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Sports failures and stock returns between rationality and emotionality: Evidence from the UEFA Champions League

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Sports failures and stock returns between rationality and emotionality: evidence from the UEFA Champions League

Abstract

The paper explores the relationships between sports performance and financial performance in football, with a focus on the UEFA Champions League competition games. Conducting an Event Study Analysis on games of listed football companies taking part in the UEFA Champions League from 2006, the paper finds that the exit from the competition produced a negative statistically significant impact on the stock returns of listed football companies. A double, mixed and contrasting effect co-exists: the rational and the emotional (sentiment). On the one hand, investors rationally evaluate the sports failures by considering the teams' realistic chances of success. On the other hand, certain emotional aspects are important in investors' decisions. The emotional part is also present in variables that were originally expected to be rational.

Keywords

Football, Event Study Analysis, sports performance, financial performance, abnormal return, football companies' value

1. Introduction

The business of football in Europe, despite the absence of fans for a large part of the 2020/21 season due to COVID restrictions, still grew in revenue terms by 10% to €27.6 billion (Deloitte, 2022). Qualifying for and achieving success in UEFA club competition has always been a key differentiator in club revenues. The winners of the UEFA Champions League have increased their worth well in

excess of €100 million in recent years. Financial competition among clubs is as high as sporting competition, which is one of the reasons why football clubs have turned to the stock exchange (Mitchell and Stewart, 2007). Tottenham Hotspurs was in 1983 the first football club to be listed on the stock exchange. Many European clubs have followed since.

In efficient markets, investors respond to new information or news that in one way or another might affect the companies they invest in. The response of investors has an impact on the financial valuation of the company. Given the huge amount of money involved in football, but especially in the Champions League, the relationship between sporting and financial performance related to such competition is worth investigating.

Previous empirical analysis shows that the sporting results of listed football clubs affect both stock abnormal returns and the trading volume around the dates of matches. Psychological and emotional factors influence stock returns. Wann et al. (2001) reported that fans frequently experience a strong positive reaction when their team performs well and an equivalent negative response when the team performs poorly. In this paper we show the relationship between football events, a negative one like the exit from the UEFA Champions League, and stock returns, based on the thesis that sports results affect investor sentiment.

As for any public company, good and bad news influences the stock price, as is does for football results (wins or losses). Fans have a positive or negative reaction in relation to their team's performance. The emotional impact of football affects supporters' health, finances and productivity, and the share price of football teams. Broadly speaking, investor sentiment is the feelings of investors when stock prices deviate from the present value of their future cash flows (Bernile and Lyandres, 2011). If fans believe that their team will win, we can expect a greater effect on stock returns after losses than after wins. Sports performance has a strong impact on the optimism or pessimism of individual investors.

The purpose of the paper is to explore the relationships between sports performance, in particular the sport failure represented by a loss, and financial performance in football, with a focus on UEFA Champions League competition games. More precisely, it aims at investigating two conflicting reasons behind the possible abnormal return: the rational expectation, where the investor reacts following a pattern, and investor sentiment, where irrationality prevails. In line with the existing literature in the field (Edmans et al., 2007), our results highlight two kinds of drivers affecting investor reactions. On the one hand, investors rationally evaluate the sports failures considering the teams' realistic chances of success. On the other hand, some emotional and psychological aspects seem important to investors' decisions.

The contribution of our paper is twofold. On the one hand it extends previous studies (Apredianto et al., 2021; Dimic et al., 2018), as it includes in the analysis the new explaining variables (both rational and emotional) defined by the use of a focus group consisting of practitioners in the football industry (sports directors, legal experts, chartered accountants, and auditors) and academics interested in the field. On the other hand, our contribution is related to the use of data on the UEFA Champions League (from 2006 for fifteen years in continuity to Bernile and Lyandres, 2011), the most important worldwide football club competition, and the fact that the exit from the competition represents a definitive and unrepeatably event, determining the final result on the competition of the year. In this sense it is different from previous studies which analyse a single game within a championship, where a loss (or a draw) can be recovered with a win in another game thus potentially not compromising the final ranking in the championship.

The paper addresses two main research questions: [RQ1] Does the exit from the UEFA Champions League affect the football companies' value?; and [RQ2] Which drivers, if any, can explain the relationship between the exit from the UEFA Champions League and football companies' value?

2. Literature review

The literature shows the asymmetric stock market reaction to wins and losses and that the stock market's inefficient response to resolutions of uncertainty depend on investors' biased ex-ante beliefs (Bernile and Lyandres, 2011). Some literature shows that positive or negative abnormal returns can be explained by an emotional effect of supporters, also described as investment sentiment, defined as “a belief about future cash flows and investment risks that is not justified by the facts at hand” (Baker and Wurgler, 2007; Dimic et al., 2018). Overall, the literature is not exactly unanimous one way or the other.

Renneboog and Vanbrabant (2000) were among the first to research the relationship between sporting performance, financial performance, and market performance of European football clubs. Their findings showed that the share price reactions to sporting results might depend on the season's results and on which stock exchange the soccer clubs are listed. The research also indicated that much larger abnormal returns are generated after promotion to the Premier League and European Champions League because of increased television broadcasting rights and sponsoring income.

Stadtman (2005) used the Borussia Dortmund club's stock market data to show that there is a close link between sporting success and subsequent changes in the stock market. Then Edmans et al. (2007) performed a large study over a timeframe from 1973 to 2004, including World Cup games and the major continental competitions involving national teams from various sports, observing how football World Cup results affected the participating countries' stock returns. Their sample included 1,100 football-game observations and an additional 1,500 observations in 4 other major sports (rugby, ice hockey, cricket and basketball). They found that there is a strong negative stock market reaction to losses, especially in the case of football, while in the case of wins there is no significant effect.

Saraç and Zeren (2013) sought to expand the research regarding team performance and stock reactions by examining the three most popular Turkish teams: Beşiktaş, Galatasaray and Fenerbahçe. They confirm the findings of Edmans et al. (2007) that these small- to mid-cap football stocks react to match performance as they are held by fans, extending upon the notion that this is attributable to the fanaticism often seen in sports fans (Zuber et al., 2005; Klein et al., 2009).

More recently Apredianto et al. (2021), confirming some of the previous studies (Fan et al., 2018), found that investors are more sensitive to losses. On the contrary, Abbas (2022), focusing on the relationship between sporting, financial performance and a stock price of three football clubs (Juventus, Borussia Dortmund and Olympique Lyonnais), revealed no effect of the clubs' sporting performance on their share price.

There is a stream of studies arguing that, since sport results seem to affect individuals' mood, it is plausible to expect that they impact the investors' expectations on stock prices as well. Indeed, individuals' mood, as a more irrational element, is the means by which soccer may influence financial markets. The extent of this effect, however, is not straightforward. Wann et al. (1994) documented that fans often experience a strong positive reaction when their team performs well and a corresponding negative reaction when the team performs poorly. Analysing the scores of soccer teams in England, Ashton et al. (2003) found a symmetric market reaction following wins and losses. Then Boido and Fasano (2007) sought to demonstrate whether there is a link between mood and stock returns on the basis of team performance. The findings revealed that the average price/return ratio following wins is higher than the average price/return ratio following unsuccessful matches.

A significant variable affecting the strength of the relationship between sports and financial performance, according to some literature, is the importance of the competition. Saraç and Zeren (2013) noted that match importance (Europe or Champions League games) had a negative effect on the stock return. When observing these teams' performance in the major leagues over the observed period, they did not perform well, which explains the negative correlation. Demir and Rigoni (2017) found that stock markets react more reliably to the effects of European competitions than domestic ones. However, Demir and Danis (2011) observed the "loss effect" that refers to asymmetric market reactions to losses relative to wins. They also documented that the market reacts differently to gains or losses from international and domestic matches. Higher league reputation will lead to higher fans' expectations and the market reacts differently to the results of international and domestic matches (Basu and Sondhi, 2015; Cottingham, 2012). In other words, fans expect their clubs to win

international matches more than domestic ones. Consequently, the results of international matches will affect the market more than those of domestic ones (Basu and Sondhi, 2015).

A final element that we feel deserves attention in this section is the role of the information content of pre-match betting odds. Empirical results in this regard are mixed, as both significant and nonsignificant effects of pre-match betting odds have been found (Bell et al., 2011; Bernile and Lyandres, 2011; Palomino et al., 2009; Scholtens and Peenstra, 2009). The question of whether betting odds encapsulate informational value is therefore still to be answered conclusively. Some studies (Brown and Hartzell, 2001; Edmans et al., 2007) suggested that the market's asymmetric reaction is due to investor optimism. These studies, together with Palomino et al. (2005), used betting odds as a proxy for the investors' beliefs regarding game outcomes. There are, however, reasons to believe that these expectations are not fairly reflected in the odds published by bookmakers even if they are the closest match predictor. Over time, bookmakers have proven to be more skilled at predicting game results, and in order to make a profit, the odds don't reflect this superior information. Consistent with the increased relevance of international football matches in the relationship between sports and financial performance, as it is generally found in the literature, we decided to focus our study on data from the UEFA Champions League. As far as we are aware, except for Bernile and Lyandres (2011) for pre-2006 games, this is the first study using a dataset analysing the exit from the UEFA Champions League of listed football clubs.

3. Data and methods

In order to answer the two research questions posed in section 1, we considered all the exits from the Champions League, since 2006, of clubs listed on financial markets. More specifically, we analysed 110 exits involving all 18 football-listed companies operating in 8 European countries (Denmark, France, Germany, Italy, Portugal, The Netherlands, The United Kingdom, and Turkey) for 15 years

(from 2006 to 2020). Table 1 summarises the stage of the competition when the teams exited and the number of exits for each club/level.

	Group stage	Round of 16	Quarter-finals	Semi-finals	Final	Total
AALBORG	1					1
AFC AJAX	6			1		7
ARSENAL		8	2	1		11
AS ROMA	1	4	2	1		8
BESIKTAS	3	1				4
BORUSSIA DORTMUND	2	3	2		1	8
CELTIC	4	3				7
FENERBAHCE	1		1			2
PORTO	3	6	3			12
GALATASARAY	5	1	1			7
JUVENTUS	2	3	3		2	10
MANCHESTER UNITED	1	1	2			4
OLYMPIQUE LYONNAIS	2	4		2		8
PARKEN	2	1				3
BENFICA	7	1	2			10
SPORTING	5	1				6
SS LAZIO	1					1
TRABZON SPORTIF	1					1
Total	47	37	18	5	3	110

Table 1

To avoid confounding effects and the related assessing bias, we used the LexisNexis database (screening approximately 10,000 global news sources every day) to exclude all the exits that occurred on the same dates of the following confounding events for the listed companies analysed: the publication of periodic financial reports, the occurrence of unusual transactions like a merger or acquisition, earnings announcements, the appointment of a new chief executive officer or Chairman, and the application of outstanding fines or penalties (Aureli et al., 2020).

Concerning the temporal distribution of the events analysed, our dataset consists of at least 2 observations per year, with a minimum of 2 (in 2006) and a maximum of 12 (in 2013). The average number of events analysed per year is 7.33, and the standard deviation is 2.6.

In order to answer the first of the two research questions posed at the end of section 1, we performed an event study analysis (Ball & Brown, 1968; Fama et al., 1969; MacKinlay, 1997), considering the

124 exits from the Champions League summarised in Table 1. Event study analysis is a recognised econometrical technique which is very often used in accounting, finance, and other management studies. Event study analysis considers specific events and tries to determine if they affected the returns of particular securities in a limited period (*event window*). After several seminal (and, in truth, very elementary) applications of event study analysis, this method has improved appreciably and was used in a great number of research articles. More significantly, event study analysis has often been used also to analyse the effect produced by different types of events on the stock returns of listed firms with reference to sport management in general (Lei et al., 2010; Schredelseker & Fidahic, 2011; Ge & Humphreys, 2021), and, in particular, professional football clubs (Renneboog and Vanbrabant, 2000; Ashton et al., 2003; Klein et al., 2009; Martinez & Janney, 2015; Bouchet et al., 2017). Event study analysis needs to correctly define the day when the event analysed occurred and requires specifying a period (including the event day) that allows understanding if the event did affect securities returns. Sometimes, event windows comprise some days before the event (*information leakage period*) to capture any anticipated effects due to leakages. Since Champions League games are usually played on Tuesday and Wednesday evening (with closed markets), in our study we analysed the returns of the two days following each match, determining the exit from the competition so that other sports events did not influence them. Furthermore, the choice of our event windows avoids the consequences of the so-called weekend effect (Bernile and Lyandres, 2011). A statistical or economic model is required to understand if the actual returns of analysed companies over the event windows were affected by the analysed events. The comparison between actual and predicted returns allows us to calculate the *Abnormal Returns (ARs)*, which are algebraically the differences between actual returns and estimated (normal or expected) ones. For instance, for the generic firm i , event date τ and the conditioning information X_τ :

$$AR_{i\tau} = R_{i\tau} - E(R_{i\tau}|X_\tau) \quad (1)$$

We calculated the expected returns using the market model, a simple linear regression model assuming that the return on a generic i -th security at time t (R_{it} , *response variable*) depends on the return on the market portfolio at the same time (R_{mt} , *explanatory variable*).

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (2)$$

Using data for R_{it} and R_{mt} for an adequately large period (called *test period*) before the event, the coefficients ($\hat{\alpha}$ and $\hat{\beta}$) and, subsequently, the normal (3) and the abnormal (4) returns can be estimated:

$$\hat{R}_{it} = \hat{\alpha}_i + \hat{\beta}_i R_{mt} \quad (3)$$

$$AR_{it} = R_{it} - E(R_{it}|X_t) = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt} \quad (4)$$

In this study, we did not consider any leakage period, and the test period used to estimate the market model consists of 250 trading days starting 266 trading days before the event. The size of the estimation window (L_1) is very important because abnormal returns are forecast errors presenting the following distributional parameters:

$$AR_{it} \sim N\left(0, \sigma_{\varepsilon_i}^2 + \frac{1}{L_1} \left(1 + \frac{(R_{mt} - \hat{\mu}_m)^2}{\hat{\sigma}_m^2}\right)\right) \quad (5)$$

Forecast error variance is higher than that for regression residuals, but their difference decreases progressively when the test period increases, becoming negligible when the test period length is big enough. Therefore, we selected a test period of 250 trading days.

After calculating the Abnormal Returns, they can be aggregated, for each security and each event window, obtaining the Cumulative Abnormal Returns (CARs). The distributional parameters of the CARs (as L_1 is high enough) are the following:

$$CAR_i(\tau_1, \tau_2) \sim N(0, (\tau_2 - \tau_1 + 1)\sigma_{\varepsilon_i}^2) \quad (6)$$

To obtain an average measure of the specific type of event analysed, for each event window, it is possible to calculate the *Average Cumulative Abnormal Return* (\overline{CAR}), which is the average of the CARs for all the securities analysed.

$$\overline{CAR}(\tau_1, \tau_2) = \frac{1}{N} \sum_{i=1}^N CAR_i(\tau_1, \tau_2) \quad (7)$$

The distributional parameters for \overline{CAR} , to be considered asymptotic for L_1 and the number of events analysed, are the following:

$$\overline{CAR}(\tau_1, \tau_2) \sim N\left(0, \frac{1}{N^2} \sum_{i=1}^N \sigma_i^2(\tau_1, \tau_2)\right) \quad (8)$$

The distributional parameters for ARs , $CARs$ and \overline{CARs} allow us to test the evidence against the null hypothesis that the given event has no impact on the behaviour of the security returns.

The financial data used to estimate the expected returns were drawn from the REFINITIV™ Eikon Datastream financial time series database. The market portfolio used to estimate the abnormal returns is the Stoxx Europe Football index, covering all the soccer clubs listed on a stock exchange in Europe or Eastern Europe, Turkey or the enlarged region of the European Union. All the calculations and statistical analyses were performed using the R software (R Core Team, 2021; Rstudio Team, 2021; Fox and Bouchet-Valat, 2020).

To answer our second research question [RQ2], that is to find the potential drivers (if any) of the impact of sports failures on the football companies' value, we sought to search for the main causes affecting investors' reactions when a football team exits from the UEFA Champions League. We conducted a focus group consisting of practitioners in the football industry (sports directors, legal experts, chartered accountants, and auditors) and academics interested in the field to gather relevant opinions about the designated topic. The discussion suggested the following variables, which have been constructed as they are considered potentially able to contribute to the explanation of the significance of the disciplinary effect caused by the “hit the market” event:

- **Perceived Percentage** (*PercPtg*): a value between 0 and 1 indicating the percentage of the money collected by a football club, compared to the total prize money the winning team obtains throughout the competition. Basically, this variable measures the length of the route taken by the team in the competition since additional prize money is specifically provided for each further stage reached.
- **Achieved Objective** (*AchObj*): a dichotomous variable taking on a value of 1 if the club complied with the objective imposed depending on the previous placement in the same competition and 0 on the contrary event. The expected objective was calculated as a weighted

average of the company's results in the 3 editions prior to the current one. In the weighted average, less weight was given to older results than the latest ones.

- **Elimination after the group stage** (*GrpStg*): a dichotomous variable assuming a value of 1 if the club went beyond the group stage and 0 if it failed to progress to the round of 16. In its present format, after three qualifying rounds and a play-off round in late June, the Champions League starts in Autumn with the group stage involving 32 teams drawn into eight groups. The group winners and runners-up proceed to the knockout phase, culminating with the final match in late May or early June. The importance of overcoming the round of 16 is twofold. For small-medium football companies, going beyond the group stage means obtaining additional financial resources while, for big ones, it allows them to defend their reputation, not disappoint their fans and avoid downgrades in the specialised rankings.
- **Exit with a lower team** (*LowTeam*): a dichotomous variable taking a value of 1 if the club has been eliminated by a team with a lower UEFA Ranking and 0 if not. “The association club coefficients are based on the results of each association's clubs in the five previous UEFA Champions League and UEFA Europa League seasons. The rankings determine the number of places allocated to an association (country) in forthcoming UEFA club competition” (from the official UEFA website).
- **Blazon** (*Bzn*): a dichotomous variable that assumes a value of 1 if the exiting club has won the Champions League at least once in its history and 0 otherwise. This variable aims at capturing the emotional impact on football teams’ stock returns derived from their notoriety and fame due to the successes achieved in previous years. However, it should be stated that the expectations related to football teams’ blazon could be biased because of an overrated evaluation by the so-called investor-fans, technically people who “do not trade on information that may affect cash flows but, rather, appear to obtain value from mere ownership” (Zuber et al., 2005).

4. Empirical evidence

Aiming at identifying the (potential) negative impact produced by exits from the Champions League on the football companies' security returns, we took into consideration the event windows, including respectively the first day and the first two days immediately after the match enshrining the elimination of the team (Table 2).

Event windows	\overline{CARs}	St.dev (\overline{CARs})	p -value
EW(1)	-0.021596012	0.002837019	$1.34714 \cdot 10^{-14}$ ***
EW(1;2)	-0.023242107	0.004012151	$3.458462 \cdot 10^{-8}$ ***

*Signif. codes: '***' 0.001, '**' 0.01, '*' 0.05, '.' 0.1*

Table 2

Both the two \overline{CARs} calculated in the event windows analysed are consistent and very significant from a statistical viewpoint. It means that, on average, elimination from the Champions League is not only a negative sports result but also entails a significant reduction in the exited football companies' value.

By analysing the CARs of the 110 exits taken into consideration, it is possible to obtain a more detailed representation of the situation. Figure 1 shows, by way of example, all the scaled CARs for the event window consisting of only the day after the match determining the elimination.

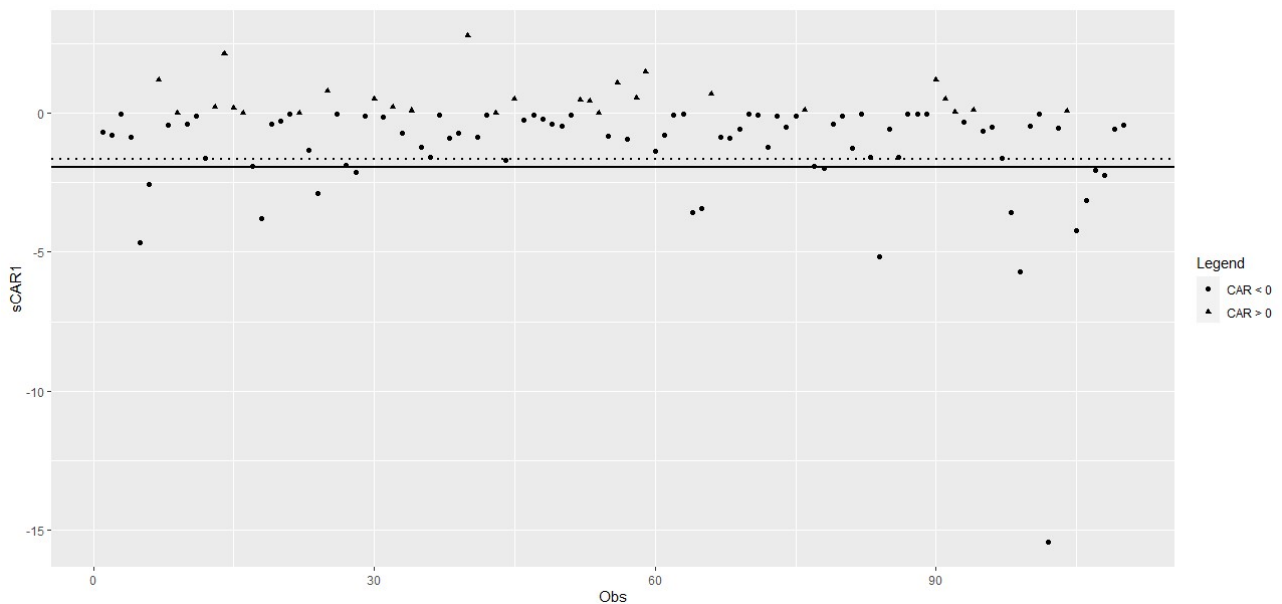


Figure 1

Figure 1 shows that the impacts of the exits are different for the various teams even though most of them (more than 75%) generate a reduction in the firms' values (negative CARs). Consequently, it seems worthwhile investigating if and how specific factors affect the abnormal returns after elimination from the Champions League.

For that purpose, we estimated a multiple regression model where the response variable is the *scaled cumulated abnormal return* recorded for each company in the most extended event windows considered – $EW(1;2)$. The explaining variables are those introduced in the previous section, based on the suggestions and insights provided by some professionals working in the football world and colleagues interested in the field.

$$sCAR_i = \beta_0 + \beta_1 PercPtg_i + \beta_2 AchObj_i + \beta_3 GrpStg_i + \beta_4 LowTeam_i + \beta_5 Bzn_i + \varepsilon_i \quad (9)$$

$$s\widehat{CAR}_i = \widehat{\beta}_0 + \widehat{\beta}_1 PercPtg_i + \widehat{\beta}_2 AchObj_i + \widehat{\beta}_3 GrpStg_i + \widehat{\beta}_4 LowTeam_i + \widehat{\beta}_5 Bzn_i \quad (10)$$

From a rational perspective, we can expect that the higher the percentage of the money collected by a football club during the competition is (i.e. the closer the team is to winning the cup), the higher the scaled cumulated abnormal return is. Concerning the sports objectives of each football team during the season, it can be assumed that if the club reaches the minimum expected goal in the Champions League ($AchObj = 1$), the scaled cumulated abnormal return is higher. In addition, it is justified to expect that investors prefer that football teams go beyond the group stage and are eliminated by a team with a higher UEFA Ranking. It means that we can expect that scaled abnormal returns are higher when $GrpStg$ is 1 and $LowTeam$ is 0. Considering all this, we can expect the first three coefficients to be positive, while the fourth has a negative sign. Finally, the variable Bzn , when its value is 1, indicates the elimination of a football team with a winning history and, even though

sometimes the club is simply like a fallen noble and therefore without real well-grounded reasons, it could negatively affect the scaled cumulated abnormal returns. In our expectations, β_5 is negative and sometimes could underlie an emotional rather than a rational factor. Given the above, we performed two-sided hypothesis tests concerning the regression coefficients. Table 3 shows the results.

Coefficient	Variable	Estimate	(Std. error)	p-value
β_0	<i>Intercept</i>	0.001363	0.011367	0.9048
β_1	<i>PercPtg</i>	-0.067996	0.029890	0.0250 *
β_2	<i>AchObj</i>	0.021956	0.008900	0.015 *
β_3	<i>GrpStg</i>	0.013233	0.008865	0.1385
β_4	<i>LowTeam</i>	0.009046	0.008159	0.2701
β_5	<i>Bzn</i>	-0.012312	0.006857	0.0755 .

*Signif. Codes: '***' 0.001, '**' 0.01, '*' 0.05, '.' 0.1*

Table 3

Table 3 indicates that three out of five coefficients are statistically significant. In particular β_1 and β_2 , related to the variables measuring the percentage of the advancement by a team in the competition and the potential achievement of the goal set respectively, are significant at 5%, while β_5 , which is the coefficient for the variable representing the blazon of a team, is significant at 10%. More significantly, while the signs of β_2 and β_5 are consistent, it is remarkable that β_1 is negative, which is contrary to our expectations. It is evident that both the dummies indicating the difference in firm value between the teams and if the club went beyond the group stage, are not significant from a statistical viewpoint.

5. Discussion and Conclusions

Overall, our results, based on original and new data from the UEFA Champions League, support the coexistence of the rational and the emotional effect impacting the relationship between sporting and financial performance (Edmans et al., 2007).

The results obtained contribute to the development of the specialist literature and affect practitioners' purposes. Concerning the first research question [RQ1], our results confirmed the stream of literature claiming that sports failures affect football firms' financial performance (Edmans et al., 2007). It is

evident how, in the two days following the match enshrining a team exit from the most important European football competition, there is a shred of strong evidence that firms' values are significantly reduced. The heavy dependence of the football clubs' financial performance on their sports results represents an evident limitation for the financial development of this kind of firm and the football industry in general. This is probably the reason why only a very small number of football companies are listed and why several firms in the past have decided (Arsenal FC, AS Roma etc.) or are considering (Juventus FC) to be removed from the exchange it trades onto and definitively leave financial markets.

The analyses performed to answer RQ2 highlight some factors determining the impact of sports failures on football clubs' value. The results confirm that investor behaviour follows both rational and emotional aspects. In line with the expectations, the achievement of the objective set (for that specific competition, the UEFA Champions League), is related to higher abnormal returns. At the same time, excluding a historic (win, in the past), a football club could produce negative abnormal returns due to a likely false (which could mean non-updated or overly optimistic) representation of reality in the hands of the so-called investor-fans (Zuber et al., 2005). Even more significant and surprising is the result related to the percentage of the money collected by a football club compared to the total prize money the winning team obtains throughout the competition. In our expectations, what is clear is the relationship between more considerable amounts of money cashed and higher abnormal returns after the team's exit. The percentage of money cashed could be considered an indirect measure of the distance covered in the competition. Surprisingly, the model highlights an opposite relationship which is also statistically significant at 5%. Again, the reason could be the great importance of emotional factors on the football firms' performance and the role of investor-fans. It would seem that going forward in the competition feeds the desire to go even further despite a team's ambitions, quality and aims. Somehow the investment sentiment, like the emotional effect of supporters, appears to be greater than expected (Baker and Wurgler, 2007; Dimic et al., 2018). We

confirm and extend the results of previous studies, in particular Bernile and Lyandres (2011) and Dimic et al. (2018), according to which investors are overly optimistic about their teams' prospects ex ante and, on average, end up disappointed ex post, leading to negative abnormal returns.

Some limitations characterise the research, mainly related to the fact that we could have included other variables in the analysis. We could have used other sports performance variables (i.e. the number of goals scored, number of wins, etc.), or other financial performance variables (i.e. current ratio, leverage ratio etc.) (Abbas, 2022). We could have also applied other variables such as bookmakers' odds or spreads (Brown and Hartzell, 2001; Palomino et al., 2009; Bernile and Lyandres, 2011) in order to predict investors' beliefs regarding the game outcomes. Overall, the choice of the sports variables, as discussed in section 3, derives from the focus group outcome and depends on the necessary limited number of observations. On the contrary, with respect to financial variables, our focus was to understand the impact on companies' stock returns. In this sense there is always room for improvement.

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