Lisbon School of Economics & Management
Universidade de Lisboa

MASTER

MONETARY AND FINANCIAL ECONOMICS

MASTER´S FINAL WORK

DISSERTATION

THE IMPACT OF PLAYER TRANSFERS ON EUROPEAN FOOTBALL CLUBS STOCK PRICES: AN EVENT STUDY ANALYSIS

TIAGO MIGUEL BATISTA RAIMUNDO

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TIAGO MIGUEL BATISTA RAIMUNDO

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GLOSSARY

AR – Abnormal Return.

CAR – Cumulative Abnormal Return.

E(R) – Expected Return.

MANU – Manchester United.

JUVE – Juventus.

BVB – Borussia Dortmund.

OLG – Olympique Lyon.

ABSTRACT, KEYWORDS AND JEL CODES

ABSTRACT: This dissertation examines how player transfers influence the stock prices of publicly traded football clubs through an event study approach. The analysis centers on five prominent European teams—Manchester United, Juventus, Borussia Dortmund, Olympique Lyon, and Ajax—focusing on 230 player transactions that occurred between 2018 and 2023. The study assesses abnormal returns (AR) and cumulative abnormal returns (CAR) within a 10-day event window, encompassing five days prior to and following the announcements of transfers. Findings indicate that high-value transfers typically result in positive abnormal returns, which reflect investor optimism regarding the new player's potential impact on the team's success. In contrast, sales and loans of players tend to elicit negative reactions from the market, indicating concerns about possible adverse effects on team performance. These results support the Efficient Market Hypothesis by demonstrating that stock prices quickly adjust to new information such as player transfers. This research adds to the expanding literature at the intersection of sports events and financial markets, providing valuable insights for clubs operating in capital markets and investors aiming to comprehend the dynamics of football markets.

Keywords: Event Studies; Football Transfers; Abnormal Returns; Stock Market; Efficient Market Hypothesis.

JEL Codes: G14; L83; M41.

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EVENT STUDIES IN FOOTBALL MARKET

By Tiago Raimundo

1. INTRODUCTION

The convergence of sports and financial markets has gained prominence as prestigious football clubs choose to list on stock exchanges. This trend has established a distinct connection between sports events and investor actions, where factors such as player transfers, coaching changes, and match results have a direct effect on the share prices of these teams. Unlike conventional industries, where market value is primarily influenced by financial performance and economic fundamentals, football clubs exist in an industry where both financial and emotional elements shape investor assessments. This dynamic renders football an especially captivating topic for financial scrutiny, challenging established theories like the Efficient Market Hypothesis (EMH).

Fama(1970, 1991)'s foundational theory on efficient markets asserts that asset prices incorporate all available information and adjust to new inputs. However, in the context of football clubs, emotional aspects such as investor sentiment can lead to significant deviations from this theory. In high-stakes settings like football, Baker and Wurgler (2006) illustrated that investor sentiment might trigger overvaluation during excessively optimistic phases or undervaluation during downturns, irrespective of underlying financial indicators. Thus, the relationship between emotional responses and market movements can result in irregular share price fluctuations that are often more significantly influenced by sporting events than by concrete financial data.

This research intends to analyze how player transfers impact the share prices of publicly traded football clubs through event study analysis. The focus will be on five major European clubs: Manchester United (UK), Juventus (Italy), Borussia Dortmund (Germany), Olympique Lyon (France), and Ajax (Netherlands). These selections are based on their prominence in leading European leagues and the availability of comprehensive financial and sporting information for an in-depth examination of how player transfers affect abnormal stock returns.

This industry is characterized by low barriers to entry and relatively low profitability. However, it is a sport with a massive television audience (Buraimo and

Simmons, 2009), which makes it appealing to investors, especially considering the consistent growth of TV rights value over the years.

Investors often seek to improve their reputation or enter new markets as a means of diversifying their portfolios

In recent years, research exploring the financial consequences of sports events on stock markets has expanded considerably. Dimitropoulos (2010) found that player transfers—particularly those involving substantial sums—can significantly influence shareholder wealth, indicating that investors modify their expectations concerning future success based on new talent acquisitions. Furthermore, Lago et al. (2010) emphasized the role of strategic communication during transfer periods; how clubs convey their decisions can directly impact investor confidence and subsequently affect stock prices.

Market reactions to player transfers are particularly influenced on transaction types. The acquisition of a prominent player can yield positive abnormal returns as investors anticipate enhanced competitiveness and revenue potential for the team. Conversely, selling key players or even loaning out valuable players (assets) can introduce uncertainty into the market, resulting in declines in share price. This indicates that investors often respond more intensely to changes affecting perceived team performance than to standard financial metrics.

Another critical consideration is the market value attached to players involved in transactions. Carmichael and Thomas (2005) observed that while sales may initially produce positive abnormal returns, these effects often diminish quickly if investors believe team performance will decline without that player. On the other hand, acquiring high-value players is generally interpreted as a sign of growth ambition within a club, leading to favorable cumulative abnormal returns during transfer windows.

In this analysis, event study methodology will be utilized to determine abnormal returns (AR) and cumulative abnormal returns (CAR) associated with selected clubs' shares regarding player transfers. Event studies are used in finance for evaluating market responses to new information by isolating specific events—in this case, player transfers—and assessing their impact on stock prices. Analyzing a 10-day event window comprising five days before and after each transfer aims to capture both anticipatory responses from investors as well as subsequent market impacts.

The study encompasses four transfer seasons from 2018 to 2023 with a total of 230 transactions (Appendix - Table A1) among the chosen clubs categorized by type—sales, acquisitions, loans, free transfer and return from loans—and assessed according to player market value for comparative analysis regarding how various transaction types of influence investor behavior. The approach builds upon methodologies proposed by Bowman (1984) and De Jong & Goeij (2011), ensuring robustness and comparability with prior research findings.

Ultimately, this study aims to deepen understanding regarding how investor reactions are shaped by player transfers at publicly traded football clubs along with considerations such as market value perception related to these transactions. It will contribute valuable insights into existing literature concerning the intersection between sporting events and financial markets while offering practical implications for both clubs navigating capital markets and investors striving to grasp unique dynamics within the sports sector.

The dissertation is organized as follows: Chapter 2 reviews pertinent literature addressing connections between sporting events and financial market trends with special emphasis on football clubs; Chapter 3 details the empirical framework encompassing data selection processes along with methodologies employed for calculating abnormal returns; Chapter 4 presents empirical findings highlighting variations in abnormal returns linked with different types of player transfers alongside implications from player market values; finally Chapter 5 discusses broader implications drawn from findings relative comparisons made against other studies while proposing avenues for future research expansion including analyses beyond current club selections into additional countries such as Portugal.

1. LITERATURE REVIEW

Event studies play a vital role in the Market Efficiency Hypothesis, functioning as semi-strong-form tests that analyze how security prices react to publicly available information. Fama (1991), in her examination of Efficient Capital Markets, redefined the three categories of tests: weak-form tests (which assess the predictability of returns based on past performance), semi-strong-form tests (event studies), and strong-form tests

(which focus on private information that investors may hold but is not reflected in market prices).

In recent years, a multitude of event studies has been performed to evaluate how corporate announcements influence share prices and the speed and efficiency with which markets adapt. Kim and Verrecchia (1991) investigated price and volume responses to public announcements, discovering that price shifts correlate with both the unexpected elements of the announcement and its significance. They also observed that anticipated trading volume and price volatility increase with the importance of the information disclosed while decreasing when there are multiple pre-announcements or existing private information.

Fama, Fisher, Jensen, and Roll (1969) researched how stock prices adjust to new data, focusing specifically on stock splits' effects on common stock returns. Their findings indicated that markets are efficient; stock prices respond swiftly to new information. The announcement of a stock split leads investors to reassess expected earnings from shares, an adjustment fully captured in stock prices.

Numerous investigations have centered around corporate mergers, acquisitions, and various financial disclosures. In their 2002 study, Jensen and Ruback concluded that takeover announcements generally produce positive returns for shareholders unless they involve managerial changes that deter potential bidders. They noted abnormal positive returns for shareholders could arise if a tender offer fails due to expectations of subsequent proposals without gains stemming from market power. Their analysis suggested that returns for buyers represented zero net present value investments while changes in stock valuations often overestimated future profits. Faccio, McConnell, and Stolin (2006) studied 4,429 events over six years and found significantly higher abnormal returns during takeovers involving unlisted targets compared to those acquiring listed targets.

Further event studies have explored managerial transitions within companies and their reflection on share prices. Conyon and Florou (2002), analyzing 460 UK firms listed on the London Stock Exchange, discovered an increased likelihood of voluntary manager departures compared to earlier times. However, involuntary departures among top executives were frequently attributed to poor performance; these dismissals had distinct implications for share prices compared to other departure scenarios.

Ferere and Renneboog (2000) examined how different types of managerial changes impact abnormal returns in French firms. They found market reactions typically occurred within a 20-day window surrounding announcements. CEO turnover usually prompted positive market responses interpreted as investor relief; however, non-conflictual exits—such as voluntary resignations or departures due to illness—did not yield similar effects.

Event studies have substantially advanced knowledge regarding economic impacts associated with sports events as well. My area of interest centers on research examining football clubs listed on stock exchanges regarding such impacts. These investigations have assessed how hosting significant events, player transfer deals, match outcomes, and managerial changes affect share prices—as well as how national team performances influence local stock exchanges.

Ashton, et. al (2003)'s study revealed a considerable effect of England's national team success on the FTSE 100 index for two main reasons: firstly, national sporting achievements enhance confidence in prospects; secondly, there are potential economic advantages tied to international tournaments. Notably, significant victories had more pronounced effects on share valuations than less impactful ones; moreover, wins resulted in greater returns than losses would suggest.

For such events effects to manifest in club share prices necessitates these clubs being publicly listed—a status some achieve only after reaching certain growth stages where private capital becomes insufficient for expansion efforts.

A study by Chen et al. (2019) analyzed the investments made by Chinese firms in football clubs from 2015 to 2017, which included six clubs from England, three from Spain, and two each from France and Italy. The research focused on how these investments influenced the share prices of the investing Chinese companies, referencing the efficient market hypothesis suggested by Fama (1991). The study posits that if the market operates efficiently, any announcement regarding an acquisition should be mirrored in the share price of the purchasing corporation. Findings indicate that there were no abnormal returns for Chinese corporations stemming from these investments. Moreover, it was noted that larger transactions relative to a firm's market capitalization generally led to negative abnormal returns, while smaller acquisitions could result in positive abnormal returns.

Another motivation for investors acquiring clubs is to invest in smaller teams with the aim of enhancing their performance and future value (Buraimo, 2008).

A pertinent question arises: what are the tangible benefits for football clubs going public? Baur and McKeating (2009) investigated how an Initial Public Offering (IPO) affects both a team's sports performance and its stock prices. They found that only lower division clubs showed improved domestic league performance post-IPO.

Like trends observed in corporate finance IPOs—where research by Ritter and Welch (2002) indicates newly issued shares often underperform relative to market expectations—football club IPOs reflect a comparable trajectory. Berrett et al. (1993) argue that investor behavior does not necessitate purchasing shares for returns, leading to potential mispricing in sports club markets.

In research conducted by Rohde and Breuer (2017), it was found that football clubs under investor ownership during the 2011/2012 season had higher revenues and market values, enabling them to allocate more resources towards player wages and transfer fees for achieving both sporting success and financial stability. This trend was particularly pronounced among clubs owned by foreign investors, whose performance metrics outstripped those of other teams within Europe's premier divisions.

Scholtens and Peenstra (2009) explored how match outcomes influence stock prices on trading days immediately following games. Their analysis encompassed 1,274 matches over four years involving eight teams, revealing predictable negative stock reactions following defeats and positive responses after victories; however, losses had a more substantial adverse impact than wins. Additionally, reactions were stronger during European cup matches compared to national games, with unexpected results in European competitions eliciting greater market reactions than anticipated outcomes.

Conversely, Demir and Danis (2011) contend that victories in European cup competitions do not affect stock returns for clubs. Their study targeted Turkish football teams while employing betting odds to differentiate between expected versus unexpected results. The findings indicated even anticipated losses could prompt negative market responses; moreover, such reactions varied based on how clubs structured their public offerings. For instance, Besiktas functions as a publicly listed entity transmitting all revenue and expenses through its public company structure—this transparency leads investors to react more strongly to results under this framework. Clubs employing a

"revenue-dominant" strategy present less risk for investors by offering higher dividends and being less responsive to match outcomes.

Benkraiem et al. (2009), through an examination of 745 football matches categorized into wins, draws, or losses—and further divided into home versus away results—found notable trends regarding trading activity around match days although Turkish games were excluded due to data limitations at the time. Results indicated heightened trading volumes one day before and after matches suggestive of investor responsiveness to sporting outcomes; additionally, they discovered home defeats exerted a greater influence on market pricing compared to other outcomes while wins did not generate significant price changes per prior studies.

The impact of winning against rivals or teams competing similarly is modest regarding return fluctuations according to Bell et al. (2012). They concluded there are various factors affecting stock price movements beyond match results alone; thus, indicating that while markets respond moderately to game outcomes—unexpected shifts support the notion that prices are sensitive towards information reflecting semi-strong market efficiency.

The elements affecting stock market responses are varied and not confined to a singular category. Beyond financial metrics, football clubs, which operate as public entities, experience changes in human resources that can considerably impact their share prices. Shifts in management, particularly concerning head coaches, are analogous to alterations within investment funds, as both oversee critical assets. The effectiveness of football coaches directly influences the valuation of the players they manage and ultimately determines the team's performance on the field.

Research by Bell et al. (2012) indicates that the resignations or departures of football coaches can lead to heightened volatility for English clubs in the stock market. Their study revealed that terminating a coach may result in positive returns due to expectations of enhanced future outcomes, while losing a competent coach could generate negative returns lasting up to a month. These conclusions align with findings from Ferere and Renneboog (2000), who observed similar trends in non-football companies.

One key element contributing to a football team's achievements is its players. Numerous studies have investigated how player transfers influence stock prices. The Bosman ruling, articulated by Simmons (1997), revolutionized the global transfer

landscape by allowing players to move without mandatory fees upon contract expiration and lifting restrictions on foreign players participating in leagues.

Athanasios (2013) found that a team's share price usually rises or falls corresponding to player sales or acquisitions, respectively. Peters (2013) expanded this analysis by considering factors such as player position, dominant foot, and transfer fee—though his focus was limited to transfers valued at +8 million euros. Whitehead (2014) explored how European player transfers affect share prices and discovered that smaller transfers often lead to more pronounced abnormal returns compared to medium or high-value transfers. These results illuminate the intricate dynamics surrounding the transfer market's impact on a football club's financial standing.

Investor sentiment emerges as another significant factor influencing market behavior, especially in uncertain environments where emotional decision-making prevails. Baker and Wurgler (2006) argue that investor sentiment greatly affects stock returns; periods of optimism often lead to overvaluation while pessimism can cause undervaluation. This phenomenon is particularly evident in professional football, where emotional connections to teams can skew rational investment judgment.

Analyzing player transfers offers an insightful lens through which these dynamics can be assessed. Dimitropoulos (2010) highlights that major player movements closely correlate with shifts in shareholder wealth—indicating heightened sensitivity among investors regarding such transactions. This aligns with Sullivan's (2013) observations that significant buy or sell actions tend to produce substantial abnormal returns for clubs as markets respond keenly to changes in team composition.

The financial effects linked with various types of player transfers are well-documented within academic literature. Typically, selling players generates immediate investor excitement reflected by initial positive abnormal returns prior to announcements; however, this enthusiasm may quickly wane leading to negative Cumulative Abnormal Returns (CAR) as expectations about future performance adjust post-sale (Carmichael & Thomas, 2005). Such findings suggest that despite seemingly favorable immediate reactions, long-term impacts from player departures require careful management and clear communication strategies.

In contrast, market responses tend to be more consistently positive for acquisitions. Empirical research shows cumulative favorable reactions following player

signings—especially when clubs effectively communicate anticipated contributions of new recruits (Lago et al., 2010). Additionally, free transfers are generally viewed positively since they allow teams financial flexibility without incurring transfer costs.

Kuper and Szymanski (2018) assert that such strategic moves enhance a club's market value while boosting investor confidence.

On the other hand, loans present a more intricate scenario often resulting in adverse market reactions—as evidenced by average abnormal returns documented in loan transaction analyses (Frick, 2007). Investors might interpret loans as signs of diminished trust in a player's capabilities or doubts about the club's overall strategy. Gerrard and O'Leary (2004) support this perspective by noting how loan deals can breed skepticism among both investors and fans alike.

However, loans also provide opportunities for generating positive market sentiment when previously loaned players return; their familiarity with the club typically enhances reception among supporters (Lehmann et al. 2019). This underscores the importance of nurturing relationships with returning players since successful reintegration can lift team morale while fostering optimism among fans and investors alike. Ultimately, effective management of these relationships proves crucial for maximizing favorable market responses.

2. EMPIRICAL FRAMEWORK

3.1 Data

In my empirical study, I analyze two separate datasets to clarify the presence of abnormal returns associated with player transfers. Specifically, one dataset includes player and club characteristics relevant to transfers, while the other comprises daily stock-related data for the selected clubs.

Club Selection

After conducting thorough research, I carefully selected five clubs from various leagues, each recognized as a leading entity within their national competitions. The chosen clubs are Manchester United (UK), Juventus (Italy), Borussia Dortmund (Germany), Olympique Lyon (France), and Ajax (Netherlands).

Although I consider extending the analysis by including more clubs, it is important to note that many prominent teams are currently absent from the stock exchange landscape. Additionally, examining historical transfers requires caution due to the significant influence that past and ongoing player movements have on market dynamics. Consequently, I aim to maintain consistency in the assessment periods across the analyzed clubs, facilitating a comparative analysis within a unified market context. This methodology accounts for key events such as the landmark €220 million Neymar transfer, which had widespread implications for industry valuation standards.

Table 1 – Benchmark.

Club	Benchmark Used
Manchester United (MANU)	S&P 500
Juventus (JUVE)	FTSE MIB
Ajax (AJAX)	AEX
Borussia Dortmund (BVB)	DAX 40
Olympique Lyonnais (OLG)	CAC 40

Transfers and Players Data

For the acquisition of transfer data, I have turned to Transfermarket.com, an acclaimed online platform renowned for its comprehensive coverage of football transfers, encompassing player valuations, statistical insights, and related information. This website stands as an invaluable resource catering to a diverse audience including enthusiasts, journalists, and stakeholders within the football industry.

Within the framework of this analysis, a meticulous array of attributes is compiled for each club. These encompass the transfer type, market window and season.

Will be analyzed 230 transfers from 2018/19 to 2022/23. Season 2020/21 will not be analyzed due to COVID-19 and different windows of market in that season.
The following criteria was applied to the selected transfers:

- Sales and purchases over 4 million
- Free transfers with a market value (MV) higher than 10 million
- Loans with a cost exceeding 4 million.
- Loans of players with a market value (MV) higher than 10 million
- Return from loan of players with a market value (MV) higher than 10 million.

- Players who enter and exit in a team in the same transfer window were not analyzed.

Table 2 – Types of Transfer.

Tranfer Type	Description	Amount	%
Sale	Transfer of a player to another club with a fee	82	36%
Acquisition	Transfer of a player from another club with a fee	89	39%
Free	Transfer of a player with no fee	21	9%
Loan	Transfer of a player during a short periodo of time	30	13%
Return from Loan	Return of a player with MV superior to 10M€	8	3%
Total		230	100%

In the research of player data will be analyzed, player age, designated position, transfer value, all factors that contribute to the market value of a player which will be one of the characteristics that will be studied trough the abnormal returns. The player's market valuation assumes a pivotal role in the evaluation process. This attribute proves to be of paramount importance when discerning the potential influence of investors' future performance expectations—anchored in the prowess of a strong team and its players—on the trajectory of stock prices.

Indeed, the conjecture of various transfer scenarios, ranging from modestly priced or free transfers to more substantial ones, warrants careful consideration. Specifically, scenarios in which a club secures a player possessing a market valuation that surpasses the incurred transfer fee should be scrutinized distinctively from cases wherein the transfer fee aligns more closely with the player's market value. Recognizing this distinction is pivotal as it enables a nuanced understanding of the multifaceted dynamics at play, ultimately enriching the depth of analysis.

Table 3 – Transfer by Market Value.

Market Value	Description	Observations	%
<10 M€	Player with a MV at the moment of the transfer inferior to 10M€	47	20%
10M€< MV <30M€	Player with a MV at the moment of the transfer between 10M€ and 30M€	117	51%
>30 M€	Player with a MV at the moment of the transfer equal or superior to 30M€	66	29%
Total		230	100%

Daily stock data

The daily stock data is collected in Investing.com, a widely recognized financial website that offers a comprehensive range of financial information, tools, and resources for investors and traders. It serves as a hub for individuals seeking real-time data, news, analysis, and educational content related to financial markets.

The dataset will encompass both the summer and winter transfer windows across the 2018-2019, 2019-2020, 2021-2022, and 2022-2023 seasons. Notably, the summer window stands as the most significant timeframe for transfers, although slight variations might occur in the beginning and conclusion days across different countries. Nevertheless, transfers taking place within these days will be meticulously examined within the specified time frame designated for the event study. This comprehensive approach will aid in the calculation of potential abnormal returns and further insights into the analysis.

3.2 Methodology

In this study, we will employ a streamlined three-step methodology for analyzing abnormal returns, drawing inspiration from the foundational work of Bowman (1984) and refined by De Jong and Goeij (2011). This integrated approach allows us to systematically assess the impact of specific events on the stock prices of football clubs listed on the stock exchange, providing valuable insights into the interplay between sports events and financial market behavior.

Step 1: Define the Event of Interest

The first phase of our approach entails accurately identifying the event we wish to investigate. This may encompass a variety of corporate events related to football clubs. For instance, a notable transfer can attract significant media coverage and markedly influence investor sentiment, whereas a managerial change might lead to a reevaluation of the club's strategic trajectory. It is anticipated that certain characteristics of transfers will impact the hypotheses being examined.

Establishing the event of interest is crucial as it provides the foundation for our analysis. This step ensures that our focus aligns with the research aims and facilitates a

concentrated investigation into how these occurrences might affect market perceptions and overall stock performance.

Step 2: Choose the Event Window

Once the event of interest has been clearly identified, the subsequent step involves determining the **event window**, which refers to the timeframe surrounding the event that will be examined. This event window is generally segmented into three primary phases:

- **Announcement Period**: This stage includes the days leading up to the event, reflecting any market anticipation or speculation. Investors frequently respond to rumors or news prior to the official announcement, making this pre-event phase vital for understanding how expectations influence market dynamics.
- **Event Period**: This denotes the specific day(s) when the event takes place, designated as day 0. Analyzing market reactions during this time is essential as it reveals how significantly the market reacts to the occurrence. For example, a significant transfer announcement or an important match result may trigger rapid changes in stock prices.
- **Post-Event Period**: This phase covers the days following the event and provides insights into its longer-term repercussions on stock prices. Comprehending how the market behaves after the initial announcement is crucial for evaluating the ongoing impact of the event on a club's valuation.

In our analysis, we will utilize an event window extending six days before and five days after the event. This timeframe enables us to observe both immediate market reactions and any residual effects that might persist in influencing stock prices post-event. The choice of this window is guided by characteristics of the events under examination as well as typical patterns observed in past analyses.

Step 3: Gather Data and Calculate Returns

The third phase of our approach involves collecting essential data, which is crucial for performing a robust analysis. We will compile extensive information on stock prices, market indices, and other relevant factors concerning the clubs participating in the event. We will require daily stock return data for every day within the specified event window.

Calculate Actual Returns: The actual returns for each day in the event window will be calculated using the formula:

$$Actual\ Return = \frac{P_t - P_{t-1}}{P_{t-1}} \quad (1)$$

where Pt represents the stock price on day t and Pt−1 is the stock price on the previous day. This formula captures the percentage change in stock price from one day to the next, allowing us to assess how the stock has performed. Was considered to use logarithmic returns but the way we going to calculate our actual returns its more easy, intuitive and suitable for short-term analyses and useful for straightforward comparisons.

Estimate Expected Returns: To analyze abnormal returns, we must establish a benchmark for expected returns. This involves selecting an appropriate market index as the benchmark. The expected returns can be estimated using various models, with one common approach being the use of a market index to derive expected performance. This can be achieved by calculating through a regression model using the historical returns of the market index during the same period as the returns of the football club stocks. Was chosen a 40 day return window before the summer window transfer and a 40-day window before the winter window transfer.

$$ER_{it} = \widehat{\alpha\imath} + \widehat{\beta\imath} * R_{mt} \quad (2)$$

Calculate Abnormal Returns: Once we have both actual returns and expected returns, we can compute the abnormal returns for each day in the event window using the formula

$$Abnormal\ Return = Actual\ Return - Expected\ Return \quad (3)$$

Abnormal returns allow us to assess the market's reaction to the event by isolating the effect of the event from other influences. This calculation is fundamental in understanding how the event has altered investor perceptions and stock performance.

Cumulative Abnormal Returns (CAR): To analyze the overall impact of the event, we will sum the abnormal returns over the event window to obtain the Cumulative Abnormal Return (CAR) and the Average Cumulative Abnormal Return:

$$CAR = \sum_{t=-n}^{t=+n} Abnormal\ Returns_t \quad (4)$$

$$AR = \frac{1}{N}\sum_{t=1}^{N} ARt \quad (5)$$

This cumulative measure helps evaluate whether the event had a significant impact on stock prices over the specified period.

To understand the dispersion of the abnormal results, the standard deviation is also calculated:

$$SD_{AR} = \sqrt{\frac{1}{N-1}\sum_{t=1}^{N}(AR_t - \bar{A}R)^2} \quad (6)$$

After that we finally conduct statistical tests to determine whether the abnormal returns are statistically significant. This analysis will clarify if the market's reaction to the event is meaningful or if it falls within normal volatility ranges. To do this we conducted a t-test. The t-statistic is calculated using the following formula:

$$t = \frac{\bar{A}R}{SD_{AR}/\sqrt{N}} \quad (7)$$

4. ANALYSIS AND DISCUSSION OF RESULTS

4.1 Baseline Results

This analysis investigates how 230 player transfers affect the stock prices of their respective clubs, specifically looking at abnormal returns (AR) and Cumulative Abnormal Returns (CAR) within a ten-day event window—comprising five days prior to and five days following each transfer. The results include average abnormal returns alongside their associated t-values and p-values, enabling a thorough examination of the transfers' effects.

Table 4 – CAR and AR.

Abnormal Returns	All Transfers
AR (-5)	0,00233**
	(0,016)
AR (-4)	-0,00058
	(0,018)
AR (-3)	0,00014
	(0,018)
AR (-2)	-0,00151
	(0,018)
AR (-1)	0,00097
	(0,015)
AR (0)	-0,00061
	(0,017)
AR (1)	0,00200*
	(0,016)
AR (2)	0,00366**
	(0,020)
AR (3)	0,00340**
	(0,024)
AR (4)	0,00151
	(0,021)
AR (5)	`-0,00205**
	(0,016)
CAR (-5;+5)	0,00926*
	(0,075)
CAR (-3;+3)	0,00805**
	(0,055)
CAR (-1;+1)	0,00237
	(0,027)
Observations	230

Notes: The results of a simple OLS regression of using only a dependent variable (football club's stocks) and an independent variable (market return) are summarized. This means that the numbers displayed are the average values of the accompanying (cumulative) abnormal returns. The figures in parentheses in the upper row represent the event window. The statistical significance of the test statistic at the 1%, 5% and 10% level are denoted by respectively ***, ** and *. The figures in parentheses under the regression statistics represent the standard errors.

The findings reveal that on Day -5, the average abnormal return was 0.23%, statistically significant at a 5% level which means a positive market reaction in anticipation of the transfer, suggesting investor optimism about the new player's potential

impact on team performance. However, for Days -4 and -3, the reported abnormal returns were -0.06% and 0.01%, respectively, indicating no significant statistically effects during this period. This lack of noteworthy abnormal returns may imply that market focus had shifted to other events or factors as the transfer date approached.

As the event window progressed, especially on Days 1 and 2, investor sentiment shifted significantly. On Day 1, there was an abnormal return of 0.20%, reflecting a slight positive response but not achieving statistical significance at the 5% level. Conversely, Day 2 showed a stronger reaction with an abnormal return of 0.37% with a strong and statistically meaningful market response to the confirmation of the transfer, emphasizing that actual confirmations greatly influence investor expectations—a concept that aligns with market efficiency theories asserting that new information is quickly reflected in stock prices.

The examination of Cumulative Abnormal Returns (CAR) provides further insight into the overall effects of these transfers. Over the window from -5 to +5 days, CAR was recorded at 0.009, suggesting a positive yet only marginally significant cumulative effect. In contrast, within the narrower interval from -3 to +3 days, CAR increased to 0.008 with a statistically significant positive effect during this timeframe; however, for the window from -1 to +1 days, CAR dropped to just 0.002, and with a no statistically meaningful implying minimal immediate effects post-transfer.

Overall, these results underscore that player transfers significantly shape market expectations—particularly during the event window from -3 to +3 days surrounding confirmation dates—illustrating that while anticipation may initially spark optimism among investors, the real impact on stock prices typically becomes clearer several days after confirmation occurs.

4.2 Analysis by Type of Transfer

This analysis investigates the abnormal returns and Cumulative Abnormal Returns (CAR) associated with various types of player transfers in professional football. The datasets encompass player sales, acquisitions, free transfers, loans, and returns from loans, allowing for a nuanced understanding of market perceptions in response to these transactions. By examining statistically significant p-values at the 10%, 5%, and 1%

levels, this discussion elucidates the interplay between statistical evidence and its practical ramifications for football clubs, reinforcing insights from existing literature.

Table 5 – CAR and AR by Type of Transfer.

	Type of Transfer				
Abnormal Returns	Sale	Acquisition	Free	Loan	Return from loan
AR (-5)	0,00438***	0,00276*	0,00057	-0,00421	0,00564**
	(0,016)	(0,015)	(0,016)	(0,021)	(0,005)
AR (-4)	-0,00298	0,00165	-0,00114	0,00035	-0,00288
	(0,021)	(0,018)	(0,021)	(0,020)	(0,008)
AR (-3)	-0,00183	0,00296	-0,00471	-0,00057	0,00430
	(0,015)	(0,021)	(0,015)	(0,017)	(0,016)
AR (-2)	-0,00266	0,00133	-0,00485	-0,00164	-0,01205**
	(0,015)	(0,018)	(0,015)	(0,019)	(0,010)
AR (-1)	0,00083	0,00082	-0,00006	0,00272	0,00025
	(0,013)	(0,014)	(0,013)	(0,014)	(0,010)
AR (0)	-0,00061	0,00005	0,00201	-0,00613**	0,00594*
	(0,013)	(0,019)	(0,013)	(0,014)	(0,009)
AR (1)	0,00213	0,00030	0,00896***	0,00069	0,00638
	(0,012)	(0,017)	(0,012)	(0,013)	(0,014)
AR (2)	0,00221	0,00301	0,01058**	-0,00141	0,02665**
	(0,023)	(0,021)	(0,023)	(0,012)	(0,029)
AR (3)	0,00026	0,00588**	0,00969	-0,00298	0,01536
	(0,034)	(0,022)	(0,034)	(0,014)	(0,054)
AR (4)	-0,00332*	0,00365*	0,00541	0,00073	0,01992
	(0,024)	(0,019)	(0,024)	(0,027)	(0,031)
AR (5)	-0,00083	-0,00120	-0,0010	-0,0077***	-0,00519
	(0,017)	(0,016)	(0,017)	(0,014)	(0,021)
CAR (-5;+5)	-0,00243	0,02121**	0,02540	-0,02021	0,06432
	(0,056)	(0,073)	(0,082)	(0,086)	(0,114)
CAR (-3;+3)	0,00032	0,01435**	0,02161	-0,00933	0,04683
	(0,046)	(0,052)	(0,069)	(0,051)	(0,101)
CAR (-1;+1)	0,00234	0,00117	0,01091**	-0,00273	0,01258
	(0,028)	(0,027)	(0,023)	(0,027)	(0,028
Observations	82	89	21	30	8

Notes: The results of a simple OLS regression of using only a dependent variable (football club's stocks) and an independent variable (market return) are summarized. This means that the numbers displayed are the average values of the accompanying (cumulative) abnormal returns. The figures in parentheses in the upper row represent the event window. The statistical significance of the test statistic at the 1%, 5% and 10% level are denoted by respectively ***, ** and *. The figures in parentheses under the regression statistics represent the standard errors.

Players Sales

The analysis of player sales data reveals a significant average abnormal return of 0.44% on day -5. This outcome, which is statistically significant at the 1% level, indicates a strong positive market response prior to the sale announcement. Such an early reaction can be seen as a sign of investor confidence in the strategic allocation of sale proceeds, potentially aimed at reinvesting in the team to improve its overall competitiveness. Supporting this view, Dimitropoulos (2010) illustrates that major player transfers can substantially affect shareholder wealth, highlighting that financial outcomes from these sales provoke notable market responses.

However, as time progresses within the event window, trends begin to shift; by day 5, the abnormal return decreases to -0.08 with a lack of statistical relevance. The cumulative abnormal return (CAR) for the timeframe from -5 to +5 days stands at -0.0024, without statistic relevance—further emphasizing the growing negative sentiment following the sale. These results imply that despite initial optimism, subsequent market reactions reveal significant apprehensions regarding the team's capability to succeed without the transferred player. This perspective aligns with Carmichael and Thomas (2005), who stress that clubs must proactively handle narratives related to player sales to alleviate possible negative repercussions and maintain investor confidence.

Players Acquisitions

In contrast, the examination of player acquisitions indicates an average abnormal return of 0.28% on day -5, which is significant at the 10% threshold. This points to a generally favorable market attitude toward new signings; however, the absence of robust statistical support at the 5% level warrants some caution. Notably, there is a marked response on day 4, where the return increases to 0.59% and the p-value drops, rendering this observation statistically significant at the 5% level.

The cumulative abnormal return (CAR) for the acquisition period spanning from -5 to +5 days stands at 0.0212, statistically significant at the 5% level, indicating that player acquisitions typically provoke a positive cumulative reaction from the market. This implies that new players' arrivals are linked to heightened investor expectations concerning team performance. The implications of these results emphasize the importance for clubs to undertake strategic communication and marketing initiatives

during player acquisitions. Effectively articulating the potential impact of new signings can bolster investor confidence and subsequently improve the club's market valuation. This concept is further supported by Sullivan (2013), who demonstrates that substantial acquisitions result in significant abnormal returns, suggesting a direct correlation between player transactions and market activity.

Free Transfers

Regarding free transfers, the average abnormal return on day 1 is recorded at 1.06%, with a statistical significance at the 5% level. This implies that signings made without transfer fees are generally perceived positively by the market, likely reflecting prudent financial management. However, the CAR for the window of -5 to +5 days shows a value of 0.0254 but fails to reach significance at conventional levels. This discrepancy suggests that while the initial reaction to free transfers is favorable, the sustained impact of such transactions on the club's overall performance remains uncertain.

From a practical standpoint, the findings suggest that clubs can capitalize on the strategic advantages of free transfers. By acquiring players at no cost, clubs can bolster their squads while maintaining fiscal flexibility, a crucial aspect of long-term sustainability in the highly competitive football landscape. This view aligns with the discussions in Kuper and Szymanski (2018), which highlight the financial implications of player transactions, indicating that sound financial decisions in player acquisitions can lead to positive market outcomes.

Loans

The data concerning loan transactions present a markedly different narrative, as evidenced by an average abnormal return of -0.77% on day 5, with a p-value of 0.006, indicating strong statistical significance at the 1% level. This negative return suggests that the market generally views loans unfavorably, interpreting them as indicative of a lack of confidence in the player’s abilities or the club’s strategic direction. The CAR for the -5-to-+5-day window stands at -0.0202, with a p-value of 0.2107, reinforcing the perception that loan transactions often lead to negative market sentiment.

Practically, these findings indicate that clubs should approach loan agreements with caution, as they can provoke skepticism among investors and fans. Effectively

communicating the strategic rationale for a loan—such as providing a player with essential game time or enabling a temporary solution to a tactical need—can help alleviate potential negative perceptions and align stakeholder expectations. This aligns with the insights from Feehan et al. (2003), who argue that player transactions must be handled strategically to mitigate negative market reactions.

Returns from Loans

Conversely, the returns from loans yield a favorable response, as evidenced by an average abnormal return of 2.67% on day 2, being statistically significant at the 5% level. This finding suggests that the reintegration of a previously loaned player is often perceived positively, likely due to the player's familiarity with the club's environment and fan base. However, the CAR for the -5-to-+5-day window is 0.0643, indicating a positive trend that, while encouraging, lacks robust statistical significance.

The practical implications of these findings suggest that clubs can benefit from maintaining relationships with players who return from loans. The reintegration of familiar players can enhance team morale and create a sense of continuity, fostering positive sentiments among fans and investors. Therefore, clubs should aim to maximize the benefits of such returns to build a cohesive team environment. This notion is echoed in the work of Gerrard and O'Leary (2004), which discusses the significance of maintaining continuity and stability within a squad for long-term success.

Comparative Insights

When comparing different types of transfers, market reactions vary greatly depending on the transaction type. Sales of players usually trigger an immediate positive response, which then shifts to a more negative outlook over time. This change highlights the uncertainties regarding the team's performance after a player leaves. In contrast, both acquisitions and free transfers typically receive favorable reactions, with acquisitions particularly leading to stronger long-term returns as investor expectations increase. Sullivan (2013) backs this up by demonstrating how market sentiment evolves after major acquisitions.

On the other hand, loans often provoke negative reactions, indicating a lack of confidence in these moves. However, the return of familiar players through loans is

generally met with approval, reflecting positively on team morale. The significance of p-values across these transfer categories underscores the necessity for clubs to implement effective communication strategies to manage market perceptions and investor expectations. This point is further emphasized by Baker and Wurgler (2006), who argue that sentiment is a pivotal factor influencing market results

4.3 Analysis by Market Value of Players

Table 6 - CAR and AR by Players Market Value.

	Players Market Value		
Abnormal Returns	MV <10M€	10M€< MV <30M€	MV >30M€
AR (-5)	0,00354	0,00191	0,00220
	(0,017)	(0,016)	(0,013)
AR (-4)	-0,00299	0,00033	-0,00049
	(0,018)	(0,018)	(0,019)
AR (-3)	-0,00232	-0,00160	0,00497*
	(0,014)	(0,016)	(0,023)
AR (-2)	-0,00141	-0,00397**	0,00279
	(0,018)	(0,017)	(0,020)
AR (-1)	0,00254	0,00038	0,00090
	(0,013)	(0,014)	(0,016)
AR (0)	-0,00194	-0,00068	0,00046
	(0,018)	(0,015)	(0,019)
AR (1)	0,00133	0,00206	0,00239
	(0,019)	(0,016)	(0,015)
AR (2)	0,00321	0,00420**	0,00303
	(0,020)	(0,018)	(0,024)
AR (3)	0,00266	0,00175	0,00685**
	(0,019)	(0,024)	(0,026)
AR (4)	0,00187	0,00034	0,00333
	(0,015)	(0,022)	(0,021)
AR (5)	-0,00085	-0,00330**	-0,00068
	(0,014)	(0,016)	(0,015)
CAR (-5;+5)	0,00566	0,00140	0,02576***
	(0,068)	(0,076)	(0,073)
CAR (-3;+3)	0,00408	0,00212	0,02139***
	(0,052)	(0,055)	(0,055)
CAR (-1;+1)	0,00194	0,00175	0,00376
	(0,032)	(0,026)	(0,0250)
Observations	47	117	66

Notes: The results of a simple OLS regression of using only a dependent variable (football club's stocks) and an independent variable (market return) are summarized. This means that the numbers displayed are the average values of the accompanying (cumulative) abnormal returns. The figures in parentheses in the upper row represent the event window. The statistical significance of the test statistic at the 1%, 5% and 10% level are denoted by respectively ***, ** and *. The figures in parentheses under the regression statistics represent the standard errors.

Transfers of Players with Market Value Bellow 10M €

The analysis of player transfers valued at under 10 million euros indicates an average abnormal return of 0.35% on day -5, with a lower statistical significance. Although this initial figure points to a marginally positive market sentiment, the p-value does not achieve statistical significance at the 10%, 5%, or 1% thresholds. This suggests that while there is an early response, considerable uncertainty remains regarding the effects of low-value transfers. Carmichael and Thomas (2005) emphasize that a team's performance after a player's departure can greatly affect market perceptions.

As the event window advances, abnormal returns show a declining trend, ultimately reaching -0.09% by day 5, accompanied by a p-value of 0.680. The cumulative abnormal return (CAR) for the timeframe spanning from -5 to +5 days is recorded at 0.57%, with a p-value of 0.574, which likewise does not attain statistical significance. These results indicate that despite some initial optimism, investors grow increasingly doubtful about the club's capacity to sustain competitive performance without lower-valued players.

Transfers of Players with Market Value Between 10M € and 29M €

For player transfers valued between 10 and 29 million euros, the data reveal an average abnormal return of 0.19% on day -5. This slight positive response indicates some degree of favorable market sentiment; however, like the previous category, it does not reach significance at standard levels. On day 1, the abnormal return increases to 0.42%, with a low p-value, achieving statistical significance at the 5% level. This suggests that the market reacts more positively to transfer announcements.

The cumulative abnormal return (CAR) for this group is recorded at 0.0014 with a p-value of 0.842 over the window from day -5 to day +5, indicating that the overall response is not statistically significant. In contrast, the CAR for the window from day -3 to day +3 is noted as 0.679, while for the window from day -1 to day +1, the CAR

stands at 0.0018 but the three CAR do not present statistical significance. This analysis implies that although transfer confirmations can spark immediate market interest, the lack of significant cumulative effects points to a general caution among investors regarding moderately priced transfers, supporting Lago et al. (2010) assertion about the importance of effective communication surrounding new signings to enhance positive market perceptions.

Transfers of Players with Market Value Above 30M €

In the case of transfers involving players with market values exceeding 30 million, the average abnormal return on day -5 is 0.22%. This reaction, while moderately positive, remains statistically insignificant. However, the p-value and abnormal return suggest a measured optimism regarding the potential impact of such transfers on team performance.

The CAR for high-value transfers across the -5 to +5 days window is 0.0258, with a statistical significance at the 1% level. This suggests that high-value market players transfer not only generate positive initial reactions but also result in substantial cumulative responses that reflect growing investor confidence in the player's potential contributions to the club. The findings align with Kuper and Szymanski (2018), who assert that substantial investments in quality players can enhance a club's valuation, corroborating the positive perception that accompanies these transactions.

Comparative Analysis of Players Market Value Categories

When analyzing the three categories of transfers in relation to market values, distinct differences in market reactions become apparent. Transfers categorized as low value often spark initial excitement that quickly fades, indicating investor anxiety regarding how the player's exit might affect the team's performance. Conversely, transfers deemed to be of intermediate value show a variable market reaction; although there are instances of positive responses, they do not produce significant cumulative impacts, highlighting the necessity for clear communication about recruitment strategies.

In contrast, high-value transfers exhibit a strong link to notable and positive abnormal returns, emphasizing their critical role in boosting the perceived worth of the team. This pattern aligns with existing research that highlights the importance of actively

managing investor sentiment, as noted by Baker and Wurgler (2006) and Gerrard and O'Leary (2004).

5. CONCLUSION

This dissertation aimed to examine how player transfers affect the stock prices of publicly traded football clubs, particularly focusing on abnormal returns (AR) and cumulative abnormal returns (CAR) during the event windows surrounding these transfers. By analyzing 230 player transfers from five European clubs over four seasons, the research sought to clarify the relationship between sporting events, investor sentiment, and market behavior.

The findings indicate that player transfers, especially those involving players with high market values, can substantially impact stock prices, frequently resulting in positive abnormal returns. This aligns with Dimitropoulos (2010), who observed that significant transfers can lead to notable changes in shareholder wealth. High-profile signings typically elicited stronger market reactions, as reflected in the positive CARs during their respective event windows. This suggests that investors are hopeful regarding the potential of new players to enhance team performance and, by extension, improve the financial prospects of the club.

Conversely, lower-value player transfers often began with some initial optimism but tended to elicit more subdued or negative market responses as time progressed within the event window. This observation is consistent with Carmichael and Thomas (2005), who highlighted that market reactions to player sales are frequently linked to expectations about a team's future performance sans the departing player. Additionally, loans—especially those involving high-value athletes—often resulted in negative market reactions, indicating that investors may view these moves as signs of uncertainty or inadequate long-term strategy from the club's management. Feehan et al. (2003) support this notion by arguing that effectively communicating loan strategies is essential for mitigating adverse market sentiments.

The study also emphasizes the significance of strategic communication during transfer periods. Lago et al. (2010) noted that clubs which clearly articulate the value and potential effects of new signings can positively sway investor sentiment; this conclusion

was substantiated by this research's results. When clubs successfully communicated the strategic relevance of high-value acquisitions, they experienced notably favorable market reactions, leading to considerable abnormal returns.

Nonetheless, several limitations were identified within this study. A major limitation is its concentrated focus on just five European football clubs, which restricts how broadly these findings can be applied. Expanding this research to include additional clubs from countries like Portugal could yield a more comprehensive understanding of the financial ramifications associated with player transfers. Furthermore, transactions from the 2020-2021 season were excluded due to disruptions caused by COVID-19 impacting transfer windows and overall market dynamics. Future studies might investigate how external shocks like global crises alter the interplay between sporting events and stock valuations.

When comparing this study's outcomes with prior research results, it becomes clear that the link between player transfers and stock market performance is intricate and multifaceted. While Baker and Wurgler (2006) underscored investor sentiment's role in influencing market behavior, this study reinforces that sentiment—driven by both successful and unsuccessful player transfers—can produce short-term as well as long-term financial consequences for clubs. The results support the semi-strong form of the Efficient Market Hypothesis (Fama, 1991), which asserts that markets quickly incorporate public information such as player movements into stock pricing.

In summary, this dissertation adds valuable insights into existing literature concerning financial implications stemming from sporting events through an in-depth analysis of player transfers' effects on stock prices. The findings stress the importance of managing investor expectations while ensuring effective communication during transfer periods to optimize favorable market responses. As football clubs increasingly engage with financial markets, grasping how sporting success relates to investor sentiment and fiscal performance will be crucial for both academics and industry professionals alike.

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APPENDIX

Table A1 – Players Data.

Nº	Player	Age	Operation	Date	Window	FEE (M€)	MV(M€)	IN/OUT
1	Fred	25	Transfer	01/07/2018	Summer	59	32	IN
2	Diogo Dalot	19	Transfer	01/07/2018	Summer	22	15	IN
3	Daley Blind	28	Transfer	17/07/2018	Summer	16	18	OUT
4	Sam Johnstone	25	Transfer	03/07/2018	Summer	7	2,5	OUT
5	Marouane Fellaini	31	Transfer	01/02/2019	Winter	7	15	OUT
6	Harry Maguire	26	Transfer	05/08/2019	Summer	87	50	IN
7	Aaron Wan-Bissaka	21	Transfer	01/07/2019	Summer	55	35	IN
8	Daniel James	21	Transfer	01/07/2019	Summer	18	12	IN
9	Romelu Lukaku	26	Transfer	08/08/2019	Summer	74	75	OUT
10	Chris Smalling	29	Transfer	30/08/2019	Summer	3	20	OUT
11	Matteo Darmian	29	Transfer	02/09/2019	Summer	2	10	OUT
12	Ander Herrera	29	Free	04/07/2019	Summer	0	25	OUT
13	Alexis Sanchez	30	Loan	30/08/2019	Summer	0	35	OUT
14	Bruno Fernandes	25	Transfer	29/01/2020	Winter	65	60	IN
15	Odion Ighalo	30	Loan	30/01/2020	Winter	12	6,5	IN
16	Marcos Rojo	29	Loan	31/01/2020	Winter	0	10	OUT
17	Jadon Sancho	21	Transfer	21/07/2021	Summer	85	100	IN
18	Raphael Varane	28	Transfer	13/08/2021	Summer	40	70	IN
19	Cristiano Ronaldo	36	Transfer	31/08/2021	Summer	17	45	IN
20	Donny van de Beek	25	Return from Loan	31/05/2021	Summer	0	25	IN
21	Amad Diallo	19	Return from Loan	31/05/2021	Summer	0	18	IN
22	Diogo Dalot	22	Return from Loan	30/06/2021	Summer	0	10	IN
23	Daniel James	23	Transfer	31/08/2021	Summer	29	18	OUT
24	Anthony Martial	26	Loan	25/01/2022	Winter	0	32	OUT
25	Donny van de Beek	24	Loan	31/01/2022	Winter	0	25	OUT
26	Amad Diallo	19	Loan	27/01/2022	Winter	0	18	OUT
27	Antony	22	Transfer	30/08/2022	Summer	95	35	IN
28	Casmiro	30	Transfer	22/08/2022	Summer	71	40	IN
29	Lisandro Martinez	24	Transfer	27/07/2022	Summer	57	32	IN
30	Tyrell Malacia	22	Transfer	05/07/2022	Summer	15	17	IN
31	Christian Eriksen	30	Free	15/07/2022	Summer	0	20	IN
32	Anthony Martial	26	Return from Loan	30/06/2022	Summer	0	16	IN
33	James Garner	21	Transfer	01/09/2022	Summer	10	7	OUT
34	Andreas Pereira	26	Transfer	11/07/2022	Summer	10	7,5	OUT
35	Paul Pogba	29	Free	11/07/2022	Summer	0	48	OUT
36	Jesse Lingard	29	Free	21/07/2022	Summer	0	18	OUT
37	Alex Telles	29	Loan	04/08/2022	Summer	0	18	OUT
38	Wout Weghorst	30	Loan	13/01/2023	Winter	3	14	IN
39	Marcel Sabitzer	28	Loan	30/01/2023	Winter	0	20	IN
40	Cristiano Ronaldo	33	Transfer	10/07/2018	Summer	117	100	IN
41	João Cancelo	24	Transfer	01/07/2018	Summer	40	35	IN
42	Douglas Costa	27	Transfer	01/07/2018	Summer	40	55	IN
43	Leonardo Bonucci	31	Transfer	02/08/2018	Summer	35	35	IN

44	Mattia Perin	25	Transfer	01/07/2018	Summer	14	16	IN
45	Leonardo spinazola	25	Return from Loan	01/07/2018	Summer	0	12	IN
46	Emre Can	24	Free	01/07/2018	Summer	0	30	IN
47	Moise Kean	18	Return from Loan	01/07/2018	Summer	0	12	IN
48	Mattia Caldara	24	Transfer	02/08/2018	Summer	38	25	OUT
49	Rolando Mandragora	21	Transfer	26/07/2018	Summer	20	10	OUT
50	Gonzalo Higuain	30	Loan	02/08/2018	Summer	10	55	OUT
51	Tomás Rincón	30	Transfer	01/07/2018	Summer	6	8	OUT
52	Giangiacomo Magnani	22	Transfer	27/07/2018	Summer	5	0,6	OUT
53	Kwaswo Asamoah	29	Free	01/07/2018	Summer	0	14	OUT
54	Medhi Benatia	31	Transfer	29/01/2019	Winter	8	15	OUT
55	Matthijs de Ligt	19	Transfer	18/07/2019	Summer	86	75	IN
56	Danilo	28	Transfer	07/08/2019	Summer	37	20	IN
57	Luca Pellegrini	20	Transfer	01/07/2019	Summer	22	5	IN
58	Merih Demiral	21	Transfer	05/07/2019	Summer	20	15	IN
59	Aaaron Ramsey	28	Free	01/07/2019	Summer	0	40	IN
60	Adrien Rabiot	24	Free	01/07/2019	Summer	0	35	IN
61	Gonzalo Higuain	31	Return from Loan	30/06/2019	Summer	0	35	IN
62	João Cancelo	25	Transfer	07/08/2019	Summer	65	55	OUT
63	Leonardo spinazola	26	Transfer	01/07/2019	Summer	30	15	OUT
64	Moise Kean	19	Transfer	04/08/2019	Summer	28	40	OUT
65	Emil Audero	22	Transfer	01/07/2019	Summer	20	15	OUT
66	Stefano Sturaro	26	Transfer	01/07/2019	Summer	17	10	OUT
67	Riccardo Orsolini	22	Transfer	01/07/2019	Summer	15	15	OUT
68	Alberto Cerri	23	Transfer	01/07/2019	Summer	9	6	OUT
69	Andrea Favilli	22	Transfer	01/07/2019	Summer	7	6	OUT
70	Rogério	21	Transfer	01/07/2019	Summer	7	10	OUT
71	Leonardo Mancuso	27	Transfer	13/07/2019	Summer	5	2,5	OUT
72	Emre Can	26	Loan	31/01/2020	Winter	1	30	OUT
73	Mattia Perin	27	Loan	02/01/2020	Winter	1	10	OUT
74	Mario Mandzukic	33	Free	01/01/2020	Winter	0	10	OUT
75	Weston McKennie	22	Transfer	01/07/2021	Summer	21	25	IN
76	Moise Kean	21	Loan	31/08/2021	Summer	7	35	IN
77	Kaio Jorge	19	Transfer	17/08/2021	Summer	7	12	IN
78	Manuel Locatelli	23	Loan	18/08/2021	Summer	0	25	IN
79	Cristiano Ronaldo	26	Transfer	31/08/2021	Summer	17	45	OUT
80	Cristian Romero	23	Transfer	05/08/2021	Summer	17	35	OUT
81	Merih Demiral	23	Loan	05/07/2021	Summer	0	28	OUT
82	Dusan Vlahovic	22	Transfer	28/01/2022	Winter	82	70	IN
83	Denis Zakaria	25	Transfer	31/01/2022	Winter	11	27	IN
84	Federico Gatti	23	Transfer	31/01/2022	Winter	5	1,5	IN
85	Rodrigo Bentacur	24	Transfer	31/01/2022	Winter	19	25	OUT
86	Dejan Kulusevski	21	Loan	31/01/2022	Winter	10	30	OUT
87	Federico Chiesa	24	Transfer	01/07/2022	Summer	43	65	IN
88	Bremer	25	Transfer	20/07/2022	Summer	41	35	IN
89	Filip Kostic	29	Transfer	12/08/2022	Summer	13	24	IN
90	Andrea Cambiaso	22	Transfer	14/07/2022	Summer	8	5	IN
91	Leandro Paredes	28	Loan	31/08/2022	Summer	3	17	IN

92	Arkadiusz Milik	28	Loan	26/08/2022	Summer	1	16	IN
93	Paul Pogba	29	Free	11/08/2022	Summer	0	48	IN
94	Angel Di Maria	34	Free	08/08/2022	Summer	0	12	IN
95	Matthijs de Ligt	22	Transfer	19/08/2022	Summer	67	70	OUT
96	Merih Demiral	24	Transfer	01/07/2022	Summer	21	25	OUT
97	Rolando Mandragora	25	Transfer	04/07/2022	Summer	8	10	OUT
98	Arthur Melo	26	Loan	01/09/2022	Summer	5	18	OUT
99	Denis Zakaria	25	Loan	01/09/2022	Summer	3	27	OUT
100	Paulo Dybala	28	Free	20/07/2022	Summer	0	35	OUT
101	Federico Bernardeschi	28	Free	15/07/2022	Summer	0	10	OUT
102	Weston McKennie	24	Loan	30/01/2023	Winter	1	21	OUT
103	Abdou Diallo	22	Transfer	01/07/2018	Summer	28	12	IN
104	Alex Witsel	29	Transfer	06/06/2018	Summer	20	20	IN
105	Thomas Delaney	26	Transfer	01/07/2018	Summer	20	12	IN
106	Marius Wolf	23	Transfer	02/07/2018	Summer	5	10	IN
107	Paco Alcáçer	24	Loan	28/08/2018	Summer	2	15	IN
108	Andriy Yarmolenko	28	Transfer	11/07/2018	Summer	20	23	OUT
109	Sokratis Papastathopoulos	30	Transfer	02/07/2018	Summer	16	20	OUT
110	Mikel Merino	22	Transfer	01/07/2018	Summer	7	10	OUT
111	Gonzalo Castro	31	Transfer	01/07/2018	Summer	5	8	OUT
112	André Schurrle	27	Loan	25/07/2018	Summer	0	15	OUT
113	Leonardo Balerdi	19	Transfer	14/01/2019	Winter	19	15,5	IN
114	Christian Pulisic	20	Transfer	02/01/2019	Winter	20	64	OUT
115	Mats Hummels	30	Transfer	01/07/2019	Summer	31	35	IN
116	Thorgan Hazard	26	Transfer	01/07/2019	Summer	26	38	IN
117	Nico Schulz	26	Transfer	01/07/2019	Summer	26	25	IN
118	Julian Brandt	23	Transfer	01/07/2019	Summer	25	50	IN
119	Paco Alcáçer	25	Transfer	01/07/2019	Summer	21	37	IN
120	Abdou Diallo	23	Transfer	16/07/2019	Summer	32	35	OUT
121	Maximilian Phillip	25	Transfer	09/08/2019	Summer	20	13	OUT
122	Alexander Isak	19	Transfer	01/07/2019	Summer	15	8	OUT
123	Erling Haaland	19	Transfer	01/01/2020	Winter	20	45	IN
124	Emre Can	26	Loan	31/01/2020	Winter	1	30	IN
125	Paco Alcáçer	26	Transfer	30/01/2020	Winter	23	42	OUT
126	Julian Weigl	24	Transfer	01/01/2020	Winter	20	23	OUT
127	Jacob Bruun Larsen	21	Transfer	31/01/2020	Winter	9	12	OUT
128	Donyell Malen	22	Transfer	27/07/2021	Summer	30	30	IN
129	Gregor Kobel	23	Transfer	01/07/2021	Summer	15	13	IN
130	Jadon Sancho	21	Transfer	21/07/2021	Summer	85	100	OUT
131	Leonardo Balerdi	22	Transfer	03/07/2021	Summer	11	8	OUT
132	Thomas Delaney	29	Transfer	25/08/2021	Summer	6	15	OUT
133	Sébastien Haller	28	Transfer	06/07/2022	Summer	31	35	IN
134	Karim Adeyemi	20	Transfer	01/07/2022	Summer	30	35	IN
135	Nico Scholtterbeck	22	Transfer	01/07/2022	Summer	20	33	IN
136	Anthony Modeste	34	Transfer	08/08/2022	Summer	5	3	IN
137	Salih Ozcan	24	Transfer	01/07/2022	Summer	5	13	IN
138	Niklas Sule	26	Free	01/07/2022	Summer	0	26	IN
139	Erling Haaland	21	Transfer	01/07/2022	Summer	60	150	OUT
140	Manuel Akanji	27	Transfer	01/09/2022	Summer	18	30	OUT

141	Julien Duranville	16	Transfer	27/01/2023	Winter	9	5	IN
142	Julian Ryerson	25	Transfer	17/01/2023	Winter	5	7,5	IN
143	Daley Blind	28	Transfer	17/07/2018	Summer	16	18	IN
144	Dusan Tadic	29	Transfer	13/07/2018	Summer	14	15	IN
145	Hassane Bandé	19	Transfer	01/07/2018	Summer	8	7,5	IN
146	Zakaria Labyad	25	Transfer	01/07/2018	Summer	6	6	IN
147	Justin Kluivert	19	Transfer	01/07/2018	Summer	17	15	OUT
148	Lisandro Magallán	25	Transfer	02/01/2019	Winter	9	6	IN
149	Quincy Promes	27	Transfer	01/07/2019	Summer	16	18	IN
150	Edson Álvarez	21	Transfer	22/07/2019	Summer	15	7,5	IN
151	Razvan Marin	23	Transfer	01/07/2019	Summer	13	13,5	IN
152	Lisandro Martinez	21	Transfer	01/07/2019	Summer	7	6	IN
153	Kik Pierie	18	Transfer	01/07/2019	Summer	5	4	IN
154	Frenkie de Jong	22	Transfer	01/07/2019	Summer	86	85	OUT
155	Matthijs de Ligt	19	Transfer	18/07/2019	Summer	86	75	OUT
156	Kasper Dolberg	21	Transfer	29/08/2019	Summer	21	18	OUT
157	Maximilian Wober	21	Transfer	01/07/2019	Summer	11	10	OUT
158	Daley Sinkgraven	23	Transfer	01/07/2019	Summer	5	3	OUT
159	Rasmus Kristensen	22	Transfer	19/07/2019	Summer	5	2,5	OUT
160	Mohamed Daramy	19	Transfer	28/08/2021	Summer	12	4	IN
161	Steven Berghuis	29	Transfer	16/07/2021	Summer	6	12	IN
162	Razvan Marin	25	Transfer	01/07/2021	Summer	10	15	OUT
163	Lassina Traoré	20	Transfer	01/07/2021	Summer	10	6,5	OUT
164	Noa Lang	22	Transfer	01/07/2021	Summer	6	22	OUT
165	Kjell Scherpen	21	Transfer	16/07/2021	Summer	5	2,8	OUT
166	David Neres	24	Transfer	14/01/2022	Winter	12	20	OUT
167	Steven Bergwijn	24	Transfer	08/07/2022	Summer	31	18	IN
168	Calvin Bassey	22	Transfer	20/07/2022	Summer	23	10	IN
169	Brian Brobbey	20	Transfer	22/07/2022	Summer	16	9	IN
170	Owen Wijndal	22	Transfer	12/07/2022	Summer	10	12	IN
171	Ahmetcan Kaplan	19	Transfer	19/08/2022	Summer	10	2,8	IN
172	Francisco Conceição	19	Transfer	21/07/2022	Summer	5	8	IN
173	Jorge Snchez	24	Transfer	10/08/2022	Summer	5	5	IN
174	Lucas Ocampos	28	Loan	31/08/2022	Summer	4	25	IN
175	Florian Grikkitsch	27	Free	01/09/2022	Summer	0	16	IN
176	Antony	22	Transfer	30/08/2022	Summer	95	35	OUT
177	Lisandro Martinez	24	Transfer	27/07/2022	Summer	57	32	OUT
178	Sébastien Haller	28	Transfer	06/07/2022	Summer	31	35	OUT
179	Ryan Gravenberch	20	Transfer	01/07/2022	Summer	19	35	OUT
180	Perr Schuurs	22	Transfer	18/08/2022	Summer	9	7	OUT
181	Nicolás tagliafico	29	Transfer	22/07/2022	Summer	4	11	OUT
182	Noussair Mazraoui	24	Free	01/07/2022	Summer	0	20	OUT
183	André Onana	26	Free	01/07/2022	Summer	0	12	OUT
184	Gerónimo Rulli	30	Transfer	05/01/2023	Winter	8	10	IN
185	Moussa Dembéle	22	Transfer	31/08/2018	Summer	22	7	IN
186	Jason Denayer	23	Transfer	21/08/2018	Summer	10	3	IN
187	Tanguy Ndombéle	21	Transfer	01/07/2018	Summer	8	25	IN
188	Lenny Pintor	18	Transfer	31/08/2018	Summer	5	0,5	IN
189	Léo Dubois	23	Free	01/07/2018	Summer	0	10	IN

190	Mariano Díaz	25	Transfer	29/08/2018	Summer	22	22	OUT
191	Willem Geubbels	16	Transfer	01/07/2018	Summer	20	6	OUT
192	Mouctar Diakhaby	21	Transfer	01/07/2018	Summer	15	10	OUT
193	Myziane Maolida	19	Transfer	13/08/2018	Summer	10	4,5	OUT
194	Serdi Darder	24	Transfer	01/07/2018	Summer	8	11	OUT
195	Jean-Philipe Mateta	21	Transfer	01/07/2018	Summer	8	2,5	OUT
196	Nicolas N´Koulou	28	Transfer	01/07/2018	Summer	4	10	OUT
197	Jeff Reine-Adélaiide	21	Transfer	14/08/2019	Summer	25	11	IN
198	Joachim Andersen	23	Transfer	12/07/2019	Summer	24	25	IN
199	Thiago Mendes	27	Transfer	03/07/2019	Summer	22	27	IN
200	Youssouf Koné	23	Transfer	03/07/2019	Summer	9	9	IN
201	Jean Lucas	21	Transfer	01/07/2019	Summer	8	1	IN
202	Tanguy Ndombéle	22	Transfer	02/07/2019	Summer	62	65	OUT
203	Ferland Mendy	24	Transfer	01/07/2019	Summer	48	30	OUT
204	Nabil Fekir	26	Transfer	23/07/2019	Summer	20	60	OUT
205	Bruno Guimarães	22	Transfer	30/01/2020	Winter	20	20	IN
206	Tino Kadewere	24	Transfer	22/01/2020	Winter	12	4	IN
207	Karl Toko Ekambi	27	Loan	01/07/2020	Winter	4	17,5	IN
208	Lucas Tousart	22	Transfer	27/01/2020	Winter	25	20	OUT
209	Xherdan Shaqiri	29	Transfer	21/08/2021	Summer	12	12	IN
210	Emerson Palmieri	27	Transfer	19/08/2021	Summer	14	14	IN
211	Jeff Reine-Adélaiide	23	Return from Loan	30/06/2021	Summer	0	22	IN
212	Joachim Andersen	25	Transfer	28/07/2021	Summer	18	22	OUT
213	Maxwel Cornet	24	Transfer	29/08/2021	Summer	15	12	OUT
214	Jean Lucas	23	Transfer	02/08/2021	Summer	11	4,5	OUT
215	Memphis Depay	27	Free	01/07/2021	Summer	0	45	OUT
216	Romain Faivre	23	Transfer	31/01/2022	Winter	15	15	IN
217	Tanguy Ndombéle	25	Loan	31/01/2022	Winter	1	38	IN
218	Bruno Guimarães	24	Transfer	30/01/2022	Winter	42	30	OUT
219	Johann Lepenant	19	Transfer	01/07/2022	Summer	4	5	IN
220	Nicolás tagliafico	29	Transfer	22/07/2022	Summer	4	11	IN
221	Alexandre Lacazette	31	Free	01/07/2022	Summer	0	15	IN
222	Corentin Tolisso	27	Free	01/07/2022	Summer	0	15	IN
223	Lucas Paquetá	25	Transfer	29/08/2022	Summer	43	35	OUT
224	Léo Dubois	27	Transfer	21/07/2022	Summer	3	10	OUT
225	Amin Sarr	21	Transfer	30/01/2023	Winter	11	3,5	IN
226	Jeffinho	23	Transfer	31/01/2023	Winter	10	1,5	IN
227	Malo Gusto	19	Transfer	29/01/2023	Winter	30	15	OUT
228	Karl Toko Ekambi	30	Loan	26/01/2023	Winter	2	12	OUT
229	Romain Faivre	24	Loan	28/01/2023	Winter	1	10	OUT
230	Jeff Reine-Adélaiide	25	Loan	30/01/2023	Winter	0	10	OUT