financial health of football clubs. Only football clubs that qualify for UEFA's competitions – UEFA Champions League (UCL) or UEFA Europa League (UEL)– must abide by FFP (Vöpel, 2013). The cornerstone of FFP is the break-even requirement (BER) which mandates football clubs to keep their expenses to less than €5m above income over three years, encouraging them to operate within their financial means (Müller et al., 2012). Non-adherence to the BER attracts sanctions such as warnings, fines and expulsion from UEFA competitions (UEFA, 2013).

The literature predominantly focuses on FFP's impact on competitive balance and financial performance. Some studies (Budzinski, 2014; Sass, 2016; Vöpel, 2013) predicted that FFP would adversely impact competitive balance in European football because the BER restricts investment. However, evidence from recent studies (Birkhäuser et al., 2017; Gallagher & Quinn, 2020; Garcia-del-Barrio & Rossi, 2020; Plumley et al., 2019) shows varied effects in different European leagues and European football as a whole. However, it is essential to note

that though the regulation’s name contains the word "fair", UEFA introduced FFP to improve financial performance and not to level the competitive landscape of European football.

Concerning its primary aim, some studies (Caglio et al., 2019; Franck, 2018) found evidence of improved financial performance in Europe's top five leagues combined, driven predominantly by higher income and its prudent use by clubs. Ahtiainen and Jarva (2020) disaggregated the five leagues in their study and found significant improvement in only the Spanish league. Other studies (Dimitropoulos & Scafarto, 2021; Francois et al., 2022; Ghio et al., 2019; Nicoliello & Zampatti, 2016; Özaydın, 2020) focus on FFP's impact on individual leagues and how the regulation affects the underlying decisions that influence financial performance. The competitiveness, economic reality and regulatory regimes differ across European leagues; thus, country-specific studies will reveal different insights into the impact of FFP and the behavioural changes of clubs.

For example, some studies found business model changes, including reduced transfer expenditure in the Russian league (Özaydın, 2020) and the increased importance of profit from selling players in the Italian league (Dimitropoulos & Scafarto, 2021), in addition to the positive impact of FFP on profitability. This paper focuses on the impact of FFP in the English Premier League (EPL) because the league's combined losses, player wages, income and debt (Birkhäuser et al., 2017; Caglio et al., 2019) are the highest in Europe and the league is the most in-demand in world football (KPMG Football Benchmark, 2019). Thus, the EPL is a vital research sample to evaluate the effectiveness of FFP in improving financial performance.

Francois et al. (2022) study focused on the EPL and the French league between 2008 and 2018, noting national regulatory differences as a limitation of their study. Also, Francois et al. (2022) highlighted, for further research, the possible impact of factors they did not include in their analysis, such as broadcast rights impacting profitability in the EPL. This study contributes to

the literature by extending the empirical evidence on the impact of FFP on clubs' financial performance by focusing exclusively on the EPL, covering the entire period of the regulation and including financial performance determinants from the literature, such as broadcast rights posited by Francois et al. (2022) study. Specifically, we focus on profitability and indebtedness in the EPL post-FFP's introduction because the BER's design aims to reduce losses, with UEFA expecting a corresponding reduction in debt. We proxy profitability as BER and indebtedness as the ability to repay debt using cash flow from operations to debt (CFTD). We exploit the difference-in-differences (DiD) methodology - which requires a treated (target clubs) and control group - because FFP applies exclusively to clubs participating in UEFA's competitions. We evaluate whether there is a real effect (Kanodia & Sapra, 2016) – a behavioural change occasioned by the requirement to report a measure – of FFP on EPL clubs' financial performance.

First, we compare the mean BER for pre-FFP and post-FFP and find that the mean BER for target clubs increased by £38m compared to clubs in the control group, and the increase was statistically significant. We find that post-FFP income growth was higher than expenses, the opposite of the pre-FFP trend. We attribute the behavioural change of clubs not overinvesting – spending beyond their revenue – to the impact of the BER's financial constraint. Also, we find that target clubs' profit earnings on the sale of football players improved post-FFP and contributed to the improved profitability. From the literature, we controlled for known determinants of profitability to confirm our impact identification, and our results were robust and statistically significant.

The literature suggests that European football's promotion and relegation system (Dimitropoulos & Scafarto, 2021; Leach & Szymanski, 2015; Ruta et al., 2019) is an essential determinant of clubs' profitability due to the income disparity in the pyramid structure. While we find significant evidence supporting promotion, we only found weak evidence for relegation

as a determinant of profitability, likely because of parachute payments that relegated clubs receive from the EPL (Wilson et al., 2022; Wilson et al., 2018). Contrary to expectations, when broadcast revenue increases once every three years, it is accompanied by a reduction in profitability because clubs spend more on player-related expenses in those years. We find that clubs participating in the UCL make more profit than other clubs, while those in the UEL are loss-making. Also, progressing beyond the group stage of UEFA competitions is a positive determinant of profitability. As expected and in line with the literature (Jones & Cook, 2015; Rohde & Breuer, 2016, 2018; Wilson et al., 2013), foreign-owned clubs make more losses than British-owned clubs.

Our indebtedness analysis finds an increase in the target clubs' CFTD; however, the improvement is statistically insignificant. While the cash flow of target clubs increased post-FFP, it was insufficient to improve CTFD because their debt also increased. We find that promotion to the EPL, stadium attendance and participation in UEFA competitions reduces indebtedness. Conversely, increased broadcast revenue, relegation from the EPL and foreign ownership worsened indebtedness. FFP has not significantly improved indebtedness as it did with profitability because football clubs immediately reinvested the earned profit in acquiring football players. Also, because FFP restricts acquiring football players to club income, instalment payments which increase debt, became a prevalent method for clubs to manage their cash flow. We argue that football clubs are now more vulnerable to the risk of an external shock to future income.

Nevertheless, FFP has achieved its primary objective of reducing losses reported by clubs participating in its competitions but would need to be updated to extend its success to indebtedness. Our results are robust to alternative definitions of target clubs and placebo tests. The findings of this paper are potentially crucial for policy guidance. Specifically, we believe

that FFP should be revised to focus on the indebtedness of football clubs. We believe instalment payments are akin to the risky projection of future cash flow that led to the GFC in 2008.

The rest of the paper is organised as follows. Section 2.2 summarises the existing literature, and we develop our hypotheses. In section 2.3, we describe the data and the methodology adopted. Section 2.4 details the findings from our analysis. Finally, section 2.5 discusses our findings and concludes the paper.

2.2. Literature Review

2.2.1. The pre-FFP financial situation in european football

The popularity of European football increased in the 1990s as technological advancement allowed global audiences to watch live football matches, leading to the exponential growth of broadcast revenue (Andreff & Bourg, 2006). Simultaneously, global brands recognised the advertising potential of the global reach of European football and signed sponsorship deals with individual clubs and UEFA while stadium attendance and ticket prices grew (Müller et al., 2012). Thus, according to Deloitte (2011), the compound annual growth rate for European football's revenue from 1997 to 2010 was 10%, underpinning the popularity and financial strength of the industry.

The 2009 revenue growth of 4.8% in European football was particularly notable because other industries were grappling with the recession caused by the Global Financial Crisis - the Euro-zone recorded 0.3% growth in the same period (UEFA, 2010). Furthermore, for the first time, European football's revenue crossed the €12bn mark to €12.8bn the following year in 2010, a 6% increase from 2009, indicating that if the industry had a crisis, it was not one caused by a fall in revenue (Lago et al., 2006). Specifically, the 6% revenue growth in 2010 was because commercial and broadcast revenue that measures the popularity and global demand for

European football (King, 2010) increased by 15% and 7%, respectively (UEFA, 2011). The EPL was the highest contributor to the impressive growth of revenue in Europe, with average revenue of €134m per club in 2010 (up 10% from €122m in 2009) compared to €91m (up 6% from €86m, in 2009) average revenue from second-placed German clubs (UEFA, 2010, 2011)

During the same recession-proof revenue growth period, European football faced an industry-specific financial crisis characterised by financial losses and increased indebtedness. In 2010, European clubs reported €1.6bn in financial losses, an increase of 33% from the previous year. The percentage of revenue spent on player wages – 62% on average for all clubs, though 78 clubs spent above 100% of revenue on wages – was responsible for the financial losses. Furthermore, the total expenditure in 2010 was €14.4bn, a 12% increase from 2009, indicating that the clubs' spending grew faster than their revenue growth (6% in 2010) (Müller et al., 2012). This situation is referred to as over-spending or over-investing in the literature (Drut & Raballand, 2012; Hall et al., 2002; Lago et al., 2006).

To fund the losses, the clubs obtained loans from their owners or banks and increased their debt levels (Drut & Raballand, 2012) to €19.1bn in 2010; consequently, 36% of clubs had a negative equity position – a situation where liabilities exceeded assets. Thus, auditors questioned the going concern status – existing as a business beyond twelve months – of 12% of European football clubs because of their indebtedness (UEFA, 2011). As with revenue, EPL clubs rank first among the top European leagues, with the most clubs (around 20%) reporting financial losses and the only league with aggregate negative equity (UEFA, 2011).

2.2.2. The objective of football clubs

The persistence of financial losses in European football calls to question shareholders' objectives for owning football clubs. The default assumption is that a company's foremost objective is to maximise the wealth of its owners. This assumption is known as profit-

maximisation. Koplin (1963) described profit-maximisation as "*the process of "ordering these relationships (workers, managers and suppliers of capital) so as to maximise the residual gain (or minimise the residual loss), which accrues to the owners*". The profit-maximisation assumption has received criticism from academics (Marris, 1968; Sloane, 1971; Williamson, 1963) because it does not accommodate other factors responsible for business decisions. Thus, with the prevalence of financial losses and rising debt in European football, assessing the objective of football clubs only through the conventional prism of profit is inadequate.

Sloane (1971) adapted the utility-maximisation framework, also known as win-maximisation, to capture the objective of football clubs amidst rising losses in the 1960s. Utility-maximisation suggests that motives other than profit alone, such as on-field success, attendance and league health, determine a football club's decision-making and objective (Késenne, 2000, 2006). Club owners are more inclined to make decisions that improve their chances of on-field success because of the psychic income from winning matches and trophies and the expectation of fans who demand the same. Equation 1 is from Sloane's (1971) study and shows the mathematical representation of football clubs' utility-maximisation function.

$$U = u(P, A, X, \pi_R - \pi_0 - T) \quad (1)$$

Subject to $\pi_{R \geq} \pi_{0 +T}$

where P = playing success/ on-field success

A = average attendance

X = league health

π_R = profit

π_0 = minimum after-tax profit

T = taxes

The club owner's objective is to maximise playing success (P) and increase or maintain stadium attendance (A) within a competitive league (X) subject to financial viability (π_R - π_0 – T). Sloane (1971) illustrates the decision-making process and objective of owners, stating that:

> *discussions at shareholders' meetings tend to centre on football rather than financial performance, unless of course the financial situation is so serious that remedial action has to be taken. Thus, where conflicts arise, they will result from the fact that insufficient finance is forthcoming to maintain playing performance at an acceptable level rather than from a clash over objectives* (Sloane 1971, p. 132).

Thus, winning football matches and competitions is the primary objective of the shareholders of football clubs, subject to financial constraints (Szymanski, 2010). They rank the psychic income from winning above pecuniary income. In their study, Garcia-del-Barrio and Szymanski (2009) found evidence of the prevalence of win-maximisation in the decision-making process of clubs in Spanish and English football. They point out that the studied clubs' did not adopt profit-maximisation strategies because of the fear of on-field failure and relegation. Furthermore, the entrenchment of win-maximisation is evident as clubs' did not change their objective when listed on stock exchanges; the expectation is that the listing on a stock exchange would shift clubs' objective toward profit-making because investors (who may or may not have an affinity to the sport or club) would demand pecuniary income. However, Leach and Szymanski (2015) studied 16 English football clubs listed on various stock exchanges and did not find evidence of increased profit-maximisation decision-making but instead noted that the clubs' profitability reduced after the listing. Subsequently, wealthy owners whose objectives aligned with win-maximisation purchased and delisted the clubs from the stock exchange (Buraimo et al., 2006; Jones & Cook, 2015).

Thus, the findings of Garcia-del-Barrio and Szymanski (2009) and Leach and Szymanski (2015) suggest that European football's structure and nature influence the objective of clubs. Specifically, Garcia-del-Barrio and Szymanski (2009) suggest that clubs' ownership structure – free-standing enterprises that are not part of a franchise – and the structure of European football competitions are possible drivers of clubs' decision-making.

2.2.3. Structure of European football

The competition structure in Europe influences the objective of clubs in the continent. Unlike the closed league system in North America, European football operates an open league and hierarchical model. An open league has a performance-driven promotion and relegation system with different divisions, while a closed league only has one division. Annually, the least-performing clubs (usually three) are relegated to a lower division, while the best-performing teams (usually three) are promoted upwards. In contrast, closed leagues do not have a promotion and relegation system because a set number of clubs compete in a single league (Szymanski & Valletti, 2010). The entry of a new team in North American sports is strictly determined by the approval of existing teams in the league (franchise system), and it is uncommon for a city to have more than one club (Andreff, 2011). The reverse is the case in European football, where a city can have more than one club because there is no restriction on entry. A team can be created at any time and registered in the lowest national league without approval from other teams (Andreff, 2011).

North American sports have competitive balance mechanisms such as player registration limits, salary caps, equal income distribution and draft systems – the least-performing team picks and signs the best youth player (Hamil & Walters, 2010). The absence of these mechanisms in European football does not mean it is less competitive. The fear of relegation to a lower league or the allure of promotion to a higher league in Europe provides a unique competitive

dimension (Ross & Szymanski, 2000; Szymanski & Valletti, 2010). Also, the league in North America distributes all sources of revenue equally, while the leagues in Europe only pool and distribute broadcast revenue (Andreff, 2011). The view on player transfers also differs in both regions. As cities tend to only have one sports team in North America, fans have more affinity towards players that spend their entire careers at one club. These players are not just the club's pride but also the city's (Szymanski, 2003). This sentiment is not prevalent in European football because players' transfer is the norm. One city can have as many as three clubs, and player trading between them is not uncommon. Furthermore, in North America, the draft system reduces the frequency of player transfers, but in Europe, acquiring the best football talent is mainly determined by the financial might of clubs (Hamil & Walters, 2010).

The structural differences in North American and European league models impact the objective of sporting clubs in both regions. European clubs are win-maximisers because of the fierce competition to avoid relegation, gain promotion and acquire football players. Also, as revenue is not distributed equally, European clubs are conditioned to adopt strategies – recruiting players and coaches at all costs – that give them the best chance of winning and earning more revenue. On the contrary, clubs in North America do not compete to maintain their position in the league or to guarantee revenue. Thus, when compared with North American clubs, European clubs are win-maximisers (Andreff, 2011; Garcia-del-Barrio & Szymanski, 2009). These factors – structure, culture towards player transfers, and income distribution – shape the behaviour of football clubs in Europe.

2.2.4. Why European football clubs overspend

As European football clubs' objective is to maximise on-field success within financial constraints (Sloane, 1971; Szymanski, 2010), the decisions made by owners focus on improving the chances of winning matches. The evidence in the literature (Forrest & Simmons,

2002b; Hall et al., 2002; Kuper & Szymanski, 2010; Szymanski, 2001, 2003; Szymanski & Smith, 1997) is unanimous on the correlation between playing success and player expenditure (wages and transfer fees). For example, Forrest and Simmons (2002b), in their study of four European football leagues in the 1990s, found significant evidence suggesting that the players' wage bill determines team performance.

Notably, the evidence for the relationship in English football was well established in Forrest and Simmons' (2002b) study. The evidence (Jasina & Rotthoff, 2012; Peeters & Szymanski, 2014) suggests that player expenditure in open leagues surpasses closed leagues because of their structural differences (see section 2.3) and their win-maximisation objective. Thus, revenue growth (see section 2.1), the competitiveness of European football (see section 2.3), and the correlation between player expenditure and playing success incentivised clubs to overspend in acquiring the best football players.

The tendency to overspend is like the figurative "rat-race" phenomenon described by Akerlof (1976), where workers in an assembly plant compete to attain the highest efficiency level for the prize of additional reward. Like the proverbial maze race where the fastest contestant receives the cheese, the workers know it is a winner-take-all situation. The promotion and relegation system in European football creates a similar competitive atmosphere, forcing clubs to intensify their efforts to win football matches (Müller et al., 2012). In football, financial reward accompanies on-field success.

Thus, psychic income from winning and surviving relegation and future pecuniary income are why clubs overspend (Jones & Cook, 2015; Schubert & Könecke, 2015). The psychic income incentive is well established in the literature, and we have discussed it above in section 2.2. The pecuniary income incentive is implied and is a consequence of on-field success. For example, in the 2019-2021 seasons, 32 and 48 participated in UEFA's UCL and UEL

competitions, and the eventual winners received €82.45m and €21.34m in broadcast revenue, respectively.

Table 2.1 is an excerpt from Manchester United's 2019 financial statements and shows the broadcast revenue attainable for each stage of both competitions. In every season, of the 20 EPL clubs, only a maximum of five clubs qualify for the UCL, with a further three qualifying for the UEL. Only clubs that qualify for UEFA's competitions receive revenue from UEFA.

Table 2.1: 2019-2021 UEFA Club Competitions Broadcast Revenue

	Champions League ("UCL") €'million	Europa League ("UEL") €'million
Bonus for group stage participation (UCL—32 teams; UEL—48 teams)	€ 15.25	€ 2.92
Bonus for each group stage win (maximum 6)	€ 2.70	€ 0.57
Bonus for each group stage draw(1)	€ 0.90	€ 0.19
Bonus for group runners-up	N/A	€ 0.50
Bonus for group winners	N/A	€ 1.00
Bonus for round of 32 participation	N/A	€ 0.50
Bonus for round of 16 participation	€ 9.50	€ 1.10
Bonus for quarter-final participation	€ 10.50	€ 1.50
Bonus for semi-final participation	€ 12.00	€ 2.40
Runner-up bonus (inclusive of ticketing revenue share)	€ 15.00	€ 4.50
Winner bonus (inclusive of ticketing revenue share)	€ 19.00	€ 8.50
Maximum total of the above	€ 82.45	€ 21.34

Notes: The winners will receive €82.45m and €21.34m for the UCL and UEL, respectively, between 2019-2021. A club earns more by reaching the Round of 16 in the UCL than winning the UEL. The figures above are distributed based on performance; however, there is a central pool of €1.129bn (€877m for UCL and €252m for the UEL) that UEFA distributes based on the club's ranking in UEFA's historical performance coefficient system. The table was extracted from Manchester United's 2019 financial statements (Manchester United, 2019).

Similarly, broadcast revenue for the EPL is allocated based on a club's final league position during a season, though a portion is fixed and distributed equally to all clubs (see Table 2.2 below). For example, in the 2018/2019 season, Manchester City won the EPL and received £54m – a differential of 1.6 times – more than Huddersfield Town, who finished bottom of the league and were relegated to the Championship. Like the rat-race scenario, the increased effort of a club improves their chance of winning the competition, but there is only one eventual

winner that will receive the maximum reward. Thus, regardless of the additional effort by non-winning participants, no additional reward is available for them in this revenue category.

Table 2.2: 2018/2019 EPL Season Broadcast Revenue Distribution

	UK Live	Equal Share	Facility Fees	Merit Payment	International TV	Central Commercial	Total Payment
Manchester City	26	£34,361,519	£30,104,476	£38,370,360	£43,184,608	£4,965,392	£150,986,355
Liverpool	29	£34,361,519	£33,461,785	£36,451,842	£43,184,608	£4,965,392	£152,425,146
Chelsea	25	£34,361,519	£28,985,373	£34,533,324	£43,184,608	£4,965,392	£146,030,216
Tottenham Hotspur	26	£34,361,519	£30,104,476	£32,614,806	£43,184,608	£4,965,392	£145,230,801
Arsenal	25	£34,361,519	£28,985,373	£30,696,288	£43,184,608	£4,965,392	£142,193,180
Manchester United	27	£34,361,519	£31,223,579	£28,777,770	£43,184,608	£4,965,392	£142,512,868
Wolverhampton Wanderers	15	£34,361,519	£17,794,343	£26,859,252	£43,184,608	£4,965,392	£127,165,114
Everton	18	£34,361,519	£21,151,652	£24,940,734	£43,184,608	£4,965,392	£128,603,905
Leicester City	15	£34,361,519	£17,794,343	£23,022,216	£43,184,608	£4,965,392	£123,328,078
West Ham United	16	£34,361,519	£18,913,446	£21,103,698	£43,184,608	£4,965,392	£122,528,663
Watford	10	£34,361,519	£12,198,828	£19,185,180	£43,184,608	£4,965,392	£113,895,527
Crystal Palace	12	£34,361,519	£14,437,034	£17,266,662	£43,184,608	£4,965,392	£114,215,215
Newcastle United	19	£34,361,519	£22,270,755	£15,348,144	£43,184,608	£4,965,392	£120,130,418
AFC Bournemouth	10	£34,361,519	£12,198,828	£13,429,626	£43,184,608	£4,965,392	£108,139,973
Burnley	11	£34,361,519	£13,317,931	£11,511,108	£43,184,608	£4,965,392	£107,340,558
Southampton	10	£34,361,519	£12,198,828	£9,592,590	£43,184,608	£4,965,392	£104,302,937
Brighton & Hove Albion	13	£34,361,519	£15,556,137	£7,674,072	£43,184,608	£4,965,392	£105,741,728
Cardiff City	12	£34,361,519	£14,437,034	£5,755,554	£43,184,608	£4,965,392	£102,704,107
Fulham	13	£34,361,519	£15,556,137	£3,837,036	£43,184,608	£4,965,392	£101,904,692
Huddersfield Town	10	£34,361,519	£12,198,828	£1,918,518	£43,184,608	£4,965,392	£96,628,865
		£687,230,380	£402,889,186	£402,888,780	£863,692,160	£99,307,840	£2,456,008,346

Notes: Liverpool received more money than Manchester City because of the facility fee. International TV, central commercial and equal share payments are shared equally. In contrast, the distribution of facility fees and merit payments is based on the number of live games and the club's final position, respectively. Relegated teams do not share EPL broadcast revenue distribution. The author extracted the table from the Premier League's website (Premier League, 2019).

It is worth noting that the additional revenue for the clubs with improved on-field performance, cash reserves and sometimes, external finance goes towards funding investment in the playing squad to improve the club's chances of maintaining or improving their future performance (Garcia-del-Barrio & Szymanski, 2009; Leach & Szymanski, 2015; Sloane, 1971). Clubs that do not earn additional revenue use their reserves and external finance. Inevitably player acquisition expenses significantly increased because of maintaining or achieving on-field success (Müller et al., 2012). Consequently, European football clubs' player wages as a percentage of revenue increased consistently, and in 78 extreme cases in 2010, the percentage exceeded 100% (Franck & Lang, 2014). Commenting on the size of wages in players' contracts, Morrow (2006) stated that player wages represent a "disregard for financial common sense" and questioned how clubs would afford their wage bills in the long term. Going back to the

utility maximisation function in Equation 1, clubs pursue playing success subject to a minimum operating profit level denoted as π_R. However, Sloane (1971) noted that π_R and π_0 could be negative, that is, loss-making, because of external finance received by the club, which balances their finances, see equation 1 below.

$$U = u(P, A, X, \pi_R - \pi_0 - T) \quad (1)$$

Subject to $\pi_{R \geq} \pi_{0 +T}$

In its 2009 benchmark report, UEFA highlighted that financial losses led to liabilities exceeding assets because external financing funded some clubs' operations. When this situation persists, the expectation is that football clubs will be unable to meet their financial obligations, possibly leading to a financial crisis in the industry. However, unlike other industries, European football has perpetually existed with few casualties, leading to assertions such as "the football industry is too popular to fail" (Rothenbuecher et al., 2010).

Storm and Nielsen (2012) explained how European football clubs had avoided frequent high-profile bankruptcy using the concept of soft budget constraint (SBC) theorised by Kornai (1979). SBC occurs when a firm's profitability or financial management is not a prerequisite for its continued existence because the firm (“supported”) receives external finance (from a “supporter”) in the form of a bailout without stringent penalties for repayment default (Kornai et al., 2003). The supporter-supported relationship creates an ex-ante expectation of assistance in the event of financial trouble ex-post (Storm & Nielsen, 2012). In their study, Storm and Nielsen (2012) stated that European football clubs exhibit characteristics of SBC because of bailouts from wealthy owners and creditors' extension of the credit line. Furthermore, Storm and Nielsen (2012) opined that the providers of the funds bank on football’s popularity and the prospect of future income for repayment or do so for a non-financial reason (win-maximising owners).

2.2.5. Financial doping

With the traditional sources of revenue – commercial, broadcast and matchday revenue – unable to cover their expenditure, football clubs obtained additional cash through the supporter-supported relationship described by Kornai et al. (2003) in the SBC concept. However, the literature describes the use of external finance by football clubs for its operations as financial doping. Müller et al. (2012) defined financial doping as:

> *financial means not earned as revenues arising from the sale of products or rights by a club directly or indirectly through its sporting operations or drawing potential [supporter appeal]), but rather being injected from an external investor, benefactor, or creditor.* (Muller et al., 2012, p. 123)

Financial doping occurs when wealthy benefactors (sugar daddy) and finance providers provides funds or lines of credit to a club to prevent bankruptcy (Franck & Lang, 2014). From an SBC lens, financial doping is the support received by clubs ex-post, encouraging excessive risk-taking and gambling on success ex-ante (Storm & Nielsen, 2012). Financial doping leads to a negative equity position in the balance because liabilities exceed assets and higher financial losses (Rohde & Breuer, 2016, 2018). In its 2010 benchmark report, UEFA stated that clubs' liabilities were €19.1bn while assets were €21b, with 36% of clubs reporting negative equity positions (UEFA, 2011). The use of debt in business is not unusual; however, not all clubs engage in financial doping, whether by choice or because they do not have access to raise debt financing. Financial doping presents two potential problems; The erosion of competitive balance and fairness and the risk of financial failure.

Using performance-enhancing drugs that provide undue advantage is illegal in sports because fairness is the basis of competition. This is why financial doping represents an unfair advantage in football. Therefore, with player expenditure being a primary determinant of on-field success

(Forrest & Simmons, 2002b; Szymanski, 2003), clubs that obtain funds through financial doping are more likely to achieve on-field success. The takeover of Chelsea by Roman Abramovich in 2003 was pivotal in European football and illustrates the motivation for financial doping. Over nine years, the Russian billionaire invested an estimated €1bn in the club, using the funds to acquire top footballing talents (Schubert & Könecke, 2015). In 16 years, Chelsea has gone on to win 18 trophies compared to 10 trophies in the 97 years before Abramovich's arrival. Furthermore, It is important to note that before FFP, UEFA did not restrict external financing in European football.

The possibility of bankruptcy is another issue with financial doping. As we have established in section 2.4, only winners receive additional revenue (Müller et al., 2012); therefore, some clubs' gambles on success – evidenced by increased player expenditure – will not pay off. Also, support from benefactors might reduce and result in liquidation risk. Lago et al. (2006) found that liquidation risk was exclusive to small clubs in all but one (Italy) of the eleven European leagues they studied. These findings were consistent with Kennedy and Kennedy (2012), who found that AC Milan, Parma and Napoli, faced financial difficulty but avoided liquidation because of administrative restructuring. Leeds United, who narrowly missed out on winning the 2001 UCL, almost went bankrupt in 2007. However, selling its star players, whose book value was £198m for £50m, saved the club from bankruptcy but not relegation (Szymanski, 2010).

Asides from individual clubs facing financial issues, there is the possibility of an industry-wide problem if more clubs experience financial difficulty because of their interdependence (Franck, 2018; Hamil & Walters, 2010; King, 2010). This fear stems from the fact that clubs trade with each other, and the inability of a club to fulfil its obligation to another club, could create an industry-wide problem. However, Lago et al. (2006) cautioned in concluding that European football was in a crisis and about to experience a contagion. They argue that though clubs are

strongly interconnected in sporting terms, it would take the financial failure of a big club for a contagion to occur.

The German and French leagues were the first in Europe to introduce financial controls for their football clubs following the financial difficulties they experienced in the 1970s (Drut & Raballand, 2012). The French and German leagues mandated Direction Nationale du Contrôle de Gestion' (DNCG) and Deutsche Fußball Liga (DFL) to monitor clubs' financial performance against set financial criteria. Drut and Raballand (2012) assessed the regulations in France and Germany, noting that the losses and financial deficits in both leagues were reduced considerably compared with other European leagues. However, they stated that German and French clubs were not as successful as other clubs in UEFA competitions because of the financial restrictions. Thus, the success – reduced losses and indebtedness – of the regulations in France and Germany and the need for a level playing ground for clubs provided the incentive for introducing a Europe-wide regulation.

2.2.6. The FFP regulation

The revenue growth in European football makes it clear that if the industry is experiencing financial difficulty, it is certainly not due to dwindling income (Lago et al., 2006). Kennedy and Kennedy (2012) expressed the same view stating that focusing on revenue in isolation of expenditure is "akin to complementing a man in intensive care for having a full head of hair". Rightly, the literature and UEFA focused on the expenditure ratio to revenue, which captured the overspending problem in European football. In response, UEFA introduced the BER, the cornerstone of the FFP regulation, which accounts for income and expenses. The BER seeks to stem the tide of consistent financial losses by introducing a €5m threshold called acceptable deviation, for which a club’s expenses must not exceed its income over three years, called the monitoring period.

For the BER calculation, UEFA introduced the concept of relevant income and expenses related to football and operating activities and defined their composition in Articles 58 and Annex X of the FFP regulation. Relevant income includes revenue from gate receipts, sponsorship & advertising activities, broadcast rights, commercial activities, competition distributions, income from players' sales, and other operating income. Relevant expenses include the cost of sales, player wages and salaries, loss on the sale of players, finance costs, and other operating expenses. Thus, the BER prevents the inflow of money from wealthy owners through financial doping because clubs are only allowed to spend what they earn from relevant income (Budzinski, 2014).

The FFP regulation in Article 61 gives wiggle room by allowing clubs to exceed the €5m threshold up to €45m in the first two and €30m for the subsequent three monitoring periods, with the proviso that the club's shareholders cover the additional €40m and €25m via equity injection. Figure 2.1 presents the BER details on the acceptable deviation, monitoring periods and equity contribution thresholds.

Figure 2.1: FFP Monitoring Period and Acceptable Deviation

Acceptable Deviation Levels						
Monitoring Period	Number of Years	Financial Statements yrs			Acceptable Deviation (€m)	
		T-2	T-1	T	Covered	Not covered
2013/14	2	N/A	2012	2013	45	5
2014/15	3	2012	2013	2014	45	5
2015/16	3	2013	2014	2015	30	5
2016/17	3	2014	2015	2016	30	5
2017/18	3	2015	2016	2017	30	5
2018/19	3	2016	2017	2018	<30	5

Notes: Figure 2.1 shows the monitoring period, financial periods and acceptable deviations for clubs to adhere to. The first monitoring period is two seasons because 2011 was the transition year. The acceptable deviation for the first two monitoring periods was €45m. From thereon, it reduced to €30m. The author extracted figure 2.1 from UEFA's communication of the FFP guidelines. (UEFA, 2012).

The BER aims to encourage clubs to become profitable or, at minimum, reduce reported losses and control the inflation in player transfer fees and wages. It is important to note that the BER is part of the FFP regulation, whose overarching objective is to ensure the long-term viability

of European club football, protect its integrity and avoid overdue payables (Vöpel, 2013). In addition to the BER and to achieve its objective, the FFP regulation stipulates that payables to other clubs, players and tax authorities must not be overdue by three months. Overall, FFP aims to promote a culture of living within financial means and emphasise financial consideration in clubs' decision-making. Non-adherence to FFP attracts sanctions ranging from warnings to fines and suspension from participating in UEFA competitions.

2.2.7. Criticisms of FFP

In the initial communication of the regulation, UEFA stated that FFP aims to "achieve financial fair play in UEFA club competitions". Though the nomenclature of FFP connotes equity and the promotion of competitiveness, the BER is not designed to redistribute income but to promote financial efficiency (Szymanski, 2014). The announcement of the FFP by UEFA attracted criticism from several quarters of the football world. Its earliest critics questioned the regulation's legality vis-à-vis the European Union (EU) competition laws that prohibit any practice limiting competition within the region. Jean-Louis Dupont, who was instrumental in the ruling that allowed out-of-contract players to move clubs without a fee, argued that the BER contravenes EU laws as it hinders the mobility of football players. Furthermore, Dupont stated that the FFP is an over-reach which protects elite clubs, and a less restrictive alternative could achieve the desired outcomes.

The studies by Peeters and Szymanski (2014) and Vöpel (2013) assessed the design of the BER and its potential financial impact. Both studies concluded that while the BER would reduce losses by restricting player expenditure, the savings on wages and transfer fees would flow to the club owners as profit. Peeters and Szymanski (2014) study simulated the likely financial impact of the BER based on historical data for clubs in the five big leagues. They noted that the BER is "potentially a powerful tool" to reduce the amount spent on player wages and

predicted a 15% fall in the wage bill to revenue. Similarly, Vöpel's (2013) economic analysis of FFP posited that players' wages and transfer fees would fall because of the relevant income and expenses concept. However, both studies note that the BER would negatively impact competitive balance because of the restriction on external and non-football revenue.

Ossification – a situation where there is the freezing of competition at the top level of football because of financial barriers to investment (Budzinski, 2014) – is used in the literature to describe BER's impact on competitive balance. As noted by Szymanski (2014), UEFA did not design the BER to redistribute income but to encourage efficiency in financial management. Thus, with the correlation between playing success and investment in acquiring players (Forrest & Simmons, 2002b; Franck & Nüesch, 2011; Hall et al., 2002; Szymanski, 2003), historically successful clubs with superior financial positions (built with or without the aid of financial doping) would have the financial might to overpower smaller clubs in the transfer market (Vöpel, 2013). Sass (2016) simulated the BER to test this hypothesis by developing a multi-period model and found that "glory hunting" – the ability of a club to generate increased income based on previous sporting achievements – would lead to ossification in European Football.

The limit on expenditure by FFP in competitions where success is synonymous and correlated with player acquisitions raises the likelihood of circumvention. Preuss et al. (2014) believe that if clubs adhere to the stipulations of the regulation, they will avoid buying players whose transfer fees and wages are beyond their financial capacity. However, possible loopholes have led them to believe that clubs would creatively try to avoid penalties for not complying with the regulation. Daniel Geey, in his analysis of the FFP, identified a provision which allows clubs to, in effect, defer sanctions for the first two years as long as they can prove that the BER calculation is improving. Also, Geey (2011) believes that some clubs might try to circumvent the BER by inflating sponsorship agreements with related parties, though UEFA requires the contracts to under-go fair-value assessments. The UEFA vs Manchester City disputes in 2014

on commercial partnership contracts is evidence of Geey's (2011) position on the loophole in the BER.

2.2.8. Post-implementation of FFP

The literature is inundated with assessments on the potential impact of FFP on competitive balance. Thus, post-FFP implementation studies have empirically tested the ossification hypothesis. For example, Birkhäuser et al. (2017) studied the top five European leagues between 2005 and 2015 using the Herfindahl Index of Competitive Balance (HICB) and found a declining competitive balance post-FFP. Also, they find evidence suggesting that past winners were more likely to win in future contests, confirming the ossification hypothesis. This finding is consistent with the suspicion that the FFP would freeze the existing rankings of clubs. Similarly, Garcia-del-Barrio and Rossi (2020) found a declining competitive balance in their study of the English, Spanish and German leagues between 2009 and 2016. Also, Plumley et al. (2018) and Ramchandani et al. (2019) studied the EPL between 1992 and 2016 and 1996 and 2017, respectively and found a declining competitive balance. Gallagher and Quinn (2020) contrasted financial and sporting goals in their EPL study between 2004 and 2017 and noted a decline in competitive balance.

In contrast to the above findings, Plumley et al. (2019) did not find a declining competitive balance in two – England and Italy – of the five top European leagues they studied between 2006 and 2017. Confirming Plumley et al. (2019) findings, Freestone and Manoli (2017) and Ghio et al. (2019) did not find a decline in competitive balance in the EPL and Italy over the period 1996-2016 and 2005-2015, respectively. The fact that Plumley et al. (2019) and Freestone and Manoli (2017) findings differ from Birkhäuser et al. (2017), Garcia-del-Barrio and Rossi (2020) and Plumley et al. (2018) indicates that FFP's impact is time, and country-specific.

Despite the impact on competitive balance, UEFA's primary objective for FFP was to address the ailing financial performance in European football. One of the first assessments of the finances in European football was Franck's (2018) paper on the 2017 data released by UEFA. The study revealed that revenue continued to grow and reached €20.1bn in 2017, a 7.2% ten-year compound annual growth rate, with net profit at €600m from a net loss of €1.7bn in 2009 and overdue payables falling by 90% from 2009. Franck (2018) concluded that European football has recovered from the financial instability it experienced pre-FFP because the mechanism of the BER prevents financial doping and has encouraged growth in revenue. Furthermore, in its 2020 benchmark report, UEFA reported a net loss of €125m, a 92% fall from 2009's net loss of €1.7bn, following the first-ever consecutive years of profit – the 2017 and 2018 financial years (UEFA, 2021).

Caglio et al. (2019) studied the impact of FFP on the financial performance of 150 football clubs in the five big European leagues between 2005-2015. Their study used publicly available and proprietary UEFA financial information to assess the real of FFP – the real effect is the hypothesis that a requirement to report a measure would change the firm's decision-making relating to the measure (Kanodia, 2006). Caglio et al. (2019) adopted the difference-in-differences regression approach to isolate the impact of FFP and found evidence of improved profitability for clubs exposed to FFP. Also, Caglio et al. (2019) study found that improved profitability was because revenue grew at a faster rate than expenses. However, their study did not find evidence for reduced indebtedness. Plumley et al. (2020) studied financial stability in the EPL using the Z-score and did not find evidence of improvement, corroborating Caglio et al. (2019) study. Ahtiainen and Jarva (2020) studied the same leagues between 2008 and 2016 and found evidence of FFP reducing the likelihood of clubs reporting losses – and improving the likelihood of a reporting profit- post-FFP across Europe. Furthermore, Ahtiainen and Jarva (2020) disaggregated their analysis. They found a significant and positive financial impact of

FFP in only the Spanish league, with weak evidence in the German and English leagues, while that of the French and Italian leagues was insignificant.

Following on from Ahtiainen and Jarva (2020), some studies (Dimitropoulos & Scafarto, 2021; Francois et al., 2022; Nicoliello & Zampatti, 2016; Özaydın, 2020) disaggregated their assessment of FFP by focusing on individual leagues. For example, Dimitropoulos and Scafarto (2021) studied the Italian league over the period 2007-2017, Nicoliello and Zampatti (2016) studied the Italian league between 2011 and 2013, Özaydın (2020) studied the Russian league between 2008 and 2019, Francois et al. (2022) the English and French leagues between 2008 and 2018. All the studies found profitability improvements for clubs exposed to FFP except for the French league in Francois et al. (2022) study.

A further benefit of disaggregating the analysis is the unique insight into business model changes necessitated by FFP because of the structural and economic differences in the leagues. For example, Özaydın (2020) found that Russian clubs shifted their focus to buying young players from smaller leagues because of the financial restrictions of the BER. Italian clubs in Dimitropoulos and Scafarto's (2021) and Nicoliello and Zampatti's (2016) studies relied on the profit from selling players to adhere to the €5m BER threshold. Furthermore, Nicoliello and Zampatti (2016) assert that players' wages are an essential determinant of profitability and Italian clubs need to reduce their wage bill to adhere to FFP due to limited revenue. French clubs qualifying for UEFA competitions in Francois et al. (2022) study spent more on player wages post-FFP, possibly because their objective is to win the competition, given their prior poor performance because of the regulation imposed by the league pre-FFP.

For competitive balance and financial performance, country and period-specific analyses reveal different impacts and significance of FFP's impact on clubs and leagues. Nicoliello and Zampatti (2016) stated that the study of different leagues would likely reveal varying impacts

because of the economic and structural peculiarities. Thus, this study investigates the impact of FFP on the financial performance of EPL clubs alone.

2.2.9. Theoretical framework and hypotheses development

Kanodia (1980) popularised the term "real effect" in the finance and accounting literature, capturing the expected behavioural change due to the measurement and disclosure of an accounting measure. Kanodia and Sapra (2016) define the real effect hypothesis as:

> *The measurement and disclosure rules that govern the functioning of accounting systems—which economic transactions are measured and which are not measured, how they are measured and aggregated, what is disclosed to capital markets [regulator] and how frequently such disclosures are made—have significant effects on the real decisions that firms make.* (Kanodia and Sapra 2016, p.624)

The intuition of real effect is that the presentation – additional measure or change in method – of accounting and financial information that underlines a firm's economic transactions influences the decisions that culminate in the disclosed measure (Kanodia, 2006).

While Kanodia's (1980) initial study focused on the capital market – shareholder information and its impact on share prices – recent studies have tested the real effect hypothesis in the context of regulatory disclosure requirements. For example, Napier and Stadler (2020) found that the introduction of the International Financial Reporting Standard (FIRS) 15 for the disclosure of revenue from contracts with customers by the IFRS Board had little impact on the actual decisions of the STOXX 50 – the top blue-chip index in Europe. In contrast, Williams and Williams (2021) found evidence for decreased innovation investment in their study of the Financial Interpretation 48, which changed the reporting requirement of tax incentives for innovation. Williams and Williams (2021) found that managers considered immediate earnings and cash in their decision-making. They had expected that the decision-makers would forego

the short-term negative impact of the reporting requirement for the long-term benefit of innovation.

The FFP regulation requires clubs competing in UEFA's competitions to submit separate reports from the annual statutory financial statements they prepare. This is because the IFRS does not require companies to report measures such as BER. By requiring clubs to submit additional information relating to and the calculation of the BER, UEFA expects the clubs' behaviour and decision-making to align with the objective of FFP or face sanctions for breaching the regulation. Before UEFA's announcement of FFP, the primary objective of clubs was to commit funds they earned and, in some cases, additional funds borrowed from banks or received from wealthy owners towards players' expenditure, with little to no consideration for financial sustainability. Thus, the real decision UEFA expects by limiting expenses to relevant income and imposing a €5m loss threshold is for clubs to balance their desire for on-field success within strict financial guidelines to reduce losses and indebtedness.

This study focuses on FFP's impact on the EPL because of the popularity and financial size of the league. For example, EPL clubs were the most significant contributor to the revenue growth of European football pre-FFP (UEFA, 2009, 2010, 2011). The EPL's combined revenue grew from £170m at its inception in 1992 (Hamil & Walters, 2010) to £5.137bn in 2019, a 2,921% increase. Also, as of 2019, the EPL's revenue was €2.41bn higher than the German league in second place in Europe (UEFA, 2021). Nevertheless, the EPL players' wages, combined losses, and debt are the highest in European football, making the league vital in examining the efficacy and impact of FFP.

Furthermore, Caglio et al. (2019) and Ahtiainen and Jarva (2020) included the EPL in their combined studies of the top five European leagues, while Francois et al. (2022) included the EPL in their dual case study of the EPL and the French League. However, this study focuses

on only the EPL. By studying the EPL alone, we account for the idiosyncrasies of the league in our analysis. Also, given the difference in the impact identified by Plumley et al. (2019) and Birkhäuser et al. (2017) in their assessment of competitive balance in the same leagues – covering different periods – our study covers a more extended period (2005-2019) than Caglio et al. (2019), Ahtiainen and Jarva (2020) and Francois et al. (2022) studies.

We present two hypotheses for this study. UEFA expects the FFP through the BER to improve the profitability of clubs, and as such, it is an empirical requirement that can be measured. Thus, our first hypothesis is:

H_1: As measured by the BER, the profitability of EPL clubs exposed to FFP has not improved post-FFP.

Finally, we assume that if clubs can live within their means, they would have more cash to settle their debts. By extension, we expect that if profitability increases, indebtedness should reduce. Also, the BER restricts financial doping, which is the primary cause of high debt in European football (Franck & Lang, 2014; Schubert & Könecke, 2015). Thus, our second hypothesis is:

H_2: Measured by cash flow from operations to debt, the indebtedness of EPL clubs exposed to FFP has not improved post-FFP.

2.3. Data and Methodology

2.3.1. Data

To test the real effects of FFP, we collected the financial statements for 37 English football clubs based on their participation in the (EPL) between 2005 and 2019. Our club selection criteria is participation in the EPL – specifically, we only included clubs that have participated in the EPL at least twice in the sample period. We do this to include clubs that are regularly in the EPL and may be affected by FFP. We only excluded Blackpool football club from our sample based on our criteria because the club was in the EPL only once in the sample period. We hand-collected financial data from the clubs' financial statements and notes to accounts obtained from their official website or annual filing with the Companies House.

Due to the complex group structures operated by some clubs, where applicable, we chose the entity that reflected the entire football club operations. For example, we selected Arsenal Holdings Plc (parent company) because financial information regarding the Emirates Stadium did not appear in Arsenal Football Club Plc's (subsidiary company) even though other information within the accounts was similar. Another example is Red Football Limited, the subsidiary company of Manchester United football club. We selected the subsidiary because the parent company, Manchester United Plc, did not prepare financial statements for 2007 due to business restructuring – all the financial information for the parent and subsidiary companies was the same. Similar assessments were made for all the football clubs to ensure the accuracy of financial information and consistency in our sample population.

From the selected entity for each football club, we extracted the financial data required to proxy the BER and our financial sustainability measure from the financial statements and notes to the accounts. The nomenclature for some financial data differs between football clubs; nevertheless, through the financial reporting standards, which require comparability of

financial information, and definitions provided by FFP, we aggregated and classified the required variables accurately. For example, Norwich City separates gate receipts revenue and catering income, broadcast revenue and media revenue, while other football clubs aggregate these revenues as matchday and broadcast revenue, respectively.

Annex X of the FFP regulation lists the composition of relevant income and expenses and items to be excluded from their calculation, while Article 60 defines BER as the difference between relevant income and expenses (UEFA, 2018). Relevant income is the sum of commercial, broadcast and matchday revenue, finance income, profit on player sales and disposal of tangible assets and other operating income (UEFA, 2018). Relevant expense is the sum of the cost of sales, employee benefits or wages, loss on player sales, transfer fees amortisation and impairment, finance cost and dividends (UEFA, 2018). Per Annex X, relevant income must be adjusted to exclude the following:

1. Non-monetary income.
2. Related party transactions above fair value.
3. Income from football players loaned out, profit on disposal of tangible assets.
4. Income from the reduction of liabilities.
5. Income from non-football operations not related to the football club (UEFA, 2018).

Similarly, relevant expenses must be adjusted to exclude the following:

1. Expenditure on youth, community, and women's football development.
2. Tangible fixed assets construction finance costs.
3. Leasehold improvement.
4. Depreciation and amortisation expense (except for player registration amortisation), tax expense.
5. Expenses from non-football operations not related to the football club (UEFA, 2018).

The clubs do not disclose information for some of the adjustments to relevant income and expenses mentioned in their financial statements or notes to accounts. Thus, it is impossible to mirror the BER measurement from the financial statements perfectly. However, Caglio et al. (2019) used proprietary BER information from UEFA and a total revenue less cost of employees as a proxy for BER and noted that the difference was not material. Our BER measure contains all the components of relevant income and expenses and accounts for about 50% of the adjustments mentioned in Annex X.

Caglio et al. (2019) adopted the widespread debt to cash flow from operations (DCF) as the measure of indebtedness, and they excluded negative observations from their analysis. Football clubs are highly levered and occasionally report negative operating cash flow. Including negative observations would make the analysis spurious. For this study, we inverted the DCF to have a cash flow from operations to debt (CFTD) as our measure of indebtedness because we believe the negative observations would give a complete picture of the financial landscape of the EPL and the impact of FFP. We exclude deferred income –cash received in advance from customers - from debt because it is a non-monetary obligation converted to revenue by the clubs when football matches are played. The higher the CFTD, the higher the ability to meet financial obligations.

Football clubs are usually silent on the full details of transfer fees paid and received for the sale of football players- fees quoted in the media are often inaccurate. However, it is possible to calculate the accurate transfer fees from the financial statement of football clubs because football players – specifically their contracts – are classified as intangible assets (players' registrations) in the statement of financial position. The International Accounting Standard 38 requires football clubs to report the total amount spent on acquiring players' registration (contractual right to the player), the net book value of players' registration and the profit on disposal (sale) of players' registrations. The amount spent on acquiring players' registration

represents the transfer fees paid, which are disclosed directly in the notes to the financial statement. For the transfer fees received, we add the net book value of intangible assets disposed to the profit (loss) on disposed and accumulated depreciation to arrive at an accurate figure for the sale of a player (Maguire, 2020). Table 2.3 below describes the variables in the data.

Table 2.3: Variables Definitions

S/N	Variable	Description of variable
1	Matchday	Revenue from ticket sales, catering services, and hospitality packages on matchday.
2	Broadcast	Revenue from television rights relating to national and continental competitions and subscriptions for club-owned television channels.
3	Commercial	Revenue from sponsorship and advertising agreements and merchandising.
4	Relevant income	Addition of matchday, broadcast and commercial revenue, finance income, profit on the sale of players and non-operating income
5	Wages	Wages and salaries, bonuses and any other consideration paid to footballing and non-footballing staff, management, and football club directors.
6	Transfer fees amortisation	Players' transfer-related payments amortised over the contract length.
7	Transfers profit/(loss)	Profit/(loss) from selling players to other clubs.
8	Relevant expenses	Sum of wages, transfer fees amortisation, finance cost, loss on sale of players, dividend, and other operating expenses.
9	BER (break-even-result)	Difference between relevant income and expense.
10	Wages to revenue	Wages as a percentage of revenue (matchday, broadcast and commercial revenue).
11	Net transfer fees	Difference between transfer fees paid to buy and sell players.
11	Debt	Addition of short-term debt and long-term debt.
12	Cash flow	Cash from operating activities before financing and investing activities. This represents the amount available for debt servicing and investing.
13	CFTD	Cash flow as a percentage of total debt.

Notes: These are the definitions of the components of relevant income and relevant expenses and the indebtedness measure.

Except for clubs like Bournemouth and Huddersfield, designated as small and medium companies in specific years - meaning they were allowed to prepare and report abridged financial statements - most football clubs appear consistently in our dataset. Table 2.4 presents the entire dataset, pre-FFP (2005-2011) and post-FFP (2012-2019) descriptive statistics

Table 2.4: Descriptive Statistics for EPL Clubs 2005-2019

	Full sample					Pre-FFP				Post-FFP				
Variables	Mean	SD	Max	Min	Obs	Mean	SD	Max	Min	Mean	SD	Max	Min	Diff
Commercial	24.4	43.4	276.1	0.4	474	16.0	19.1	103.4	1.1	30.1	53.3	276.1	0.4	14.1**
Matchday	20.7	26.8	154.3	1.8	474	20.1	23.6	108.8	2.0	21.0	28.8	154.3	1.8	0.9
Broadcast	50.5	50.1	260.8	0.02	474	30.2	24.6	119.4	0.02	64.3	57.7	260.8	1.15	34.1**
Relevant Income	101.9	117.3	655.1	4.5	522	67.8	70.7	418.0	4.5	129.2	138.3	655.1	5.3	61.3**
Wages	58.9	58.1	332.4	3.6	522	39.6	36.5	189.5	3.6	74.3	67.0	332.4	4.2	34.7**
Transfer fees amortisation	19.1	24.5	170	0.02	522	11.9	14.6	83.9	0.02	24.8	28.9	170.0	0.11	12.99**
Transfers profit(loss)	10.3	16.6	123.9	-12.7	522	6.4	9.7	80.7	-11.8	13.4	19.9	123.9	-12.7	6.9**
Relevant expenses	106.3	111.5	636.9	7.1	522	75.1	76.4	350.6	7.1	131.1	127.7	636.9	7.1	56.0**
BER	-4.4	28.9	141.6	-191.5	522	-7.0	22.9	67.4	-137.1	-2.0	31.1	141.6	-137.0	5.0**
Wages to revenue	85.0%	34.9%	253.7%	37.3%	522	80.0%	25.6%	225.1%	42.5%	89.0%	40.5%	253.7%	37.3%	9.0%**
Net transfer fees	-15.6	33.5	45.3	-249.7	522	-8.7	22.2	45.3	-140.7	-21.1	39.5	40.6	-249.7	-12.4**
Debt	152.6	223.7	1726.0	3.7	522	120.5	175.0	1005.9	4.3	178.3	253.5	1726.0	3.7	57.8**
Cash flow	11.2	38.4	245.0	-82.6	432	5.8	25.6	176.6	-81.4	15.8	46.1	245.0	-82.6	10.0**
CFTD	1.8%	25.4%	182.5%	-200%	432	0.6%	18.1%	72.4%	-45.3%	2.8%	30.2%	182.5%	-200%	2%

Notes: All figures are in millions except for CFTD and Wages to Revenue. The variables Relevant Income and Expenses, Transfers profit(loss), BER CFTD and Wages to Revenue are variables we use to assess the impact of FFP. ** designates statistical significance at 5%

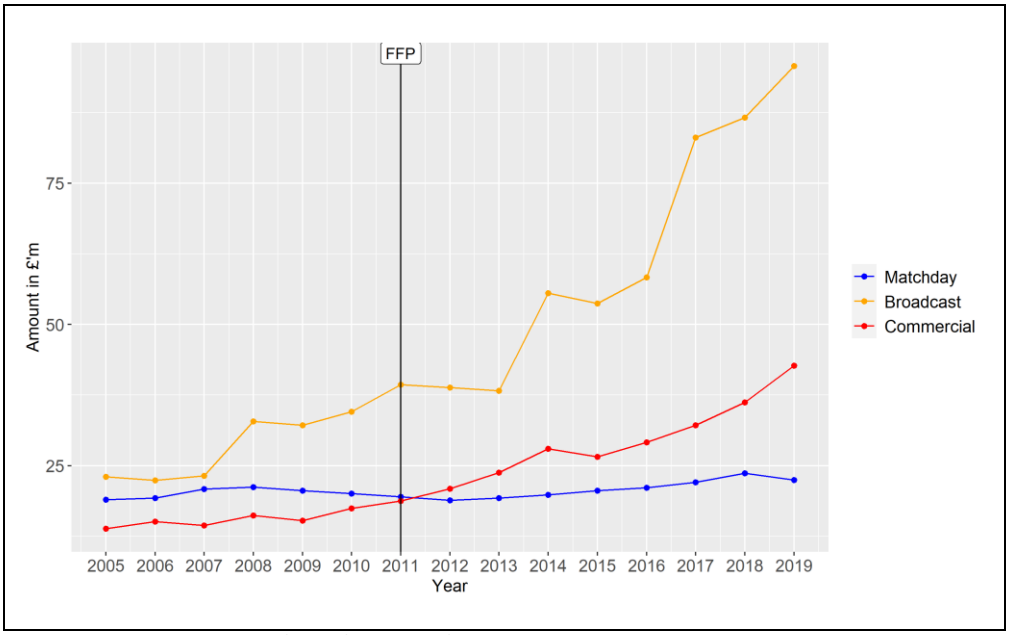
The average relevant income of the clubs in our dataset grew by 91% to £129.2m post-FFP from £67.8m pre-FFP. The most significant contributor to the increase in relevant income was broadcast revenue which increased by 112% post-FFP to £64.3m, accounting for 50% of relevant income. Average commercial revenue increased by 88% to £30.1m from £16m pre-FFP and accounted for 23% of relevant income post-FFP, confirming the trend noted by UEFA (2011) and King (2010) of the growing importance of commercial revenue. In contrast, the average matchday revenue accounted for 16% of relevant income post-FFP -compared to 30% pre-FFP- even though it grew by 5% to £21m. The difference between post-FFP and pre-FFP matchday revenue is the first of two variables in our dataset that is statistically insignificant.

The average relevant expenses grew by 75% post-FFP to £131.1m from £75.1m. Wages increased by 88% to £74.3m post-FFP from £39.6m and accounted for 58% of relevant expenses pre and post-FFP, confirming previous studies (Caglio et al., 2019; Dimitropoulos & Scafarto, 2021; Hamil & Walters, 2010) findings that wages are the most significant component of relevant expenses. As a result of the wage growth, average wages to revenue increased from 80% pre-FFP to 89% post-FFP. However, transfer fee amortisation – the annual spread of cumulative transfer fees paid for acquiring players- increased by 108% to £24.8m post-FFP, indicating increased transfer spending. While they spent more on transfers, the clubs earned more from selling players, with profit from player sales growing by 109% post-FFP. The changes in relevant income and expenses resulted in BER reducing by 71% to -£2m post-FFP from –£7m.

The gap between what the clubs spent on transfer fees increased as net transfer fees increased by 142% to -£21.1m post-FFP from -£8.7m. The average debt and cash flow increased by 48% and 172% to £178.3m and £15.8m post-FFP, respectively, resulting in CFTD increasing from 0.6% to 2.8% post-FFP. The improvement in CFTD is the second variable in our dataset whose post-FFP difference is statistically insignificant.

Figures 2.2 to 2.6 below show the annual progression of the composition of revenue, wages and transfer fees amortisation, BER, wages to revenue percentage, and debt for the clubs in our dataset. Figure 2.2 shows that broadcast revenue has trended upwards throughout the period, with significant increases every three years. The Premier League sells broadcast rights (called television rights or TV rights) to global satellite operators in a three-year cycle, and the value of the rights has consistently increased since the formation of the EPL in 1992. Hence, every three years, broadcast revenue shows a shape increase.

Figure 2.2: Annual Average of Revenue Sources



Notes: The author created this figure from the information in the dataset. Matchday revenue has not increased significantly, while broadcast and commercial revenue have. Post-FFP commercial revenue increased at a higher rate than pre-FFP. Broadcast revenue has consistently increased in three-year cycles.

Table 2.5 shows the EPL's TV rights cycles and their values since 1992. Similarly, UEFA sells its TV rights in three-year cycles.

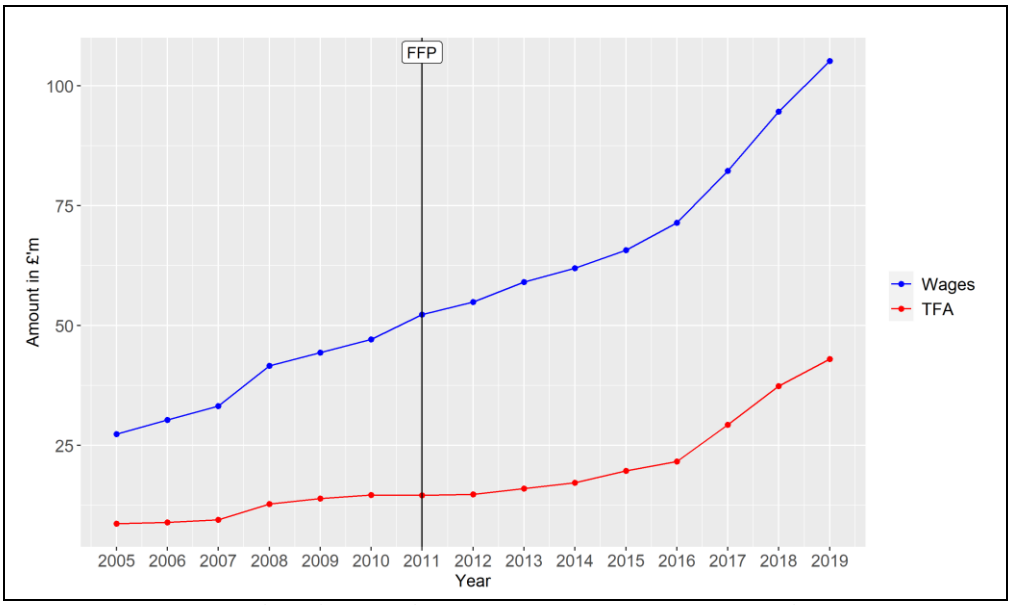
Table 2.5: EPL Broadcast Rights Deals

Period	Broadcast deal length	Total TV deal value
1992 -1997	Five years	£232m
1997 -2001	Four years	£768m
2001 - 2004	Three years	£1.37bn
2004 - 2007	Three years	£1.35bn
2007 - 2010	Three years	£2.36bn
2010 - 2013	Three years	£3.22bn
2013 - 2016	Three years	£5.25bn
2016 - 2019	Three years	£8.14bn
2019 - 2022	Three years	£9.2bn

Notes: Table 2.5 shows the EPL broadcast deal rights sold by The Premier League to domestic and international broadcasters between 1992 and 2022. We adapted the information from Sports Business Institute and the Premier League's website (Premier League, 2019; Sports Business Institute, 2019)

Matchday revenue did not significantly change post-FFP but remained within the same pre-FFP range because most clubs freeze the price of tickets for football matches or, at best, make marginal increases. For example, for the tenth straight season, Manchester United froze its season ticket prices for the 2021/2022 football season (Nagle, 2021). It is noteworthy that matchday attendance has a positive spill-on effect on television audiences (Buraimo, 2008). Commercial revenue, which was lower than matchday pre-FPP, increased significantly post-FFP and is the second largest source of revenue for the clubs in our dataset. Brands from different industries recognised the advertising value of the EPL due to its popularity and global demand and signed sponsorship agreements with clubs, especially after the Global Financial Crisis, which coincided with FFP's introduction. The average total revenue from all sources peaked in 2019 at £163m.

Figure 2.3: Annual Average Wages and Transfer Fees Amortisation

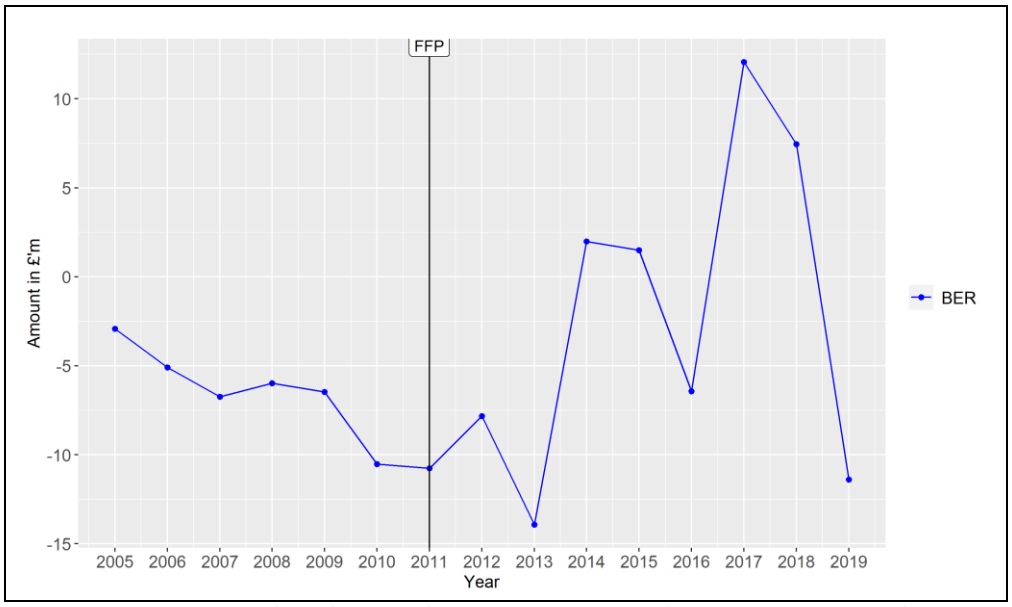


Notes: The author created this figure from the information in the dataset. Wages and salaries for EPL clubs constantly increased between 2005 and 2019. The cumulative wages and salaries for the 37 clubs in our data set was £3.6bn in 2019, the highest in Europe pointed out by Caglio et al. (2019) in their study.

In Figure 2.3, the quest for on-field success and the correlation between wages and on-field success (Hall et al., 2002; Szymanski, 2003) translated to the consistent growth in wages and transfer fee amortisation, pre and post-FFP. From visual inspection, wages and transfer fees amortisation grew faster post-FFP, possibly due to the corresponding rise in revenue. The average wages in the period peaked in 2019 at £115m.

Figure 2.4 shows that pre-FFP BER trended downwards without any year of positive profitability, and the average loss peaked in 2011 at £11m per club. Post-FFP, the BER oscillated between profit and loss, signifying an impact of the regulation. However, we notice that the 2013 BER was the highest in the period at an average of £14m losses per club. Nevertheless, in 2017 the average BER of £12.5m was the highest in the period.

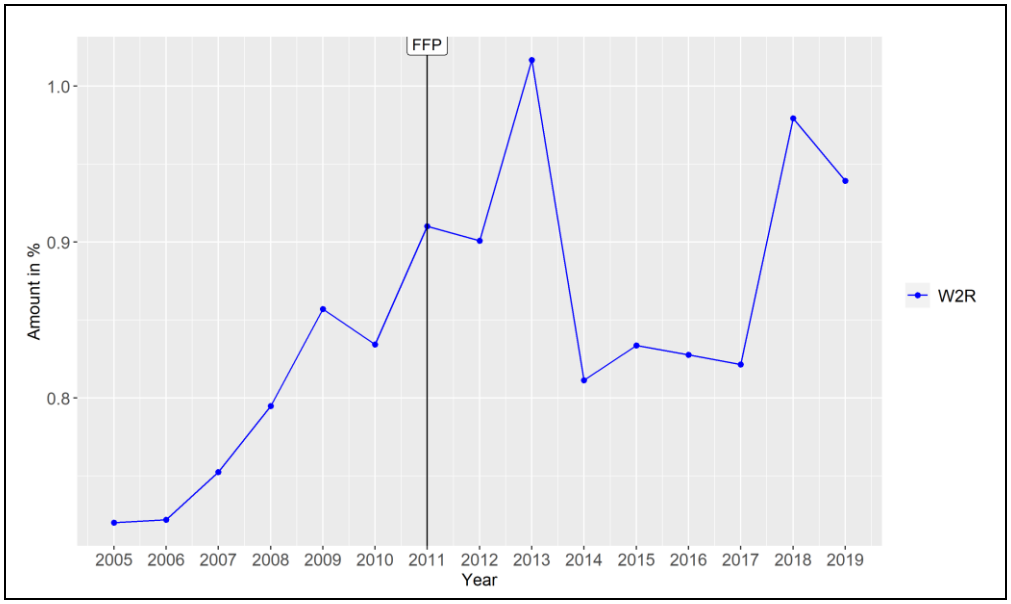
Figure 2.4: Annual Average BER



Notes: The author created this figure from the information in the dataset. Before FFP, the average BER for the clubs in the dataset trended downwards and was always negative. Post-FFP, the average BER fluctuated but was positive in 2014, 2015, 2017 and 2018.

Similarly, in Figure 2.5, wages-to-revenue trended upwards pre-FFP and oscillated post-FFP. The highest wages-to-revenue percentage was in 2013, when the average was 105%, while the lowest was in 2005 at 73%. UEFA advised clubs to keep their wages at less than 70% of revenue. The 70% mark is UEFA's guide based on their analysis of a sustainable percentage. It is important to note that BER, which attracts sanctions once breached, does not require the clubs to keep their wages under any specific percentage.

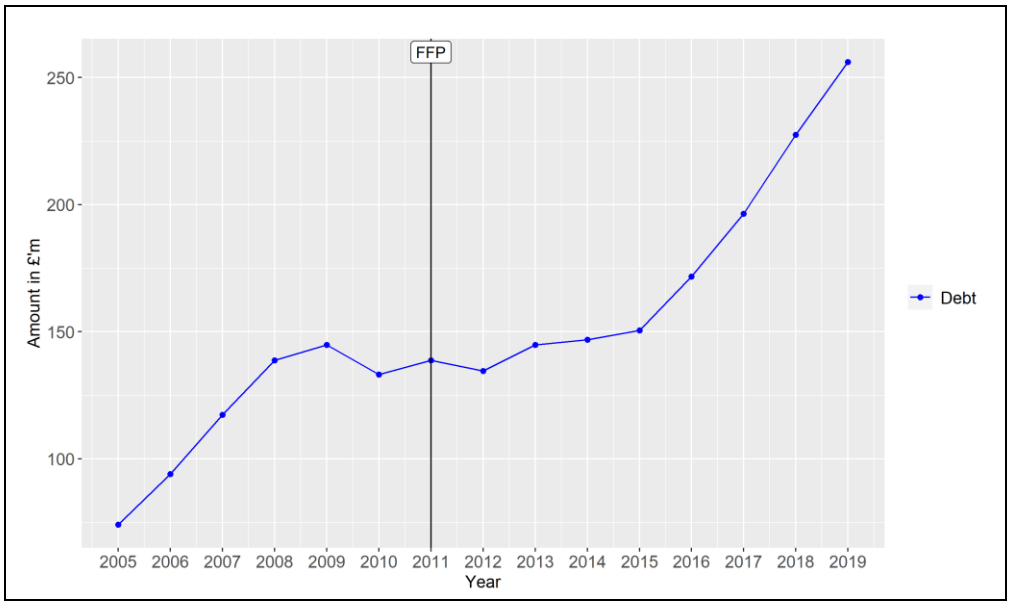
Figure 2.5: Annual Average Wages to Revenue



Notes: The author created this figure from the information in the dataset. The successive rise in wages to revenue (W2R) before 2011 explains UEFA's concerns. The highest percentage was in 2013 before a sharp fall the following year. The wage-to-revenue percentage rose sharply in 2018 after it had plateaued for three years.

In Figure 2.6 below, the pre-FFP average debt significantly increased and peaked in 2009 at £146m before falling marginally in 2010 and 2011. Post-FFP, the average debt increased yearly and peaked in 2019 at £260m per club. The plateau, which began in 2009 ending in 2015, is attributed to the financial crisis in 2009 and the restriction of financial doping by FFP in 2011. The significant jump in 2016 is attributable to an increase in trade creditors, comprising mainly of transfer fees payable to other clubs for acquiring players – we discuss this further in the result section.

Figure 2.6: Annual Average Debt



Notes: The author created this figure from the information in the dataset. The average annual debt grew between 2005 and 2008 but plateaued in 2009. However, from 2016, average debt spiked and grew consistently until 2019.

2.3.2. Research design

We use the difference-in-differences (DiD) approach to estimate the real effect of FFP on the financial performance of EPL clubs. The DiD is a quasi-experiment research approach that isolates and identifies the treatment effect of a planned intervention. For this paper, the treatment and intervention is UEFA's introduction of FFP in 2011. The cut-off year which is 2011, enables us to carry out a pre-treatment (2005 to 2011) and post-treatment (2012-2019) analysis of the financial performance of our sample participants. The DiD approach requires at least two groups: a treated group exposed to the intervention and an unaffected group called the control group. Though similar to classical natural experiments, DiD differ because participants in the treated and control groups are not categorised randomly but based on predefined criteria (Mark Saunders et al., 2015).

Adherence to FFP is not mandatory except if a football club qualifies for one of UEFA's club competitions. At the beginning of a season, every club's objective is to finish as high as possible and qualify for UEFA competitions. However, the spots for the competitions are limited to a

maximum of seven per year. Also, UEFA only sanctions clubs participating in its competition for breaching FFP. Sanctions such as withholding competition revenue and restricting the number of players available to play in either competition are only applicable to participating clubs. Therefore, the desire to qualify for either competition does not translate to being treated. Thus, our criteria for defining a club as receiving the FFP treatment is participation in either of UEFA's competitions. We adopt the "target group" nomenclature used by Caglio et al. (2019) instead of "treated group" because the FFP targets clubs participating in UEFA's competitions.

As a baseline, we categorise clubs that have participated in UEFA competitions in at least 10 out of 15 seasons over our sample period into our target group (see Table 2.6 for the clubs in the target group). The result section explores alternative definitions of target clubs for robustness checks. In Table 2.6 below, the baseline target clubs are Arsenal, Chelsea, Manchester United, Manchester City, Liverpool and Tottenham, which are known as the Top-6 or Big-6 because they consistently rank in the first six positions of the EPL table and qualify for UEFA's competitions. A limitation of the DiD approach is that the groups must be comparable and not inherently dissimilar. While Top-6 clubs who regularly qualify for UEFA competitions and receive more revenue than control clubs indicate a difference, DiD focuses on trends, not magnitude.

Table 2.6: Target and Control Group

Target clubs	Control clubs		
Arsenal	Everton	Portsmouth	Burnley
Chelsea	Aston Villa	Stoke City	Charlton
Manchester United	Bolton	Wigan	Crystal Palace
Liverpool	Middlesbrough	Wolves	Fulham
Tottenham	Newcastle	Hull	Norwich
Machester City	Southampton	Swansea	Sheffield United
	West Ham	Birmingham	Sunderland
	Blackburn	Bournemouth	Watford
	Leicester City	Brighton	West Brom
	Reading	Queens Park Rangers	Cardiff City
	Huddersfield Town		

Notes: The baseline target clubs in Table 2.6 are also referred to as the "top-6" in the EPL. The top-6 tag is because these clubs have consistently ranked in the top 6 positions in the league (qualification for UEFA competitions).

To analyse whether the financial performance of EPL clubs exposed (target group) to FFP improved, we compare, using the regression models below, the average BER, Wages to Revenue and CFTD, pre and post-FFP.

$$Y_{it} = \beta_0 + \beta_1 Target_i + \beta_2 Post_t + \beta_{DiD} Target_i * Post_t + Controls + \varepsilon_{it} \quad (1)$$

$$Y_{it} = \beta_0 + \beta_{DiD} Target_i * Post_t + Controls + FE + \varepsilon_{it} \quad (2)$$

For all instances where we use the models, Y_{it} is the outcome variable, *Target* and *Post* are dummy variables, while *Target* * *Post* is the interaction term between *Target* and *Post*. In model 1, The *Target* variable takes 1 for clubs in the target group and 0 for the control group. The *Post* variable takes 1 for all the post-FFP years (2012 to 2019) and 0 for pre-FFP years (2005 to 2011). The coefficient β_1 is the estimated mean difference in the outcome variable between the target and control groups before the introduction of FFP. $\beta_1$represents the existing differences between the groups, that is, by how much the target group's outcome variable varied from the control group's. The coefficient β_2 represents the estimated mean difference in the outcome variable due to the passage of time without the introduction of FFP. The coefficient β_{DiD} is the DiD causal and real effect estimate of FFP and is our coefficient of interest. β_{DiD} represents the mean difference in the outcome variable between the target and control groups, pre-FFP and post-FFP.

For model two, FE stands for club and year fixed effects and to avoid multicollinearity, we do not include the *Target* variable. The fixed effects capture variations due to the passage of time and club-specific idiosyncrasies, thereby reducing the possibility of an artificial identification of the FFP's real effect (Williams & Williams, 2021). We expect the R-square (R^2) to be higher in model 2 because of the annual growth and changes in variables such as revenue and wages (UEFA, 2010, 2015, 2019).

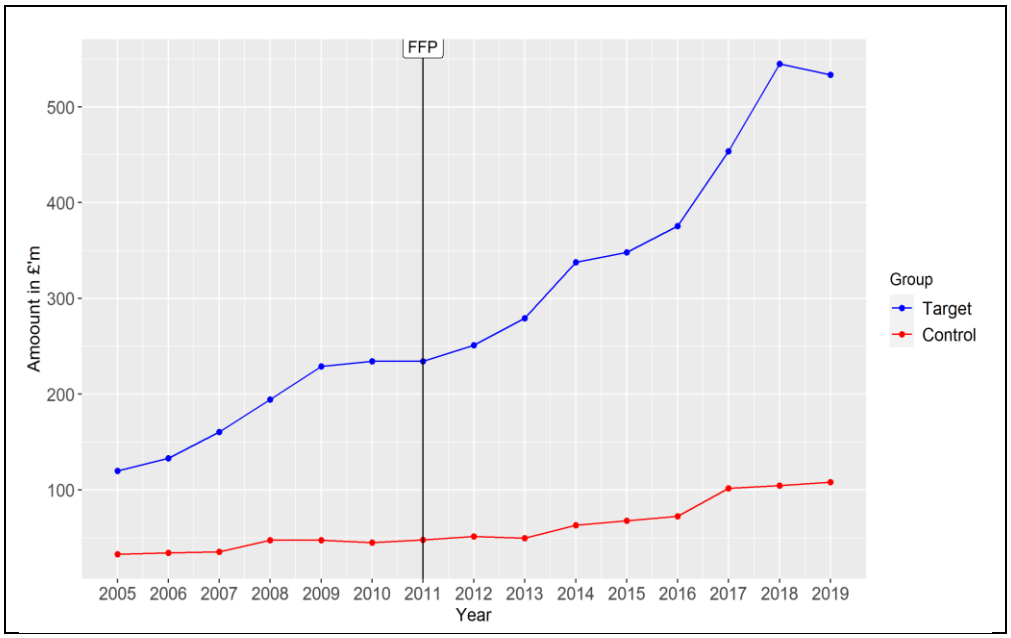
The coefficient β_0 is the intercept in both models. The variable controls in both models are a list of variables we expect to impact the outcome variables. We include the following control variables in the models: Promotion and relegation, position, UCL and UEL, quarter-final, foreign ownership, attendance, TV Deal, and debt to assets. Promotion and relegation are dummy variables for when a club achieves promotion to or is relegated from the EPL. The evidence in the literature (Dimitropoulos & Scafarto, 2021; Leach & Szymanski, 2015; Plumley et al., 2020; Ruta et al., 2019) suggests that promotion and relegation are vital determinants of a club's profitability, with the former increasing profitability and the latter reducing profitability. However, parachute payments – intended to reduce the impact of the loss of revenue – to clubs relegated from the EPL softens the adverse impact of relegation on profitability (Plumley et al., 2018; Plumley et al., 2020; Wilson et al., 2022; Wilson et al., 2018). The payments are from the EPL's broadcast revenue, and under the 2016-2019 TV Deal, relegated clubs received £90m each over three years as parachute payments (Wilson et al., 2018). Nevertheless, we expect a positive and negative coefficient for promotion and relegation, respectively, with the latter less significant.

TV Deal is a dummy variable for the years when The Premier League agrees on a new broadcast deal with its global satellite television operators. Given that the broadcast deals have consistently increased in value, we expect the coefficient on TV deal to be positive. Furthermore, Francois et al. (2022) study of the EPL and French League suggests that broadcast deals determine profitability. The position variable is the final league position of a club in the EPL table and is set to zero for clubs outside the EPL in a season. As a lower number in position indicates better performance during the season, more revenue (see **Table *2.2***), and the theoretical likelihood of higher profit, we expect the coefficient to be negative (Ahtiainen & Jarva, 2020; Gallagher & Quinn, 2020).

UCL and UEL are dummy variables taking 1 for when a club qualifies for either of UEFA's club competitions and 0 if otherwise. We expect clubs playing in the UCL to be more profitable because the financial reward from the competition is more than that of the UEL or not qualifying for either competition (see Table 2.1). Nevertheless, we expect UCL and UEL to be positive. Quarter-final is a dummy variable for a club's progress in UEFA competitions. The further a club goes in the competitions, the higher the financial reward; thus, we expect the quarter-final coefficient to be positive (Ahtiainen & Jarva, 2020). Attendance is a stadium capacity utilisation variable that we expect to be positive because higher attendance translates to higher matchday revenue. Foreign ownership is a dummy variable that takes the value of 1 for clubs owned by non-British nationals and 0 if otherwise. We expect the coefficient to be negative because foreign-owned clubs spend more on players' expenditures and are typically more loss-making than non-foreign-owned clubs (Jones & Cook, 2015; Rohde & Breuer, 2016, 2018; Wilson et al., 2013). Finally, debt to assets is a club size control variable.

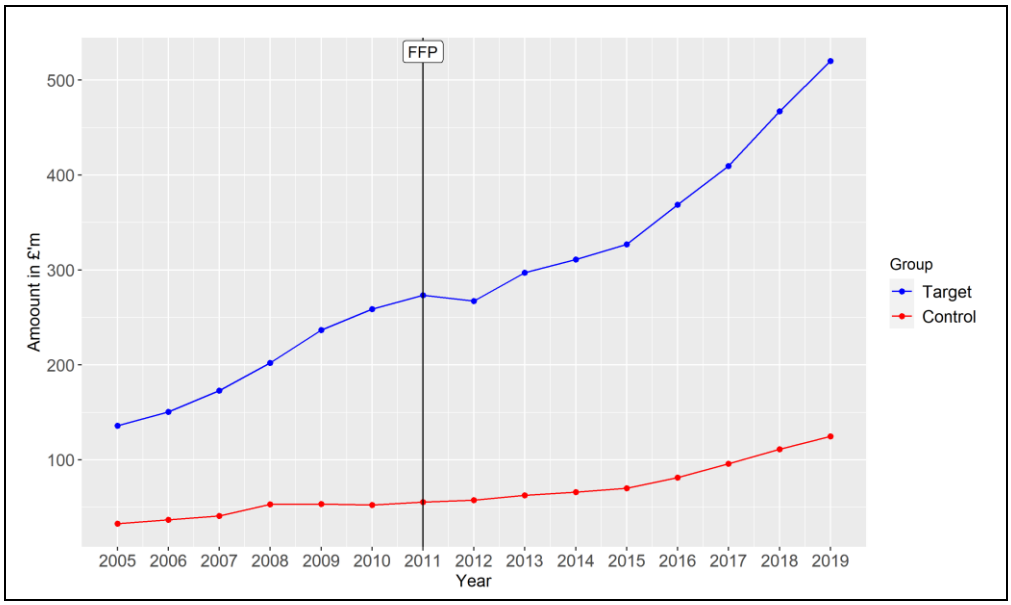
An important assumption for the DiD estimation is the parallel trend assumption which requires uniformity of pre-treatment trends in both groups to estimate the counterfactual (Rambachan & Roth, 2019). It is worth noting that it is impossible to know if the groups would have followed the pre-treatment trends in the post-treatment period. However, we gain comfort over the counterfactual by assessing the pre-treatment trend. Visual inspection of pre-treatment data for no severe deviation of trends, not magnitude and placebo tests give comfort over the estimation. Figures 2.7 to 2.10 below show the relevant income and expense, BER and CFTD trends for the target and control groups.

Figure 2.7: Target and Control Groups' Average Relevant Income



Notes: The author created this figure from the information in the dataset.

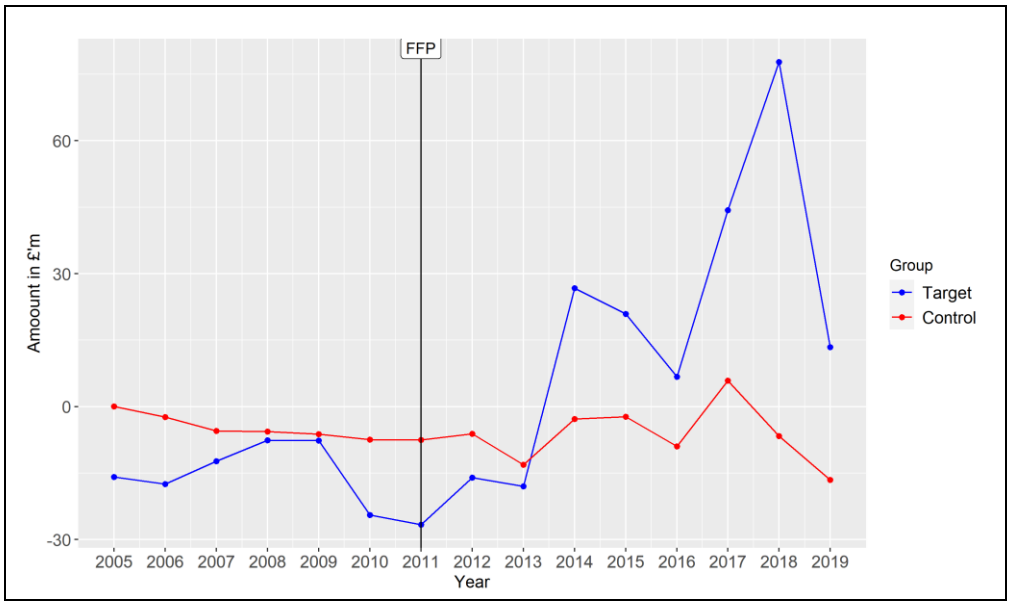
Figure 2.8: Target and Control Groups' Average Relevant Expenses



Notes: The author created this figure from the information in the dataset.

Figure 2.7 and Figure 2.8 show that both groups' relevant income and expenses trended upwards in the pre and post-FFP periods. Relevant income did not fall in any year for the control group, but there was a fall in 2019 for the target group's relevant income. For the target group, there was a slight dip in relevant expenses in 2012, with the upward trend continuing from 2013 onwards.

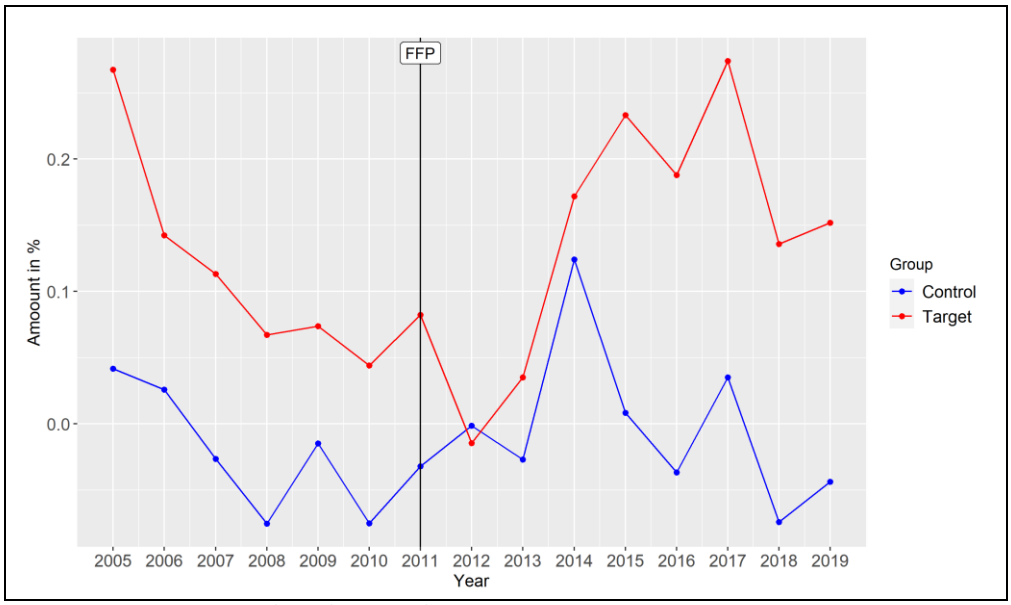
Figure 2.9: Target and Control Groups' Average BER



Notes: The author created this figure from the information in the dataset.

In Figure 2.9, both groups' BER was negative and had a downward trajectory. While visual inspection reveals that the BER for the target group grew in 2007 and 2008, the average trajectory was downward between 2005 and 2011. Post-FFP, the target group's BER trended upwards and was positive from 2014 onwards, while the control group's BER was positive in only 2017 with no observable trend.

Figure 2.10: Target and Control Groups' Average CFTD



Notes: The author created this figure from the information in the dataset.

In Figure 2.10, the CFTD for the target and control groups follows a similar downward trend to the BER. However, the CFTD for the control group was negative pre-FFP, while the target group was positive. Post-FFP, the target group's CFTD was negative in 2012 but trended upward afterwards. The control group's CFTD oscillated between positive and negative post-FFP with no recognisable trend.

In addition to visual inspection, we run placebo tests on the pre-FFP data for both groups to support the parallel trend assumption.

2.4. Results

2.4.1. Profitability

Table 2.7: BER, Relevant Income and Expenses and Player Sales Profit Regressions

	BER		Relevant Income		Relevant Expenses		Player sales profit	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Post (β_1)	-1.23	--	35.75***	--	36.99***	--	5.07***	--
	(2.08)	--	(7.44)	--	(6.80)	--	(1.23)	--
Target (β_2)	-11.03	--	145.00***	--	157.80***	--	10.91***	--
	(15.27)	--	(25.81)	--	(24.35)	--	(2.24)	--
Post * Target (B_{DiD})	36.73***	37.46***	168.17***	167.87***	129.67***	128.61***	12.49*	12.41*
	(8.10)	(8.25)	(26.50)	(26.93)	(22.51)	(22.85)	(6.70)	(6.78)
(Intercept)	-4.98***	--	41.60***	--	46.58***	--	4.42***	--
	(1.08)	--	(4.43)	--	(4.98)	--	(.612)	--
Time fixed effect	--	✓	--	✓	--	✓	--	✓
Firm fixed effect	--	✓	--	✓	--	✓	--	✓
Observations	522	522	522	522	522	522	522	522
R^2	0.083	0.412	0.717	0.857	0.706	0.878	0.226	0.435
Within R^2	--	0.098	--	0.336	--	0.277	--	0.034

Notes: Robust standard errors are clustered at club level. All numbers in the table are presented in millions of £. Significance levels denoted as *p<0.1, **p<0.05, and ***p<0.01.

Based on the definition of target football clubs – participants in at least 10 out of 15 European football club competitions – Table 2.7 details the results of the baseline DiD regressions. The outcome variables in Table 2.7 are BER, relevant income and expenses and player sales profit. The coefficients of interest and causal effect estimate, β_{DiD}, are positive and statistically significant in all our baseline regressions. The BER for the target group increased by £37.46m (£36.73m) more than it increased for the control group after the introduction of FFP. From columns 3 to 6 of Table 2.7, we see that the post-FFP BER improvement was because the relevant income for the target group increased at a higher rate than their relevant expenses, the opposite of pre-FFP trends. For example, in 2010, relevant income grew by 6%, while relevant expenses increased by 39%; in contrast, relevant income grew by 21%, while relevant expenses increased by 11% in 2017. The R^2 for relevant income and expenses for both models are high because of the annual growth in the variables.

In columns 7 and 8 of Table 2.7 the β_{DiD} for player sales profit was positive and statistically significant, illustrating that target clubs negotiated better deals when they sold players post-FFP. This behavioural change is consistent with findings from Dimitropoulos and Scafarto's (2021) and Nicoliello and Zampatti's (2016) studies, which found that Italian clubs sold players for higher profit (compared to pre-FFP) to adhere to FFP.

We investigate the impact of FFP on BER further by controlling for variables that are likely to impact the clubs' profitability. Table 2.8 summarises the results of including control variables in the BER regressions.

Table 2.8: BER Regression With Control Variables

	BER					
	(1)	(2)	(3)	(4)	(5)	(6)
Post (β_1)	-1.00	-0.96	3.88**	--	--	--
	(2.13)	(2.18)	(1.91)	--	--	--
Target (β_2)	-11.24	-21.76	-18.52	--	--	--
	(15.34)	(13.97)	(12.43)	--	--	--
Target * Post (β_{DiD})	37.32***	39.73***	37.19***	37.75***	41.20***	39.00**
	(8.33)	(7.48)	(6.72)	(8.35)	(7.39)	(6.62)
TV Deal	-8.94***	-9.35***	-9.29***	-7.49**	-7.52**	-6.90*
	(2.54)	(2.46)	(2.35)	(3.56)	(3.52)	(3.55)
Promotion	13.49***	12.17***	13.17***	12.53***	9.90***	10.93***
	(2.84)	(2.98)	(2.78)	(2.03)	(2.34)	(2.41)
Relegation	-4.40	-3.64	-4.93	-5.13*	-3.18	-3.28
	(3.12)	(3.39)	(3.75)	(2.94)	(3.31)	(3.38)
Position	--	0.124	-0.053	--	0.278	0.372
	--	(.160)	(.207)	--	(.222)	(.288)
UCL	--	8.08	9.43	--	23.22**	21.11**
	--	(15.11)	(13.41)	--	(10.74)	(8.11)
UEL	--	-3.70	-4.09	--	-5.30	-4.60
	--	(7.26)	(6.73)	--	(6.73)	(6.27)
Quarter Final	--	10.99	14.54	--	15.74**	16.72***
	--	(9.84)	(9.03)	--	(6.60)	(5.83)
Foreign Ownership	--	--	-16.92***	--	--	-14.22***
	--	--	(4.33)	--	--	(4.16)
Attendance	--	--	4.00	--	--	-10.82
	--	--	(9.08)	--	--	(14.36)
Debt to Assets	-2.30	-2.31	-2.65*	-1.67	-1.48	-1.36
	(1.64)	(1.73)	(1.55)	(1.05)	(1.06)	(1.03)
(Intercept)	-0.150	-0.666	0.658	--	--	--
	(2.85)	(3.27)	(7.81)	--	--	--
Time fixed effect	--	--	--	✓	✓	✓
Club fixed effect	--	--	--	✓	✓	✓
Observations	522	522	521	522	522	521
R^2	0.142	0.157	0.223	0.437	0.488	0.495
Within R^2	--	--	--	0.136	0.213	0.238

Notes: Robust standard errors are in brackets and are clustered at club level. All numbers in the table are presented in millions of £. Significance levels denoted as *p<0.1, **p<0.05, and ***p<0.01.

From Table 2.8, we find that the inclusion of control variables does not reduce the size or significance of the β_{DiD} coefficient. From the evidence in columns 3 to 6 in Table 2.7 – a higher rate of increase in relevant income compared to relevant expenses led to improved BER – we had expected that profitability would increase in the years when the TV deal increased because broadcast revenue is the most significant relevant income source. However, the TV deal coefficient was negative in all columns in Table 2.8, signifying that clubs were less profitable when they received more revenue from broadcast deals. For example, Table 2.9 presents Liverpool football club's financial information and shows that the wages expenditure and net transfer fees increased whenever the TV deal increased; consequently, BER was less in those years. For example, in 2016, when the TV deal increased, Liverpool's BER (-£16m) was worse than the two preceding (£63m and £4m) and subsequent years (£47m and £134m). We see similar trends for net transfer fees and wages.

Table 2.9: Liverpool Football Club's Financial Performance 2005 - 2019

Year	TV deal increase?	BER	Net transfer fees (paid) received	Wages % increase/(decrease)
2005	No	13	-36	-
2006	No	-2	-30	7%
2007	Yes	-19	-48	13%
2008	No	12	-40	16%
2009	No	-14	-13	12%
2010	Yes	-18	6	21%
2011	No	-46	-57	11%
2012	No	-38	-15	-12%
2013	Yes	-47	-82	11%
2014	No	4	-34	9%
2015	No	63	-60	16%
2016	Yes	-16	-60	25%
2017	No	47	-4	0%
2018	No	134	-58	27%
2019	Yes	51	-164	18%

Notes: The BER for Liverpool football club decreased in most of the years when the TV increased. We also see that wages and transfer fees spent on player acquisitions increased. This illustrates a behavioural pattern linked to increased broadcast revenue. All numbers are in millions of £ except for wages and salaries % change.

The coefficient for promotion is positive and significant in all columns of Table 2.8, indicating that clubs' profitability improves when they are promoted, confirming evidence from other studies (Dimitropoulos & Scafarto, 2021; Leach & Szymanski, 2015; Plumley et al., 2020; Ruta et al., 2019) in the literature. For the relegation variable, the coefficient is negative in all columns in Table 2.8 – relegated clubs are more likely to report losses (Dimitropoulos & Scafarto, 2021; Leach & Szymanski, 2015; Plumley et al., 2020; Ruta et al., 2019) – but is only significant in column 4. A possible explanation for the weak evidence for relegation as a significant determinant of profitability is the parachute payments that relegated clubs receive from the Premier League as a buffer to cushion the impact of the loss of revenue (Plumley et al., 2018; Plumley et al., 2020; Wilson et al., 2022; Wilson et al., 2018).

We expected improvement in league position to improve profitability – denoted by a negative coefficient. However, the coefficient for the position variable is positive in all columns except for column 3 in Table 2.8, indicating that a higher league performance did not improve profitability, though none of the coefficients was significant. The marginal increase in broadcast revenue for finishing higher in the EPL – the differential between first place and last place was 1.6 in 2019 see Table 2.2 in section 2.2.4 – compared with the costs – the wage differential was 4.8 in 2019 – explains the position coefficient. The UCL coefficients in Table 2.8, positive in all columns but only significant in columns 5 and 6, illustrate that participating in the UCL improves clubs' profitability. In contrast, participating in the UEL deteriorates clubs' profitability, though the coefficient is insignificant. The difference in profitability is not surprising, given the chasm in financial rewards in the UCL and UEL (see Table 2.1 in section 2.2.4). Also, it is plausible that clubs competing in the UEL aimed but failed to qualify for the UCL; This means that their budgets (player wages and transfer fees) reflected their ambition, but they missed out on the additional revenue by failing to qualify for the UCL. Progress in UEFA competitions comes with additional revenue (see Table 2.1 in section 2.2.4) without a

corresponding cost increase; therefore, the positive (in all columns) and significant (columns 5 and 6) coefficient for the quarter-final coefficient aligns with our expectations.

The foreign ownership variable was negative and significant in all the columns in Table 2.8, illustrating that non-British-owned clubs make more losses than clubs with British owners. This finding is in line with evidence (Jones & Cook, 2015; Rohde & Breuer, 2016, 2018; Wilson et al., 2013) in the literature and confirms that foreign owners are more extreme win-maximisers than their British counterparts. Finally, the attendance coefficient is not significant, but it is positive in column 3 and negative in column 6. Nevertheless, From Table 2.7 and Table 2.8, where the coefficient of interest β_{DiD} (Target * Post) for the BER was positive and significant, we find evidence illustrating that target clubs' profitability has improved post-FFP; thus, we reject the null hypothesis *H_1*.

2.4.2. Indebtedness

Table 2.10: CFTD, Cashflow and Total Debt regressions

	CFTD		Cash flow		Debt	
	(1)	(2)	(3)	(4)	(5)	(6)
Post (β_1)	0.021	--	2.65	--	34.63***	--
	(0.037)	--	(2.53)	--	(10.25)	--
Target (β_2)	0.133**	--	29.34*	--	329.02***	--
	(0.052)	--	(15.46)	--	(96.70)	--
Target * Post (B_{DiD})	0.016	0.026	39.69***	38.91***	170.78**	167.06**
	(0.058)	(0.056)	(10.21)	(9.88)	(73.90)	(74.60)
(Intercept)	-0.022	--	-0.428	--	60.95***	--
	(0.019)	--	(.792)	--	(8.52)	--
Time fixed effect	--	✓	--	✓	--	✓
Club fixed effect	--	✓	--	✓	--	✓
Observations	432	432	433	433	522	522
R^2	0.052	0.312	0.339	0.612	0.543	0.868
Within R^2	--	0.001	--	0.095	--	0.130

Notes: Robust standard errors are clustered at club level. All numbers in the table are in millions of £, except for column 1 and 2, which is expressed in percentage. Significance levels denoted as *p<0.1, **p<0.05, and ***p<0.01.

The β_{DiD} coefficients in columns 1 and 2 of Table 2.10 indicate that CFTD improved marginally for target clubs compared to control clubs post-FFP, but the improvement is not

statistically significant. The absence of statistical significance suggests that FFP has yet to improve target clubs' ability to repay the debt they owe, confirming the findings of Caglio et al. (2019) and Plumley et al. (2020) studies. The β_{DiD} coefficient for cash flow and debt in columns 3 to 6 of Table 2.10 reveals that both components of CFTD increased significantly for target clubs post-FFP. However, the increase in cash flow was not sufficient to have a significant impact on the target clubs' CFTD.

Table 2.11 presents the result of the CFTD regressions with the inclusion of control variables. The β_{DiD} coefficients in all the columns of Table 2.11 were positive but insignificant, similar to Table 2.10. The TV deal coefficients were negative in all columns but only significant in the regressions without fixed effects. Similar to the BER result, when broadcast revenue increased, clubs overspent on player-related expenditures, worsening their ability to repay the debt owed. The coefficient for promotion was positive and significant in all the columns of Table 2.11, illustrating that clubs' ability to repay the debt owed improved significantly upon promotion to the EPL, confirming evidence in the literature (Dimitropoulos & Scafarto, 2021; Leach & Szymanski, 2015; Plumley et al., 2020; Ruta et al., 2019).

Table 2.11: CFTD Regressions With Control Variables

	CFTD					
	(1)	(2)	(3)	(4)	(5)	(6)
Post (β_1)	0.026	0.019	0.065**	--	--	--
	(0.036)	(0.032)	(0.027)	--	--	--
Target (β_2)	0.153***	0.080	0.035	--	--	--
	(0.052)	(0.082)	(0.061)	--	--	--
Target x Post (β_{DiD})	0.014	0.016	0.005	0.021	0.019	0.001
	(0.058)	(0.056)	(0.048)	(0.055)	(0.049)	(0.047)
TV Deal	-0.040*	-0.051**	-0.051**	-0.034	-0.030	-0.031
	(0.058)	(0.022)	(0.022)	(0.035)	(0.036)	(0.032)
Promotion	0.229***	0.129***	0.115***	0.215***	0.131***	0.116***
	(0.035)	(0.041)	(0.041)	(0.041)	(0.038)	(0.038)
Relegation	-0.085**	-0.026	-0.067*	-0.102**	-0.052	-0.083**
	(0.035)	(0.041)	(0.038)	(0.038)	(0.038)	(0.036)
Position	--	0.011***	0.004*	--	0.001***	0.003
	--	(0.002)	(0.002)	--	(0.002)	(0.002)
UCL	--	0.135**	0.115**	--	0.160***	0.134***
	--	(0.063)	(0.045)	--	(0.042)	(0.035)
UEL	--	0.067**	0.026	--	0.055**	0.031
	--	(0.029)	(0.025)	--	(0.026)	(0.021)
Quarter Final	--	-0.022	-0.006	--	-0.015	-0.006
	--	(0.028)	(0.029)	--	(0.029)	(0.029)
Foreign Ownership	--	--	-0.130***	--	--	-0.141**
	--	--	(0.032)	--	--	(0.054)
Attendance	--	--	0.508***	--	--	0.491***
	--	--	(0.104)	--	--	(0.132)
(Intercept)	-0.032	-0.094***	-0.420***	--	--	--
	(0.020)	(0.021)	(0.080)	--	--	--
Time fixed effect	--	--	--	✓	✓	✓
Club fixed effect	--	--	--	✓	✓	✓
Observations	432	432	432	432	432	432
R^2	0.126	0.204	0.304	0.376	0.422	0.471
Within R^2	--	--	--	0.094	0.16	0.231

Notes: Robust standard errors are clustered at club level. All numbers in the table are presented in millions of £. Significance levels denoted as *p<0.1, **p<0.05, and ***p<0.01.

As expected, relegation from the EPL worsens clubs' CFTD, given the loss of revenue. The relegation coefficient was negative in all the columns of Table 2.11 but was only significant in columns 1,3, 4 and 6. The coefficients' size and significance reveal that compared with the promotion, relegation does not have as much impact on CFTD, possibly because of the parachute payments that relegated clubs received from the Premier League. The position coefficient was positive in all the columns of Table 2.11 and was insignificant in only one column, column 6, which implies that a higher league position worsened a club's ability to repay its debt. Like the BER explanation, a higher league position costs more than the marginal increase in broadcast revenue and, by extension, a lower cash flow and lower CFTD.

The UCL and UEL coefficients were positive in all columns of Table 2.11, indicating that the ability to repay the debt owed was higher when clubs participated in UEFA competitions. However, progress to the quarter-final in UEFA competitions reduced worsened CFTD, though the coefficient was insignificant. The coefficient for foreign ownership is negative and significant in all columns of Table 2.11. Foreign-owned clubs' CFTD was lower than British-owned clubs because of financial doping, which increased their debt level and low operating cash flow due to the reported losses. While FFP restricted financial doping in 2011, the existing debt owed to the owners is still on the clubs' balance sheets. Finally, the attendance coefficient is positive and significant in Table 2.11, indicating that higher attendance improves CFTD.

From the results presented above, we do not find evidence to conclude that the introduction of FFP has reduced the indebtedness of target clubs in the EPL; hence, we do not reject the null hypothesis H_2.

2.4.3. Robustness

For robustness, we altered the definition of target clubs and ran placebo tests. First, we adjusted our definition of target clubs to include clubs that narrowly – seventh and eighth-placed teams in the EPL – missed out on qualifying for the UCL or UEL. We adopt another definition of target clubs to be the top-ten clubs by debt. As the additional clubs in the alternative definitions did not receive treatment, we expect their inclusion to have a downward impact on the β_{DiD} coefficient. Table 2.12 presents the result of the alternative definition of the target clubs.

Table 2.12: Alternative Definition BER Regressions

	BER			
	Alternative 1		Alternative 2	
	(1)	(2)	(3)	(4)
Post (β_1)	-0.89	--	-2.77	--
	(2.14)	--	(1.93)	--
Target (β_2)	-9.17	--	-10.35	--
	(9.35)	--	(9.53)	--
Target * Post (β_{DiD})	20.84**	21.27**	27.78***	28.62***
	(8.57)	(8.84)	(7.21)	(7.43)
(Intercept)	-4.21***	-4.08***	-3.95***	-4.08***
	(1.05)	(1.01)	(1.05)	(1.01)
Time fixed effect	--	✓	--	✓
Club fixed effect	--	✓	--	✓
Observations	522	522	522	522
R^2	0.037	0.378	0.064	0.401
Within R^2	--	0.045	--	0.080

Notes: Robust standard errors are in brackets and are clustered at club level. All numbers in the table are presented in millions of £. Significance levels denoted as *p<0.1, **p<0.05, and ***p<0.01.

The alternative definition β_{DiD} coefficients in columns 1 and 3 in Table 2.12 are reduced by £15.95m and £8.95m, respectively, compared to our baseline definition of target clubs in Table 2.7. We expected a reduction because the additional clubs did not receive FFP treatment because they did not qualify for the UCL or UEL. We conclude that the intention to qualify did not improve the additional clubs' profitability.

We run placebo tests as robustness checks. Placebo tests demonstrate that an effect does not exist where we do not expect it to. These tests help to support the parallel trend assumption and

impact identification. First, we introduced a fake treatment year, 2007, to the pre-FFP data (2005-2011) for the first placebo test. The second and third placebo tests introduce fake target groups to the complete data, excluding the baseline target group. The fake target group in placebo two is clubs that qualified for any UEFA competition at least once. For placebo three, the fake treatment group is a random selection of clubs – we used Microsoft Excel's RANDBETWEEN function. The results of the placebo regressions are in Table 2.13 below.

Table 2.13: Placebo Tests Regressions

	BER					
	Placebo 1		Placebo 2		Placebo 3	
	(1)	(2)	(3)	(4)	(5)	(6)
Post (β_1)	-4.07**	--	-2.96	--	-1.22	--
	(1.77)	--	(1.87)	--	(3.15)	--
Target (β_2)	-12.61	--	-7.45***	--	-1.60	--
	(15.86)	--	(2.50)	--	(2.15)	--
Target * Post (β_{DiD})	2.71	3.23	6.91	7.37	0.22	-0.820
	(17.60)	(17.72)	(2.36)	(6.64)	(4.23)	(4.53)
(Intercept)	-2.63***	--	-3.14***	--	-4.32***	--
	(.858)	--	(.892)	--	(1.42)	--
Time fixed effect	--	✓	--	✓	--	✓
Club fixed effect	--	✓	--	✓	--	✓
Observations	232	232	432	432	432	432
R^2	0.041	0.569	0.013	0.263	0.003	0.257
Within R^2	--	0.002	--	0.008	--	0.001

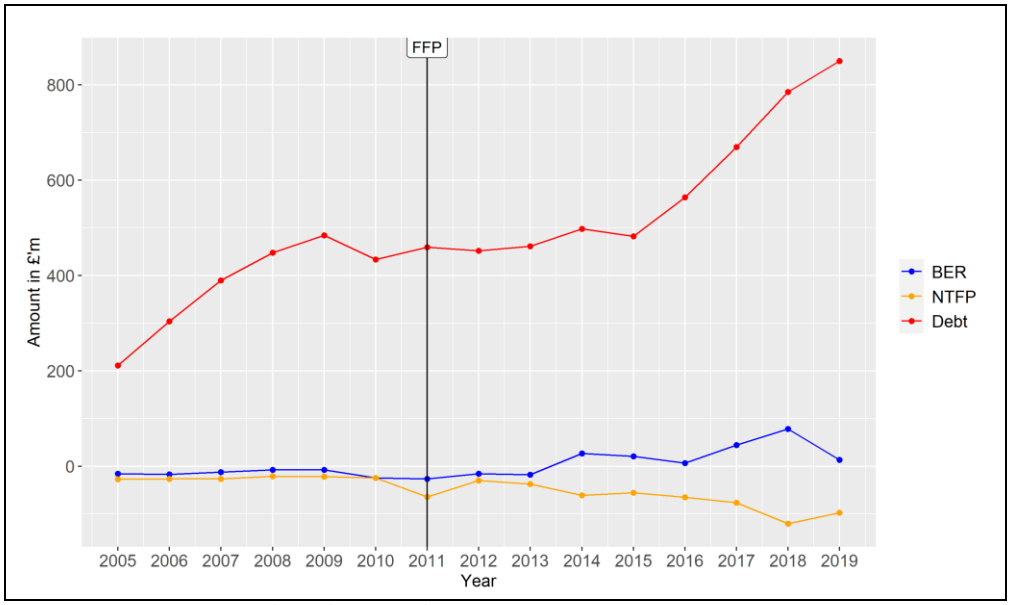
Notes: Robust standard errors are clustered at club level. All numbers in the table are presented in millions of £. Significance levels denoted as *p<0.1, **p<0.05, and ***p<0.01.

We designed placebo 1 to support the parallel trends assumption. The β_{DiD} coefficients in columns 1 and 2 are not statistically significant, indicating that the trend between the target and control group was not significantly different pre-FFP. Placebos 2 & 3 are equally not statistically significant. By excluding the baseline target group and introducing a fake target group, the absence of significance in columns 3, 4, 5, and 6 supports the FFP impact identification in Table 2.7 and Table 2.8 for the BER and Table 2.10 and Table 2.11 for the CFTD.

2.4.4. Combined results discussion

The introduction of FFP improved the profitability of target clubs by encouraging them to spend within the relevant income threshold. In contrast to the pre-FFP trend, where expenditure grew faster than revenue, the reverse occurred post-FFP, with the growth in relevant income exceeding relevant expenses. Thus, the real effect of FFP on profitability is that target clubs improved the management of their income and expenses ratio. The improvement in profitability is yet to translate to EPL clubs' indebtedness. A possible explanation is that the earned profit is reinvested in acquiring players rather than settling existing debt. Player-related expenditure consistently trended upwards throughout the sample period, but Pre-FFP, bank loans and wealthy owners funded player acquisitions through financial doping. However, FFP, through the BER, restricted financial doping and mandated clubs to spend within the limit of what they earn in relevant income. Thus, while FFP improved their profitability, clubs immediately allocated it to the next season's transfer budget.

Figure 2.11: Average BER, Debt and Net Transfer Fees Paid for Target Clubs



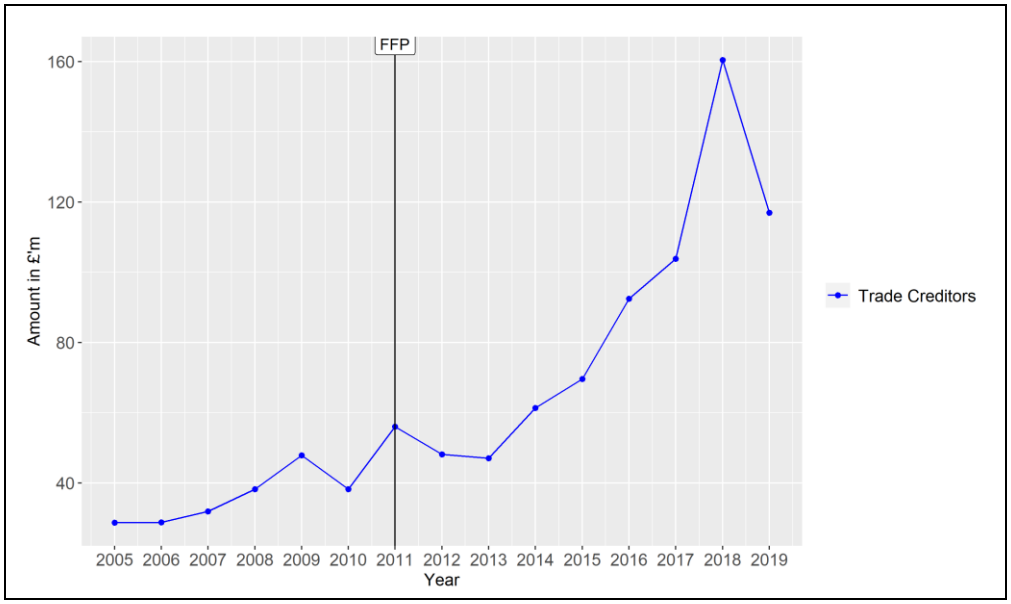
Notes: The author created this figure from the information in the dataset. The graph shows the target clubs' total debt, BER and net transfer fees paid (NTFP). Pre-FFP BER and net transfer fees paid (NTFP) were on similar trajectories. Post-FFP, while BER increased and became positive, net transfer fees increased in a similar trajectory.

In Figure 2.11, we notice that pre-FFP, target clubs' debt increased as their net transfer fees paid for players increased (negative), while BER followed a close trend with net transfer fees

paid. Post-FFP, as target clubs' became profitable – evidenced by BER rising above £0, their net spending on transfer fees increased, indicating an inverse relationship. This visual inspection confirms our assertion that the target clubs reinvested their profit in acquiring players because of FFP's restriction on financial doping. We believe this pattern is evidence of the correlation between on-field success and investment in football players and the objective of football clubs. Thus, EPL clubs are still win-maximisers, but FFP has added profitability as a requirement to achieve this objective.

Furthermore, we noted that following a relatively constant debt level between 2010 and 2016 – attributable to the BER restriction on financial doping – target clubs' debt grew consistently from 2016 to 2019. From inspection of the data, we see that trade creditor, primarily transfer fees payable to other clubs, was responsible for the sharp rise in debt, see Figure 2.12. With restrictions on funding from owners and banks, clubs purchased players via instalment payments to manage their cash flow post-FFP, increasing their debt. The sharp increase in trade creditors from 2015 to 2019 in Figure 2.12 mirrors the increase in debt in Figure 2.11.

Figure 2.12: Annual Average Trade Creditors For Target Clubs



Notes: The author created this figure from the information in the dataset. The graph shows the target clubs' total debt and cash flow. Post-FFP, short-term debt more than doubled, and its proportion of total debt significantly increased.

The risk with the growing trade creditors is that a club failing to meet its financial obligations or an industry-wide shock to future income or cash flow can cause contagion leading to the financial failure of clubs connected through instalment payments.

2.5. Conclusion

UEFA introduced FFP in 2011 in response to European football's ailing financial situation, where clubs spent more than they earned in revenue on player-related expenses, resulting in record losses and indebtedness. This paper examines FFP's impact on the financial performance of EPL clubs since its introduction in 2011. Precisely, we assess the real effect of FFP on the profitability and financial stability of EPL clubs because the league's pre-FFP revenue, wages, debt and financial losses – UEFA's motivation for introducing the regulation- were the highest in Europe's top-five leagues. By imposing a loss threshold of €5m, requiring submission of break-even financial reports and sanctioning non-compliance, UEFA expects clubs to change the underlying decisions that resulted in the pre-FFP financial losses and indebtedness.

We proposed two hypotheses in this study to examine the impact of FFP 1) The profitability - proxied as BER- of EPL clubs exposed to FFP has not improved, and 2) The indebtedness - proxied as CFTD- of EPL clubs exposed to FFP has not improved. Drawing on financial information collected from the financial statements of 37 clubs between 2005 and 2019, we estimated the impact of FFP by adopting the difference-in-differences methodology. Our findings show that FFP positively impacted the profitability of the football clubs exposed to the regulation – target clubs- compared to the non-exposed clubs – control clubs. The evidence suggests that the higher growth rate in relevant income – not a reduction in relevant expense or its growth rate – was responsible for the increase in profitability. Thus, the target clubs managed their income and expense ratio better post-FFP than pre-FFP. Also, we find that selling players for higher values post-FFP helped target clubs to adhere to FFP and improve

their profitability compared to control clubs, confirming the findings of recent studies (Dimitropoulos & Scafarto, 2021; Nicoliello & Zampatti, 2016).

Confirming evidence in the literature (Dimitropoulos & Scafarto, 2021; Leach & Szymanski, 2015; Plumley et al., 2020; Ruta et al., 2019), we find that promotion is a strong determinant of profitability. In contrast, relegation is a weak determinant of profitability, possibly because of parachute payments that the Premier League pays to relegated teams. We find evidence suggesting that participating in the UCL improves clubs' profitability. In contrast, participating in the UEL deteriorates profitability, possibly because the clubs aimed to qualify for the UCL – and investing accordingly- but missed out on the higher revenue in the competition. Foreign-owned clubs make more losses than their British-owned counterparts, confirming evidence in the literature (Jones & Cook, 2015; Rohde & Breuer, 2016, 2018; Wilson et al., 2013) that they tend to be more extreme with their win-maximisation objective. We find that the upward negotiation of the domestic TV deal is a significant but negative determinant of profitability. To our knowledge, this finding is novel, as the expectation is that higher broadcast revenue will improve the likelihood of profitability.

In contrast to our findings on profitability, we do not find a similar significant impact of FFP on financial stability, confirming Plumley et al. (2020) study, though the CFTD measure improved during the sample period. Both cash flow and debt increased post-FFP, but the increase in the former was insufficient to improve the clubs' ability to repay their debt significantly. We believe the win-maximisation objective of football clubs and the correlation between on-field success and investment in player acquisition encouraged clubs to prioritise reinvestment of profit in the playing squad above settling their debt, hence the absence of a significant reduction in indebtedness. Also, given that FFP restricts financial doping, football clubs adopted instalment payments which increase debt – in addition to earned profit- to fund the consistently rising transfer fees for acquiring football players. Nevertheless, we find

evidence that promotion to the EPL, participation in UEFA competitions and stadium attendance reduces indebtedness, while relegation and increased broadcast deals worsen indebtedness.

We conclude that in the EPL, FFP's primary objective – reducing losses and encouraging clubs to spend what they earn as income – has been achieved. Regarding indebtedness, the progress has been marginal, and we attribute this to the FFP not having a specific measure similar to the BER for profitability. An unintended consequence is that football clubs are now more interconnected through debt owed to each other due to instalment payments. While FFP requires clubs not to have overdue payables exceeding three months, it does not address the magnitude of the payables. The vulnerability here is that credit risk can materialise if a club cannot meet its short-term financial obligations or an industry-wide external shock to income, leading to several clubs' financial failure. The credit risk mirrors the 2008 financial sector crisis. As such, we believe a Basel III-styled capital requirement that has recorded success in the banking system will help build on the BER's progress. Therefore, we suggest a similar capital requirement set aside from annual revenue as a policy recommendation.

This paper contributes to the literature as, to our knowledge, the first stand-alone EPL analysis covering seven years before and the entire period of the FFP regulation – 2011 to 2019. The empirical findings of this paper are beneficial to the regulator, football clubs and the existing literature. Firstly, it evaluates the FFP regulatory framework and provides vital evidence of the success of the regulation regarding the profitability of EPL clubs. We also highlight the unintended behavioural change that has prevented FFP from achieving similar success in indebtedness, and we have proffered a policy recommendation. Secondly, our findings highlight the behaviour of football clubs in years when the value of the domestic TV deal increases. By being prudent in these years, we believe clubs will benefit in the long run.

Finally, we acknowledge the limitations of this study which can be the basis for further research. This paper does not investigate the full scale of the interconnection of football clubs. Some clubs agree to instalment payments for players' acquisition over periods extending to more than one year. This implies that a portion of the money owed to other clubs is reported in long-term debt. Potentially, this is an area for future studies to assess credit risk further. We acknowledge the possible limitation of the difference-in-difference methodology due to the magnitude of difference in the target and control groups; however, our results are robust to placebo tests and alternative group definitions. Furthermore, we carried out a visual inspection of trends between groups.

The next chapter presents this thesis's second paper, a case study of Chelsea and Manchester United, which investigates the relationship between on-field and off-field performance in football. The chapter begins with an introduction summarising the motivation for the study, why we selected the clubs, the paper's objective, the methodology adopted, the findings and conclusions. The second section of the paper is a literature review covering why the EPL is attractive to foreign investors, the difficulty in measuring on-field and off-field performance in football, recent trends in the football industry – managerial turnover, the sporting director role and FFP – and ends with a brief history of the clubs and their takeovers. The third section explains the data and research methodology adopted for the paper. Section four presents the individual case study results of both clubs, the themes we noticed, and findings from a cross-case comparative analysis. Finally, section five concludes the paper with a discussion of the paper's findings, contributions, limitations and future research areas.

3. Pathways To On-field and Off-field Success in Football: A case study of Chelsea Football Club and Manchester United

3.1. Introduction

On the 10th of March 2022, The UK government announced travel bans and assets freezing of seven Russians closely associated with Russian President Vladimir Putin, who had approved the country's invasion of Ukraine. Roman Abramovich, the owner of Chelsea football club (hereafter "Chelsea"), was one of the seven sanctioned individuals – though he did not make a public statement supporting the invasion – and was forced to sell the club to a consortium of American, Swiss and British business owners. Ten months earlier, a group of Manchester United fans broke into the club's stadium a few hours before a match against Liverpool to protest against the club's American owners, the Glazer family. The protest was one of many against the leveraged acquisition of the club, which significantly increased the club's debt position, but on this occasion, the protest was in response to the Glazers' role in the push for a European Super League (Brannagan et al., 2022).

Chelsea and Manchester United were the first two perennial EPL clubs purchased by foreign investors (Jones & Cook, 2015), and twenty years on, they have won more trophies than any other club in the EPL – nineteen and eighteen, respectively. Their on-field success confirms findings in the literature (Jones & Cook, 2015; Rohde & Breuer, 2016; Wilson et al., 2013) that foreign-owned clubs achieve better on-field outcomes than domestically-owned clubs because of the financial might of their owners. Furthermore, the most crucial football decisions to achieve on-field success – acquiring football players (Barajas & Rodríguez, 2010; Birkhäuser et al., 2019; Szymanski, 2003) and hiring non-playing staff (Bell et al., 2013b; Bryson,

Buraimo, et al., 2021b) – are heavily dependent on financial resources. Thus, shareholders are win-maximisers (Garcia-del-Barrio & Szymanski, 2009; Leach & Szymanski, 2015; Sloane, 2015) that organise the club's finances to prioritise achieving their on-field objectives.

An essential question that fans, investors and academics ask, given the influx of money into football, is, what is the relationship between the on-field and off-field performance in football? Measuring both performances is difficult due to the variety of variables available. However, recent studies, most notably Plumley et al. (2017), provided evidence of vital variables that capture on-field and off-field performances through rigorous factor analysis. Grundy's (2004) case study of four EPL clubs – Leeds United, Arsenal, Manchester United and Chelsea – analysed the relationship between on-field and off-field performance through the interdependence of competitive and financing strategy and financial management. The key findings are that business models differed due to the clubs' unique histories and financing strategies, and because the football industry changes rapidly, they had to and must continue to adapt quickly to remain competitive. Also, the study highlights that the interdependencies of financing and competitive strategy and financial management and decision-making in the football industry can apply to other industries.

This paper focuses on extending Grundy's (2004) framework by analysing Chelsea and Manchester United's business models and on-field success by adapting variables from Plumley et al. (2017) in addition to recent developments in football, such as financial regulations and the emergence of the sporting director role. We adopt a mixed-method dual case study to narrate how the interplay and interdependence of the financing and competitive strategies and financial management impacted both clubs' on-field and off-field performances between 2003 and 2021. The methodology allows us to capture qualitative and quantitative (Bazeley, 2017) information that explains "how and why" (Yin, 2014). We have selected Chelsea and Manchester United for the following reasons; 1) they were the first top-four clubs acquired by

foreign investors; 2) the acquisitions occurred two years apart 3) the number of trophies won, and their investment in acquiring players is similar, and 4) the owners of the clubs have faced opposition. We excluded Leeds United and Arsenal from our study because they have not been as dominant in the EPL over the past 20 years.

This study contributes to the literature by applying Grundy's (2004) methodology, adapting variables from Plumley et al. (2017) study and extending it with recent developments in the football industry, namely financial regulations and the role of the sporting director. Specifically, we identified similarities between both clubs' on-field performances and differences in how they achieved them. Roman Abramovich purchased Chelsea through funds from personal wealth, while the Glazers completed the takeover of Manchester United primarily through bank loans. The Glazers funded the club's operations by exclusively growing its revenue streams. For Chelsea, Roman Abramovich, in addition to growing the club's revenue, provided interest-free loans without specific repayment dates. However, UEFA's introduction of FFP – which limits owners' financial support to clubs – forced Chelsea to adopt selling players as a strategy to raise funding for its investment in the playing squad. Manchester United did not need to change the business model because the club had focused on only investing what it earned in revenue. The above highlights how financial management, financing strategy and regulation impacted the clubs' business model and competitive strategies.

Roman Abramovich frequently changed the club's football managers, while the Glazers favoured a more patient approach. Chelsea appointed its first sporting director – a vital role for competitive strategy stability during managerial changes and effective player recruitment (Parnell et al., 2022; Parnell et al., 2018) – in 2005, while Manchester United only appointed an equivalent of the role in 2021. The presence of the sporting director helped Chelsea because the club remained competitive and won trophies despite frequent managerial changes. However, after Sir Alex Ferguson retired in 2013 and after four managerial changes,

Manchester United struggled to win trophies, further highlighting the importance of the sporting director role.

The rest of the paper is structured as follows; Section 3.2 is a literature review covering why the EPL is attractive for fans and investors, performance measurement in football, acquiring players, managerial turnover and the role of sporting directors at clubs, and corporate governance in football. Also, section 3.2 provides the history of both clubs and their takeover by Roman Abramovich and the Glazer family. Section 3.3 summarises the methodology approach, source of information and data. Section 3.4 presents the case study narrative and cross-case analysis. Finally, section 3.5 concludes the paper by discussing our findings.

3.2. Literature Review

3.2.1. Why the EPL?

In 1985, English football suffered a setback when UEFA banned its clubs from participating in European competitions because of their fans' disruptive behaviour. The ban meant that English clubs missed out on the competition's financial reward, suffered reduced pull power in the player transfer market and could not test their ability with their continental counterparts. However, technological advancement in the live broadcasting of football matches introduced in England in the same period was a new and vital source of revenue that provided a financial buffer for English football clubs; In 1983, BBC and ITV paid £2.6m to broadcast ten games, and by 1988, ITV agreed to pay £11m for 18 games (Baimbridge et al., 1996). The re-introduction of English clubs to European football in 1990, their immediate success – Manchester United winning the Cup Winners Cup in 1991 – and the growth in live broadcasting of football matches set the stage for the global demand for English football (Vamplew, 2017).

As with other football leagues in Europe, the English league operates an open model with a relegation and promotion system. English domestic football had four Divisions that collectively generated and shared television broadcast revenue, but this changed in 1992 when the first Division split away to become the EPL (Szymanski & Smith, 1997). The lobby for a standalone league by the top first Division clubs – Arsenal, Manchester United, Tottenham, Everton and Liverpool – was motivated by the desire to have the freedom to make financial decisions and, primarily, to take advantage of the growing broadcast stream of revenue by negotiating deals that would not require sharing revenue with other divisions (Buraimo et al., 2006; Forrest et al., 2004; Szymanski & Smith, 1997). Despite the consequences to the other tiers in English football – revenue disparity (Szymanski, 2001) and reduced attendance at lower divisions clubs (Buraimo, 2008; Forrest & Simmons, 2006) – the projection for the EPL has come to fruition as it is the wealthiest and most in-demand league in the world (KPMG Football Benchmark, 2019).

Although the not-for-profit association was the prevalent ownership structure for European clubs in the 19th century, most English clubs opted for the limited liability status during the same period to benefit from access to external financial capital (Leach & Szymanski, 2015). Business moguls, banks and other financial institutions invested in football, paving the way for dispersed ownership of clubs. Notwithstanding the television-induced revenue growth, the 1990s witnessed successive stock market flotation by EPL clubs because of the need for improved stadium facilities to comply with safety guidelines and better broadcast infrastructure to cater to EPL football's increasing demand (Buraimo et al., 2006). Tottenham was the first club to list its shares on an exchange in 1983, with Manchester United following suit as the third club in 1991 and by 1997, as many as 16 additional clubs listed their shares (Leach & Szymanski, 2015).

Their stint as publicly listed companies did not prove successful for English clubs because of their inability to reward shareholders with financial returns (Jones & Cook, 2015). A combination of the class of shareholders that dominate the capital markets – e.g. pension funds and insurance companies – (Leach & Szymanski, 2015) and poor financial performance of the clubs (Buraimo et al., 2006) led to several delistings by the early 2000s. The losses incurred by the listed clubs and the absence of dividend payments to shareholders forced the share prices to fall, rendering them relatively cheap assets for sale (Jones & Cook, 2015). With shares traded publicly, consistent revenue growth, and an increasing global reputation, the first of many foreign takeovers of EPL clubs took place in 1999 with Rune Gjelsten's acquisition of Wimbledon (Jones & Cook, 2015). The attraction of the EPL to foreign investors continued with the Roman Abramovich and the Glazer family takeovers of Chelsea and Manchester United in 2003 and 2005, respectively. As of the 2021/2022 EPL season, fourteen of the twenty EPL clubs have foreign owners from one of twenty in the 2002/2003 season.

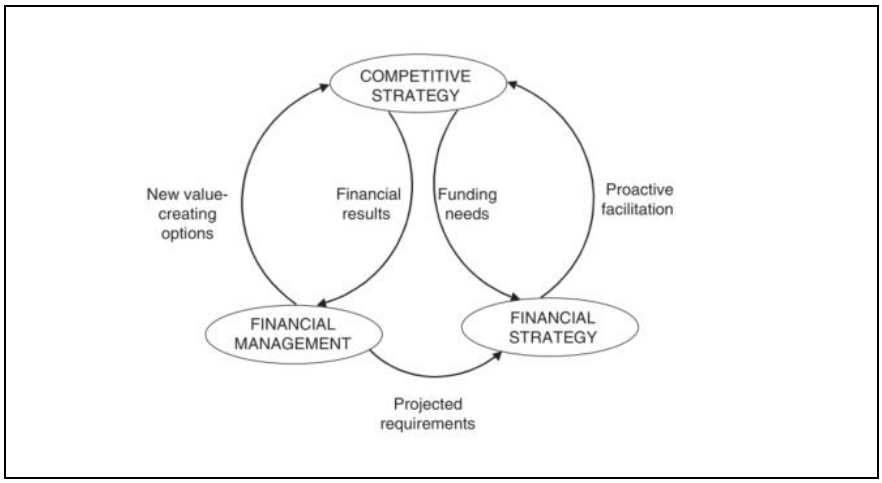
3.2.2. Measurement of performance in football

As with other industries, performance measurement is vital for analysing productivity, identifying weaknesses and strengths, and planning. However, football is unique because of its uncertainty of outcome (Chadwick, 2009) and the dual objective of football clubs – on-field and business objectives (Guzmán, 2006). For the latter, it is possible to measure on-field and off-field performances individually through league standing and profit; however, studying their interaction provides valuable insight into their relationship. For example, evidence in the literature (Forrest & Simmons, 2002b; Franck & Nüesch, 2011; Hall et al., 2002; Szymanski, 2003) suggests a positive correlation between player wages and sporting success in football. In contrast, Szymanski and Kuypers (1999) did not find a strong relationship between profit and league position in their study of 40 clubs. Thus, the relationship between on-field and off-field performance in football is unique, requiring the selection and analysis of specific variables.

In their study of the EPL between 1992 and 2013, Plumley et al. (2017) developed a weighted overall performance score (OPS) derived from on-field and off-field variables obtained from the literature. From an initial list of 18, Plumley et al. (2017) streamlined the variables to eight – revenue, pre-tax profit(loss), net assets/(liabilities), net funds/(debt), wages to revenue, league points, total game variance and attendance – through factor analysis. Their analysis of the average OPS ranked Manchester United as the best-performing team (on-field and off-field) and provided evidence of the interlink between financial and sporting performance. In addition, Plumley et al. (2017) noted that each club's financial and sporting performances evolved over the years based on external and internal factors such as past success, new ownership and infrastructural development.

Furthermore, Grundy (2004) explored the interdependence of competitive and financing strategy and financial management in the football industry with a quantitative and qualitative case study of four clubs – Arsenal, Manchester United, Leeds United and Chelsea. The findings reveal how vital the interplay between the three concepts – especially financial strategy and financial management – is to shaping a clubs' business model, decision-making, and competitive strategy, see Figure 3.1.

Figure 3.1: Financial and Competitive Strategy and Financial Management Framework



Notes: The flow chart adapted from Grundy (2004) illustrates how competitive and financial strategy and financial management are interlinked.

Manchester United had dominated English football, and their on-field success translated to their financial performance – the club was one of the few profitable clubs in English football. Manchester United created new opportunities by utilising its brand to improve commercial revenue and funded the club's competitive strategy. In contrast, Arsenal's limited on-field success and stadium capacity limited the funds available, and the club sold players for profit to finance its competitive strategy. Club owners face complex decisions that involve allocating limited resources and cash flow to achieve the club's sporting objectives, which improves the club's chances of earning more money to begin the process again.

Also, Grundy (2004) found that a club's existing financing structure can constrain its competitive strategy. Bank loans and approaching repayments constrained Chelsea and Leeds United from improving their playing squad, with Leeds United having to sell its key players to avoid going into administration. In contrast, at the end of 2003, Manchester United was debt-free, and Arsenal's debt was for building a new stadium to generate higher revenue.

Grundy (2004) notes that while clubs pursue different models influenced by their unique history and stakeholders' interests, they tend to adjust quickly to their competitors' strategies and the ever-changing football landscape. For example, Roman Abramovich's acquisition of Chelsea and the seemingly unlimited financing accompanying the billionaire owner threatened Manchester United's dominance of English football. Thus, Grundy (2004) suggested additional financing through loans, new investors or income securitisation for Manchester United to consolidate its competitive strategy and on-field dominance.

Plumley et al. (2017) and Grundy (2004) concluded their studies by suggesting that other performance measures and trends would likely impact the decision-making at football clubs. Thus, this paper adapts Grundy's (2004) framework for analysing a club's business model and variables from Plumley et al. (2017) study. Where necessary, we include recent trends in

football, such as football manager turnover (Bell et al., 2013b), the role of the sporting director, player trading profit (Dimitropoulos & Scafarto, 2021; Özaydın, 2020), and financial regulation (Ahtiainen & Jarva, 2020).

3.2.3. Managerial turnover and sporting directors at clubs

Uncertainty of the outcome of a sporting event is necessary to attract and retain fans. Sports clubs constantly seek competitive advantages to defeat opponents, and acquiring the best managers and players (Storm & Nielsen, 2012) tops the list. For example, between 1992 and 2005, managers in the EPL typically occupied their position for only 2.19 years (Bridgewater, 2009), while player wages and transfer fees constantly increased (Buraimo et al., 2006). European football is among the most competitive sports because of its low-scoring nature and relegation and promotion structure (Fry et al., 2021). As such, clubs compete to recruit the best football players and managers to increase their chances of winning (Rohde & Breuer, 2017). For the former, the rationale is the strong correlation between investment in players' acquisition and on-field success (Barajas & Rodríguez, 2010; Hall et al., 2002; Szymanski, 2003; Szymanski & Smith, 1997). Inevitably some clubs overinvested – in some cases, more than 100% of their revenue (UEFA, 2011) – in acquiring players (Lago et al., 2006; Müller et al., 2012).

On the other hand, football managers are responsible for selecting the football team, implementing strategies to achieve on-field success and buying and selling players. Football managerial turnover in European football is high; Across the top two leagues in Germany, Italy, France and Spain, 1,327 Managers were sacked between the 2000/2001 and 2014/2015 seasons (Bryson, Buraimo, et al., 2021a). Recent and below-expected performances (Bryson, Buraimo, et al., 2021b), shareholder pressure for listed clubs (Bell et al., 2013a), the magnitude of player

investment (Ter Weel, 2011) and demand for on-field success by club owners and fans (d'Addona & Kind, 2014; Flint et al., 2016) are the main reasons for managerial changes.

Nevertheless, sacking a manager does not always guarantee a sustained upturn in on-field performances (Kuper & Szymanski, 2018). While some studies (Rocaboy & Pavlik, 2019; Trequattrini et al., 2019; Wilson et al., 2019) find a positive impact on the teams' performance following the dismissal of the manager, others (Bryson, Buraimo, et al., 2021a; Rocaboy & Pavlik, 2019; Van Ours & Van Tuijl, 2016) concluded that the gain eventually regresses to the mean and do not impact final league positions (Flint et al., 2014). Thus, club owners' skill in knowing when to make the decision – Bell et al. (2013b) suggest ten games as adequate time for a decision – or pressure from stakeholders (owners, supporters or the media) to sack the manager are responsible for frequent managerial changes (Besters et al., 2016).

While the cost of sacking managers can be high – managers in EPL received £130m compensation for dismissal between 2014 and 2018 (Fry et al., 2021) – its impact on the administrative, player recruitment, and non-playing staff structure and strategy of the club is difficult to estimate. Thus, sporting directors have become vital for football clubs because they contribute to on-field and off-field decisions that help maintain the club's strategy amidst frequent managerial changes (Parnell et al., 2018). The role's title varies from Director of Football, General Manager, Technical Director or, more commonly, Sporting Director, with its function also differing from club to club. However, it is primarily a role that bridges the gap between the board and the Manager, with its job description covering club strategy, player contract renewals, transfer negotiation, scouting, and non-playing staff management (Parnell et al., 2022). Clubs across Europe had embraced the Sporting Director role in the early 2000s, but the role only became prevalent in England as recent as 2016 and is now a must-have, with 17 of the 20 EPL clubs having someone occupying the role for the 2021/2022 season (Parnell et al., 2022).

3.2.4. Corporate governance and financial regulation in football

The study of the impact of corporate governance mechanisms on football clubs' performance is on the rise. The impact of capital structure, board size and composition, CEO duality and tenure are prevalent. Most studies tend to focus on financial performance (especially profit); however, unlike in other industries, the objective of shareholders leans more towards win than profit maximisation (Leach & Szymanski, 2015; Michie & Oughton, 2005). Thus, incorporating sporting performance in corporate governance evaluation (Malagila et al., 2021; Ruta et al., 2019) accounts for the football industry's peculiarities.

Recognising the uniqueness of football, Michie and Oughton (2005) called for the introduction of football-specific governance mechanisms to address the paradox of financial losses accompanying unprecedented revenue growth (Hamil & Walters, 2010; Storm & Nielsen, 2012) in European football. In response, UEFA introduced the FFP regulation in 2011 to encourage clubs to live within their means. The FFP limits the external funding a club can use in its operating activities by introducing a €5m to €30m loss threshold for each club over three years. See section 2.2.6 in chapter 2 for details. With the threat of sanctions, the expectation is that clubs with losses above the threshold will balance their financial performance. Recent studies find that clubs are adopting business model changes such as increased players sales (Dimitropoulos & Scafarto, 2021) and better managing the wage-to-revenue ratio (Özaydın, 2020) to improve their profitability and adhere to the FFP. Overall, the regulation has improved the financial landscape of European football (Ahtiainen & Jarva, 2020; Caglio et al., 2019; Franck, 2018; Francois et al., 2022).

For this paper, in addition to Grundy's (2004) framework and variables from Plumley et al. (2017) studies, we include recent developments in the football industry – managerial turnover, sporting director, and FFP – to analyse Chelsea and Manchester United's performances.

3.2.5. Clubs' histories and their takeover

3.2.5.1. Chelsea's history and success

Chelsea's founders registered Chelsea Football & Athletic Club in April 1905 as a professional football club with Stamford Bridge as its stadium. Gus Mears, regarded as the club's founding father, purchased an athletic track that he converted into a full-fledged football stadium and rented it to Chelsea for their home games. The earliest iconic game held at Stamford Bridge was the 1906 game between Chelsea and Manchester United that attracted 67,000 fans, a Division two record attendance. For further context, a Division one game held at Anfield on the same day attracted a reasonably large crowd of 35,000. It is fair to assume that Chelsea's location in the capital of England presents a competitive advantage. Chelsea's growing fanbase did not celebrate a trophy win until 1955, the 50th year of the club's existence.

What followed was pendulum-like on-field performances that resulted in relegations and promotions and a brief resurgence in the early 1970s that brought European glory to a remodelled Stamford Bridge; however, financial woes and threat of bankruptcy, frequent managerial changes and poor on-field performances brought an end to the Mears' family ownership of Chelsea. Ken Bates bought Chelsea for £1 from Brian Mears in 1982 and began recalibrating the club's ethos and restructuring its operations. Furthermore, Stamford Bridge became Chelsea's official property under Bates in 1992, and the club began redevelopment works to give the stadium an uplift.

Before 2003, Chelsea had won ten trophies – three FA Cups, three European trophies, two League Cups and one League title – but it struggled to compete with Arsenal and Manchester United because of limited financial power. The Chelsea Village project, a sporting, leisure and entertainment set of facilities in the heart of London, was the Chelsea owner's vision to generate commercial revenue to rival the best teams in England and Europe. Chelse struggled to fund investment in players to achieve the on-field success that will attract customers to the

newly constructed Chelsea Village because of the repayments for a £75m Eurobond loan it had taken in 1997. Also, Chelsea struggled to sell its players for a profit, unlike its city rivals, Arsenal, who funded their ambition using the cash flow from selling players bought cheaply relative to their resale value (Grundy, 2004). Because of the club's financial management and the stiff competition to become successful on-field, Grundy (2004) stated that Chelsea was "stuck in the middle" and required financing to achieve its objectives primarily because the club barely broke even.

A last-gasp-winning goal by Jesper Gronkjaer secured European football for Chelsea in 2003 and kept the lights on amidst yet another impending financial crisis. The Roman Abramovich takeover of the club was a watershed moment and began a period of unlimited financial capacity. His first decision was to retain Claudio Ranieri's services, who helped the club secure European football by finishing fourth in the EPL during the 2002/2003 season.

3.2.5.2. The Roman Abramovich takeover of Chelsea

Roman Abramovich was born in Russia in 1966 and lived in the country for most of his life. The billionaire's interest in football and love for the game came fortuitously after attending the blockbuster UEFA Champions League quarter-final match between Manchester United and Real Madrid. Inspired by the atmosphere and the enthralling seven-goal thriller, he purchased Chelsea (Jackson, 2013). Roman Abramovich's 2003 investment in Chelsea was a watershed moment for the EPL and European football because it was the first of many big-money purchases by high-net-worth investors, a catalyst for player costs (transfer fees and wages) inflation and the main reason for the financial regulations introduced by UEFA (Schubert & Könecke, 2015). Altukov et al. (2020) detailed how Roman Abramovich's family upbringing and the reformations in Russia in the 1980s influenced his decision-making and principles of management.

Roman's wealth, estimated at $13.6bn, was amassed from building a steel business and various investments, according to Forbes (2022b). During structural reforms, referred to as perestroika, in the 1980s in Russia, businesses failed as fast as they were created, and Altukov et al. (2020) note that Roman succeeded because of his shrewdness, output-focused management and ability to find, assemble and be loyal to a competent team. On the last point, Roman has maintained the core team of Eugene Shvidler, Eugene Tenenbaum and Marina Granovskaya, who were integral in his business operations in Russia, at Chelsea, with Marina playing a pivotal role (Altukov et al., 2020).

Roman Abramovich acquired Chelsea Village Plc, the incorporated entity for Chelsea, in July 2003 for a purchase price of £140m. Roman Abramovich settled £80m of Chelsea Village Plc's debt (Chelsea, 2005) in addition to £60m (Companies House, 2003b) paid to buy out the company's sole shareholder, Ken Bates. Roman registered Briskspring Limited in June 2003 as his corporate vehicle to purchase a football club and only changed the name to Chelsea Limited on the 1st of July 2003 upon final confirmation of the purchase of the club (Companies House, 2003a). He had considered other clubs, including Manchester United, Arsenal and Tottenham. However, he decided to purchase Chelsea because the club was no longer publicly listed and negotiating with a single shareholder was more straightforward, the asking price was significantly lower than £1.5bn reportedly quoted for Manchester United, and most importantly, Chelsea was on the brink of bankruptcy due to a £75m outstanding Eurobond (Altukov et al., 2020).

By rescuing Chelsea from financial ruin and the ensuing significant investment in the club, inevitably, Chelsea fans have an immense affinity towards Roman Abramovich. He consolidated the takeover and the fans' euphoria by poaching Peter Kenyon from Manchester United and appointing him as the club's Chief Executive. Peter Kenyon's ambition was to

actualise Ken Bates' vision for the Chelsea Village Project and establish Chelsea as the number one commercial football destination globally (Henderson, 2010).

3.2.5.3. Manchester United's history and success

Manchester United began its journey to professional football as a leisure departmental railway team called Newton Heath LYR (Lancashire and Yorkshire Railway). The club registered to compete in the English football league's First Division in 1892, four years after its formation. The stay in the First Division was short-lived, with Newton Heath LYR relegated in 1894. In 1902, John Davies provided much-needed investment for the club's promotion bid in exchange for a seat at the club's decision-making table, which led to the adoption of Manchester United as the club's name. Davies's investment in the club was not restricted to the playing squad as he financed the construction of Old Trafford, the club's iconic stadium. The following years were difficult for the club because of a string of relegations, subpar performances, and two World Wars – Old Trafford suffered bomb damage in 1940 during World War II.

The appointment of Matt Busby in 1945 proved to be pivotal in the club's history, and until today, his tenure as Manager is a reference point for the club's ethos. The tragic Munich plane crash in February 1958 that claimed the lives of 22 passengers (including seven football players) sent shock waves around the world. The team fondly referred to as the Busby Babes rallied together and, against all expectations, finished second in the table despite losing star players. What followed was a period of unprecedented success on the field – given the circumstances – with the club winning six trophies in nine years. Matt Busby retired in 1969, and the club struggled to find a manager to achieve the same level of dominance in England and Europe. After a long list of managerial casualties, Manchester United appointed Sir Alex Ferguson, who became the club's longest-serving and most successful manager.

Prior to the Glazer's takeover in 2005, Manchester United won 46 trophies – fifteen league titles, fourteen Community Shields, eleven FA Cups, five European Cups and one League Cup – the club's revenue was the second-highest in the world (Deloitte, 2006) and it was the only club in England to consistently report profit before tax (Hamil & Walters, 2010). The club's impressive financial performance is because of its on-field success, the stadium capacity at Old Trafford – it is the highest in the EPL – and its rich history (Hamil, 2008). Manchester United's brand became global and grew significantly between the 1960s and the early 2000s because the club actively built its relationship with overseas fans by organising pre-season tours abroad and establishing merchandising outlets in some visited countries (Hill & Vincent, 2006). In addition, the club prioritised relationships with non-footballing global brands such as Pepsi, Budweiser, Nike and Vodafone. Locally, fans were impressed by the club's engagement with them, especially after the Munich air disaster, and this fostered the feeling of Manchester United being a family club.

Manchester United did not have a bank overdraft or loan in 2005 because its revenue sufficiently covered the cost of attracting the best available players through comparatively better wages and transfer fees, highlighting the interplay of financial management and competitive strategy (Grundy, 2004; Hamil, 2008). However, because of the increasing player investment at Chelsea following Roman Abramovich's takeover, Grundy (2004) suggested that the club might need to explore a financing strategy – new shares, loans, sale of the club, or income securitisation - to maintain its on-filed success. In 2005, the Glazer family purchased Manchester United with bank loan financing.

3.2.5.4. The Glazers' takeover of Manchester United

In contrast to Roman Abramovich, the Glazer family's purchase of Manchester United was not their first sports team ownership. The Glazers, reportedly worth $4.7bn from commercial real

estate, banking, and health investments, purchased the American football team Tampa Bay Buccaneers in 1995 for $192m (Forbes, 2022a; lane, 2019). The Glazer family name represents Malcolm Glazer, his five sons and one daughter. Malcolm's six children played active roles in the family's businesses, and they collectively took over after his death in May 2014 after a protracted illness.

The Glazer family completed the takeover of Manchester United Plc in May 2005 through their investment vehicle Red Football Limited, with the family becoming the sole owner of the club after purchasing the remaining shares they did not own for a price of 300 pence per share. The takeover transformed the club into a private limited liability company, ending the club's fourteen years listing on the London Stock Exchange. Led by Malcolm Glazer, the first step to the takeover began in 2003 with the purchase of 2.9% of Manchester United's shares for an estimated figure of £9 million, followed by successive purchases that culminated in about 29% share ownership in October 2004 (Sims, 2018). The Glazers, legally required to attempt the purchase of controlling interest (51% or more) by their 30% ownership percentage, saw their October 2004 bid rejected by the board due to the leveraged nature of the bid (Brown, 2007). The board finally accepted the Glazers' renewed yet highly levered offer of £790m (£595m financed through bank loans) for the club's shares in May 2005, to the fans' disappointment and anger (Millward & Poulton, 2014).

In contrast to the Chelsea fans' reaction to Roman Abramovich's takeover, the Glazers received intense hostility from Manchester United fans. In addition to several protests in the months preceding the takeover, some fans registered their displeasure at Old Trafford on the Glazer's first and heavily guarded official visit as owners of the club. The fans' displeasure was not unexpected nor entirely a direct and personal grievance with the Glazer family; instead, it was another episode in the series of resistance against takeovers and ownership that they believed would see profit-making rank ahead of the club's values and on-field dominance. With fans

barricading exit gates at the stadium, it took riot police reinforcement to forcefully disperse the crowd, allowing the Glazers an exit from the stadium (Brown, 2007).

Traditionally a privately held business with a strong local identity, the floating of Manchester United on the stock exchange in 1991 and the establishment of the Premier League in 1992 ushered in fan-led associations whose sole purpose was to preserve the status quo and prevent the globalisation of the club's football governance (Brown, 2007). An example is the independent Manchester United Supporters Association (IMUSA), whose initial aim was to prevent the scrapping of standing at matches, ticket price increase and other fan-based welfare issues (Millward & Poulton, 2014). However, IMUSA and another similar association, Shareholders United (SU), transitioned, rallied supporters and were instrumental to the 1999 "Not for sale" campaign, which lobbied the government – on the grounds of preventing a monopoly due to BskyB's relationship with the Premier League - and prevented the Mike Murdoch led BskyB takeover attempt (Brown, 2008). The second such protest and opposition was the 2003 takeover attempt by the Cubic Expression Company Limited, an existing shareholder led by John Magnier and John McManus. This time, the fear emanated from the belief that the frosty relationship between Johns and the club's Manager Sir Alex Ferguson - because of a dispute over a racing horse investment - would negatively affect their decision-making and ultimately lead to the sacking of the Manager (Brown, 2007).

The SU realised the ownership of shares was the most effective way to stop an unwanted takeover and began to buy them. However, with limited membership, close to 40,000 fans and a £250m cost to purchase significant shareholding to prevent a takeover, the SU could not acquire enough shares to prevent the Glazer's takeover (Brown, 2007, 2008). Post-takeover protests continued and led some fans to create a parallel club, FC United of Manchester (Millward & Poulton, 2014); nonetheless, the Glazers are still the club's owners as of the time this paper was written.

3.3. Data Methodology

This paper used a mixed-method dual case study research approach to analyse Manchester United and Chelsea, two EPL football clubs. The sampling is subjective and based on the following criteria. First, Manchester United and Chelsea were the first clubs in the EPL's top four to be acquired by billionaire foreign investors. Second, the takeover by the new owners of the clubs happened two years apart. Third, both clubs have won identical trophies under the new owners – Chelsea with nineteen trophies in eighteen years and Manchester United with nineteen trophies in sixteen years. Fourth, the net player spending for both clubs is similar – £951m for Chelsea and £919m for Manchester United. Finally, the club owners have recently faced opposition – the UK government for Roman Abramovich and Manchester United fans for the Glazers.

For this dual case study, we relied on financial statements, press releases, and other publicly available sources to gather financial, organisation structure and football competition data and information. The period for this study is between 2003 and 2021 for Chelsea and 2005 to 2021 for Manchester United. The financial year-end for Chelsea and Manchester United is June. A regular football season is between August and May; hence it cuts across two calendar years. For example, the football season for the year 2004 began in August 2003 and ended in May 2004. We hand-collected financial and organisational structure data from the clubs' financial statements and notes to accounts obtained from the football clubs' official website or filing with the Companies House.

While clubs report transfer fee data in the financial statements, their financial reporting year does not coincide with the football season and transfer window. For example, Chelsea's financial year ends in June, but the EPL transfer window opens in May. This makes matching

transfer investments with the season difficult. Therefore, we collected transfer fee data from the widely used football data site, Transfermarkt, which matches the net transfer investment to the corresponding season. We gathered league positions and points from the top of the EPL table, and the total number of games played when a manager was sacked from the Premier League's official website and Fbref, a football data website.

We analysed the club's on-field and off-field performances individually, producing a narrative on the intersection of their financing and competitive strategy and financial management in-line with Grundy's (2004) approach, identifying themes and how they changed due to external factors such as changes in the industry and financial regulation. We then conduct a cross-case analysis to identify differences and similarities, enriching our findings. The description of the variables and information that we use in the paper are in Table 3.1.

Table 3.1: Definition of Financial Variables

Variable	Description	Source
Matchday revenue	Revenue from activities at stadiums – both home and away - during football matches and other non-footballing events held at the club's stadium.	Financial statements
Broadcast revenue	Revenue from the live distribution of football matches.	Financial statements
Commercial revenue	Revenue from sponsorship and advertising partnerships, retailing, and merchandising.	Financial statements
Wage bill	Wages paid to the club's playing and non-playing staff – excluding Directors	Financial statements
Profit(loss) on player sales	The profit(positive) or loss (negative) from the sale of a club's players	Financial statements
Net finance income (cost)	The interest income earned from financial assets and bank account balance when positive, and interest paid on loans when negative.	Financial statements
Profit(loss)before tax	This represents the profit for the year when positive and loss for the year when negative.	Financial statements
Dividend	The amount of profit distributed to shareholders.	Financial statements
Payment to buy players	Transfer fees and other associated costs paid for the purchase of players.	Transfermarkt
Receipt from the sale of players	Transfer fees and other associated costs received for the sale of players.	Transfermarkt
Net spend/(receipt)	Difference between payment for the sale of and receipt from the sale of players	Transfermarkt
Transfer fees payable to other clubs	Transfer fees owed to clubs for the purchase of players.	Financial statements
Trade creditors	Money owed to creditors arising from the club's ordinary business activity (football). Transfer fees payable to other clubs is the most significant amount in trade creditors	Financial statements
Borrowings	Money owed to banks and other financial institutions	Financial statements
Total debt	Money owed by the club to its trade creditors, clubs, banks, customers, tax authorities and its owner(s)	Financial statements
Cash flow from operation	The money generated or consumed from the ordinary activities of a club, excluding players trading.	Financial statements

3.4. Case Study Results

3.4.1. Chelsea's pre-FFP analysis

Roman Abramovich's first year as Chelsea's owner

The 2003/2004 season

In Roman Abramovich's first season as Chelsea's owner, he retained the club's existing Manager, Claudio Ranieri, despite rumours that a change was imminent. Claudio Ranieri's team featuring acquired star players such as Claude Makelele and Hernan Crespo, finished the season as runners-up to Manchester United in the EPL – the club's best position in 49 years- and were UCL semi-finalists. The club's net investment in players of £152m (£154m more than the previous season) was the first time an English club spent more than £100m in a single season (Stead, 2018). Chelsea's £119m wage bill, a 114% increase from 2003, was the highest in the EPL and resulted in its wage bill to revenue percentage rising to 79% from 51% the previous season. Chelsea sacked Claudio Ranieri at the end of the season, paying the ex-Manager and other staff £2.4m for terminating their contracts.

Progress in the UCL and the second-place finish in the EPL resulted in a 40% increase in Chelsea's revenue. The club's debt increased by 98% because of an interest-free £224m loan from Roman Abramovich, which did not have a specific repayment date but an agreement that the owner would have to give an eighteen-month demand notice to the club for repayment. Chelsea's net finance cost fell by almost 50% because the club redeemed £38.5m of the high-interest £75m Eurobond due in 2007. Nevertheless, because of its wage bill, Chelsea reported £93m as its loss before tax (LBT) for 2004, a 250% increase from the previous year.

Table 3.2: Chelsea's pre-FFP Financial and Non-Information

Variable	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	**Average**	**Total**
Financial information												
Matchday	-	-	£55	£58	£75	£75	£75	£67	£67	£78	**£69**	-
Broadcast rights	-	-	£57	£53	£60	£77	£79	£86	£98	£113	**£78**	-
Commercial	-	-	£37	£43	£56	£61	£53	£56	£60	£67	**£54**	-
Total revenue	£109	£152	£149	£153	£191	£213	£206	£210	£226	£258	**£195**	**£1,758**
Wage bill	£56	£119	£109	£114	£133	£172	£166	£173	£190	£171	**£150**	**£1,347**
Net finance income (cost)	-£9	-£5	-£4	-£3	-£3	-£2	-£1	-£1	-£1	£0	**-£2**	**-£20**
Wage bill to total revenue	51%	79%	73%	75%	70%	81%	80%	82%	84%	66%	**77%**	-
Profit/(loss) on player sales	£1	-£2	-£12	£7	£9	£22	£29	-£1	£18	£29	**£11**	**£99**
Profit(loss) before tax	-£27	-£93	-£140	-£80	-£75	-£66	-£44	-£70	-£67	£1	**-£70**	-
Dividend	-	-	-	-	-	-	-	-	-	-	-	-
Payment to buy players	£0	£153	£150	£82	£80	£53	£27	£27	£109	£87	**£85**	**£768**
Received from the sale of players	£2	£1	£3	£31	£47	£39	£40	£3	£15	£28	**£23**	**£207**
Net spend/(receipt)	£2	-£152	-£147	-£51	-£33	-£14	£13	-£24	-£95	-£58	**-£62**	**-£561**
Trade creditors	£37	£74	£71	£64	£15	£32	£10	£18	£48	£92	**£47**	-
Total debt	£177	£349	£524	£621	£657	£767	£769	£790	£911	£1,020	**£712**	-
Cash flow from operation	£17	-£29	-£2	-£29	-£6	-£22	-£16	-£14	-£9	-£31	**-£18**	-
Compensation for sacking (contract termination)	-	£2	-	-	-	£23		£13	-	-	**£13**	**£38**
Non-financial information												
Manager sacked?	No	Yes	No	No	No	Yes	Yes	No	Yes	Yes	-	**5**
League position at sacking	-	2nd	-	-	-	5th	2nd		2nd	5th	**3rd**	-
Points distance from 1st position at sacking	-	11	-	-	-	2	10	-	9	20	**10**	-
Final league position	4th	2nd	1st	1st	2nd	2nd	3rd	1st	2nd	6th	**2nd**	-
Trophies won	0	0	2	2	2	0	1	3	0	2	**1**	**12**

Notes: Chelsea's pre-FFP financial and non-financial information between 2003 and 2011. Chelsea's financial year-end is June, and a regular football season is between August and May. Roman Abramovich took over Chelsea in July 2003 with the 2003/2004 football season and 2004 financial year-end his first as the club's owner. We included the 2003 financial year-end, the 2002/2003 football season, as a baseline for comparison. All the financial information are in millions of pounds, with negative figures in red, except for the wage bill to total revenue, which is in percentage.

Chelsea appointed Jose Mourinho, whose Porto team had just won the UCL, to replace Claudio Ranieri as its Manager. In the penultimate paragraph of Chelsea's 2004 financial statements, the club stated that it "*received confirmation from the provider of the loan [Roman Abramovich] that further funding will be forthcoming to provide sufficient financial support to the group [club] as is required for the foreseeable future*" indicating the financing strategy of the new owner.

Jose Mourinho's first tenure as Chelsea's Manager

The 2004/2005 season

Following a net player spending of £147m, Jose Mourinho led Chelsea to its first-ever EPL title –the first league title in fifty years – and won the League Cup in his first season as the club's Manager. The club's Round of 16 exit in the UCL was the only on-field result that did not exceed the previous season's performance. Chelsea's wage bill fell by 9% from the previous year to £109m; nevertheless, the club reported £140m as LBT in 2005, double the 2004 figure. The LBT was due to a 2% fall in revenue, a £12m cost for the termination of Adrian Mutu's contract for cocaine use and a £25.5m penalty for the early termination of the kit manufacturing deal with Umbro (Day, 2005). Chelsea's debt increased by 50% from 2004 to £524m in 2005 because of a £158m additional interest-free loan from its owner. Because there was no further redemption on the Eurobond loan in 2005, Chelsea's net finance cost fell by only £1m to £4m. Chelsea's cash flow from operations was negative for a second successive year.

Chelsea's second season under its new owner was successful on the field, with the club winning two trophies. Off-field, the financial results worsened, but by terminating the Umbro kit five years ahead, allowing Chelsea to seek a better deal elsewhere, Peter Kenyon set out to improve the club's revenue and, by extension, its financial performance. Ahead of the new season,

Roman Abramovich appointed Tottenham's Frank Arnesen as Chelsea's Sporting Director to oversee the club's player scouting and youth team development (Kajumba, 2020).

The 2005/2006 and 2006/2007 seasons

Chelsea slowed down investment in its squad in 2006 and 2007, with net spending reducing to £51m and £33m, respectively. Chelsea maintained its on-field performance by winning two trophies in both seasons – the EPL and Community Shield in 2006 and the FA Cup and League Cup in 2007. Chelsea's 2007 UCL semi-final exit was better than its 2006 round of 16 exit from the UCL, and the club finished the 2007 EPL season in second place. The football success in both years and sponsorship agreements – including a deal with Adidas, who replaced Umbro as the kit manufacturer- resulted in a reduced LBT of £80m in 2006 and £75m in 2007 for Chelsea.

In 2006, the early exit at the Round of 16 caused Chelsea's broadcast revenue to fall by 7%. However, the commercial focus of Chelsea's Chief Executive, Peter Kenyon, resulted in a 14% growth in commercial revenue, bringing the growth in revenue for the year to 3%. In 2007, revenue grew by 25% because of Chelsea's UCL semi-final run and the new Adidas kit deal. Chelsea's cash flow from operations was not positive in both years despite better financial performance. The club's debt increased again, albeit at slower rates – 18% in 2006 and 6% in 2007 – because of the reduced net transfer spending. At the end of 2007, the interest-free loan from Roman Abramovich was £578m with the same repayment terms.

The 2007/2008 season

Chelsea sacked Jose Mourinho nine games into the 2007/2008 season and replaced him with Avram Grant, a caretaker Manager whom the club also sacked at the end of the same season. Chelsea paid £23.1m for sacking both Managers and their staff. Chelsea were runners-up to Manchester United in two of three finals – the League Cup, UCL, and the Community Shield

– they played and lost while they finished the EPL season in second place despite the managerial changes.

Reaching the UCL final and another season in the top two positions in the EPL increased Chelsea's broadcast revenue by 30%, and another year of signing more sponsorship agreements grew the club's total revenue by 12%. The club's net spending on player transfers fell for a third consecutive year to £14m, while the club made a £22m profit on the players it sold. However, Chelsea's 2008 wage bill increased by 29% from 2007 to £172m bringing the club's wage bill-to-total revenue percentage to 80%. Nevertheless, Chelsea reported £66m as its LBT, an 11% improvement from the previous year. Though Chelsea fully redeemed the Eurobond loan in the 2008 financial year, its debt increased by 17% because of an additional £122.8m interest-free loan from Roman Abramovich to fund the club's operations. The amount owed to him as of 2008 was £701m.

The 2008/2009 season

Chelsea appointed Luis Felipe Scolari, a World Cup-winning manager, to replace Jose Mourinho as its Manager for the 2008/2009 season. Following a string of poor performances that left Chelsea ten points from the top of the EPL table, the club sacked Luis Felipe Scolari after 36 games in all competitions with thirteen games left in the EPL. Chelsea paid their ex-Manager, and other sacked staff £12.6m for terminating their contracts. Guus Hiddink took over as interim-Manager and finished the season by winning the FA Cup, coming third in the EPL table, and reaching the UCL semi-finals.

For the first time in the Roman Abramovich era, Chelsea received more than it spent on player transfers, with a net receipt of £13m. Chelsea's wage bill was reduced by 4% in 2009, and the club made £29m from its sale of players. The club reported £44m as LBT in 2009, a fourth consecutive year of reduced losses because of reduced transfer activity rather than an increase

in revenue, which fell by 3%. The club's debt did not increase significantly even though the loan from its owner increased from the previous year by £26m to £726m in 2009.

Carlo Ancelotti's tenure as Manager and changes in non-football management staff

The 2009/2010 and 2010/2011 seasons

Chelsea made several on and off-field non-playing staff changes between 2009 and 2011. Ron Gourlay replaced Peter Kenyon as the club's Chief Executive in October 2009, three months after the ex-Chelsea Chief Executive oversaw the appointment of the two times UCL winner, Carlo Ancelotti, as the club's substantive Manager. Also, Marina Granovskaia became Roman Abramovich's official representative at the club in 2010, while Michael Emenalo replaced Frank Arnesen as the club's Sporting Director.

The club revamped the squad with a net player spending of £24m in 2010 after the previous year's net receipt, and Carlo Ancelotti won three trophies in his first season – the EPL, Community Shield and the FA Cup. However, after completing a trophyless second season, following £95m in net playing spending, Carlos Ancelotti was sacked by Chelsea despite a second-place finish in the EPL and a semi-final appearance in the UCL. Chelsea paid £28m for terminating Carlo Ancelotti and other sacked staff's contracts.

Chelsea's revenue increased by 1% in 2010 and 8% in 2011 because broadcast revenue was higher in 2011, highlighting the financial benefit of progressing to the latter stages of the UCL. The club's wage bill grew in both years, 4% in 2010 and 10% in 2011, and the club's wage bill to total revenue percentages were 82% and 84%, respectively. Chelsea reported £70m and £67m as LBT in 2010 and 2011, ending the successive reduced losses in the previous years. Roman Abramovich's loan to the club – with the same repayment terms- increased by £92.13m over the two years to £818.6m in 2011.

Andre Villas-Boas' short tenure as Manager

The 2011/2012 season

Chelsea appointed Andre Villas-Boas, who had just become the youngest manager to win a European competition after Porto's 2011 UEL victory, as its Manager. Chelsea paid £13.2m, a world-record fee for a Manager, to buy out Andre Villas-Boas' contract with Porto (Wilson & Smith, 2011). The investment in the squad continued with the club's net spending of £58m on player recruitment. Nevertheless, the new Manager did not live up to expectations and was sacked when the club was in the fifth position, twenty points behind first-placed Manchester United. Andre Villas Boas' Assistant Manager and ex-Chelsea player, Roberto Di Matteo, was appointed a caretaker-Manager for the rest of the season.

Chelsea finished the EPL season in sixth place but won the FA Cup and, for the first time in the club's history, the UCL trophy. The club appointed Roberto Di Matteo as its substantive Manager following the season's trophy haul. Off the field, Chelsea's revenue was £258m, a 14% increase from 2011 because all its sources of revenue increased due to the club's successful UCL and FA Cup campaigns. The club's wage bill to total revenue was 66%, down from 84% the previous season because its wage bill fell by 10%. The club earned a £29m profit from its sale of players and reported an £18m profit on cancelled shares because BskyB, Chelsea's media joint venture partner from 2007, waived its cumulative preference dividend. Together, for the first time in the Abramovich era and coinciding with the implementation of FFP, Chelsea reported a profit before tax of £1m, a significant improvement on 2011's £67m LBT.

Chelsea's debt increased by 12% from 2011 to £1.02bn in 2012. The debt exceeded the £1bn mark because of a £42m growth in the amount the club owed to other clubs for the players it had purchased. To manage their cash flow amidst rising transfer fees, clubs increasingly began to stagger the payment of agreed transfer fees, similar to invoice lagging in other industries.

Also, the increase of £76m in the loan to Roman Abramovich added to the growth in debt. The loan from Roman Abramovich was £895m at the end of 2012.

3.4.2. Chelsea's post-FFP analysis

Roberto Di Matteo's tenure as Manager and Marina Granovskaia's new role and FFP

The 2012/2013 season

Chelsea appointed Marina Granovskaia to its board of Directors as a Director in charge of player transactions, a role she had unofficially overseen. Chelsea improved its squad with net spending of £76m in Marina's first official season as a Director, a 30% increase from 2012. However, Chelsea sacked Roberto Di Matteo following a run of two wins from eight matches and a UCL loss to Juventus, ultimately leading to the club exiting the UCL in the group stage. The dismissal cost Chelsea £4m in compensation. Rafael Benitez took over as Chelsea's interim-Manager, won the UEL trophy and led the club to third position in the EPL table.

By missing out on the latter stages of the UCL, Chelsea's revenue fell by 1%, despite the 19% growth in its commercial revenue. The club's wage bill to revenue rose to 69% because the wage bill increased by 3%. Thus, Chelsea reported £51m as LBT in 2013 after its first PBT in 2012. The club's debt increased by 6% because of an additional £90m loan from Roman Abramovich, bringing the outstanding loan to £984m as of 2013.

Table 3.3: Chelsea's post-FFP Financial and Non-Information

Variable	2013	2014	2015	2016	2017	2018	2019	2020	2021	**Average**	**Total**
Financial information											
Matchday	£71	£71	£71	£70	£66	£74	£67	£54	£8	**£61**	-
Broadcast rights	£105	£140	£136	£143	£162	£204	£200	£183	£274	**£172**	-
Commercial	£80	£109	£108	£117	£133	£165	£185	£175	£155	**£136**	-
Total revenue	£256	£320	£314	£329	£361	£443	£452	£412	£437	**£369**	**£3,324**
Wage bill	£177	£191	£216	£222	£220	£244	£288	£287	£334	**£242**	**£2,179**
Net finance income (cost)	£0	£0	£2	£3	£0	£1	£0	£15	-£1	**£2**	**£20**
Wage bill to total revenue	69%	60%	69%	68%	61%	55%	64%	70%	77%	**66%**	-
Profit/(loss) on player sales	£14	£65	£41	£49	£69	£113	£60	£143	£28	**£65**	**£582**
Profit(loss) before tax	-£51	£19	-£21	-£70	£16	£67	-£116	£43	-£169	**-£31**	-
Dividend	-	-	-	-	-	-	-	-	-	-	-
Payment to buy players	£99	£117	£124	£87	£120	£234	£188	£41	£222	**£137**	**£1,232**
Received from the sale of players	£23	£70	£129	£79	£98	£175	£75	£142	£52	**£94**	**£843**
Net spend/(receipt)	-£76	-£47	£5	-£8	-£22	-£59	-£113	£101	-£171	**-£43**	**-£390**
Trade creditors	£81	£104	£60	£32	£133	£169	£154	£142	£163	**£115**	-
Total debt	£1,083	£1,162	£1,091	£1,185	£1,259	£1,360	£1,591	£1,554	£1,595	**£1,320**	-
Cash flow from operation	-£3	£47	£4	£10	£42	£39	-£87	£4	£76	**£15**	-
Compensation for sacking	£28	£5	-	£4	-	-	£27	£8	-	**£14**	**£72**
Non-financial information											
Manager sacked?	Yes	No	No	Yes	No	Yes	No	No	Yes	-	**5**
League position at sacking	2nd	-	-	16th	-	5th	-		9th	**7th**	-
Points distance from 1st position at sacking	4	-	-	20	-	30	-	20	11	**17**	-
Final league position	3rd	3rd	1st	10th	1st	5th	3rd	4th	4th	**4th**	-
Trophies won	1	0	2	0	1	1	1	0	1	**1**	**7**

Notes: Chelsea's post-FFP financial and non-financial information between 2013 and 2021. Chelsea's financial year-end is June, and a regular football season is between August and May. All the financial information are in millions of pounds, with negative figures in red, except for the wage bill to total revenue, which is in percentage.

The end of 2013 was the first year of UEFA assessing the financial performance of clubs participating in its competition with the FFP regulation. As a transition year to the full regulation, UEFA allowed clubs to make €45m (£37.5m) in losses across two seasons (2011/2012 and 2012/2013).

Because UEFA defines what income and expenses clubs must use in calculating their FFP performance, PBT or LBT will differ from a club's FFP result. For example, the FFP calculation does not include depreciation and youth expenses. Chelsea's Board Chairman, Bruce Buck, announced that the club complied with FFP because it made £1m in PBT in 2012, despite the £51m LBT in 2013. Chelsea was not one of the clubs investigated or sanctioned by UEFA, corroborating Bruce Buck's position

Jose Mourinho's second tenure as Chelsea's Manager

The 2013/2014 and 2014/2015 seasons

Six years after his first tenure, Jose Mourinho was reappointed by Chelsea ahead of the 2013/2014 season. Despite Marina Granovskia's effort in generating £199m from player sales, the FFP regulation restricted Chelsea's net spending in Jose Mourinho's first two seasons to £43m, £91m less than the previous two years, because the club's revenue growth was not sufficient for additional transfer activity. Nevertheless, Chelsea won two trophies – the EPL and League Cup- in the 2014/2015 season after going trophyless but reaching the UCL semi-final the previous season. However, the UCL run in the 2013/2014 season, a new £5.25bn EPL broadcast deal for the 2013-2016 cycle (63% increase) and the renewal of the Adidas kit deal on better terms resulted in a 25% growth of Chelsea's revenue in 2014. However, despite winning two trophies, Chelsea's 2015 revenue fell by 2% because of the club's round 16 exit from the UCL in the 2014/2015 season. The club's wage bill increased in both years, 8% in 2014 and 13% in 2015. Together, Chelsea reported £19m PBT in 2014 because of its revenue

growth and a £21m loss in 2015 because of the drop in revenue. As of 2015, Roman Abramovich's loan to Chelsea was £1.01bn, and the club's debt was £1.09bn.

By the end of the 2015 season, UEFA had assessed the FFP performance of clubs participating in its competitions in two full monitoring periods, 2012 to 2013 and 2013 to 2015. Chelsea was not investigated or sanctioned by UEFA for breaching the FFP regulation. Chelsea's £149m profit from the sale of players in all the assessed periods, compared with £68m in the previous corresponding period, significantly helped the club stay within the FFP loss threshold, highlighting the importance of Marina Granovskia's role in the club. Also, for the first time in the Abramovich era, Chelsea's cash flow from operation was positive in 2014 and remained positive in 2015 because of improved financial performance (evidenced by reduced LBT).

The 2015/2016 season

Following the previous year's trend, Chelsea significantly financed the 2016 £87m recruitment of players by selling some of its existing players for £79m. With Chelsea in sixteenth place and twenty points behind the eventual EPL winners, Leceister City, the club sacked Jose Mourinho after 25 games. Chelsea appointed Guus Hiddink to replace Jose Mourinho, who, together with other staff, was paid £8.3m for the termination of their contracts. The season ended with Chelsea exiting the UCL in the Round of 16 and finishing tenth in the EPL table, missing out on UCL and UEL qualification for the 2016/2017 season for the first time in the Roman Abramovich era.

Notwithstanding the club's worst league position in the Abramovich era and early UCL exit, Chelsea's revenue grew by 5% because of new commercial deals, especially the Yokohama Tyres shirt sponsorship deal. Chelsea paid £69m for cancelling its kit manufacturing agreement with Adidas seven years early, and though the club made £49m profit from selling players, its LBT increased to £70m from £21m in 2015. Chelsea's debt increased by 9% to £1.19bn

because of an additional £40m loan from Roman Abramovich, and transfer fees payable to other clubs increased by £32m. Structuring the payment of transfer fees across several years for acquired players became a growing trend in European football as a cash flow management technique. Chelsea's cash flow from operation was £10m, and the interest-free loan from its owner was ££1.05bn in 2016.

Antonio Conte's tenure as Chelsea's Manager

The 2016/2017 and 2017/2018 seasons

Antonio Conte replaced Jose Mourinho as Chelsea's Manager in 2016, winning the EPL title in his first season and qualifying for UCL. Chelsea won the FA Cup in his second season but finished the EPL season in fifth place, qualifying for the UEL but missing UCL qualification for the 2018/2019 season. Chelsea's net player spending and profit from the sale of players were £22m and £69m in 2017 and £59m and £113m in 2018, respectively. Chelsea's revenue grew by 10% in 2017 because of the new £8bn EPL broadcast deal for the 2016-2019 cycle and commercial deals, especially the training kit sponsor deal with Carabao. In 2018, revenue grew by 24% because of the improved Nike kit manufacturing deal that replaced the Adidas deal and the club's return to the UCL. The club's wage bill to total revenue fell from 68% to 61% in 2017 and 55% in 2018, the lowest since Roman Abramovich took over the club. Furthermore, Chelsea reported its first-ever consecutive PBT in the Abramovich era, with £16m in 2017 and £67m in 2018.

For a fifth straight season, Chelsea's cash flow from operation was positive because of the club's improved management of its wage-to-total revenue ratio. Nevertheless, Chelsea's debt in 2018 was £1.36bn because its transfer fees payable to other clubs increased by £41m in 2017 and £36m in 2018. Also, the loan from Roman Abramovich was £1.16nn in 2018, following a £34m increase in 2017 and a £69.41m increase in 2018.

Maurizio Sarri's Tenure as Chelsea's Manager

The 2018/2019 season

Antonio Conte was sacked by Chelsea and replaced by Maurizio Sarri during pre-season training ahead of the 2018/2019 season. Chelsea paid Antonio Conte and other staff £26.6m for terminating their contracts. The net player spending ahead of the season was £113m, Chelsea's highest investment in fifteen years. Maurizio Sarri won the UEL trophy and led the team to a third-place finish in the EPL, qualifying for the 2019/2020 UCL competition. However, after the season, he resigned as Chelsea's Manager to take over as the Juventus Manager.

Chelsea's revenue grew by 2% because of sponsorship agreements with brands such as Hyundai Unilever, Beats by Dre and Vitality Health. The 2019 wage bill was £288m, an 18% increase from 2018 and Chelsea's wage bill to total revenue rose from 55% to 64%. Despite earning £60m in profit from the sale of players, Chelsea reported £116m as LBT in 2019 primarily because of the significant increase in transfer activity and wage bill. Nevertheless, the PBT in the previous two years was sufficient for Chelsea to comply with the 2019 FFP assessment. The club's debt in 2019 was £1.59bn, a 17% increase from 2018, primarily because of an additional £228m loan from Roman Abramovich, bringing his loan balance to £1.38bn. For the first time in five seasons, Chelsea reported a negative cash flow from its operations of £87m in 2018, primarily because of its significant transfer spending.

Chelsea appointed Frank Lampard to replace Maurizio Sarri as the club's Manager. Frank Lampard could not buy any players in his first season as Chelsea Manager because FIFA, the world football governing body, banned Chelsea from signing players for two transfer windows for breaching its rules on the registration of academy players.

3.4.3. Chelsea's analysis during Covid-19

Frank Lampard's tenure as Chelsea's Manager

The 2019/2020 season

In March 2020, the EPL and UEFA suspended football matches in England and across Europe to curb the spread of the covid-19 virus and protect the players from infection. The EPL and UEFA competitions resumed in June, with all matches played behind closed doors, and the EPL season, usually ending in May, was completed in July 2020. Chelsea finished the EPL season in fourth place and did not progress beyond Round 16 in the UCL. Chelsea's wage bill was reduced by £1m in 2020, and its wage bill to total revenue increased to 70% from 64% in 2019 because of a 9% fall in revenue.

The 9% fall in revenue was because the matches played in July were behind closed doors – no matchday revenue – and Chelsea's financial year ended in June; hence, the club did not report the broadcast revenue for the July games in 2020's financial statements. Chelsea's net player receipt was £101m in 2020 because of the sale of Eden Hazard and other players and the purchase of Mateo Kovacic – the club signed him in January just before the FIFA imposed transfer ban. Chelsea made a £143m profit from its sale of players in 2020, resulting in a PBT of £43m. Chelsea's 2020 debt was reduced by 2% because its transfer fees payable to other clubs fell by £13m, while the loan from Roman Abramovich did not significantly change from 2019 and remained at £1.38bn.

The 2020/2021 season

Chelsea's net player spending was £171m in 2021, following the previous year's FIFA-imposed transfer ban. Chelsea sacked Frank Lampard after 29 games when the club was in eleventh place in the EPL table and eleven points from the first position. Thomas Tuchel, who

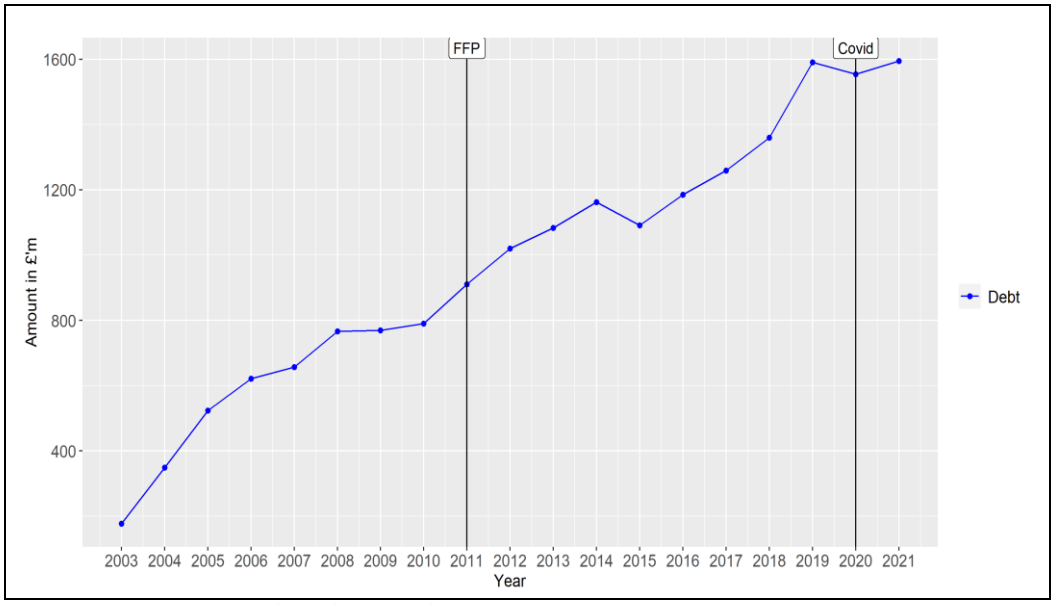
replaced Frank Lampard as Chelsea's Manager, won the club's second UCL trophy and finished the EPL season in the fourth position.

Despite playing the entire 2020/2021 season behind closed doors due to the covid-19 pandemic, Chelsea's revenue grew by 6% because of the broadcast revenue from the club's UCL win. The 2021 wage bill grew by 16%, and Chelsea's wage to total revenue increased from 70% in 2020 to 77% in 2021. Despite realising a £28m profit from the sale of players, Chelsea reported £169m as LBT. UEFA announced adjustments to the FFP assessment by halving reported losses to cater for the impact of covid-19. Also, the FFP assessment for 2022 would only cover 2020 and 2021, thus isolating the adverse effect of covid-19. Consequently, Chelsea's 2020 and 2021 LBT would not likely breach the adjusted FFP regulation. Chelsea's 2021 debt increased by 3% because Roman Abramovich's loan to the club increased by £19m to £1.39bn. The loan agreement as of 2021 requires the Chelsea owner to give the club three and eighteen months' notice for the repayment of £269m and £1.29bn of the loan, respectively.

3.4.4. Themes on Chelsea's on-field and on-field performance

Chelsea had won only ten trophies in its history and was reportedly one day away from bankruptcy (Altukov et al., 2020) when Roman Abramovich bought the club in 2003. Roman Abramovich financed significant investments in the playing squad through a series of interest-free loans with unspecified repayment dates. The debt balance – mainly consisting of the loans from Roman Abramovich- increased in all but one year, and until the club's enforced sale, Chelsea did not make any repayments to Roman Abramovich, see Figure 3.2.

Figure 3.2: Chelsea's Annual Debt Balance



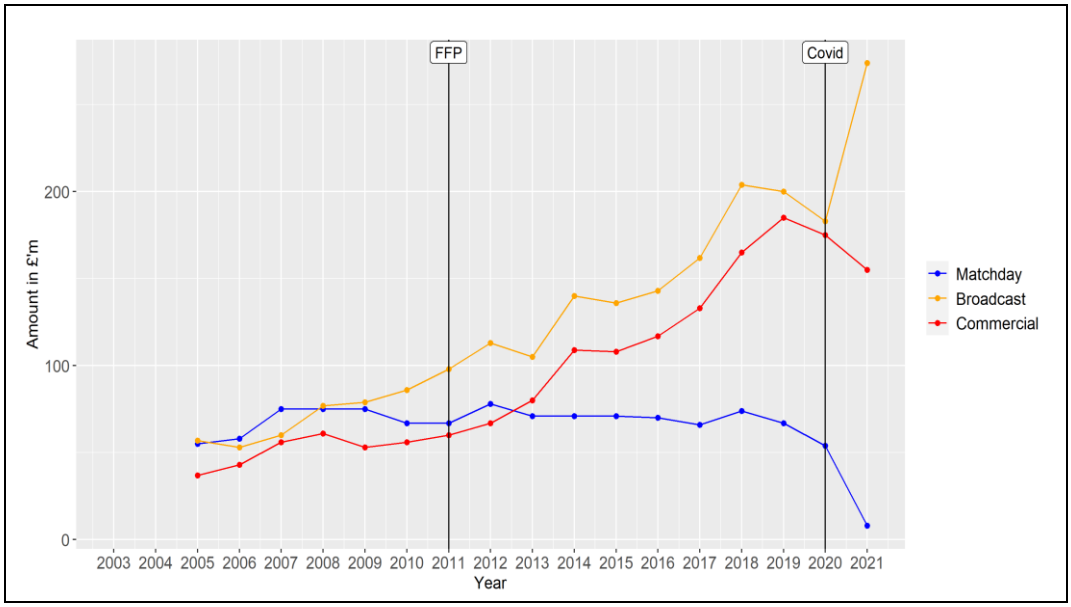
Notes: The author created this figure from the information in the dataset. Chelsea's debt increased throughout the period except in 2015 and 2020, primarily because of the interest-free loans from Roman Abramovich.

Behind the scenes, Chelsea under Roman Abramovich made non-playing and coaching changes by recruiting top football executives from other clubs – Peter Kenyon from Manchester United as Chief Executive and Frank Arnesen as Sporting Director from Tottenham – and promoting Marina Granovskaia to a Board level Director in charge of transfers. Consequently, Chelsea began competing for trophies in England and Europe within a year of Roman Abramovich's ownership.

The club won its first league title in 50 years in the 2004/2005 season after Roman Abramovich replaced Claudio Ranieri with Jose Mourinho. Replacement of Managers became the theme

with Chelsea, and by 2021, the club had recruited thirteen different managers in eighteen years and had paid a total of £110m in compensation for terminating the contracts of managers. Despite its cost, the sackings always led to the club winning trophies within two years on all but one occasion. The on-field success Chelsea achieved while frequently changing its managers confirms Parnell et al. (2022) finding that having a Sporting Director provides stability and helps the club to maintain its long-term competitive strategy.

Figure 3.3: Chelsea's Revenue Sources



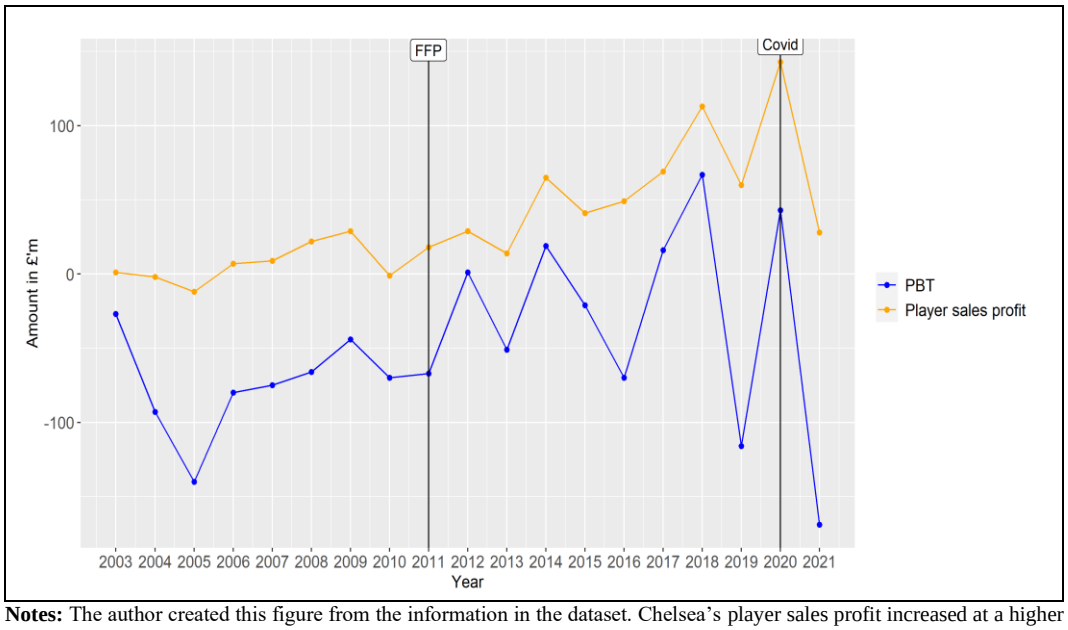
Notes: The author created this figure from the information in the dataset. Chelsea's broadcast revenue was the most significant throughout the period, while its commercial revenue became the second-ranked post-FFP.

The non-playing staff changes helped grow the club's commercial presence and revamped its academy and recruitment process. In Figure 3.3, Chelsea's commercial revenue was its lowest source of revenue until it overtook matchday revenue in 2013. Also, it was just £15m lower than broadcast revenue in 2019. The growth in commercial revenue was because Chelsea signed improved sponsorship deals with global brands due to the club's on-field success and offshoot of Peter Kenyon's commercial vision for the club.

In Figure 3.4 below, Chelsea reported LBT more often than PBT during the period, even though they were successful on the pitch. The prevalence of LBT provides further evidence to Plumley et al. (2017) findings which indicated a trade-off favouring sporting performance above

financial performance. Chelsea's profit from selling players– especially academy players – improved significantly and was instrumental for the club in adhering to the FFP regulation, see Figure 3.4. In 2021, Marina Granovskaia, responsible for Chelsea's players' transfer activities, received the Best Club Director in European football award.

Figure 3.4: Chelsea's Profit/(Loss) Before Tax and Player Sales Profit



Notes: The author created this figure from the information in the dataset. Chelsea's player sales profit increased at a higher rate post-FFP, while the PBT was volatile throughout the period.

Though successful, the financing strategy – the interest-free loans from Roman Abramovich - that fueled Chelsea's competitive strategy put the club in a precarious situation that has exposed the club to the risk of competitive decline and financial and regulatory risk. For example, the interest-free loan from Roman Abramovich pre-FFP and post-FFP profit from selling players championed by Marina Granovskaia augmented Chelsea's revenue. Roman Abramovich and Marina Granovskaia have left the club, leaving a funding and strategy gap at Chelsea. Todd Boehly, a key stakeholder in the new Chelsea ownership, acknowledged the club's difficulty in remaining competitive in the transfer market and avoiding sanctions because of FFP and UEFA's new FSR regulation in 2024 (Reuters, 2022).

3.4.5. Manchester United's pre-FFP analysis

Sir Alex Ferguson's tenure as Manchester United Manager under the Glazers

The 2005/2006 season

With 46 competitive trophies and £166m revenue in 2005, Manchester United was the second most successful English club (behind Liverpool) and the second wealthiest club (Deloitte, 2006), by revenue, in the world (behind Real Madrid) when the Glazers took over in 2005. Though Manchester United failed to win any trophy in the 2004/2005 season, the Glazers retained David Gill's services as Chief Executive and Sir Alex Ferguson, who had won 23 trophies in his nineteen-year tenure as the club's Manager.

Despite a 10% and 82% growth in revenue and cash flow from operations in 2006, net transfer spending fell by 57% in the first transfer window under the ownership of the Glazers. With debt and net finance costs increasing by 975% and 3,400% to £646m and £40m, respectively, in 2006, while net transfer spending on players was down by 57% in the same period, it seemed that the fear of fans that the leveraged ownership of the club would see the priorities of the club move away from making decisions that improve the team's chances of winning were coming to fruition.

Nevertheless, Manchester United ended the 2005/2006 season as League Cup champions and finished second place in the EPL, one position better than the previous season. The early exit from the UCL in the group stage caused a 5% fall in broadcast revenue, while ticket price increase was responsible for a 9% growth in matchday revenue (Conn, 2008).

Table 3.4: Manchester United's pre-FFP Financial and Non-Information

Variable	2005	2006	2007	2008	2009	2010	2011	2012	**Average**	**Total**
Financial information										
Matchday	£66	£72	£93	£101	£109	£100	£109	£99	**£98**	-
Broadcast rights	£48	£46	£61	£91	£100	£105	£119	£104	**£89**	-
Commercial	£42	£55	£56	£64	£70	£81	£103	£118	**£78**	-
Total revenue	£157	£173	£210	£256	£278	£286	£331	£320	**£265**	**£1,854**
Wage bill	£77	£96	£92	£121	£123	£132	£153	£162	**£126**	**£879**
Net finance income (cost)	£1	-£40	-£81	-£69	-£69	-£137	-£51	-£50	**-£71**	**-£497**
Wage bill to total revenue	49%	55%	44%	47%	44%	46%	46%	50%	**47%**	-
Profit/(loss) on player sales	-£1	£12	£12	£22	£81	£13	£4	£10	**£22**	**£154**
Profit(loss) before tax	£11	-£63	-£63	-£45	£22	-£109	£12	-£5	**-£36**	-
Dividend	-£3	£0	£0	£0	£0	£0	£0	£0	**£0**	**£0**
Payment to buy players	£55	£29	£24	£96	£41	£25	£26	£56	**£42**	**£297**
Received from the sale of players	£9	£7	£16	£42	£7	£94	£16	£12	**£28**	**£194**
Net spend/(receipt)	-£47	-£22	-£8	-£54	-£34	£69	-£11	-£44	**-£15**	**-£104**
Trade creditors	£20	£7	£56	£24	£29	£11	£55	£29	**£30**	-
Total debt	£60	£646	£769	£768	£787	£848	£607	£545	**£710**	-
Cash flow from operation	£44	£79	£88	£88	£111	£104	£125	£31	**£89**	-
Compensation for sacking	-	-	-	-	-	-	-	-	-	-
Non-financial information										
Manager sacked?	No	No	No	No	No	No	No	No	-	-
League position at sacking	-	-	-	-	-	-	-	-	-	-
Points distance from 1st position at sacking	-	-	-	-	-	-	-	-	-	-
Final league position	3rd	2nd	1st	1st	1st	2nd	1st	2nd	**1st**	-
Trophies won	-	1	1	3	4	1	2	0	**2**	**12**

Notes: Manchester United's pre-FFP financial and non-financial information between 2003 and 2011. Manchester United's financial year-end is June, and a regular football season is between August and May. The Glazers took over Manchester United in May 2005 with the 2005/2006 football season and 2006 financial year-end their first as the club's owners. We included the 2005 financial year-end, the 2004/2005 football season, as a baseline for comparison. All the financial information are in millions of pounds, with negative figures in red, except for the wage bill to total revenue, which is in percentage.

The most significant revenue increase, 29%, was in commercial revenue as the club continued to sign sponsorship agreements and maximised its pre-season tours. Manchester United's wage bill increased by 25% to £96m, translating to 55% of total revenue spent on paying the wages of the club's playing and non-playing staff. The club made a profit of £12m on the sale of players compared to the £1m loss reported in the previous period. Together, the first full year of the Glazer ownership resulted in £63m LBT compared with £11m PBT in 2005.

The 2006/2007 season

Manchester United won the first EPL title in the Glazers era during the 2006/2007 campaign. Michael Carrick was the only player signed by the club, while it sold eight players resulting in net spending of £8m, a 62% fall from the previous season. The club repaid the initial £595m loan, which financed the Glazers takeover, with new £683m loans obtained in August 2006. As a result, the club's debt increased by 19%, with finance costs doubling to £81m because of the refinancing process.

Matchday revenue grew by 28% because of another year of ticket price increase, the addition of 8,000 seats to Old Trafford and the club's semi-final appearance in the UCL. Similarly, the progress in the UCL and winning the EPL led to a 33% increase in Manchester United's broadcast revenue. Though commercial revenue grew by only 2%, the club signed a £14.25m a year, the largest EPL deal, shirt sponsorship agreement with AIG – a company with close ties to the Glazer family. The partnership with AIG and other (Kumbo tires, Betfred and Royal Resorts) official partners came into effect in January 2007, halfway into the season and financial year. Despite the wage-to-total revenue percentage falling to 44% because of reduced wages and increased total revenue attributed to on-field success, Manchester United reported an LBT of £63m because the finance costs doubled.

The 2007/2008 and 2008/2009 seasons

The 2007/2008 and 2008/2009 seasons were identical for Manchester United. The club won the EPL Community Shield and progressed to the UCL final in both seasons. However, Manchester United won the UCL in the 2007/2008 season and the League Cup and the FIFA Club World Cup in the 2008/2009 season. The benefits of the on-field success and commercial activities that began in 2007 were reflected in the club's revenue, which grew to £256m in 2008 and £278m in 2009.

The club's debt was reduced in 2008 to £768m from £769m in 2007 and marginally increased in 2009 to £787m because of the net effect of new loans taken by the club and the repayment of existing loans. Similarly, net finance costs fell by 15% from 2007 to £69m in 2008 and remained at £69m in 2009. With stability in debt and financing costs, net spending on players' transfers at £54m and £34m in the 2007/2008 and 2008/2009 seasons was significantly higher when compared with the first two seasons (£22m in 2006 and £8m in 2007) of the Glazers ownership.

In 2008 Manchester United reported £45m as LBT, a 28% improvement on 2007 LBT. At the end of the 2008/2009 campaign, the club announced that it had agreed to a world-record fee of £80m with Real Madrid to sell Cristiano Ronaldo, who had just won the Ballon d'Or – award for the best player in the world – six months before. The Portuguese star's departure was to fulfil his childhood dream of playing for Real Madrid rather than a financial requirement for Manchester United (Ferguson, 2013). The profit, £81m, on Ronaldo and other players' sales saw Manchester United report £22m PBT, the first profitable year in the Glazers' club ownership.

Another first was the detailed performance indicator Manchester United published in the 2009 financial statements and annual report. Figure 3.5 shows the blend between on-field and off-field performance indicators that Manchester United set for the 2008/2009 season. Sir Alex

Ferguson and the playing squad exceeded the on-field expectations, and as a result, in addition to the non-playing executives' efforts, all the financial targets were met.

Figure 3.5: Manchester United's 2009 Key Performance Indicators

Red Football Shareholder Limited

Directors' report for the financial year ended 30 June 2009 (continued)

Summary of key performance indicators for 2008/09

Description	Target	Achieved	Detail
Team performance	Minimum third place finish in the FA Premier League	Y	FAPL winners
	Last 16 of the UEFA Champions League	Y	UEFA Champions league runners up
	Last 8 of domestic cup competitions	Y	FA Cup semi-finalists Carling Cup winners
EBITDA margin	≥30 percent	Y	33%
Wages/turnover	≤50 percent	Y	44%
Matchday income	Maximum achievable attendance at home FA Premier League and UEFA Champions League matches	Y	FA Premier League and UEFA Champions league home games sold out
Media income	Club owned media rights growth	Y	37% increase
Commercial income	Sponsorship income growth	Y	48% sponsorship growth (excl. kit and shirt sponsorship income)
CRM fan records	Customer base growth	Y	11% increase

Notes: An excerpt from Manchester United's 2009 financial statements and annual report showing the key performance indicators, the target and achievement for the 2008/2009 season.

The 2009/2010 season

Manchester United paid its bank loans in 2010 by issuing a tradable bond listed on the Luxembourg stock exchange, and as a result, the club's debt increased by 8% from 2009 to £848m. The real impact of refinancing the club's debt was in the net finance cost, which grew by 101% to £137m in 2010. The early repayment of the bank loans and an exchange rate loss on the dollar-denominated bank loans for a combined £60m were responsible for the increase in the net finance costs.

Due to the windfall from Ronaldo's sale, Manchester United received more than it spent on transferring players for the first – and last – time in the Glazers' ownership. It would not be out of place to think that the debt restructuring and its ensuing costs might have caused the reduced transfer activity, but Sir Alex Ferguson reiterated that the club had enough money and that the players recruited were adequate to achieve the club's goal (Conn, 2009). Nevertheless,

Manchester United won the League Cup for the second time in a row, finished second place in the EPL and reached the quarter-final stage of the UCL. As a result, the club's total revenue growth slowed from 9% in the previous year to 3% in 2010. Several advertising deals, including Hublot as Manchester United's official timekeeping partner signed in the 2009/2010 season, were responsible for a 16% growth in commercial revenue. Nevertheless, a 7% increase in the club's wage bill and the £137m net finance costs because of the debt restructuring resulted in £109m LBT.

The 2010/2011 season

The season saw Sir Alex Ferguson become the longest-serving manager at the club. Despite a net investment of £11m in the playing, the second-lowest squad investment in the Glazers era, Manchester United won the Community Shield and the EPL trophies and lost the UCL final. In addition to the football performance, the new shirt sponsorship deal with AON and other commercial partnerships grew the club's total revenue by 16%.

The club issued new shares worth £249m to settle a high-interest payment-in-kind (PIK) loan worth £240m (principal and interest) in 2011. The principal of the PIK was £138m when Manchester United agreed to take the loan, indicating the high-interest charge. As a result, Manchester United's debt fell by 28% to £607m, and the associated net finance cost was £51m, down 63% from 2010. Despite the club's wage bill increasing by 16% from 2010 to £153m in 2011, the revenue growth and significantly lower finance cost resulted in Manchester United reporting a PBT of £12m, a £121m improvement from 2010.

The 2011/2012 season

Manchester United did not progress beyond the UCL group stage in the 2011/2012 season, finished in second place in the EPL, and ended the season trophyless despite the £44m net

investment in the squad. The on-field performance was below the club's expectation, leading to a 3% decrease in total revenue despite a 14% growth in commercial revenue, see **Figure 3.6**.

Figure 3.6: Manchester United's 2012 Key Performance Indicators

Summary of key performance indicators for 2011/12

Description	Target	Achieved	Detail
Team performance	Minimum third place finish in the FA Premier League	Yes	FAPL runners-up
	Last 16 of the UEFA Champions League	No	Exited at group stage and entered UEFA Europa League (UEL) Exited UEL at round of 16 stage
	Last 8 of domestic cup competitions - FA Cup - Carling Cup	 No Yes	 Exited at 4th round Exited at quarter final
Adjusted EBITDA margin(1)	≥30 percent	No	29%
Staff costs/revenue	≤50 percent	No	50%
Commercial revenue	Sponsorship revenue growth	Yes	19% increase (excluding apparel and shirt sponsorship revenue)
Broadcasting revenue	Club owned media rights growth	Yes	10% increase
Match day revenue	Maximum achievable attendance at home FA Premier League and UEFA Champions League matches	Yes	FA Premier League and UEFA home games largely sold out
Customer relationship management fan records	Customer base growth	Yes	65% increase

(1) Adjusted EBITDA is operating profit before depreciation, amortisation of, and profit on disposal of, players' registrations, and operating expenses – exceptional items

Notes: An excerpt from Manchester United's 2012 financial statements and annual report showing the key performance indicators, the target and achievement for the 2011/2012 season.

Figure 3.6 shows that Manchester United's earnings before interest, tax, depreciation and amortisation (EBITDA) margin – a measure of the profitability of a company's core business activity – and wage bill to revenue were below the targets set at the beginning of the year. The 2012 financial year was the first time that EBITDA fell below 30% and wage bill to revenue was not below 50% since the club began to publish its performance indicators. Consequently, Manchester United reported £5m as LBT, a £17m deterioration from 2011, despite its debt and net finance costs falling to £545m and £50m, respectively, for the second consecutive year.

3.4.6. Manchester United's post-FFP analysis

Sir Alex Ferguson's retirement and the introduction of FFP

The 2012/2013 season

The season began with the news that Manchester United listed and sold 8.3m of its shares for £70.2m on the New York Stock Exchange. The club used the proceeds from the listing and a new bank loan to redeem the bond it floated on the Luxembourg Stock Exchange, which was due in 2017; thus, while the club's debt fell by 10% to £487m, net finance cost went up by 43% because of a £21.9m premium on early redemption of the listed bond.

Robin Van Persie was Manchester United's most expensive signing in a transfer window where the club's net spend on players was £60m, the highest outlay under the Glazers. The ex-Arsenal striker played a pivotal role in securing the EPL title, Manchester United's twentieth league title.

Table 3.5: Manchester United's post-FFP Financial and Non-Information

Variable	2013	2014	2015	2016	2017	2018	2019	2020	2021	**Average**	**Total**
Financial information											
Matchday	£109	£108	£91	£107	£112	£110	£111	£90	£7	**£94**	-
Broadcast rights	£102	£136	£108	£140	£194	£204	£241	£140	£255	**£169**	-
Commercial	£152	£189	£197	£268	£275	£276	£275	£279	£232	**£238**	-
Total revenue	£363	£433	£395	£515	£581	£590	£627	£509	£494	**£501**	**£4,507**
Wage bill	£181	£215	£203	£232	£263	£296	£332	£284	£323	**£259**	**£2,329**
Net finance income (cost)	-£71	-£27	-£35	-£20	-£24	-£18	-£23	-£26	£13	**-£26**	**-£231**
Wage bill to total revenue	50%	50%	51%	45%	45%	50%	53%	56%	65%	**52%**	-
Profit/(loss) on player sales	£9	£7	£20	-£10	£10	£15	£25	£16	£5	**£11**	**£97**
Profit(loss) before tax	-£9	£41	-£4	£49	£57	£26	£27	-£21	-£24	**£16**	-
Dividend	£0	£0	£0	-£20	-£23	-£22	-£23	-£23	-£11	**-£14**	**-£122**
Payment to buy players	£69	£69	£176	£140	£167	£179	£74	£211	£75	**£129**	**£1,160**
Received from the sale of players	£9	£2	£42	£91	£43	£41	£28	£73	£18	**£39**	**£347**
Net spend/(receipt)	-£60	-£68	-£134	-£50	-£124	-£138	-£47	-£138	-£58	**-£91**	**-£817**
Trade creditors	£34	£82	£115	£156	£179	£258	£188	£149	£136	**£144**	-
Total debt	£487	£489	£596	£745	£779	£868	£823	£802	£796	**£709**	-
Cash flow from operation	£57	£73	£144	£186	£228	£95	£245	-£4	£113	**£126**	-
Compensation for sacking	-	£5	-	£8	-	-	£20	-	-	**£11**	**£33**
Non-financial information											
Manager sacked?	No	Yes	No	Yes	No	No	Yes	No	No	-	**3**
League position at sacking	-	7th	-	5th	-	-	6th	-	-	**6th**	-
Points distance from 1st position at sacking	-	20	-	15	-	-	19	-	-	**18**	-
Final league position	1st	7th	4th	5th	6th	2nd	6th	3rd	2nd	**4th**	-
Trophies won	1	1	0	1	3	0	0	0	0	**1**	**6**

Notes: Manchester United's post-FFP financial and non-financial information between 2013 and 2021. Manchester United's financial year-end is June, and a regular football season is between August and May. All the financial information are in millions of pounds, with negative figures in red, except for the wage bill to total revenue, which is in percentage.

Though the club did not progress beyond the UCL's Round of 16, Manchester United's total revenue increased by 13% because of its commercial activities, which grew 30% from the previous year. The club's LBT was £9m because of the net finance cost and the wage bill, which grew by 12% to £181m in 2013.

At the end of the season, Sir Alex Ferguson announced his retirement after 27 years as Manchester United's Manager. The Glazers appointed David Moyes, the ex-Everton Manager, to replace Sir Alex Ferguson. David Gill, the club's Chief Executive for ten years, resigned to take up a role at UEFA and was replaced by Edward Woodward, a key adviser in the Glazers' 2005 leveraged purchase of the club and had served as the head of the commercial department. Also, the end of the 2012/2013 season was the first monitoring period for UEFA's FFP regulation, and Manchester United's combined £14m LBT for 2012 and 2013 was within UEFA's £37.5m (€45m) loss limit, signifying a solid financial position.

David Moyes' tenure as Manchester United Manager

The 2013/2014 season

The post-Ferguson era at Manchester United began with transfer hiccups as the club could not complete the signing of players until the final moments of the transfer windows, despite interest in several players. With a few outgoing transfers, Manchester United's signings, Marouane Fellaini and Juan Mata (in the January transfer window) resulted in £68m net transfer spending in 2014, a 13% increase from 2013. However, the club sacked David Moyes 51 games into his tenure following disappointing performances that left the club in seventh position in the EPL, 20 points from the first position and paid him and his backroom staff £4.8m for the early termination of his six-year managerial contract. Ryan Giggs took charge of the team for the season's final four games. Manchester United finished the EPL season in seventh place, its worst league position since the EPL began in 1992, resulting in the club missing out on European football.

The poor on-field performance was not glaring in the 2014 financial performance of Manchester United because of the EPL's new broadcast deal worth £5.75bn (63% more than the previous deal) and another year of improved commercial activity. With a 19% total revenue growth to £433m and a 61% fall in the club's net finance cost to £27m, Manchester United reported £41m as its PBT for 2014 despite its wage bill crossing the £200m mark for the first time in the club's history.

A month after terminating David Moyes's contract, Manchester United announced that Louis Van Gaal would be its next Manager, with Ed Woodward stating that the club had the financial might and would swiftly invest in improving the playing squad ahead of the new season.

Louis Van Gaal's tenure as Manchester United Manager

The 2014/2015 and 2015/2016 seasons

The net transfer spending on players in Louis Van Gaal's first and second season as the Manchester United Manager were £134m in 2015 and £50m in 2016, respectively, confirming Ed Woodward's statement that the club will spend significantly to improve the squad; the £134m net spending in 2015 was the highest in the Glazers' ownership of the club. The team returned to the UCL for the 2015/2016 season because of its fourth-place finish in the 2014/2015 EPL season. Manchester United sacked Louis Van Gaal a few days after winning the club's first FA Cup trophy in twelve years, having finished the season in fifth place on the EPL table. Louis Van Gaal received £8.4m compensation from the club for terminating his contract a year early. Missing out on the 2014/2015 UCL season resulted in a 21% fall in broadcast revenue and ultimately led to Manchester United reporting £4m as LBT. The club's debt increased by 22% in 2015 because it redeemed a £173m debt note due in 2017, with the proceed from a £268m debt note it obtained in May 2015.

In 2016 Manchester United overtook Real Madrid and became the wealthiest club globally by total revenue. The club's total revenue grew by 30% because of the club's UCL return and the recording-breaking £750m ten-year kit deal signed with Adidas. Despite a 15% increase in its wage bill, the club's 2016 PBT was £49m, a £53m improvement from 2015. Thus, Manchester United's net PBT of £86m for 2014-2016 surpassed UEFA's £37.5m loss limit. The club's debt increased to £745m in 2016 from £596m in 2015 because of foreign exchange loss on its dollar-denominated loans. Nevertheless, Manchester United declared and paid its shareholders £20m in dividends (£0.12 per share) for the first time in the Glazers' era.

Jose Mourinho's tenure as Manchester United's Manager

2016/2017 and 2017/2018

Manchester United appointed Jose Mourinho as its Manager, and in his first two seasons, the club's net transfer spending was £124m and £138m, respectively. In 2017, the club broke its own and the world's transfer record for a single player with the £89m signing of former academy player Paul Pogba. Jose Mourinho won the Community Shield, UEL and League Cup trophies in his first season, and despite finishing sixth in the EPL table, Manchester United qualified for the UCL because the club won the UEL. Though his second season ended without a trophy, Jose Mourinho's team finished the EPL season in second place, four places better than the previous year.

The on-field success in 2017 – winning three trophies- and higher broadcast distribution from the EPL resulted in total revenue growth of 13%. For 2018, the total revenue grew by only 2% because Manchester United did not win any trophy and did not progress beyond the UCL round of 16. The club's wage bill in 2017 and 2018 increased by 13% to £263m and 12% to £296m, respectively. Thus, Manchester United's wage bill to total revenue was 45% in 2017 and 50% in 2018. The net finance cost for both years, £24m in 2017 and £18m in 2018, was low

compared with previous years, resulting in Manchester United reporting £57m and £26m PBT in 2017 and 2018, respectively. The club paid its shareholders £23m in 2017 (£0.14 per share) and £22m (£0.13 per share) in 2018 dividends.

Manchester United's debt increased by 5% to £779m and 11% to £868m in 2017 and 2018, respectively, not because of refinancing of loans or additional borrowing, but because the significant transfer spending in both seasons increased the transfers payable to other clubs, £179m in 2017 and £258m in 2018. Even though Manchester United's cash flow, £228m and £95m in 2017 and 2018, was healthy, the club structured the payment of the transfer fees over several years, as was the growing trend in the football industry.

The 2018/2019 season

Manchester United sacked Jose Mourinho in December 2018 after 24 matches in all competitions, with the team trailing first-placed Liverpool by nineteen points in the EPL table. Jose Mourinho voiced his concerns ahead of the season because the club was yet to sign a central defender from his list of five alternatives (Hunter, 2018). The transfer window closed in August without a new central defender, and the club's net player spending was £47m, a 66% fall from 2018. Also, Manchester United's debt was reduced by 5% from 2018 to £823m, primarily because the fees payable for players transfer was reduced by £70m. Thus, there were no obvious financial reasons for the reduced transfer activity because of the previous year's solid financial performance and no significant financial obligation due in 2019. The club paid Jose Mourinho £19.6m in compensation for the early termination of his contract.

The club appointed Ole Solksjaer as a caretaker-Manager until the end of the season. After an unbeaten run and good performances, the club confirmed Ole Solksjaer as its substantive Manager. The club exited the UCL at the quarter-finals stage and finished the EPL season in sixth place, qualifying for the UEL but missing out on the UCL for the 2019/2020 season.

Despite another year of growth in its wage bill to £332m in 2019 from £296m in 2018, Manchester United reported a PBT of £27m in 2019, a £1m improvement from 2018's PBT. The improved PBT is because of growth in total revenue from £590m in 2018 to £627m in 2019; The EPL's new £8.14bn broadcast deal for the 2019-2022 cycle (55% increase from the 2016-2019 cycle), and Manchester United's quarter-final run in the UCL – having not played in the competition the previous season – led to the increase in total revenue. After another year of reporting a profit, the club paid its shareholders £23.3m (£0.14 per share) dividends.

3.4.7. Manchester United's analysis during Covid-19

Ole Gunnar Solksjaer's tenure as Manchester United Manager

2019/2020 and 2020/2021

While the impact of the covid-19 pandemic limited the club's ability to invest in the squad in the 2021 season, the club invested £211m in 2020 (net spending of £138m), the highest in the club's history, in upgrading the squad. However, in March 2021, Manchester United hired its first-ever Director of Football, John Murtough and Technical Director, Darren Fletcher, to support Ole Gunnar Solksjaer in the club's football operations. Manchester United finished the 2020 and 2021 seasons without a trophy but qualified for the UCL by finishing in third and second place in the EPL, respectively. After exiting the UCL in the group stage, the club lost the UEL final in the 2021 campaign, a step further than the semi-final exit in the previous season.

The club's total revenue fell by 19% in 2020 and 3% in 2021 because of the covid-19 pandemic. Manchester United's wage bill was reduced by 15% in 2020 to £284m, but the wage to total revenue percentage increased to 56% because of the fall in revenue. In 2021, the increased wage bill of £323m and loss of matchday revenue led to Manchester United's highest wage bill to total revenue of 65%. The net finance cost in 2020 remained stable, but in 2021, Manchester

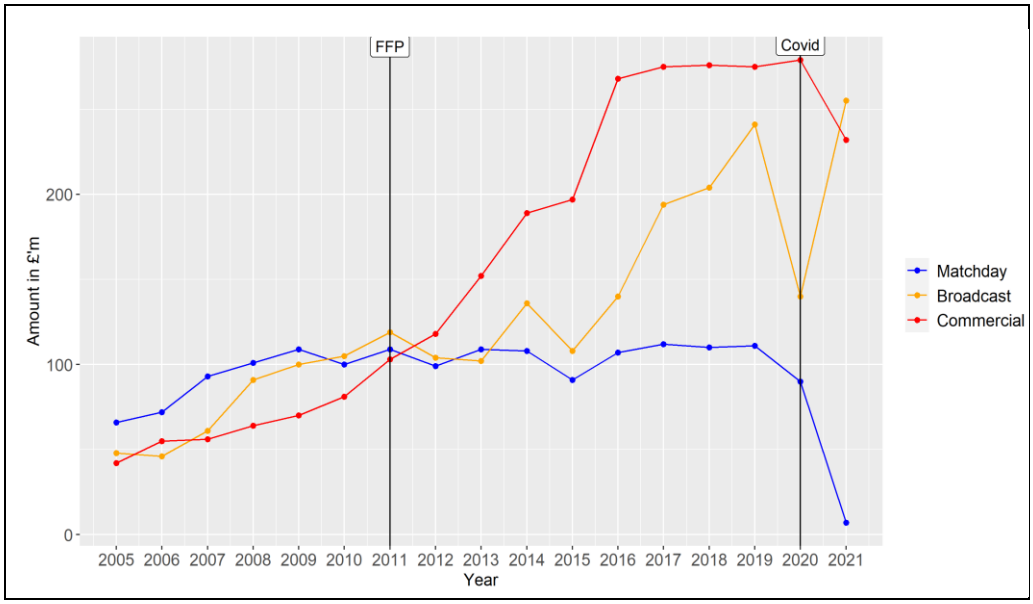
United had a net finance income of £13m because of foreign exchange gain on its loan for the first time in the Glazers era. The club paid its shareholders dividends in both seasons, £23.2m in 2020 and £10.7m in 2021, despite reporting £21m LBT in 2020 and £24m in 2021.

Operation cash flow was negative in 2020; another first in the Glazers era at Manchester United. Lost matchday revenue and delayed receipt of broadcast revenue because of the pandemic were responsible for the negative cash flow. The club's debt fell by 3% to £802m in 2020 because transfer fees payable to other clubs were reduced, and there was no new loan. In 2021, Manchester United drew £60m from a revolving facility that it had access to, possibly because of the pandemic, but its debt was reduced by 1% to £796m because the payables to other clubs fell by £13m. As of 2021, the club's loan balance was £530m.

3.4.8. Themes on Manchester United's on-field and off-field performance

Manchester United was successful on and off the field before the Glazers completed the club's takeover in 2005. However, the club's dominance on the pitch was threatened by the spending power of Chelsea, leading Grundy (2004) to suggest that additional financing would be required to match the competition and maintain the club's success. The financing strategy the Glazers adopted for the club's takeover was primarily via loans because they financed £595m of the £790m purchase price of Manchester United through bank loans. Subsequently, commercial revenue from sponsorship deals financed Manchester United's operations and became the club's highest revenue source, see Figure 3.7 below.

Figure 3.7: Manchester United's Annual Revenue Sources



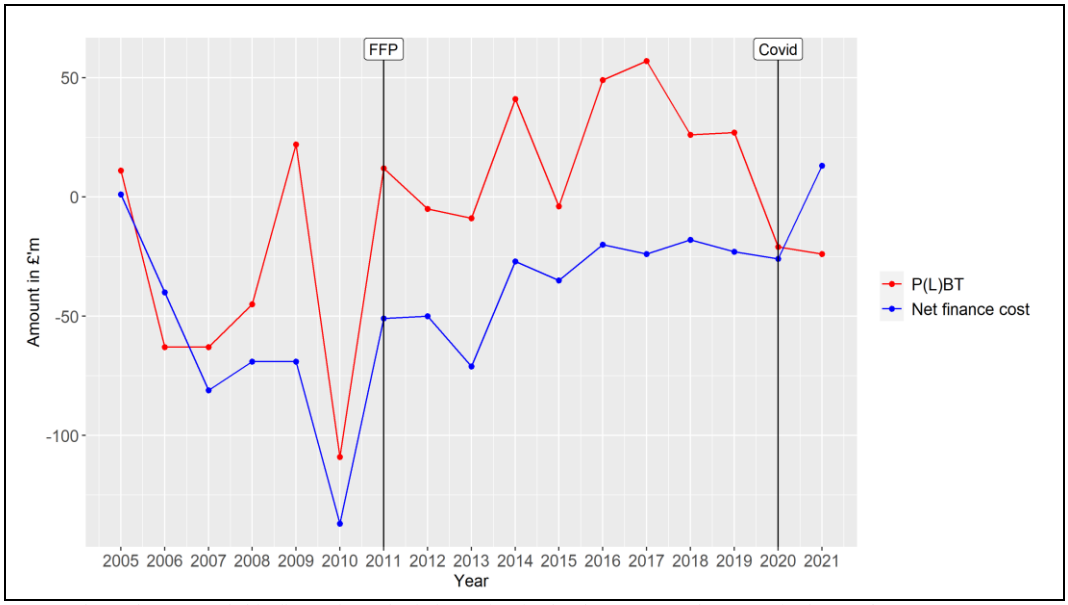
Notes: The author created this figure from the information in the dataset. Manchester United's commercial revenue grew consistently throughout the period and became the highest-ranked revenue source post-FFP.

The Glazers retained Sir Alex Ferguson, who had won 23 trophies, as the club's Manager and David Gill as Chief Executive, which helped maintain the club's on-field competitive strategy and resulted in twelve trophies in seven years. Following Sir Alex Ferguson's retirement in 2013, Manchester United won only six trophies in seven years, 0.9 trophies per season, compared with 1.7 during Sir Alex Ferguson's tenure, implying inadequate change management. An explanation for this is that Manchester United's first-ever porting sporting

director, or its equivalent – a vital role in maintaining a club's competitive strategy, especially during managerial changes (Parnell et al., 2021; Parnell et al., 2022; Parnell et al., 2018) – was only appointed in 2021, eight years after Sir Alex Ferguson's retirement.

For financial management, a recurring theme in the Glazers' sixteen-year ownership has been commercial and sponsorship agreements (explained above), restructured loans, and interest and dividend payments. The average commercial revenue growth of 12% in the Glazer era helped the club become profitable, ensured adherence to FFP and was integral in financing the club's player transfer activity and competitive strategy. In addition, reduced net finance cost post-FFP (average of £26m from £71m pre-FFP) improved Manchester United's profitability, resulting in dividend payments which began in 2016, see Figure 3.8. The club paid £851m (representing 13% of total revenue) in net finance costs and dividends to banks and its owners between 2006 and 2021.

Figure 3.8: Manchester United's Annual Profit(Loss) Before Tax and Net Finance Cost

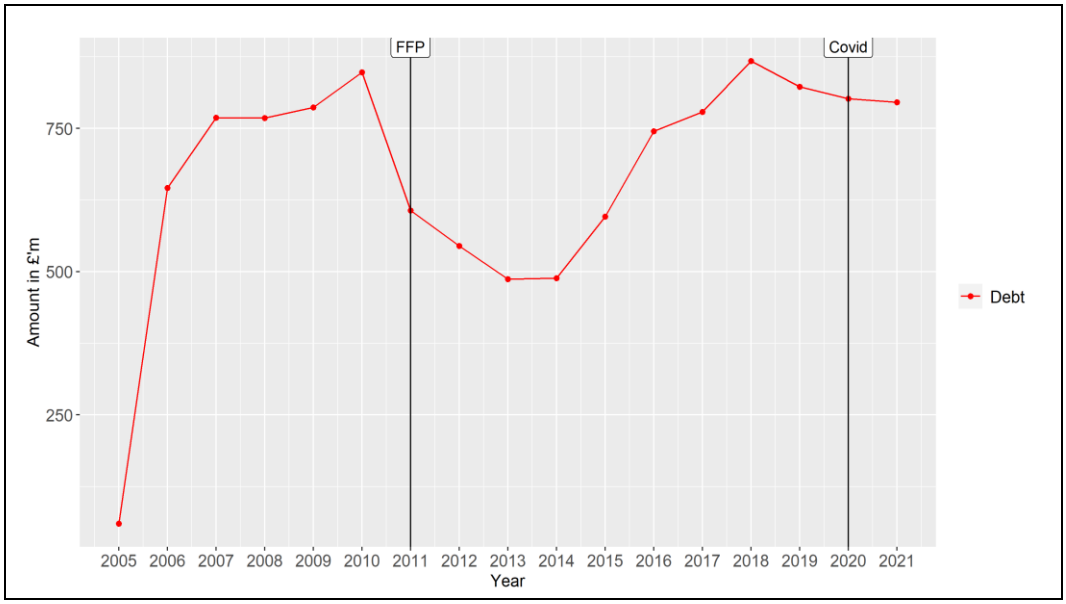


Notes: The author created this figure from the information in the dataset. Manchester United's net finance cost reduced post-FFP and was consistent at an average of £23m. The club's P(L)BT was primarily positive post-FFP.

The club's outstanding loans as of 2021 were £530m compared to £604m, the initial loan balance in the first year of the Glazers' ownership. In between, Manchester United made loan repayments with new loans and reduced its balance with proceeds from its stock market

flotation, see Figure 3.9 below. However, if Manchester United repays the outstanding £530m loans through its cash flow from operations, its competitive strategy might be adversely impacted because its spending capacity in those seasons would be lower.

Figure 3.9: Manchester United's Annual Debt Balance

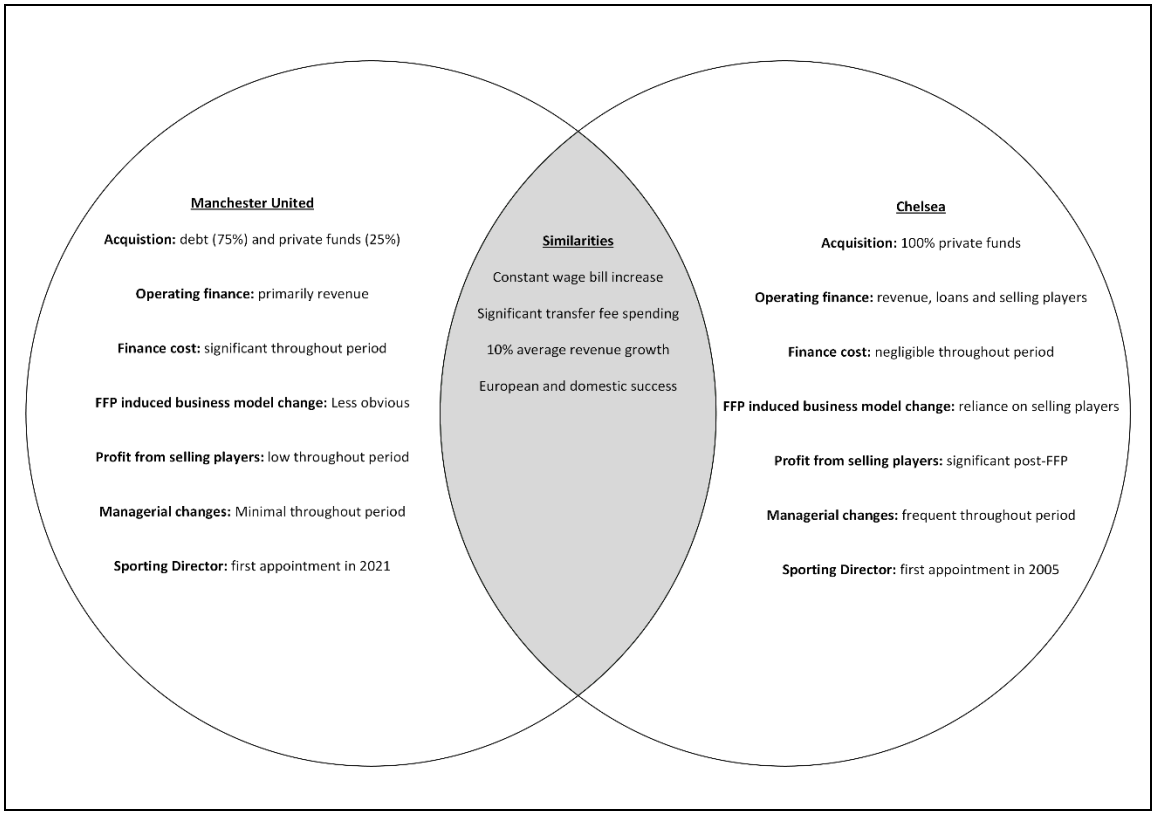


Notes: The author created this figure from the information in the dataset. Manchester United's debt significantly increased when the Glazers purchased the club in the 2005/2006 season, reduced between 2012 and 2014 due to stock market listing.

3.4.9. Cross-case analysis

We found differences and similarities in the on-field and off-field performances resulting from the financing, competitive strategy and financial management of Chelsea and Manchester United, see Figure 3.10. Regarding differences, the financing strategy, ownership structure and recruitment of non-footballing staff are the leading contributors. The financing of the acquisition of Chelsea was from Roman Abramovich's wealth, and the subsequent funding of the club's operation was primarily through interest-free loans from the club's owner that did not have a fixed repayment date. In contrast, the Glazers financed the purchase of Manchester United with interest-bearing bank loans.

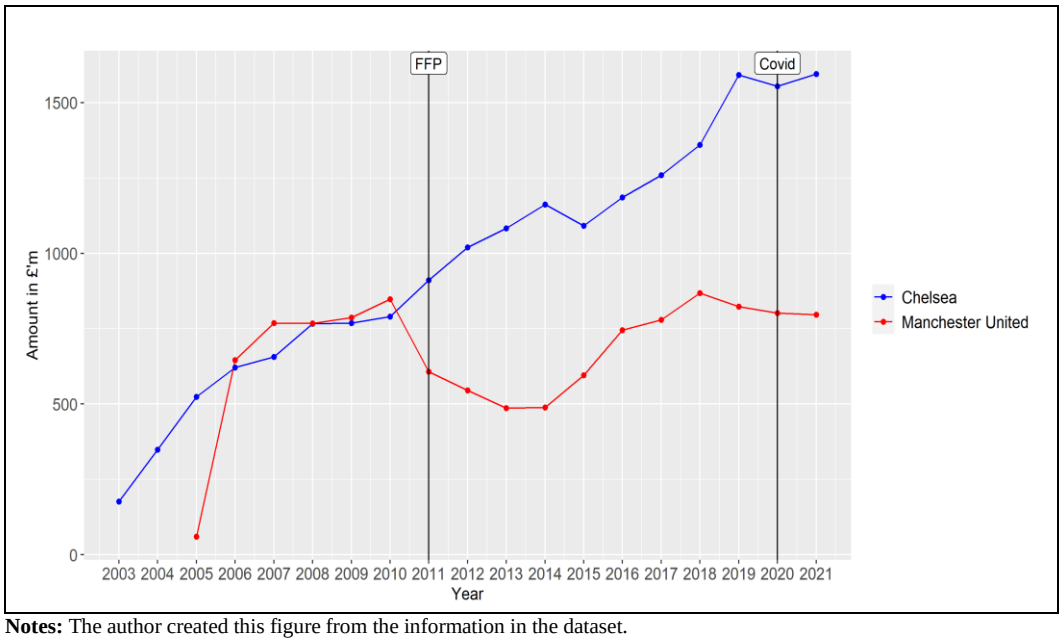
Figure 3.10: Venn Diagram of Manchester United and Chelsea's operations



Notes: The author created the venn diagram from the case study analysis

As of 2021, Chelsea's debt was £1.59bn, of which it owes £1.39bn to Roman Abramovich, compared with Manchester United's £796m made up of £530m outstanding loans, see Figure 3.11. Also, Manchester United's total net finance cost during the period is £728m compared with Chelsea's net finance income of £1m, indicating the high cost of finance of the former's model.

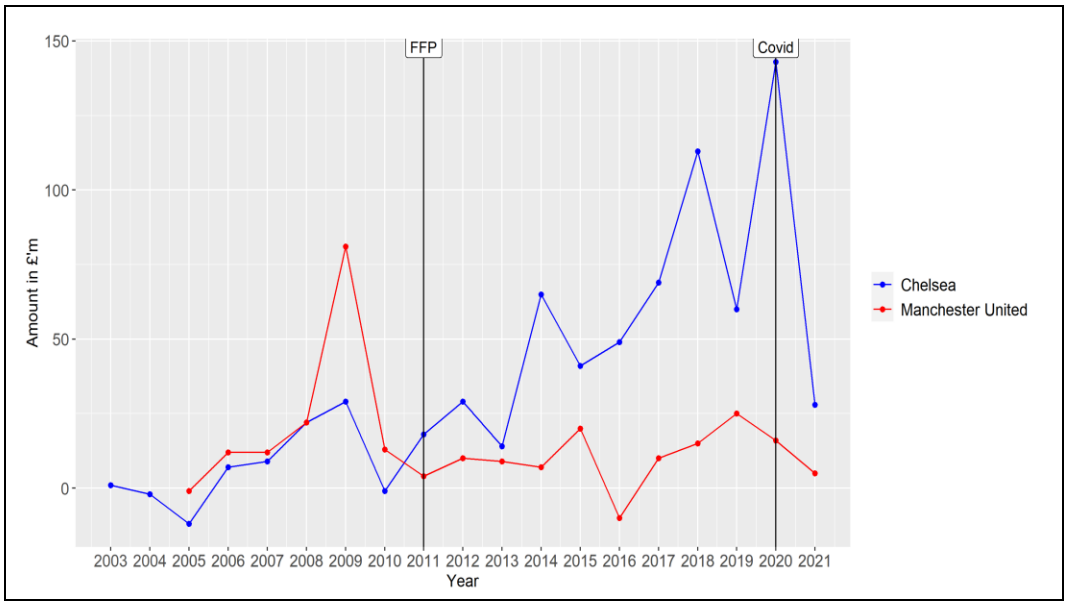
Figure 3.11: Comparison of Manchester United and Chelsea's Debt



Notes: The author created this figure from the information in the dataset.

The introduction of FFP caused Chelsea to change its financing model. In addition to the club's matchday, broadcast and commercial, cash flow from the sale of players became the club's financing model, giving FFP's restrictions on owners' financial contributions to clubs. Chelsea's total profit from selling players post-FFP was £582m compared to £100m pre-FFP (see Figure 3.12), while loans from Abramovich decreased to £406m post-FFP from £984m pre-FFP, verifying the change in the club's business model.

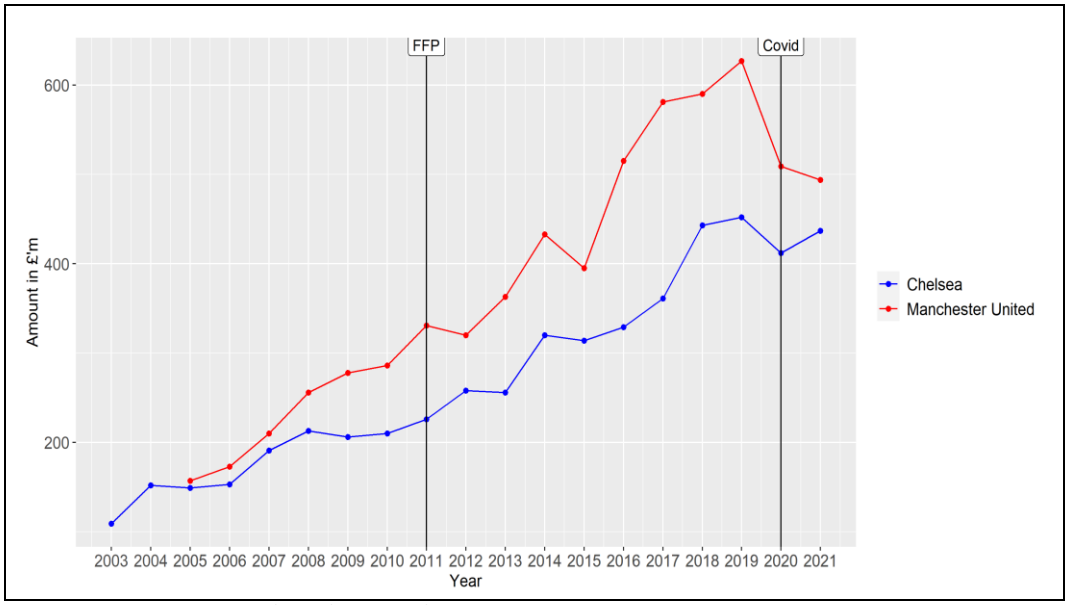
Figure 3.12: Comparison of Manchester United and Chelsea's Player Sales Profit



Notes: The author created this figure from the information in the dataset.

Manchester United did not need to change its business model due to FFP, as the club relied on its traditional sources of revenue, mainly commercial revenue, to fund its operating activities; the club's average pre-FFP total revenue was £265m and grew to £501m post-FFP, see Figure 3.13.

Figure 3.13: Comparison of Manchester United and Chelsea's Total Revenue

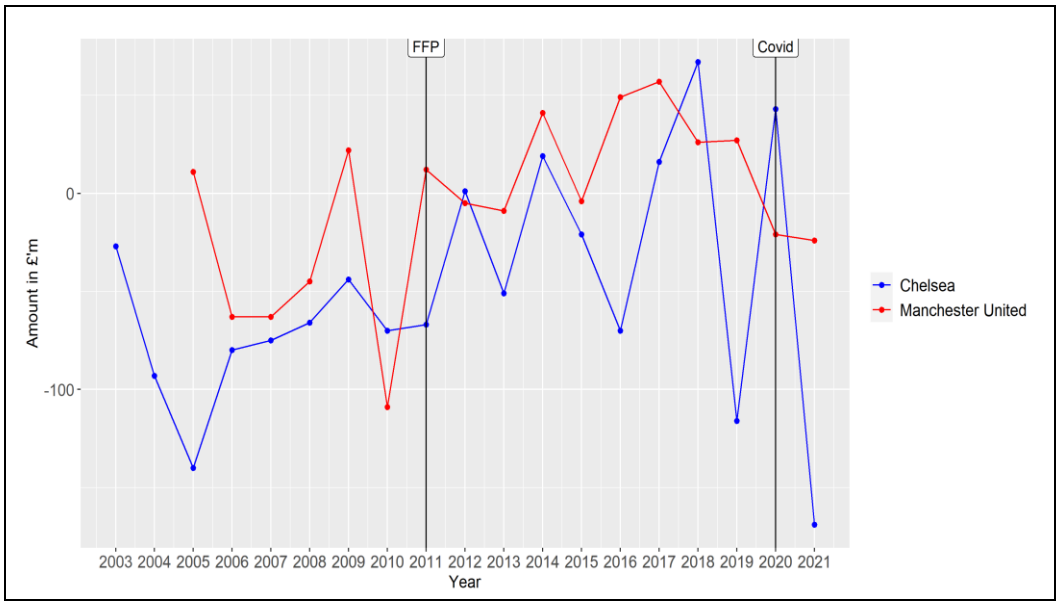


Notes: The author created this figure from the information in the dataset.

The result of the difference in business models is that Manchester United, with £108m LBT under the Glazers, was less loss-making than Chelsea, with £917m LBT under Roman

Abramovich. Also, Chelsea's post-FFP profitability was volatile compared to Manchester United's because it depended on selling players for profit rather than the more stable commercial revenue derived from sponsorship agreements signed with global brands for multiple-year periods. See Figure 3.14. Manchester United's superior profitability position to Chelsea in this study confirms the findings of Plumley et al. (2017), who stated that the club's historical success and commercial focus are unrivalled.

Figure 3.14: Comparison of Manchester United and Chelsea's Profitability



Notes: The author created this figure from the information in the dataset.

Roman Abramovich remained Chelsea's sole owner and did not change the club's ownership structure through the period, but the Glazers increased the ownership of Manchester United – though retained majority shareholding -by floating it on the New York Stock Exchange in 2012. Chelsea hired and fired managers more frequently than Manchester United; by 2021, thirteen managers had led the team compared with Manchester United's six. Consequently, Chelsea has paid £110m for terminating its managers' contracts compared with £33m paid by Manchester United. Lastly, Chelsea hired its first Sporting Director in 2004, while Manchester United hired an equivalent of the role seventeen years after, in 2021.

We found similarities in both clubs' average growth revenue, investment in players, and the number of trophies won. Chelsea's average growth in total revenue in the Abramovich era is 9% compared to Manchester United's 8% growth under the Glazers; nevertheless, £200m income growth by 10% is not as substantial as £500m by the same percentage. As of 2021, Chelsea's total net spending is £951m, an average of £53m per season, while Manchester United's total net spending is £919m, an average of £57m per season. Finally, Chelsea has won nineteen trophies in eighteen years, approximately a trophy every season, compared to Manchester United's eighteen trophies in sixteen years, approximately a trophy every season.

3.5. Conclusion

The paper set out to understand how the interdependencies between the financial, competitive strategy and financial management have influenced the on-field and off-field performances of Chelsea and Manchester United between 2003 and 2021. We adopted a mixed-method dual case study to narrate and analyse the internal and external conditions that informed the clubs' decision-making. We selected Chelsea and Manchester United because of similarities in their on-field success and the different approaches the clubs have taken off the field. Also, their respective owners, Roman Abramovich, Chelsea's owner, and the Glazers, Manchester United's owners, faced opposition from the UK government and fans, respectively, over their ownership of the clubs.

We find that the financing strategy and financial management significantly influenced the competitive strategy of both clubs. While they have an identical number of trophies won, the clubs took different approaches to achieve their on-field success. Chelsea financed most of its football operations through interest-free loans from its owner, Roman Abramovich, who purchased the club via private wealth. However, with UEFA's introduction of FFP, which limits owners' funding on their clubs, Chelsea changed its business model and relied on cash flow

from player sales to fund its operations. On the other hand, the Glazers purchased Manchester United through interest-bearing bank loans, and the funding of the club's operations was primarily through the existing revenue streams.

Roman Abramovich favoured regular managerial changes, while the Glazers took a more patient approach. From the first year of Roman Abramovich's ownership, Chelsea hired a Sporting Director to oversee their football operation, while Manchester United only hired one in 2021. This is possibly why Chelsea's on-field success was better than Manchester United's when the clubs changed their managers. A counterfactual might be that the presence of Sir Alex Ferguson, who was the club's manager for 27 years, did not necessitate a sporting director. However, managerial changes post-Sir Alex Ferguson were less successful, with Manchester United winning only six trophies in eight years compared to 12 when he was the club's manager. Furthermore, Chelsea earned more profit from selling its players than Manchester United, an activity that the literature suggests is more efficient with a Sporting Director.

Though their financing strategies differ, both clubs' revenue growth and investment in players are similar. However, Manchester United has been more profitable than Chelsea because of its financial management, which its financing strategy influenced – the conditions for the interest-bearing loan required minimum profitability. While both clubs had significant outstanding loan balances, Manchester United is relatively better off because the club's cash flow from its operating activities is higher than Chelsea's. In addition, Manchester United's business model – revenue earned through predictable and controllable revenue streams - is less risky than Chelsea's unorthodox model – built on cash flow from selling its players to other clubs. With UEFA updating its financial regulation in 2022 to further constrain spending, Chelsea's business model might see the club more likely to be sanctioned than Manchester United's.

This paper contributes to the literature by extending Grundy's (2004) framework and adapting variables from Plumley et al. (2017) study to analyse the relationship between on-field and off-field performance in the football industry. We have incorporated recent developments – financial regulation, managerial turnover, and the sporting director role – to understand further how clubs balance their on-field and off-field success. We believe that the insights from the two most successful EPL clubs in the past twenty years will be helpful for other football clubs and decision-makers in the football industry and other industries. New club owners or existing owners can adapt the strategies employed by either club in our study to achieve success on and off the pitch. For example, a club can operate a hybrid strategy which finances its operation through commercial revenue and profit from player sales. Another strategy is to appoint a sporting director to maintain stability during managerial changes.

Nevertheless, we recognise the limitation of this study, such as the limited number of clubs in the case study. Future research can include additional clubs to gain a broader perspective. Also, it would be insightful to classify clubs according to on-field and off-field strategy styles and quantitatively study which styles are the most effective.

The next chapter presents this thesis's final paper, which investigates the financial impact of covid-19 on the performance of top English clubs. The chapter introduces the broad impact of covid-19 on social and economic activities and the football industry, and a summary of the existing literature, the paper's objective, the methodology adopted, the findings and conclusions. The second section of the paper is a literature review that covers football and the 2008 GFC, the financial crisis in football, the sources and determinants of football clubs' revenue and the potential impact of covid-19. The third section explains the data and research methodology adopted for the paper. In section four, we present the descriptive statistics and regression analysis for covid-19's impact on top English clubs' profitability, indebtedness and financial stability. Finally, section five concludes the paper with a discussion of the paper's findings, contributions, limitations and future research areas.

4. The Financial Impact of Covid-19: Evidence from Top English Football Clubs

4.1. Introduction

The World Health Organisation declared coronavirus (hereafter, covid-19) a pandemic on 11 March 2020, following the speed of spread of the viral disease and the resultant death toll. The effects of covid-19 have been wider felt than the 2008 GFC because of its impact on health care, social life, global trade, travel, and the financial system (Li et al., 2021). Twenty-eight months on, industries, countries and capital markets are grappling with the economic impact of the viral disease, not to mention the loss of over 6.3m lives worldwide (WHO, 2022). At the height of uncertainty during the first two months of covid-19, virtually all economic activities – except essential services – were halted worldwide to minimise human contact and limit the spread of the virus. Football competition organisers suspended or cancelled their competitions for the first time in March 2020, a measure that neither World Wars necessitated (Tovar, 2021). However, football competitions resumed in May 2020, albeit behind closed doors and with strict social distancing guidelines for two main reasons. First, the social impact of football – watching football is a tradition and part of families' social life (Drewes et al., 2021). Second, the economic impact of not resuming football – the loss of revenue because of covid-19 – threatened the going-concern of football clubs (Bond et al., 2022; Parnell et al., 2021).

European football survived the GFC that crippled many industries because of its diversified revenue streams, global popularity and the influx of investment from wealthy owners (King, 2010; Szymanski, 2010), leading UEFA to describe the industry as “recession-proof” (UEFA, 2010). However, while European football successfully survived the credit crunch from the GFC, it was going through a crisis caused by its football clubs overinvesting in player-related

expenditure and building up unsustainable debt (Peeters & Szymanski, 2014; Storm & Nielsen, 2012). To that end, UEFA introduced FFP in 2011 to encourage football clubs competing in its competitions to live within their financial means (UEFA, 2011). Consequently, the financial landscape in European football improved because FFP induced football clubs to manage their revenue-to-player expenditure ratio better (Caglio et al., 2019; Franck, 2018).

However, covid-19 presents more significant problems for football than the GFC or overspending. First, the lockdowns and resumption of matches behind closed doors without the attendance of fans wiped out matchday revenue, one of the three primary sources of football clubs' revenue (Maguire, 2021). Also, the other two sources of revenue, commercial and broadcast, are indirectly linked to stadium foot traffic (Bond et al., 2022; Buraimo, 2008; Henderson, 2010), further compounding the negative impact of covid-19 on football clubs' revenue. Second, player wages, representing the bulk of football clubs' expenditures, are contractual agreements with players covering more than one financial year. Thus, football clubs' revenue shortfall and financial obligations during the two years of the covid-19 pandemic is probably the most complex financial crisis in the sport's history.

The literature on covid-19 and football has focused on the impact of the absence of crowds on home advantage and refereeing decisions (Almeida & Leite, 2021; Bryson, Dolton, et al., 2021; Fischer & Haucap, 2021; Herold et al., 2021; McCarrick et al., 2021; Ramchandani & Millar, 2021; Reade et al., 2022; Wunderlich et al., 2021), stadium attendances and spread of the virus (Olczak et al., 2021; Reade et al., 2021; Reade & Singleton, 2021), prospective financial implications (Bond et al., 2022; Kennedy & Kennedy, 2021; Maguire, 2021) and stock market returns on listed clubs (Bedir et al., 2022; Fühner et al., 2021). Thus, this paper examines, in detail, three aspects – profitability, indebtedness and financial stability – of the financial impact of covid-19 on football clubs. We focus on the impact of covid-19 on the financial performance and position of top English football clubs because their revenue, wages, and debt are the highest

in Europe, and their leagues are the wealthiest and most followed globally (KPMG Football Benchmark, 2019; Plumley et al., 2020).

European football recovered from reporting substantial financial losses in 2011 because of increased revenue and better management of costs (Ahtiainen & Jarva, 2020; Caglio et al., 2019; Dimitropoulos & Scafarto, 2021; Francois et al., 2022) and efficient football player sales (Dimitropoulos & Scafarto, 2021; Özaydın, 2020) induced by the introduction of FFP. Therefore, with revenue – which drives investment in football – taking a hit due to covid-19, we examine its impact on profitability. Also, the possibility of insolvency in football grew with clubs overspending and increasing their debt, but similar to profitability, its likelihood reduced post-FFP, though less sharply (Caglio et al., 2019; Plumley et al., 2020). Therefore, this study empirically evaluates the impact of covid-19 on the profitability, indebtedness and financial stability of top English football clubs.

This study contributes to the literature by providing empirical evidence on the financial impact of covid-19 on the financial performance of football clubs, specifically top English football clubs. We exploit our hand-collected dataset (discussed in section 4.3.1) of top English clubs between 2005 and 2021 by running linear regressions and calculating Z-scores to determine if covid-19 worsened the profitability, indebtedness and financial stability of the top English clubs, respectively. The variations of the Z-score (Z-score, Z1 score and Z2 score) developed by Altman (1968, 2013) are widely recognised and accepted measures for predicting financial distress or classifying financial stability in various industries such as manufacturing (Ko et al., 2017; Sareen & Sharma, 2022) hospitality (Goh et al., 2022) and financial services (MacCarthy, 2017). To the best of our knowledge, only Barajas and Rodriguez (2014) and Plumley et al. (2020) have analysed the likelihood of financial distress in the football industry using Z-scores.

We compared the covid-19 years to the other years in our data set and find statistically significant evidence that profitability worsened during the pandemic because of the loss of matchday revenue. Also, we find that EPL clubs – especially those most reliant on matchday revenue – were impacted most because their expenses grew during covid-19. We find evidence that selling players is a positive and significant determinant of profitability but doing so during covid-19 resulted in reduced profitability. Furthermore, while foreign-owned clubs made more losses than non-foreign-owned clubs over the period covered, they were more profitable during covid-19. We find evidence supporting the literature (Ahtiainen & Jarva, 2020; Caglio et al., 2019; Francois et al., 2022; Özaydın, 2020) that clubs exposed to FFP are more profitable than those not exposed to the regulation. Also, we find evidence supporting the literature (Dimitropoulos & Scafarto, 2021; Leach & Szymanski, 2015; Ruta et al., 2019) that promotion and relegation are significant determinants of football clubs' profitability.

For indebtedness and financial stability, while both worsened during covid-19, as Plumley et al. (2020) predicted, the deterioration was not statistically significant. An explanation for this finding is that the clubs reduced their investment in player acquisition to cope with the loss of revenue. Surprisingly, we find that relegation improves clubs' financial stability, and we attribute this to parachute payments and relegated clubs selling their players in anticipation of reduced revenue. Also, we find that EFL clubs' indebtedness and financial stability were the most impacted by the covid-19.

Together, the findings of this paper show that covid-19 worsened the financial performance of top English football clubs by increasing the losses they reported due to revenue shortfalls, thereby increasing the likelihood of financial distress because their indebtedness and financial stability worsened. On the latter point, it is essential to note that none of the clubs in this paper has faced liquidation proceedings or gone into administration at the time of writing, further buttressing our non-significant finding on financial distress. The findings of this paper are

essential as it contributes to the literature as – to the best of our knowledge – the first to provide empirical evidence of the financial impact of covid-19 on the financial performance of top English football clubs. Furthermore, the findings are potentially crucial for policy-makers on the benefit of financial regulation in football and the industry's resilience.

The rest of the paper is organised as follows. Section 4.2 provides a literature review of the GFC, the financial crisis in football, and the potential impact of covid-19 on football clubs' finances; also, we develop our hypotheses in section 4.2. Section 4.3 summarises the data used in this paper and the methodology used to test the hypothesis. Section 4.4 contains the descriptive statistics and linear regression results. Finally, section 4.5 discusses the findings and concludes the paper.

4.2. Literature Review

4.2.1. Football and the global financial crisis

Financial crises impact different industries and countries primarily because of the interconnectedness of economies and globalisation (Bekaert et al., 2014). For example, global trade volumes (aggregated across industries) decreased by 12% in 2009 because of the 2008 GFC caused by mortgage-backed securities – the bankruptcy of Lehman Brothers and the government bailout of AIG in the United States was a watershed moment (Chor & Manova, 2012). Nevertheless, European football's revenue grew by 4.8% in the same period – while the aggregate growth of all Euro-zone sectors was 0.3% – indicating, in the words of UEFA, a "recession-proof" industry (UEFA, 2010). The revenue growth does not mean that the GFC did not affect European football but that the sector's diversified revenue stream and global popularity were its buffers. Specifically, though match attendance fell by 3% and resulted in a 3.8% fall in matchday revenue, broadcast and commercial revenue grew by 1.5% and 3.5%, respectively (UEFA, 2010).

Commercial revenue, otherwise known as sponsorship and advertising, was the fastest-growing source of revenue for European football clubs, with a host of clubs signing agreements with global brands in the communication, media, insurance, financial services, and other consumer-focused sectors; thus, connecting football with a wide range of industries. Therefore, if a sponsorship counterparty failed and could not fulfil its contractual obligations, the club would be exposed to a cash flow and revenue shortfall. Manchester United had one of such agreements with AIG – worth £56.6m annually – but with its bailout by the US government, the financial security company could not continue with the agreement. However, Manchester United replaced AIG with AON as its shirt sponsor in a deal worth £80m annually in June 2009, a few months after AIG's collapse, signifying European football clubs' global appeal (King, 2010).

In addition and importantly, the conversion of publicly listed European football clubs' to private companies via takeovers just before the GFC protected the clubs from the stock market's volatility. In search of capital to improve their technological and stadium infrastructure, clubs turned to the stock market in the 1990s, with 19 English clubs listing their shares on various exchanges (Buraimo et al., 2006; Leach & Szymanski, 2015). However, the listings failed to live up to expectations because the clubs were unprofitable, with investors receiving little to no dividend payments, resulting in the share prices of the clubs falling sharply (Jones & Cook, 2015). What followed was the purchase of the listed clubs by wealthy owners just before the GFC hit the world in 2008. For example, Chelsea, Manchester United, and Liverpool were purchased and delisted from the stock market in 2003, 2005 and 2007, respectively. Also, wealthy investors purchased non-listed clubs – for example, Manchester City in 2007 – and injected capital that protected the clubs from the credit crunch (Hamil & Walters, 2010). These takeovers were predominantly trophy-assets rather than cash cows for the new owners and, combined with its increasing popularity, made European football recession-proof.

4.2.2. The financial crisis within European football

Revenue consistently grew in European football before the GFC, with studies (Buraimo et al., 2006; Garcia-del-Barrio & Szymanski, 2009; Lago et al., 2006) concluding that any crisis in the industry is unlikely to be linked to revenue. Confirming this position, UEFA stated in its 2009 report – the same report where it described revenue growth as recession-proof – that the year's result was one of "the most turbulent financial seasons ever", in which clubs' costs spiralled to an unprecedented level and resulted in aggregate losses doubling from the previous year (UEFA, 2010). The total costs for the clubs were €11.7bn, a 9.3% increase from 2008, bringing the aggregate losses to €1.18bn, a 97% increase from 2008. Most of the costs were on player-related expenses, with 58% and 3.5% going towards players' wages and annual transfer fees, respectively. In total, European football clubs spent €6 for every €5 they earned in 2009 (UEFA, 2010). English clubs were the most significant contributor to European football's revenue and costs, and most of its clubs made financial losses (Peeters & Szymanski, 2014).

To finance the revenue shortfall, the clubs raised long-term loans from their owners or financial institutions, which increased debt to €19bn in 2009 from €18.2bn in 2008 and resulted in the auditors of 14% of clubs in European football expressing doubts over their ability to continue as a going-concern (UEFA, 2010) – an indicator of potential financial distress (Müller et al., 2012). Again, English clubs' debt was the most significant contributor to debt in European football (Peeters & Szymanski, 2014), and the case of one of its clubs, Leeds United, which went bankrupt because it could not repay its debt became a reference point for a crisis in European football (Caglio et al., 2019; Szymanski, 2010).

These contradictory results – record losses and increased debt amidst high revenue growth – caused by overinvestment in players are due to a desire for on-field success, the relegation and promotion system, and club owners' objectives. First, a strong correlation between player expenditure and on-field success (Franck & Nüesch, 2011; Hall et al., 2002; Szymanski, 2003)

incentives clubs to outspend competitors to improve their chances of winning. Second, European football has a hierarchical structure (Andreff, 2011) where a club's position in the tiered system determines its viewership, revenue, and prestige, creating an intensely competitive environment (Ross & Szymanski, 2000; Szymanski & Valletti, 2010). Thus, clubs overspent on their playing squads to improve the probability of avoiding relegation, achieving promotion, or maintaining their position (Müller et al., 2012; Peeters & Szymanski, 2014). Finally, decision-makers' objective at clubs generally leans more towards win-maximisation than profit maximisation because the owners – usually already successful in other businesses – value psychic income above pecuniary income (Leach & Szymanski, 2015; Sloane, 1971; Wilson et al., 2013).

In response to the financial difficulties, UEFA introduced FFP in 2011 to address the overspending problem in European football by encouraging clubs participating in its competition to live within their means by restricting them to a maximum of €5m loss over three years. Recent studies (Ahtiainen & Jarva, 2020; Caglio et al., 2019; Francois et al., 2022; Özaydın, 2020) have found that FFP significantly reduced the losses reported in European football because of clubs' better management of the player expenditure to revenue ratio.

However, regarding financial stability, Caglio et al. (2019) did not find a significant impact of FFP on the indebtedness of clubs, even though debt levels had reduced. Similarly, Plumley et al. (2020) used the Altman (1968, 2013) Z scores (Z1 and Z2) in predicting the likelihood of financial distress (insolvency) in the EPL. Altman (2013) used financial ratios – working capital, total assets, earnings before interest and tax, equity, and total liability – to calculate the Z score and ranked companies into four categories. First, free from the risk of bankruptcy if the score is above 3; Second, recommended for monitoring with Z score between 2.7 and 3; Third, requiring a detailed analysis of financial problems when the Z score is between 2.7 and 1.8 and; Fourth, at high risk of bankruptcy if Z score is below 1.8. Plumley et al. (2020) found

that the possibility of financial distress had declined in the EPL – evidenced by a higher Z score – post-FFP; however, the improvement was not statistically significant. Caglio et al. (2019) and Plumley et al. (2020) findings suggest that FFP has not significantly improved financial stability. Nevertheless, the financial losses of football clubs – the primary focus for UEFA introducing regulation – seems to have been brought under control by FFP as aggregate losses in 2019 were €125m, a 92% fall from €1.18bn in 2009 (UEFA, 2021).

4.2.3. Football revenue sources and their determinants

European football thrived during the GFC because of its revenue growth and the global demand for its product. Football clubs mainly earn money from matchday, broadcast and commercial revenue, and to a lesser magnitude, the sale of players to other clubs (Grundy, 2004; Henderson, 2010). Clubs generate matchday revenue through ticket sales, catering services and the sale of magazines at football matches taking place at their stadiums, with additional revenue earned from renting out the stadium for non-football events. Matchday revenue is a function of match attendance, and in the EPL, most matches are at full capacity (Bond et al., 2022; Buraimo et al., 2006), with stadium capacity representing a constraint (Buraimo & Simmons, 2008). Broadcast revenue is somewhat an extension of matchday revenue in that the matches played at the stadium is broadcast to a larger audience via television without the limitation of stadium capacity. Across Europe, competition organisers sell broadcast rights to satellite television operators for fixed cycles – usually between three to five years – and distribute the revenue to participating clubs based on their performances (Henderson, 2010). Globalisation and technological advancement has spread the broadcast reach of football competitions and consequently grown broadcast revenue – the EPL's broadcast revenue grew from £232m in 1992 to £9.2bn in 2019 (Sports Business Institute, 2019).

Uncertainty of outcome – fans deriving more utility from closely contested football matches – is predominant in the literature (Buraimo & Simmons, 2008, 2015; Forrest & Simmons, 2002a; Forrest et al., 2005) as a significant determinant of stadium and television audiences. For stadium attendance, studies (Buraimo, 2008; Buraimo & Simmons, 2008; Cox, 2018) have found the opposite effect in England, with home fans at stadiums seemingly favouring easy wins or the odd case of "David beating Goliath" (Buraimo & Simmons, 2008). The evidence for the uncertainty of outcome is not unanimous for television audiences, with some studies (Buraimo et al., 2010; Forrest et al., 2005) finding evidence for its significance while others (Buraimo et al., 2022; Buraimo & Simmons, 2015; Cox, 2018) do not but emphasise player quality as a more vital determinant. Also, evidence (Buraimo, 2008) suggests that stadium attendance positively impacts television audiences, while televising matches negatively impacts stadium attendance (Buraimo, 2008; Buraimo et al., 2010; Forrest & Simmons, 2006). Nevertheless, broadcast and matchday revenue across Europe and in the EPL has consistently grown.

Finally, football clubs generate commercial revenue through merchandising, sponsorship, and advertising agreements with companies in different industries who pay to advertise their products to the clubs' fanbase (Henderson, 2010). Preseason tours on different continents (Hill & Vincent, 2006) and, more recently, social media following are avenues for football clubs to showcase the strength of their fanbase and the reach of their brand to prospective sponsors. Commercial revenue has grown significantly in European football as its clubs' popularity increased; in 2019, commercial revenue was €8.6bn, a 72% growth from 2009 (UEFA, 2021).

4.2.4. Covid-19 and its potential impact on clubs' finances

Following the WHO declaring covid-19 as a pandemic on 11 March 2020, football governing bodies and competition organisers around the world postponed or cancelled football activities to prevent the spread of the virus (Tovar, 2021). The EPL and UEFA postponed their football competitions for the 2019/2020 season on 13 and 18 March 2020, respectively, roughly two and half months before the expected end date of the football calendar. However, the EPL and UEFA competitions restarted behind closed doors (without fans) amidst strict social-distancing protocols on 17 June 2020 and 10 August 2020, respectively. Effectively, covid-19 shifted the football calendar by three months, impacting the financial reporting for European clubs because their financial year-end is usually 30 June and, in rare cases, 31 July. Therefore, clubs reported revenue and costs for the matches played between 30 June and 10 August 2020 (between seven to ten games depending on the club) and other financial transactions (such as player transfers) – which they would have typically reported in 2020 – in their 2021 financial statements. Furthermore, fans were not allowed back into stadiums in the EPL for the 2020/2021 season until the penultimate game – a maximum of 10,000 fans – translating to between 36 to 58 matches without fans.

Bond et al. (2022) and Maguire (2021) highlight in their assessment of the impact of covid-19 that matchday revenue will be the most affected revenue stream because of the lockdown preventing fans from attending matches. In 2019, European football generated €3.3bn in matchday revenue, representing 14% of total revenue (UEFA, 2021), while the EPL generated £680m in matchday revenue, representing 13% of total revenue (Bond et al., 2022). With fewer matches played without fans in the 2019/2020 season compared with the 2020/2021 season, the severity of the loss of matchday revenue will be in the 2021 financial statements (Maguire, 2021). For broadcast revenue, UEFA and the EPL agreed to broadcast deals for 2018-2021 worth €9.7bn (UEFA, 2019) and 2019-2022 worth £9.2bn (Ajuonuma, 2019), respectively,

which include two years (2020 and 2021) of the covid-19 disruption. However, with stadium audiences positively linked with the size of television audiences (Buraimo, 2008), and matches not played at agreed dates, broadcast revenue rebates were agreed to be repaid to satellite television operators by UEFA and the EPL to ease cash flow shortfalls due to subscriptions freezes they offered to their customers (Maguire, 2021). For commercial revenue, Maguire (2021) believes the impact of covid-19 will vary across clubs depending on their agreements with the advertising and sponsorship partners. However, covid-19 negatively impacted every club because the clubs could not travel overseas for preseason tours, merchandise stores at the stadiums were closed, and advertisers did not benefit from a packed stadium (Bond et al., 2022).

An offshoot of covid-19's impact on clubs' revenue is the ripple effect on player expenditure, given the close relationship between the two variables – wages and transfer fees increase with revenue growth (Buraimo et al., 2006; Plumley et al., 2020). The improved management of the wage-to-revenue ratio was vital in European football in reversing the rising losses in the industry post-FFP (Caglio et al., 2019). Generally, clubs and football players agree to contracts that span from one to six years. Despite the shortfall in revenue, only Arsenal in the EPL and some others in the EFL (English football league) persuaded players to wage cuts and deferrals, while others utilised the furlough scheme for non-playing staff (Maguire, 2021). Similarly, player transfers which correlate with revenue (UEFA, 2021) and selling players for profit, became a significant business model change for some clubs to comply with FFP (Dimitropoulos & Scafarto, 2021; Özaydın, 2020). Thus, the reduced transfer activity would likely impact profitability.

In response to the cash flow shortfall caused by covid-19, the UK government introduced the Furlough Scheme to pay qualifying company employees and the Covid Corporate Financing Facility (CCFF), a one-year loan. The total amount utilised – primarily for the salaries of non-

playing staff – by EPL and EFL clubs from the Furlough Scheme was £13m (Scott, 2021). Liverpool, Bournemouth and Tottenham reversed their decision to use the scheme because of pressure from their fans, who insisted that the clubs pay the employees themselves (Maguire, 2021). Arsenal and Tottenham, receiving £120m and £175m, respectively, were the only two clubs that utilised the CCFF. Nevertheless, in their study, Plumley et al. (2020) assert that the size of the cash flow shortfall – despite the Furlough Scheme and the CCFF – will increase the likelihood of financial distress in English football. In addition, the evidence in Chapter 2 – insignificant improvement in indebtedness and clubs' exposure to loss of income – supports Plumley et al. (2020) assertion.

Thus, this paper focuses on the impact of covid-19 on the financial performance of top English clubs. First, we examine covid-19's impact on clubs' profitability because of the loss of revenue and the wages obligation to players highlighted by Maguire (2021) and Bond et al. (2022). Second, we examine covid-19's impact on the financial stability and indebtedness of the clubs because of the reduced cash flow from the loss of revenue, as highlighted by Plumley et al. (2020) and evidence from Chapter 2.

The following are the three hypotheses tested in this paper:

H1: The profitability measured by Profit (loss) before tax (PBT) of top English clubs has not worsened because of covid-19

H2: Financial stability measured by the Z-score of top English clubs has not worsened because of covid-19

H3: Indebtedness measured by the CFTD of top English clubs has not worsened because of covid-19

4.3. Data and Methodology

4.3.1. Data

This paper collected data from the top 36 English football clubs competing in the EPL and EFL over 17 years between 2005 and 2021. We restricted the dataset to clubs that participated in the EPL, the top-flight league in England, at least once in the data period (2005 - 2021). All the clubs in our dataset were in the EPL or EFL as of 2021. Also, we excluded clubs that have not published financial statements during the covid-19 years from the whole dataset. All the financial data we used in this study was hand collected from the clubs' published financial statements, including the notes to the accounts. Our panel data sums up to 574 observations. The missing observations in our dataset are because of the following reasons. Firstly, clubs that, at some point, published abridged financial statements which do not contain the relevant information such as revenue, wages, and profit (loss) before tax required for this study (for example, Bournemouth from 2005 to 2012 and Crystal Palace from 2005 to 2010); and second, clubs that were going through bankruptcy and did not publish financial information (for example, Leeds United for 2005 to 2007). We proxied profitability using the profit(loss) before tax (PBT) figure from the financial statements, indebtedness using CFTD and financial stability with the Z2 score discussed below.

4.3.2. Methodology

In this paper, we analyse the impact of covid-19 on the financial performance of top clubs in English football, and we focus on three indicators, profitability. Indebtedness and financial stability, from which we derived our hypotheses, *H1*, *H2 and H3*. We test the hypotheses with the following model below:

$$Y_{it} = \beta_1 Covid_t + Controls + FE + \varepsilon_{it} \quad (1)$$

In all instances Y_{it} is the outcome variable, PBT, CFTD or Zscore. The variable $Covid_t$ is a dummy variable that takes the value of 1 for the covid-19 impacted years (2020 and 2021) and 0 for every other year. The $Covid_t$ variable captures the difference between the PBT for the covid-19 impacted years and the other years in our dataset. $Controls$ represents the impact of control variables on PBT, and FE is the club (firm) fixed effect.

We included position, promotion, relegation, UCL and UEL, debt to assets, foreign ownership, matchday revenue percentage and debt to assets as control variables. Position is the final league ranking for a club in the domestic league. We expect the position coefficient to be positive because competition organisers distribute higher revenue to higher-ranking clubs and sporting success is likely to lead to increased profitability (Ahtiainen & Jarva, 2020). Promotion and relegation are dummy variables taking the value of 1 when a club achieves promotion or gets relegated and 0 otherwise. Based on the literature (Jones & Cook, 2015; Leach & Szymanski, 2015; Peeters & Szymanski, 2014; Ruta et al., 2019; Szymanski & Smith, 1997; Szymanski & Valletti, 2010), we expect a positive coefficient for promotion and a negative coefficient for relegation because of the increase and decrease in revenue for a promoted and relegated club respectively. UCL and UEL are dummy variables taking the value of 1 for any club participating in either of UEFA's competitions and 0 otherwise. We expect the UCL and UEL coefficients to be positive, especially in the post-FFP period, because of the evidence in the literature (Caglio et al., 2019; Dimitropoulos & Scafarto, 2021; Francois et al., 2022; Özaydın, 2020) suggests improved profitability of clubs participating in UEFA competitions. Foreign ownership is a dummy variable taking 1 for clubs whose owners are non-British and 0 otherwise. We expect a negative coefficient for foreign ownership because of evidence in the literature that foreign-owned clubs are more likely to be loss-making because their owners are win-maximisers and tend to spend more on player-related expenditure (Rohde & Breuer, 2016;

Wilson et al., 2013). Finally, debt to assets and matchday revenue percentage – the ratio of matchday revenue to total income – are club size and matchday revenue dependence variables.

We do not include a variable for CCFF because only two clubs accessed it and repaid the loans within three months. Also, we exclude the furlough scheme from our analysis because £13m – which is immaterial – was the total amount accessed by the clubs. Also, the information on the clubs and the amount they received can only be obtained via a freedom of information request.

To test the impact of covid-19 on financial stability, the second hypothesis (*H2*), we calculate the mean Z-scores for the clubs in our dataset pre and post-covid-19. The first Z-score model, denoted as Z, developed by Altman (1968), is unsuitable for our analysis because it applies to only publicly listed companies – most football clubs in England are privately held. The second (Z1) and third models (Z2) of the Z-scores apply to privately held companies, with the latter tailored towards companies in non-manufacturing industries (Altman, 2013). Thus, we calculate and analyse the Z2 score for the clubs in our dataset for this study.

The calculation of the Z2 scores is as follows:

$$Z2 = 6.56(X_1) + 3.26(X_2) + 6.72(X_3) + 1.05(X_4)$$

Where:

$X_1 =$ Working Capital/Total Assets

$X_2 =$ Retained Earnings/Total Assets

$X_3 =$ Earnings Before Interest and Taxes (EBIT)/Total Assets

$X_4 =$ Equity/Total Liabilities.

4.4. Empirical Results

4.4.1. Covid and profitability

4.4.1.1. Descriptive statistics analysis

Table 4.1: Top English Football Clubs Profitability Descriptive Statistics 2005 - 2021

	Full sample					Pre-covid-19 (Two years)				Covid-19 (Two years)				
Variables	Mean	St.Dev.	Max	Min	Obs	Mean	St.Dev.	Max	Min	Mean	St.Dev.	Max	Min	Diff
Commercial	27.89	49.28	279.04	0.42	530	39.41	66.74	276.10	0.78	44.51	73.88	279.04	0.85	5.10
Matchday	19.89	26.39	154.29	0	530	23.37	31.68	154.29	2.77	10.33	20.16	94.53	-	-3.04**
Broadcast	55.76	56.15	297.45	0.02	530	90.48	74.44	260.79	1.42	88.36	74.87	297.45	2.84	-2.12
Player Sales Profit(Loss)	11.48	17.95	142.65	-12.69	574	22.19	28.13	123.85	-0.14	18.75	23.49	142.65	-1.44	-3.44
Total Income	111.36	126.53	655.13	4.50	574	179.23	176.70	655.13	9.40	165.65	163.04	641.16	7.94	-13.58
Wages	65.73	66.32	354.69	3.55	574	99.50	82.99	332.36	5.81	108.79	95.10	354.69	7.86	9.29
Transfer fees amortisation	22.62	29.02	170.01	0.02	574	39.82	38.37	170.01	0.30	45.73	43.03	164.43	0.48	5.91
Total Expenses	118.13	124.21	636.88	7.09	574	181.05	158.59	636.88	10.30	194.27	173.23	630.02	11.90	13.22
PBT	-9.12	34.21	138.91	-319.17	574	-3.36	41.19	138.91	-115.64	-31.83	41.86	42.50	-168.92	-8.46**

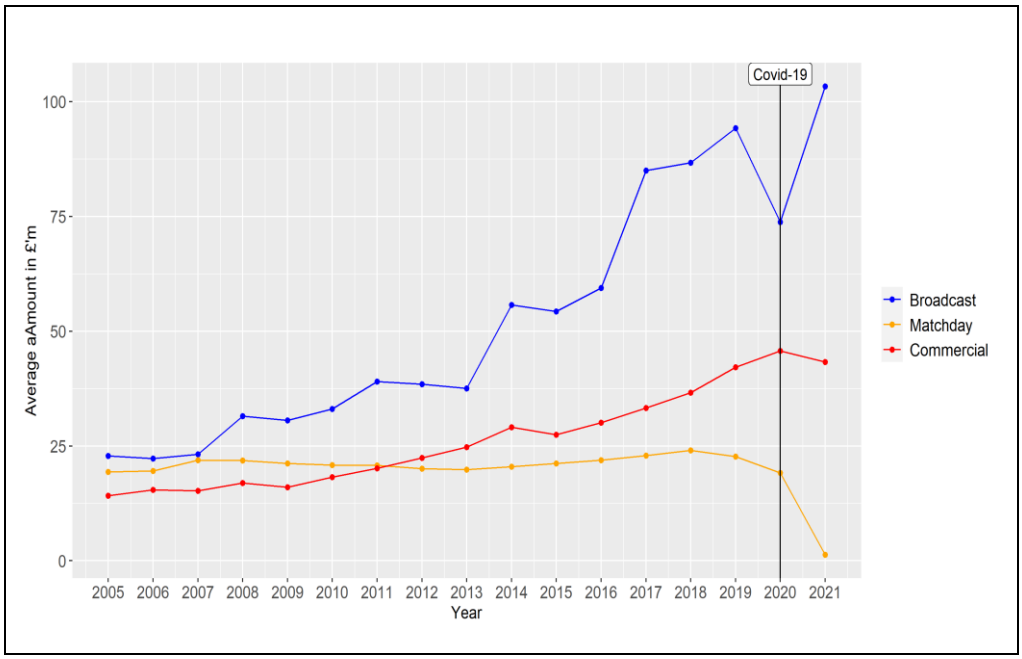
Notes: All variables are in millions of pounds (£) ** 5% significance level

Table 4.1 presents our dataset's profitability descriptive statistics for the top English football clubs for the entire period, 2005 to 2021, the two-year pre-covid-19 period, 2018 and 2019, and the two-year covid-19 period, 2020 and 2021. Commercial revenue is the only source of revenue that increased post-covid-19 with an average of £44.51m compared to £39.41m the two years before covid-19. As expected, matchday revenue reduced significantly during the covid-19 years, with an average of £10.33m, down from £23.23m pre-covid-19, with some clubs even reporting £0m matchday revenue. There was no significant change in average broadcast revenue pre-covid-19 and during covid-19, but it is worth noting that the highest broadcast revenue of £297.45m during covid-19 was more than the £260.79m pre-covid-19 because of Manchester City's success in the EPL and the UCL. Matchday revenue is the only statistically significant change in the revenue sources.

The average profit from player transfers fell by £3.44m to £18.75m during covid-19 from £22.19m pre-covid-19. However, the maximum figure of £142.65m during covid-19 exceeded the pre-covid-19 figure of £123.85m because of Chelsea's outgoing transfers in 2020. The changes in the sources of revenue and profit from player transfers decreased the clubs' average total income by £13.58m to £165.65m during covid-19 from £178.23m pre-covid-19. The decrease in total income is statistically insignificant.

The average wages and the transfer fees amortisation slightly increased to £108.79m and £45.73m during covid-19 from £99.50m and £39.82m pre-covid-19, respectively. For wages, few clubs succeeded in agreeing on wage cuts or deferrals with players, and because the contracts usually span more than a year, the majority had to fulfil their obligations. Wages and transfer fees amortisation account for most of a club's expenses; as such, their increase resulted in a £13.22m growth in the average total expenses to £194.27m during covid-19 from £181.05m pre-covid-19.

Figure 4.1: Top English Club's Football Revenue Sources

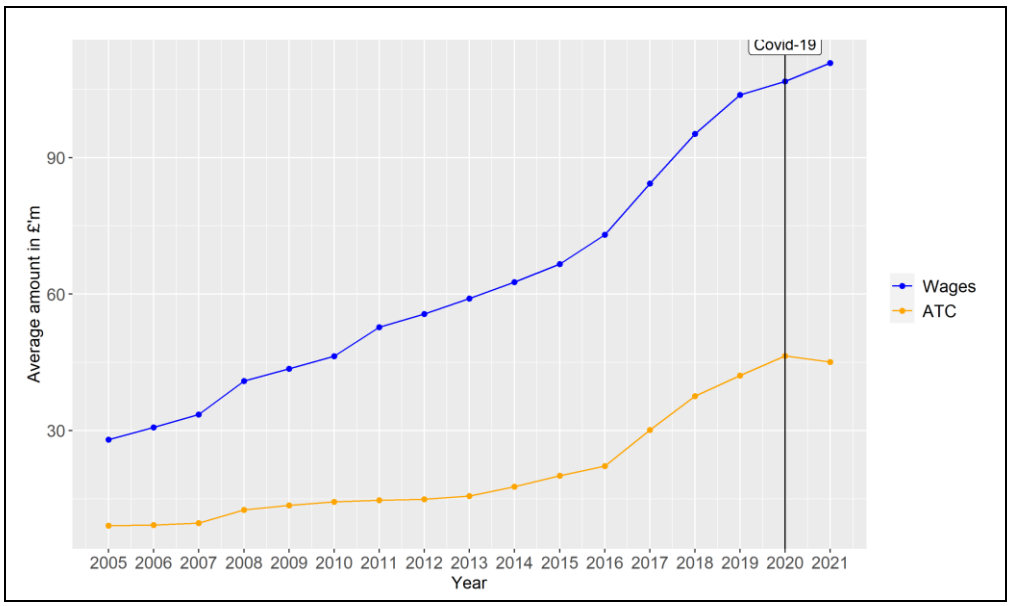


Notes: The author created this figure from the information in the dataset. Figure 4.1 shows the annual progress of the three primary sources of revenue for the clubs in our dataset. The black line indicates the beginning of covid-19.

In Figure 4.1, broadcast and commercial revenue grew between 2005 and 2019 because of the upward negotiation of television rights deals and increased commercial activity, respectively. The sharp dip in broadcast revenue for 2020 and the subsequent increase in 2021 is because clubs reported the broadcast revenue for football matches postponed in the 2019/2020 season and the 2020/2021 matches in their 2021 financial statements.

Also, Figure 4.1 shows that matchday revenue did not significantly increase between 2005 and 2019 because of stadium-size constraints and the reluctance of clubs to increase the price of match tickets. Because of the covid-19 virus, the English Football Association and UEFA mandated clubs to play their outstanding 2020 and 2021 fixtures behind closed doors. Thus, without fans attending these football matches, matchday revenue fell in 2020 and 2021.

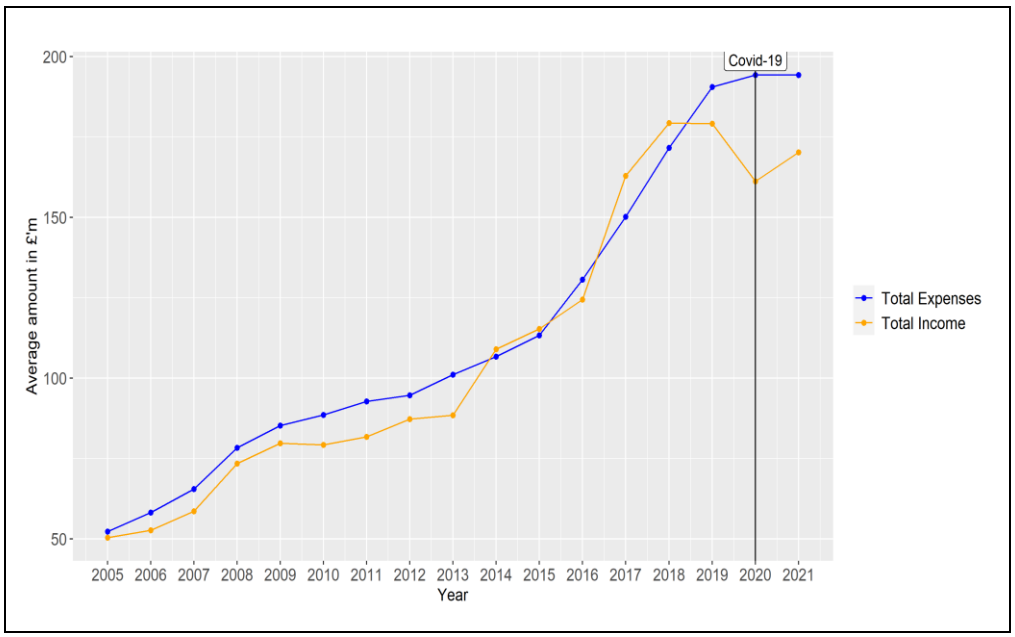
Figure 4.2: Top English Club's Annual Player-Related Expenditure



Notes: The author created this figure from the information in the dataset. Figure 4.2 shows the annual progress of wages and annual transfer fees charge (ATC) of the clubs in our dataset. The black line indicates the beginning of covid-19.

Figure 4.2 shows that wages increased yearly between 2005 and 2021 because of the correlation between wage expenditure and on-field success (Franck & Nüesch, 2011; Hall et al., 2002; Szymanski, 2003) and the obligatory nature of contracts with players. Similarly, the annual transfer fees charge grew consistently from 2005, peaked in 2020 but slightly fell in 2021 because of the covid-19-induced revenue shortfall.

Figure 4.3: Top English Club's Annual Total Income and Expenses



Notes: The author created this figure from the information in the dataset. Figure 4.3 shows the annual progress of our dataset's total expenses and income for the clubs. The black line indicates the beginning of covid-19.

Figure 4.3 shows that total expenses grew consistently between 2005 and 2020 and plateaued in 2021 because of the reduced transfer activity of clubs because of the impact of covid-19 and cash flow shortfall. Similarly, total income grew from 2005, plateaued in 2019 and fell sharply in 2020 because of the loss of matchday revenue and the recognition in 2021 of broadcast revenue for 2020 football matches postponed due to covid-19. There was a slight rebound in 2021, but total income did not return to the 2019 pre-covid-19 level. Thus, the losses reported in 2020 and 2021 are due to the loss of income caused by the covid-19 pandemic.

4.4.1.2. Regression analysis

Table 4.2: Covid-19 Impact On PBT Regressions

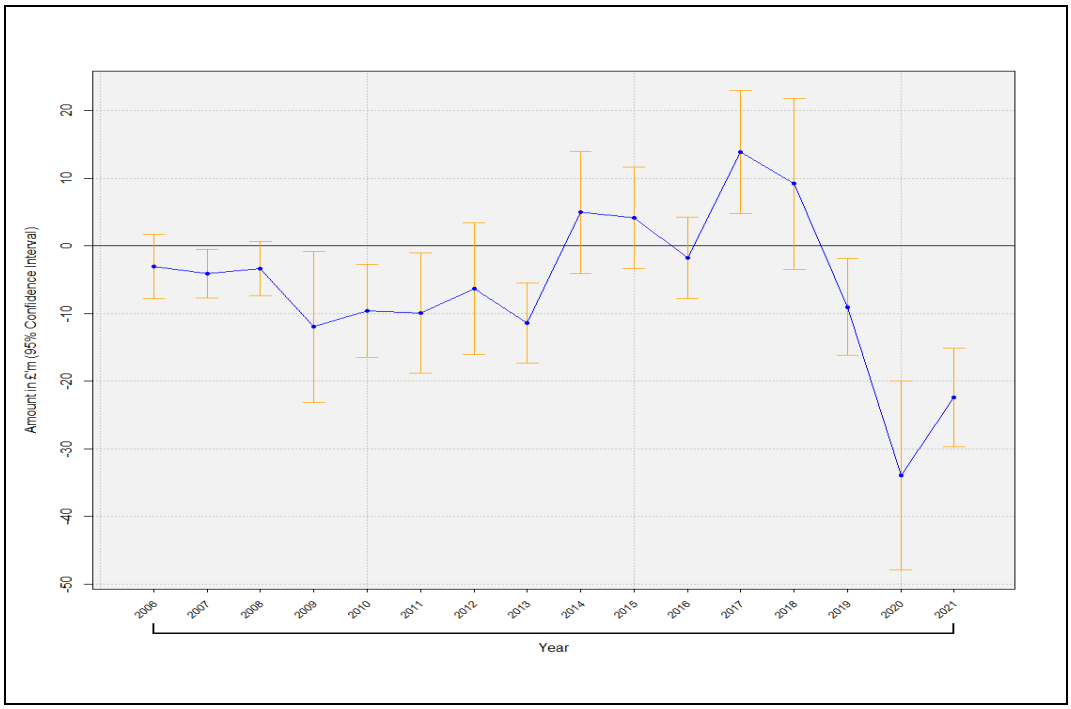
	PBT						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Covid-19	-26.02***	-26.49***	-29.32***	-31.06***	-28.39***	-31.18***	-6.43
	(5.50)	(5.22)	(5.49)	(6.20)	(7.72)	(9.80)	(7.29)
Promotion	--	8.78**	8.48**	11.77***	12.27***	11.76***	9.65**
	--	(3.18)	(3.27)	(3.85)	(3.85)	(4.19)	(4.20)
Relegation	--	-4.30	-4.03	-8.63**	-9.15**	-11.11**	-8.89*
	--	(3.21)	(3.36)	(4.35)	(4.36)	(5.54)	(4.87)
Position	--	-0.03	0.03	-0.12	-0.15	-0.26	0.17
	--	(0.24)	(0.25)	(0.26)	(0.26)	(0.43)	(0.34)
Debt to Assets	--	-1.41	-1.10	-0.40	-0.37	-0.03	-0.52
	--	(1.78)	(1.65)	(1.35)	(1.10)	(1.14)	(1.20)
UCL	--	--	-2.98	-3.23	1.31	0.89	-1.09
	--	--	(23.93)	(22.19)	(20.97)	(20.13)	(20.83)
UEL	--	--	-12.39	-13.20	-13.36	-13.05	-14.86
	--	--	(17.05)	(17.70)	(16.45)	(16.74)	(16.35)
FFP*UCL	--	--	46.83**	31.58**	34.19***	34.35***	38.91***
	--	--	(17.92)	(14.83)	(12.84)	(11.93)	(11.17)
FFP*UEL	--	--	17.11	12.25	12.71	11.81	15.76
	--	--	(16.78)	(17.21)	(16.24)	(16.40)	(16.27)
Sales Profit (Loss)	--	--	--	0.73***	0.79***	0.76***	0.70***
	--	--	--	(0.18)	(0.25)	(0.20)	(0.20)
Covid-19 * Sales Profit (Loss)	--	--	--	-0.18	-0.28	-0.25	-0.08
	--	--	--	(0.34)	(0.43)	(0.22)	(0.24)
Foreign Ownership	--	--	--	--	-15.97***	-18.36***	-17.92***
	--	--	--	--	(4.60)	(5.24)	(4.87)
Covid-19 * Foreign Ownership	--	--	--	--	3.84	3.81	3.11
	--	--	--	--	(8.48)	(8.67)	(7.28)
Matchday %	--	--	--	--	--	-13.23	-6.62
	--	--	--	--	--	(19.74)	(18.63)
Covid-19 * Matchday %	--	--	--	--	--	7.90	-40.16*
	--	--	--	--	--	(17.55)	(22.23)
Covid-19 * EPL	--	--	--	--	--	--	-42.47***
	--	--	--	--	--	--	(5.90)
Club fixed effect	✓	✓	✓	✓	✓	✓	✓
Observations	574	574	574	574	574	528	574
R^2	0.257	0.268	0.346	0.433	0.457	0.462	0.489
Within R^2	0.077	0.091	0.188	0.295	0.325	0.329	0.366

Notes: Robust standard errors are clustered at club and year levels. All numbers in the table are presented in millions of £. Significance levels denoted as *p<0.1, **p<0.05, and ***p<0.01.

Table 4.2 presents the regression results and captures the average impact of covid-19 in 2020 and 2021 on the profitability of top English clubs compared to the other years in our dataset. The variables of interest in all the regressions in Table 4.2 are the dummy variables, covid-19. The coefficient for the covid-19 variable in the base regression in column 1 of Table 4.2 is £26.02m LBT, which is statistically significant, indicating that the profitability of the top English clubs worsened during the years affected by the covid-19 pandemic.

Figure 4.4 presents the annual changes in PBT and shows a sharp decline in PBT during covid-19, which surpassed the levels in 2008 and 2009 that prompted UEFA to introduce FFP for clubs participating in its competitions. The LBT in 2020 tripled that of 2009, the next lowest LBT in the period.

Figure 4.4: Top English Club's Annual Variation in Average PBT



Notes: The black horizontal line indicates the statistical significance. The yellow candles determine if the PBT is significant. For example, if both ends of the yellow line are below 0, the PBT is statistically significant at 5%.

We included control variables from the literature and evidence in Chapter 2, which are determinants of profitability in columns 2 to 5 in Table 4.2 and the covid-19 coefficient reduced further and remained statistically significant – the lowest LBT was £31.06m in column 4. The

coefficient for promotion was positive and significant in all the columns, confirming evidence in the literature (Dimitropoulos & Scafarto, 2021; Leach & Szymanski, 2015; Plumley et al., 2020; Ruta et al., 2019) and Chapter 2 that promotion is a positive determinant of profitability. The relegation coefficient is negative in all columns but only significant in columns 4 to 7 of Table 4.2, indicating that clubs make more losses when relegated. In Chapter 2, we did not find evidence that relegation was a significant determinant of profitability because of parachute payments that relegated clubs received from the EPL (Wilson et al., 2022; Wilson et al., 2018); however, we believe that in addition to relegation, the loss of matchday revenue which smaller EPL clubs rely on more is responsible for the significance of the relegation coefficient. Similar to the evidence in Chapter 2, we find that position is negative in all but two columns in Table 4.2 and not a significant determinant of profitability.

Clubs participating in the UCL and UEL were more loss-making than non-participating clubs throughout the period though the coefficients in columns 3 to 7 in Table 4.2 are insignificant. However, in line with findings in the literature (Ahtiainen & Jarva, 2020; Caglio et al., 2019; Dimitropoulos & Scafarto, 2021; Francois et al., 2022; Özaydın, 2020) and evidence in Chapter 2, clubs participating in the UCL and UEL were more profitable after UEFA introduced FFP in 2011, though only the coefficient of the former is statistically significant. A possible reason for the insignificance of the UEL during the FFP coefficient is that the revenue from playing in the UEL is less than the UCL's. See Table 2.2 in Chapter 2. Also, UEL clubs would have aimed to qualify and invested accordingly for the UCL but missed the competition. The increased profitability suggests that FFP achieved its goal of improving the profitability of clubs participating in UEFA's competitions. The sales profit/(loss) coefficient was positive and significant, suggesting that selling players improved profitability. However, the sales profit/(loss) coefficient during covid-19 is negative and statistically insignificant. A possible explanation for clubs making losses on player sales is that they sold players for lower transfer

fees, recognising the limited budgets of the buying clubs because of the loss of revenue caused by covid-19.

The foreign ownership coefficient was negative and statistically significant in columns 5 to 7 of Table 4.2, confirming evidence in the literature (Jones & Cook, 2015; Rohde & Breuer, 2016, 2018; Wilson et al., 2013) and Chapter 2 that foreign-owned clubs are more loss-making than their British counterparts. However, the coefficients for foreign ownership during covid-19 though insignificant, show that, on average, foreign-owned clubs were £2.33m more profitable than their British-owned counterparts. A possible explanation is that foreign-owned clubs tend to generate higher and rely more on commercial revenue than matchday revenue. For example, commercial revenue accounted for 44% of Manchester United's revenue (foreign-owned club) compared with Tottenham's (British-owned club) 29% in 2019.

The matchday percentage coefficient is negative in columns 6 and 7 of Table 4.2, indicating that the higher the reliance on matchday revenue, the more losses a club makes. Furthermore, we investigated which clubs were most affected by covid-19 by including the interaction of covid-19 and EPL in column 6 of Table 4.2. The coefficient for the covid-19 and EPL interaction variable in column 7 of Table 4.2 is an LBT of £42.47m, which is statistically significant, while the standalone covid-19 variable was a statistically insignificant LBT of £6.43m; this implies that EPL clubs were the most affected by the pandemic.

Table 4.3: Covid-19 Changes in the EPL and EFL's Total Income and Expenses

	Variable	Pre-covid-19 average	Covid-19 average	Difference
EPL	Total Income	282.95	263.31	19.64
	Total Expenses	270.75	302.79	-32.04
EFL	Total Income	49.57	46.63	2.94
	Total Expenses	68.90	62.01	6.89

Notes: All amounts in table 4.3 are in millions of £.

An explanation is that EPL clubs lost more income than EFL clubs, and their expenses grew while EFL clubs' expenses reduced during covid-19, see Table 4.3. In addition, the interaction of covid-19 and matchday percentage in column 7 of Table 4.2 – which was a PBT of £7.90m and insignificant in column 6 – is an LBT of £-40.16m and is statistically significant. This indicates that EPL clubs reliant on matchday revenue were the most impacted by covid-19. Nevertheless, the variable capturing the impact of covid-19 in columns 1 to 6 of Table 4.2, was negative and statistically significant. Hence, we found evidence to reject the null hypothesis that covid-19 has not worsened the profitability of top clubs in England. We attribute the deterioration in profitability to the loss of revenue – specifically, matchday because it was the only source of revenue whose decline during covid-19 was statistically significant. See Table 4.1 in Section 4.4.1.1 above.

4.4.2. Covid-19, indebtedness and financial stability

4.4.2.1. Descriptive statistics analysis

Table 4.4: Indebtedness and Financial Stability Descriptive Statistics

	Full sample					Pre-covid-19 (Two years)				Covid-19 (Two years)				
Variables	Mean	St.Dev.	Max	Min	Obs	Mean	St.Dev.	Max	Min	Mean	St.Dev.	Max	Min	Diff
Retained earnings	-76.39	187.73	428.25	-1080.48	574	-90.41	235.84	422.28	-953.41	-140.43	252.72	345.08	-1080.48	-50.02
Sales	99.13	115.63	627.12	4.48	574	156.38	159.60	627.12	7.31	145.23	149.73	571.09	6.86	-11.15
EBIT	-5.58	34.80	157.08	-318.60	574	1.08	43.40	157.08	-115.64	-25.59	41.37	42.50	-168.92	-26.67**
Current asset	62.07	134.02	972.72	0.53	574	97.38	162.57	950.91	2.92	92.78	136.41	755.33	2.02	-4.60
Current Liability	86.97	91.83	551.80	2.33	574	138.96	112.12	484.43	5.63	167.21	122.09	551.80	4.44	28.25
Total asset	202.65	347.43	2019.32	0.90	574	311.30	450.67	2019.32	10.91	325.92	455.71	1873.03	11.07	14.62
Total Liabilities	175.15	240.86	1533.22	4.64	574	243.65	299.73	1290.78	8.94	287.61	329.29	1533.22	7.12	43.96
Z2	-8.19	12.82	9.37	-129.40	574	-7.18	11.28	6.32	-45.53	-9.87	13.59	4.03	-66.13	-2.69
Cash flow	9.28	36.28	245.05	-86.69	549	14.56	54.13	245.05	-86.69	3.03	35.53	113.13	-63.66	-11.53
Debt	152.08	231.90	1595.41	3.66	574	211.30	296.33	1590.80	6.20	253.21	336.49	1595.41	4.44	41.91
CFTD	2.1%	30.3%	277.8%	-199.9%	549	-2.8%	28.6%	47.3%	-143.9%	-2.9%	44.8%	277.8%	-106.2%	-0.1%
Net Transfer Receipt(Payment)	- 17.38	36.68	96.71	-249.67	574	-34.69	57.38	40.55	-249.67	-27.07	51.14	96.71	-189.46	7.62

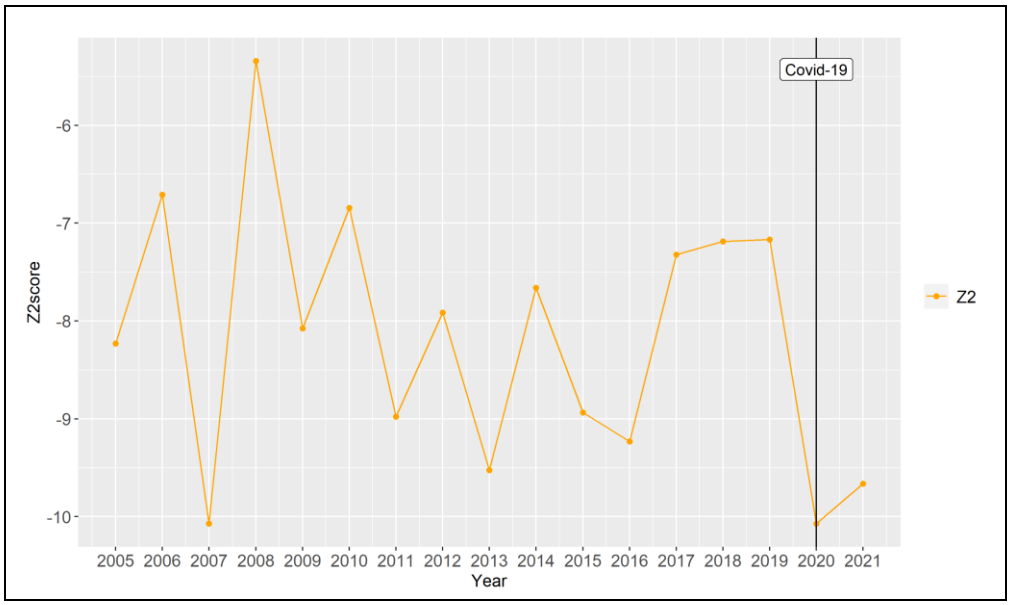
All variables are in millions of pounds (£) except for Z2, which is the Altman (2013) Z-score.

Table 4.4 presents our dataset's indebtedness and financial stability descriptive statistics for the top English football clubs. All, except sales and EBIT, variables in Table 4.4 are balance sheet items whose figures are a combination of historical and current-year transactions. The average retained losses of £140.43m during covid-19 worsened by 55% from the pre-covid-19 average of £90.41m. The highest percentage change between the pre-covid-19 and covid-19 years was the 2,472% decline from an average EBIT of £1.08m pre-covid-19 to -£25.59m during covid-19. Average current liabilities exceeded current assets in the entire sample, pre-covid-19, and the difference between the variables reached an all-time high of £74.43m during covid-19 when the former was £167.21m, and the latter, £92.78m. On the contrary, the average total assets exceeded total liabilities in the entire sample, pre-covid-19, with the difference between the variables reducing by £38.31m during covid-19 when total assets were £325.92m and total liabilities £287.61m. Consequently, the average Z2 score declined to -9.87 during covid-19 from -7.18 pre-covid-19.

The average cash flow declined by £11.53m to £3.03m post-covid-19 from £14.56m pre-covid-19. In contrast, the average debt increased by £41.91m to £253.21m during covid-19 from £211.30m pre-covid-19. The changes in cash flow and debt resulted in the average CFTD falling from -2.8% pre-covid-19 to -2.9% during covid-19. Finally, net transfer fees paid for players fell during the covid-19 years from £34.69m to £27.07m, indicating that clubs were cautious in their investment because of reduced revenue and cash flow and uncertainty of when normality would resume.

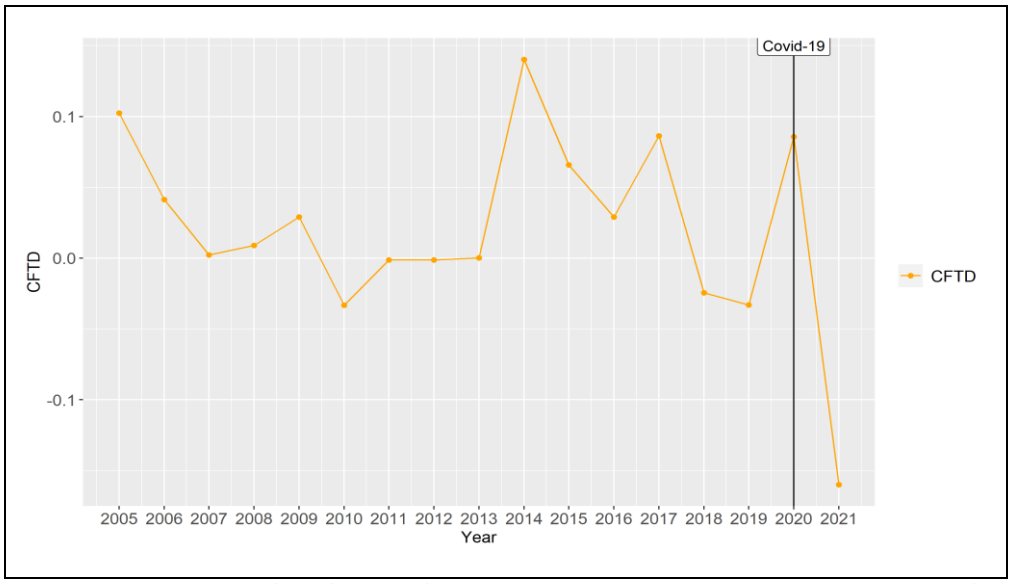
Figure 4.5 represents our dataset's annual average Z2 scores for the clubs and shows fluctuations over the period. The dip in the first year of covid-19, 2020, was the joint lowest average Z2 score together with 2007; However, the average Z2 score recovered slightly in 2021.

Figure 4.5: Top English Club's Average Z2 Score



Notes: The author created this figure from the information in the dataset. Figure 4.5 shows the annual progress of the Z2 score for the clubs in our dataset. The black line indicates the year when covid-19 began.

Figure 4.6: Top English Club's Average CFTD



Notes: The author created this figure from the information in the dataset. Figure 4.6 shows the annual progress of the CFTD score for the clubs in our dataset. The black line indicates the year when covid-19 began.

Figure 4.6 represents our dataset's annual average CFTD for the clubs. There was a downward trend from 2005 to 2010, where the average CFTD became negative. However, this reversed with CFTD trending upward between 2011 to 2017, coinciding with the introduction of FFP. The average CFTD consecutively in 2018 and 2019 before surprisingly rising in the first year of covid-19. In 2021, the average CFTD fell to -0.16, the lowest in the period.

4.4.2.2. Regression Analysis

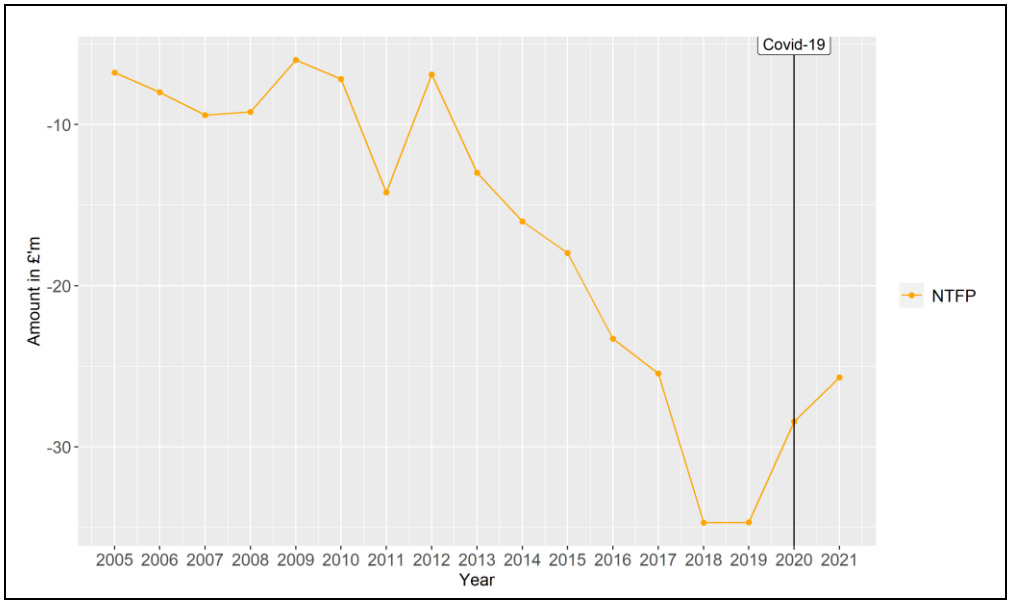
Table 4.5: Covid-19 Impact On CFTD and Z2 Regressions

	CFTD						Z2					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Covid-19	-0.051	-0.053	-0.054	-0.016	-0.145	-0.304*	-1.88	-1.92	-1.98	-1.84	-3.54	-6.82
	(0.097)	(0.093)	(0.094)	(0.068)	(0,110)	(0.145)	(1.49)	(1.40)	(1.42)	(3.47)	(3.68)	(4.27)
Promotion	--	0.083*	0.083*	0.087*	0.071	0.074	--	0.75	0.74	0.82	0.33	0.47
	--	(0.045)	(0.045)	(0.045)	(0.047)	(0.045)	--	(1.25)	(1.24)	(1.30)	(1.67)	(1.59)
Relegation	--	-0.046	-0.045	-0.048	-0.086*	-0.095**	--	3.68**	3.73**	3.63**	2.16	1.86
	--	(0.035)	(0.035)	(0.033)	(0.043)	(0.043)	--	(1.16)	(1.16)	(1.19)	(1.52)	(1.33)
Position	--	0.011***	0.011***	0.011***	0.008***	0.006**	--	0.37	0.37*	0.37*	0.28*	0.23*
	--	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	--	(0.14)	(0.14)	(0.14)	(0.14)	(0.13)
UCL	--	--	0.157***	0.136*	0.145**	0.155**	--	--	2.15*	1.60	1.56	1.77
	--	--	(0.036)	(0.050)	(0.062)	(0.062)	--	--	(0.90)	(1.10)	(1.32)	(1.33)
UEL	--	--	-0.010	-0.011	0.001	0.010	--	--	1.47	1.44	1.69	1.90
	--	--	(0.058)	(0.058)	(0.057)	(0.059)	--	--	(1.43)	(1.38)	(1.31)	(1.31)
FFP*UCL	--	--	-0.007	0.024	-0.001	-0.024	--	--	1.70*	2.55*	2.01	1.50
	--	--	(0.045)	(0.054)	(0.068)	(0.070)	--	--	(0.75)	(1.15)	(1.67)	(1.60)
FFP*UEL	--	--	0.082	0.089	0.065	0.045	--	--	-0.12	0.07	-0.87	-1.33
	--	--	(0.060)	(0.060)	(0.059)	(0.060)	--	--	(1.51)	(1.42)	(1.59)	(1.55)
Foreign Ownership	--	--	--	-0.133*	-0.162**	-0.162**	--	--	--	-3.99**	-4.85***	-4.84***
	--	--	--	(0.052)	(0.057)	(0.057)	--	--	--	(1.34)	(1.47)	(1.51)
Covid-19 * Foreign Ownership	--	--	--	-0.007	0.012	0.020	--	--	--	1.22	0.99	0.88
	--	--	--	(0.066)	(0.074)	(0.093)	--	--	--	(3.86)	(3.62)	(3.43)
Matchday %	--	--	--	--	-0.387	-0.430	--	--	--	--	-10.73	-11.71
	--	--	--	--	(0.274)	(0.275)	--	--	--	--	(8.27)	(8.19)
Covid-19 * Matchday %	--	--	--	--	0.746	1.014*	--	--	--	--	0.28	6.83
	--	--	--	--	(0.527)	(0.527)	--	--	--	--	(9.44)	(10.39)
Covid-19 * EPL	--	--	--	--	--	0.226**	--	--	--	--	--	4.95**
	--	--	--	--	--	(0.095)	--	--	--	--	--	(2.23)
Club fixed effect	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	549	549	549	549	505	505	574	574	574	574	529	529
R^2	0.149	0.219	0.226	0.251	0.251	0.264	0.497	0.528	0.531	0.542	0.570	0.573
Within R^2	0.003	0.085	0.095	0.122	0.131	0.146	0.005	0.068	0.073	0.095	0.103	0.111

Notes: Robust standard errors are clustered at club and year levels. All numbers in the table are presented in millions of £. Significance levels denoted as *p<0.1, **p<0.05, and ***p<0.01.

Table 4.5 presents the regression result, which captures the impact of covid-19 on the CFTD and Z2 scores of top English clubs in our data. For CFTD, the covid-19 coefficient in columns 1 to 6 is negative, indicating a reduced capacity for clubs to repay their debt during covid-19. However, the fall in CFTD is only statistically significant in column 6 of Table 4.5, where we disaggregate the impact of covid-19 between EPL and EPL, and we explain this below. For the Z2, the covid-19 coefficient was negative and statistically insignificant in all the columns in Table 4.5. The result indicates that while the financial stability of the top English clubs worsened during covid-19, it was not significantly different from the other years during the period. A possible explanation for the statistical insignificance of CFTD and Z2 is that while revenue was reduced during covid-19, clubs adjusted their transfer budgets to cope with the loss of revenue. Table 4.4 in section 4.4.2.1 indicates that net transfer spending on players, a significant cash outflow for clubs, reduced during covid-19 by £7.62m. Furthermore, Figure 4.7 below confirms that the clubs were cautious in their spending on purchasing players compared to the pre-covid-19 trend because of uncertainty on how long the pandemic will persist.

Figure 4.7: Top English Club's Average Net Transfer Fees Paid



Notes: The author created this figure from the information in the dataset. Figure 4.7 shows the annual progress of the net transfer fees paid (NTFP) score for the clubs in our dataset. The black line indicates the year when covid-19 began.

We find that promotion to the EPL improves the CFTD and Z2 scores of clubs, confirming evidence in the literature (Dimitropoulos & Scafarto, 2021; Leach & Szymanski, 2015; Plumley et al., 2020; Ruta et al., 2019) and Chapter 2. However, promotion was only statistically significant for CFTD in columns 2 to 4. The relegation coefficient is negative in all columns of CFTD but statistically significant only in columns 5 and 6. Surprisingly, we find that the Z2 score improves for relegated clubs, and we attribute this to the impact of parachute payments (Plumley et al., 2020; Wilson et al., 2022; Wilson et al., 2018) and the clubs selling their players, which improves their cash position (current and total assets). Similar to Chapter 2, we find evidence that competing in the UCL is a positive and significant determinant of CFTD and Z2 (though weak evidence for Z2), while competing in the UEL is negative for CFTD (in columns 3 and 4) and positive for Z2, with both insignificant. The other significant determinant of CFTD and Z2 is foreign ownership, and its coefficient is negative, indicating that foreign-owned clubs are less able to pay off their debt, with their financial stability worse off compared with their British counterparts.

The matchday percentage coefficient is negative and statistically insignificant in all columns of Table 4.5 for both CFTD and Z2. However, the covid-19 and matchday interaction coefficients are positive, indicating that the CFTD and Z2 during the pandemic are higher for clubs that depend more on matchday revenue. Finally, the covid-19 and EPL interaction coefficients are positive and statistically significant for CFTD and Z2, indicating that EFL clubs' indebtedness and financial stability were the most impacted by the pandemic. This finding is consistent with Plumley et al. (2020) study that showed that EFL clubs are less financially stable than EPL clubs.

Nevertheless, the variable capturing the impact of covid-19 on top English clubs, covid-19 in Table 4.5, was not statistically significant for CFTD and Z2. Hence, we concluded that we do

not find evidence to reject the null hypothesis that covid-19 has not worsened the indebtedness and financial stability of top clubs in England.

4.5. Conclusion

The motivation for this paper was to investigate the impact of the covid-19 pandemic on the financial performance of top English football clubs, specifically regarding profitability, indebtedness and financial stability. The existing literature has focused on the pandemic's impact on on-field performance (home advantage and referring decisions), stadium attendance and spread of the virus, stock market returns for listed clubs and the prospective implications on clubs' financial performance. Thus, this paper contributes to the literature by providing empirical evidence on the financial impact of covid-19 on the football industry.

We proposed three hypotheses in this study; 1) The profitability of top English clubs has not worsened because of covid-19 (*H*1), 2) the indebtedness of top English clubs has not worsened because of covid-19 (*H*2), and 3) the financial stability of top English clubs has not worsened because of covid-19 (*H*3). Drawing on financial information collected from the financial statements of 36 clubs between 2005 and 2021, we estimated the impact of covid-19 with linear regressions. For profitability, our empirical findings show that during the covid-19, the profitability of top English clubs worsened compared to non-covid-19 years because of the loss of matchday revenue, with EPL clubs being the most impacted. The deterioration in profitability was statistically significant. We found that selling players during the pandemic resulted in losses for the selling club, possibly because of the limited budgets of the buying club and the selling club requiring cash inflows to deal with the reduced revenue caused by the pandemic. Furthermore, we found that foreign-owned clubs that are usually more loss-making than non-foreign-owned clubs were less impacted during the pandemic because they rely more on commercial revenue.

For indebtedness and financial stability, we found that though they worsened during covid-19, the deterioration was not statistically significant. An explanation is that clubs reduced investment in player acquisition because of the loss of revenue and uncertainty about how long the pandemic would persist. Also, we found that EFL clubs' indebtedness and financial stability were the most impacted by the pandemic. We found that relegation improves clubs' financial stability, possibly because of parachute payments and the sale of players – a common occurrence once a club is relegated.

Our conclusion from the findings of this paper is that covid-19, probably the worst shock football has faced, worsened the profitability of top English clubs, and caused them to be more likely to face financial distress, but they have come out of the pandemic with financial resilience. The findings of this paper are vital for; the literature as we provide, to the best of our knowledge, the first empirical evidence of the financial impact of covid-19 and; policy-makers as they provide evidence on the industry's resilience and information for regulators to strengthen it further. We believe future research can provide more insight into the strategies that specific clubs or clusters of clubs adopted in surviving the impacts of covid-19. Furthermore, future research can benefit from comparing football clubs' pre-covid-19, covid-19 and post-covid-19 financial performance to understand structural changes and behavioural patterns resulting from the pandemic.

5. Conclusion

Football is entertainment, entrenched in its ardent followers' social and family life. Nevertheless, football is a business. It has grown to become an industry requiring regulation and government intervention. This thesis contributes to the literature by focusing on regulation, governance strategies and an external shock to football's revenue.

The second chapter of this thesis, "The Financial Impact of Financial Fair Play Regulation: Evidence from the English Premier League", provides evidence of how UEFA's FFP regulation encouraged clubs' to live within their means. The chapter illustrates that clubs' revenue-to-cost ratio management improved, and they became more efficient in selling players to improve their profitability. Also, the chapter shows that increased revenue does not translate to improved profitability because clubs tend to overspend when broadcast revenue increases, thus highlighting the importance of FFP. Furthermore, the findings in this chapter confirm evidence in the literature that foreign ownership of clubs and promotion are significant determinants of profitability. However, the chapter shows that FFP did not significantly improve the clubs' indebtedness because they immediately reinvested earned profit into improving their playing squad. Also, an unintended consequence of FFP is that clubs are now more interconnected through debt owed to each other, exposing the clubs to industry-wide credit risk.

Chapter three of this thesis, "Pathways to on-field and off-field success in football: A case study of Chelsea Football Club and Manchester United", examines the relationship between on-field and off-field (financial) success. The chapter illustrates the governance strategies adopted by two of the most successful English clubs in the past twenty years. Also, it shows how the interdependence of financing and competitive strategies and financial management translates to on-field and off-field success or otherwise. Furthermore, the chapter provides a

detailed analysis of how recent developments – FFP, managerial changes and the sporting director role – impact decision-making at football clubs.

In Chapter 4, “The Financial Impact of Covid-19: Evidence from Top English Football Clubs”, the paper shows that covid-19 significantly worsened the profitability of top English clubs because of the loss of revenue – mainly matchday revenue. Also, the chapter shows that the pandemic affected EPL clubs' profitability most because their expenses increased during the covid-19 impacted years. Furthermore, it shows that the top English clubs' indebtedness and financial stability did not significantly worsen during covid-19 because the clubs reduced their transfer activity to cope with the loss of matchday revenue. However, EFL clubs were the most impacted by the pandemic. Finally, the chapter finds that clubs’ financial stability improves when relegated to the EFL, and we attribute it to the parachute payments they receive from the EPL and the relegated clubs improving their cash position by selling their best players.

5.1. Policy Recommendations

A recurring theme in all three papers of this thesis is the positive impact of FFP on clubs' profitability and business model. Before 2011, there was no European-wide financial regulation. Given the success of FFP on the profitability of clubs exposed to the regulation, one vital policy implication of this thesis is for domestic leagues to introduce similar regulations for clubs participating in their competitions. Furthermore, given the insignificant improvement in indebtedness and financial stability caused by reinvestment of profit and rise in instalment payments, policymakers need to introduce specific measures to address this phenomenon. For example, the credit risk caused by instalment payments is similar to what caused the 2008 financial crisis. Thus, introducing a Basel III-styled capital requirement linked to revenue (for example, 2% of revenue annually) could improve financial stability and indebtedness by encouraging clubs to reduce their rate of reinvesting profit. In addition to the FSR introduced

by UEFA in 2022 to replace FFP, setting aside a revenue percentage will improve the industry's financial stability.

Another vital finding in this thesis is clubs' spend more on wages and transfer fees in years when their broadcast revenue increases. Thus, regulators can increase the percentage set aside (discussed above) in those years. Also, clubs can develop strategies around broadcast revenue increase. For example, a club can target selling its players in years when the broadcast revenue is expected to be renegotiated or buy players a year before.

Chapter three of this thesis finds that the two most successful English clubs in the past twenty years adopted selling players for profit and utilising their brand to improve commercial revenue. Also, appointing a sporting director would likely improve or maintain a club's competitive strategy. These findings are potentially helpful to an individual or consortium looking to purchase a football club.

5.2. Future Research

Although this thesis contributes to the football finance literature on financial regulation, governance strategies and the impact of external shocks on income, there are areas that future research can explore. It would be insightful if future research could focus on instalment payments and their associated credit risks. Also, in 2022, UEFA announced the introduction of FSR – from the 2022/2023 season – to improve financial stability in European football. Thus, future research could examine the effectiveness of FSR in improving financial stability in European football. Also, future research could expand on the case study paper to include clubs such as Liverpool and Manchester City, who have dominated the EPL in the past five years. Future research can classify a larger sample of clubs according to their governance strategies and explore the most successful strategies. Finally, future research can provide more insight into the strategies that specific clubs or clusters of clubs adopted in surviving the impacts of

covid-19. Furthermore, future research can benefit from comparing football clubs' pre-covid-19, covid-19 and post-covid-19 financial performance to understand structural changes and behavioural patterns resulting from the pandemic.

Appendix

Table A.1: Correlation Matrix For FFP Regressions (Chapter 2)

	BER												
BER	1	CFTD											
CFTD	0.36	1	W2R										
W2R	-0.39	-0.49	1	TVD									
TVD	-0.13	-0.05	-0.02	1	ATT								
ATT	0.13	0.46	-0.54	0.05	1	QTF							
QTF	0.10	0.14	-0.22	0.09	0.28	1	PSN						
PSN	0.08	0.31	-0.40	0.03	0.52	-0.04	1	PMT					
PMT	0.13	0.21	-0.22	-0.02	0.21	-0.06	0.42	1	REL				
REL	-0.06	-0.13	0.08	0.01	-0.08	-0.08	-0.21	-0.08	1	UCL			
UCL	0.15	0.21	-0.28	0.03	0.36	0.58	-0.12	-0.11	-0.10	1	UEL		
UEL	0.01	0.10	-0.16	0.05	0.21	0.23	0.10	-0.04	-0.03	-0.07	1	FOW	
FOW	-0.17	-0.15	0.10	0.02	0.16	0.22	-0.08	-0.03	-0.05	0.31	0.05	1	D2A
D2A	-0.14	-0.13	0.35	-0.03	-0.28	-0.08	-0.15	-0.05	-0.04	-0.12	-0.09	-0.12	1

Notes: The following are the meaning of the abbreviations in Table A.1: BER = Break-Even-Result, CFTD = Cash flow to Debt, W2R = Wages to Revenue, TVD = TV Deal, ATT = Attendance, QTF = Quarter Final PSN = Position, PMT = Promotion, REL = Relegation, UCL = UEFA Champions League, UEL= UEFA Europa League, FOW = Foreign Ownership, and D2A= Debt to Assets. None of the variables is highly correlated**.**

Table A.2: Correlation Matrix For Covid-19 Regressions (Chapter 4)

	PBT													
PBT	1	CFTD												
CFTD	0.24	1	Z2											
Z2	0.19	0.24	1	UCL										
UCL	0.01	0.17	0.225	1	UEL									
UEL	-0.03	0.09	0.11	-0.06	1	EPL								
EPL	0.02	0.40	0.35	0.34	0.25	1	EFL							
EFL	0.04	-0.11	-0.12	-0.11	-0.09	-0.34	1	PSN						
PSN	0.03	0.25	0.18	-0.12	0.09	0.77	-0.25	1	FOW					
FOW	-0.20	-0.16	0.01	0.28	0.04	0.10	-0.11	-0.06	1	PMT				
PMT	0.12	0.15	0.06	-0.11	-0.06	0.27	-0.09	0.43	-0.03	1	REL			
REL	-0.01	-0.11	0.02	-0.10	-0.05	-0.26	-0.08	-0.19	-0.04	-0.08	1	SPL		
PSP	0.20	0.09	0.24	0.33	0.20	0.28	-0.15	0.03	0.22	-0.12	0.04	1	D2A	
D2A	-0.09	-0.12	-0.83	-0.13	-0.10	-0.25	0.15	-0.15	-0.11	-0.04	-0.05	-0.16	1	MTP
MTP	0.04	-0.06	-0.10	0.06	-0.06	-0.36	0.43	-0.38	-0.17	-0.12	-0.07	-0.28	0.16	1

Notes: The following are the meaning of the abbreviations in Table A.1: PBT = Profit before tax, CFTD = Cash flow to Debt, Z2 = Altman's Z2 score, UCL = UEFA Champions League, UEL= UEFA Europa League, EPL = English Premier League, EFL = English Football League, PSN = Position, FOW = Foreign Ownership, PMT = Promotion, REL = Relegation, PSP = Player sales profit, D2A= Debt to assets and MTP = Matchday revenue percentage. D2A and Z2 are not included in the same regression.

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