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SHARE IMPACT-LEVEL ANALYSIS OF MATCH RESULTS OF A EUROPEAN FOOTBALL CLUB: AFC AJAX

Meltem KESKİN

Assoc. Prof. Dr., Ankara Yıldırım Beyazıt Universitiy, Ankara, Türkiye, meltemkeskin@aybu.edu.tr

ORCID: 0000- 0002-8536-4940

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ABSTRACT

Football is a widely accepted and loved sport followed passionately by millions worldwide. Football appeals to large audiences, with football fans and players establishing social bonds through its universal language that transcends cultural and language barriers. Football clubs are the organisations that keep all these groups together and organise sports activities. There are hundreds of thousands of football clubs in the world. AFC Ajax has been one of the most well-established clubs in Europe with a history of more than a hundred years since its establishment. With the industrialisation of football, AFC Ajax club has prepared itself for the future by taking its place not only in the football it plays but also in the capital markets, to be more effective in the developing football market and to become an economic sector. In this context, AFC Ajax started to be traded on the Euronext Amsterdam stock exchange on 17 May 1998. Since this date, the club has attracted the attention of not only its fans or football enthusiasts with its football but also investors worldwide with its position in the capital markets. In this study, the relationship between the results of all matches of the AFC Ajax team, including league, UEFA Champions League and friendly matches, between 02 August 2013 and 24 April 2024, and AFC Ajax stock prices was found worth analysing and the relationship between the data was tested with the logistic regression analysis method. Analysis results show that; AFC Ajax investors react quickly when the team wins a match. It has been determined that the team winning a match is significantly related to the increase in the stock price, and the probability of a stock increase, if the team wins a match, is 78.2% higher than the probability of a stock price increase if the team does not win a match. There was no increase in the stock price during periods when the team lost a match.

Keywords: AFC Ajax, Euronext Amsterdam Stock Exchange, logistic regression.

INTRODUCTION

Football has turned into a global show business with millions of dollars invested, fans and economic volume. The football industry continues to industrialize. This situation paved the way for the clubs to be incorporated. Especially large football clubs prefer incorporation to have a more effective position in the market. Incorporated sports clubs are taking their place on the stock exchanges, and sports club shares are rapidly becoming among the most traded stocks on the stock exchange. Moreover, this contributes to portfolio diversification not only for team fans but also for all investors. Many professional football clubs around the world have shares traded on the stock exchange. Football clubs are traded in capital markets to be more effective in the developing football market and/or to provide lower-cost funds in the long term. One of these football clubs is AFC Ajax NV (AJAX).

AFC Ajax, a professional Dutch football club based in Amsterdam, was founded in Amsterdam on 18 March 1900 by Floris Stempel, Carel Reeser and Johan Dade. The origin of the team name comes from Aias (Tzetzes, 2015:41). In addition to the widespread view that Ajax adds artistic value to football, there is a concept called the Ajax model in football. The club's facility, "De Toekomst", meaning the future, is located on an area of 14 hectares with nine football fields, an indoor field, a reserve and youth team stadium, and 14 dressing rooms. The facility includes an athlete R&D centre, a gym, and a building containing management and administrative affairs (Ajax, 2024). According to the International Federation of Football History and Statistics (IFFHS), Ajax is the seventh most successful club of the 20th century (IFFHS, 2009). Again, Ajax was in the top eight in the IFFHS (2024) list of the best teams in the world.

For football clubs to play an active role in the football market, they need to get a larger share of the competitive market. One way to get the maximum share is to enable clubs to access low-cost funds in the long term. For this reason, football clubs started to enter the capital markets (Akşar, 2005: 219). AFC Ajax N.V. has been traded on the Euronext Amsterdam stock exchange since 1998. Euronext exchange is a unique marketplace connecting seven European economies: Amsterdam, Brussels, Dublin, Lisbon, London, Oslo and Paris. Euronext is a holding established in 2000 by the coming together of the Amsterdam, Paris and Brussels Stock Exchanges, within the framework of Dutch laws (Keskin, 2021: 392).

According to the efficient market hypothesis, all positive or negative information about the market is evaluated by investors and reflected in investments. On the contrary, investors may occasionally make irrational decisions and deviate from the markets, causing assets to be mispriced (Statman, 1999: 18-27). Regarding the impact of events that change the mood of investors on the asset pricing process; Kamstra et al. (2000: 1005-1011) and Keskin (2024a; 2024b) stated in their studies that events affecting the social and personal psychological states of investors cause deviations in stock prices. (Hirt et al., 1992) found in their studies that there is a linear relationship between the success of football teams and the personal performances of individuals developed by empathizing with their teams. Additionally, investors can act with their emotions in their investment decisions depending on the success of football teams.

In this study, AFC Ajax N.V. is aimed to measure whether changes in stock price movements are related to financial effects or emotional factors. At this stage, the effect of AFC Ajax football team's UEFA Champions League, Dutch Eredivisie, Dutch KNVB Beker, UEFA Europa League, UEFA Europa League Qualifying and Club Friendly competition results on stock returns was examined in the 2013-2024 period. The study is structured in four parts. The second section includes literature research, the third section includes econometric analysis, and the last section includes the results and evaluation section.

LITERATURE RESEARCH

The literature study was examined in two parts. While the first section includes studies on the AFC Ajax football team, the second section includes studies examining the relations between football clubs and the stock market.

Study Literature Examples of AFC Ajax Football Team

Many studies about the AFC Ajax team are available in the literature. Some of these studies are as follows: Stokvis (2008), in the study covering the period 1994-2002, conducted a case study on events such as the transfer of foreign players, away matches and the appointment of a new coach regarding the AFC Ajax club.

In their study, Kerr et al. (2011) used the chi-square test in their survey on Ajax fan loyalty. Four elements came to the fore regarding team loyalty. The first is the team's reputation, the second is; The presence of certain players and finally the team's success and the identity of the club also have a significant impact.

In the study by Júnior (2014), the contributions of planning, economics, marketing and finance to the field of sports, along with sports performance, were discussed. Three success stories of Europe-FC Barcelona; Portuguese Sports Club; and AFC Ajax from the Netherlands were examined in this context. It has been concluded that organisational culture contributes to development, creation, and sports performance. Whitehead (2014), in this study, the share price reaction to player transfers in Europe in the 2012-2013 season was tested with an event study on 23 teams, including Ajax. A correlation between the data could not be proven.

Van Der Meij et al. (2015) measured the fanatic behaviour of fans using experimental methods in a laboratory environment. They conclude that fans' aggression increases when the match result is perceived as unfair. In their study, Murgea and Schank (2016) tested the relationship between club share price returns and match results of Dortmund (Germany), AFC Ajax (Holland), Lazio (Italy) and SL Benfica (Portugal) teams in the 2006-2016 period with the Ordinary Least Squares regression model. It has been concluded that investors cannot separate their love for the football club from their investments.

In their study, Firildak and Akin (2020) examined the financial situation and entrepreneurial strategies of Ajax and three clubs in total in the period covering the years 2010-2020, with the help of secondary data using mathematical analysis techniques. As a result, it has been found that the transfer income of players coming from the infrastructure benefits the clubs examined.

The focus of studies on the AFC Ajax club in the literature is especially on the club organization, culture, management, football rules, football game standards, game technical features and fandom.

Studies on Relationships Between Football Clubs and the Stock Exchange

The study on football clubs and their stock values is given in Table 1.

Tablo 1. Performances of Football Clubs Traded on The Stock Exchange

Author	Subject	Data Set Period	Method	Result
Ashton et al. (2003)	Analysis of evidence of national sporting success on the London Stock Exchange.	England Clubs and London Stock Exchange 1984-2002	Event study	There is a positive relationship between the matches of English teams and the London Stock Exchange FTSE 100 index.
Edmans et.al. (2007)	The relationship between match results and stock returns.	World Cup European Championship, America and Asia Cup 1973-2002	GARCH	It has been determined that there is a correlation between post-match losses and gains.
Aygören et. al. (2008)	The extent to which investors are affected by the results of football matches.	Istanbul Stock Exchange (İMKB) 2001-2007	Event study	It has been concluded that Turkish investors are affected by the results of football matches.
Palomino et.al. (2009)	British football betting, investor sentiment and stock returns.	16 English Clubs 1999-2002	Performance analysis	According to the evolution of stock bets, it is concluded that losses have a more intense negative impact on stock returns.
Bernile & Lyandres (2011)	It is understanding investor sentiment in football.	Football matches in World and European cups 2000-2006	Regression analysis	Some investors experience losses due to their overly optimistic attitudes. In addition, it does not affect stock prices before the match.
Köylü et al. (2017)	Evaluation of wins and losses in the games on BIST.	Borsa Istanbul GS Sports Club 2012-2016	ANOVA	It was determined that there was a 78.43% relationship between sports activities and the team's stock market share value movements.
Özdurak & Ulusoy (2020)	Turkish Football League and its earnings.	Türkiye 2011-2012	RCH GARCH	They determined that unexpected earnings have a significant impact on stock returns.
Sönmez (2023)	Financial performance of football clubs listed on BIST.	Borsa Istanbul 2017 -2021	MABAC	The performance of football teams traded on BIST100 was evaluated and the teams were ranked.
Kanışlı & Gül (2024)	Footballer The effect of transfers on stock prices in BIST.	Borsa Istanbul 2022-2023	Event study	There are extraordinary returns in the stocks of Turkish football clubs after the transfer.

When the studies in the literature are examined, club performances, the effects of football player transfers on stock prices and the effects of football-related media news on stock prices are discussed. In addition, the event study method was generally used in the studies. In this study, using the logistic regression analysis method, the matches played by the AFC Ajax team and the club share values on the Euronext Amsterdam stock exchange

determine the level of relationship between the Ajax club and the fact that no specific study has been conducted for the Ajax club, which differentiates this study from the literature.

DATA and METHODOLOGY

In the study, the dates and result information of all matches played by AFC Ajax football club between 02 August 2013 and 24 April 2024 were compiled from the AFC Ajax football club's official website and are included in Annex 1. In addition, stock market data of AFC Ajax football club was obtained from Euronext Amsterdam stock exchange. SPSS 21.0 software was used to analyze the data. Stock prices are categorized as 0 and 1, falling or rising. Logistic regression analysis was used in the relationship between match results and match type with the rise and fall of stocks. Binary categorization of independent variables is arranged and given in the findings section.

EMPIRICAL FINDINGS

In the logistic regression analysis, extreme values were first found and removed from the data. The standard (enter) method was used as the method, and -2LL, Cox & Snell (1989) R^2 and Nagelkerke (1991) R^2, Hosmer & Lemeshow (1997), Omnibus tests were used for the fit index and explained variance ratios, Wald test was used to determine the contribution of independent variables and each Exponential logistic regression coefficient (Expβ) was used for the odds ratio of a variable.

-2LL (-2log likelihood), which is used as the fit index, calculates the basic measure of how well the maximum likelihood estimate indicates a fit with the likelihood value, which is similar to the sum of squares in multiple regression. Theoretically, when -2LL = 0, the likelihood is equal to 1, but model fit can be tested with the help of -2LL differences obtained when adding and removing variables in the model.

Cox&Snell R^2 and Nagelkerke R^2 indicate the amount of variance explained by the logistic model, with 1 indicating perfect model fit. Since Cox&Snell R^2 never reaches unity and is not easy to interpret, the Nagelkerke R2 value is taken into account and this value is expected to be higher than the Cox&Snell R^2 value.

Although the Hosmer & Lemeshow test, which is used to test the fit of the logistic regression model as a whole, is mostly used in cases where continuous variables are independent variables and in small samples, it was also taken into account in this study. Since the independent variables are binary in this study, the Omnibus test was taken into account, and the Omnibus test calculates the chi-square statistic in three stages, namely step, block and model, and represents the difference between the initial model, which includes only the constant term, and the intended model.

Wald statistics, which is used to determine the contribution of each variable to the model, allows determining whether the β coefficient of the predictive variables is significantly different from zero, similar to the t-test in linear regression.

The exponential logistic coefficient (Expβ) used for the odds ratio of each variable expresses the odds ratio calculated for each variable. If the value is greater than 1, the odds ratio for the probability of the event occurring or occurring increases with the increase in the predictor variable. When this ratio is subtracted from 1 and multiplied by 100 (100*[1- Expβ]), the ratio of the probability of occurrence to the probability of not occurring is obtained. Since the independent and dependent variables in this study are categorical and the categories are binary, the ratio of the probability of occurrence to the probability of not occurring was taken into account in interpreting the results.

Before logistic regression, extreme values and stock change situations were examined. Table 2 shows the extreme value test results in stock changes.

Tablo 2. Extreme Value Control

Standardized error	Number of samples	%
0 i with |1|	302	62,0
|1| with|2|	181	37,2
|2| with|3|	4	0,8
>|3|	-	0,0

According to Table 2, the standardized error in 487 samples was |2| with |3| 1 sample was identified, and these samples were excluded from the analysis and the analysis continued with 483 data. Table 3 shows the number of stock rises and falls, numbers and percentages related to match results.

Table 3. Distribution of Stock Prices

Variable	Movement	n	%
Share price	Increased	187	38,7
	Fell down	296	61,3
Match result	Win	298	61,7
	Tie	104	21,5
	Defeat	81	16,8
Match type	League	301	62,3
	Cup	31	6,4
	International	115	23,8
	Special	36	7,5

There was an increase of 38.7% in the stock's 483-day movement and a decrease of 61.3%. 61.7% of the matches ended in victory for Ajax, 21.5% in a draw and 16.8% in defeat. 62.3% of the matches are league matches, 6.4% are cup matches, 23.8% are international matches, and 7.5% are friendly (special) matches. Table 4 shows the iteration history for the initial model.

Tablo 4. Initial Model Iteration Story

	Iterasyon	-2Log Likelihood (-2LL)	Coefficients Stable
Step 0	1	644,776	-0,451
	2	644,769	-0,459
	3	644,769	-0,459

According to Table 4, it can be seen that the -2LL value is far from 0 and quite high in the model where only the constant term is included. With the introduction of predictor variables into the model, a decrease in the -2LL value, in other words, improvements in model-data fit, is expected. Table 5 shows the first classification status obtained as a result of the analysis.

Tablo 5. Initial Classification Status

Real / Observed situation	Predicted situation		Correct Classification Percentage
	Increased	Fell down	
Share price increased	0	187	0
Share price fell	0	296	100,0
Percentage of total correct classification			61,3

In Table 5, in line with the first classification results, in which only the constant term is included (without independent variables), none of the share price increases and 100% of the share price decreases are classified correctly; It is seen that the overall correct classification is 61.3% in the model that does not include independent variables.

Table 6 shows the variables included in the initial model (equation).

Tablo 6. Variables Included in The Initial Model

Step 0	β	Standard Error	Wald	sd	p	Exp (β)
Stable	0,459	0,093	24,171	1	0,000	1,583

According to Table 6, in the baseline model where only the constant term is included, the odds ratio (Exp) was found to be 1.583, and it is statistically significant with a Wald statistic of 24.171 ($p<0.05$). The significance of the Wald statistic in the absence of independent variables indicates that other variables have an impact on the stock price increase, which is understandable given market conditions. On the other hand, it is determined that the probability of a stock price increase, due to other variables, is 58.3% higher than the probability of a stock price increase without other variables (ODDS=[1-1.583]*100=-36.8%). This ratio suggests that other variables do not sufficiently explain the increase in the stock price.

Table 7 shows chi-square test statistics regarding which variables that were not included in the initial model should be excluded from the model or which should be included in the model.

Tablo 7. Variables Not Included in The Initial Model

Step 0	Skor	sd	p
Match result (Win=0, Others=1)	14,222	1	**0,000**
Match result (Draw=0, Others=1)	2,726	1	0,099
Match result (Loss=0, Others=1)	9,551	1	**0,002**
Match type (League=0; Others=1)	0,446	1	0,504
Match type (Cup=0; Others=1)	3,635	1	0,057
Match type (International=0; Others=1)	0,295	1	0,587
Match type (Private=0; Others=1)	0,111	1	0,739

According to Table 7, when the chi-square test statistics regarding which variables should be added to the model are examined, it is seen that the scores for the variables of loss ($p<0.05$) (Loss=0; Others=1), and victory (Win=0; Others=1) are statistically significant. It was found to be significantly significant ($p<0.05$). Accordingly, win and loss variables can be included in the model but league, cup, international matches and special matches variables should be excluded from the model as they will not contribute. Table 8 shows the iteration history in the second model (the model in which independent variables are included).

Tablo 8. Iteration Story for the Situation Where Independent Variables Enter The Model

	Iterasyon	-2Log Likelihood (-2LL)
Step 1	1	628,937
	2	628,937
	3	628,692
	4	628,692

According to Table 8, it is seen that the -2LL value, which was 644.769 in the initial model, decreased to 628.692 in the model where predictive variables were included. The resulting -2LL difference (644.769 - 16.769 = 81.562) is examined in Table 10. Table 9 shows the Ombinbus test results regarding the model coefficients.

Tablo 9. Omnibus Test of Model Coefficients

Step		X^2	sd	p
1	Step	16,077	2	**0,000**
	Block	16,077	2	**0,000**
	Model	16,077	2	**0,000**

According to Table 8, there is no difference between the initial model in which only the constant term is included and the model in which independent variables are included. It is seen that the null hypothesis is rejected (X^2=16.077; $p<0.05$) and the relationship between the independent variables and the dependent variable is supported. Table 10 shows the summary of the results of the model.

Tablo 10. Summary of Intended Model

Step	-2LL	Cox&Snell R^2	Nagelkerke R^2	Hosmer & Lemeshow X^2(p)
1	628,692	0,033	0,044	0,000 (1,000)

According to the Cox&Snell R^2 value in Table 9, when the independent variables were included in the analysis, it was determined that approximately 4% of the variance in the stock price increase (Nagelkerke R^2 =0.044) was explained and the Nagelkerke R^2 (0.044) value was higher than the Cox&Snell R^2 (0.033) value. According to the Hosmer & Lemeshow value, it was determined that the model-data fit was sufficient ($p>0.05$). Table 11 shows the coefficient estimates of the variables in the model.

Tablo 11. Variable Coefficient Estimates

								%95CI	
		B	SH	Wald	sd	p	Exp (β)	Lower	Top
Step 1	Win	0,578	0,241	5,761	1	**0,016**	1,782	1,112	2,856
	Defeat	-0,417	0,336	1,533	1	0,216	0,659	0,341	1,275
		0,605	0,356	2,889	1	0,089	1,831		

According to Table 10; It was determined that the team winning the match was significantly associated with the increase in the stock price (Wald=5.761; p<0.05) and that the probability of the stock price increase if the team won the match was 78.2% higher than the probability of the stock price increase if the team did not win the match (ODDS=[1-1.782]*100=78.2%). This rate varies between 11.2% and 185.6% within the 95% confidence interval.

It was determined that there was no relationship between the team losing a match and the increase in stock price (Wald=1.53; p>0.05).

CONCLUSION and DISCUSSION

Football is one of the universal languages of the world and it attracts people all over the world and brings them together on the same platform. With the right to freedom of transfer for football players in 1995, football has become a global sector where the free movement of capital is possible. Football has become one of the rare sectors where consumer behaviour can be observed. In a billion-dollar market, it has become mandatory for clubs to be managed with a corporate management approach. Before football achieved such growth, clubs operating as associations entered the process of incorporation.

The success of football teams is not only dependent on their sporting performance; their stock market performance is also quite significant. Due to the football clubs generating their economy, both fans and investors develop positive expectations towards these clubs, both in terms of sports and finance. It can be expected that financially successful football teams will also be more successful in sporting terms. Conversely, it can also be expected that investors will invest in teams that are strong in sporting terms. In this context, AFC Ajax Amsterdam, which is ranked as the seventh most successful club of the 20th century by the International Federation of Football History and Statistics and is closely followed worldwide due to its unique model, is also closely monitored by investors. Since 1998, AFC Ajax has been traded on the Euronext Amsterdam stock exchange and is listed among the top 100 companies in the Netherlands, making it the subject of this study. The article aims to measure whether the changes in the stock price movements of AFC Ajax N.V. are related to financial effects or emotional factors. The study has shown that there is a significant relationship between AFC Ajax winning matches and an increase in the club's stock price. It has been concluded that the probability of a stock price increase is 78.2% higher when the team wins a match compared to when it does not win. Additionally, no relationship was found between AFC Ajax losing matches and an increase in the stock price. This study, despite differences in subject, method, stock exchange, and club, shows similarities with the results of studies by Aygören et al. (2008), Murgea and Schank (2016), and Keskin et al. (2017). However, different results were obtained compared to the studies by Palomino et al. (2009) on an English club and Whitehead (2014). The primary reason for this is considered to be the differences in the criteria examined.

SUGGESTIONS

When the findings of the study are evaluated; Not all Dutch football clubs are listed on the Euronext Amsterdam stock exchange. Increasing the number of football clubs listed on the stock exchanges is important

to spread the competition between clubs to the general public. Of course, this is a general recommendation that can be valid not only in the Netherlands but also in football clubs of other countries.

Investment decisions, especially when it comes to football clubs, can involve complex decision mechanisms. In this area, since investors have difficulty separating their love for the football club from their investments, it is suggested that investments can be made partly based on emotions, and portfolio management consultancies may be useful in this regard.

LIMITATIONS and FUTURE RESEARCH

Among future studies; It is anticipated that studies will contribute to the literature by addressing multiple topics at the same time, such as different leagues, teams, seasons, transfers and social media news, fan psychology or the impact of different sports disciplines on the value of clubs in the stock markets. Among the limitations of this study is that cultural habits, sociological structures and other elements that may cause investors to make irrational investment decisions were not evaluated in the study.

ETHICAL TEXT

In this article, journal writing rules, publishing principles, research and publication ethics rules, and journal ethics rules have been followed. Responsibility for any violations that may arise regarding the article belongs to the author. The author declares that the study included in the article is among the studies that do not require ethics committee permission.

Author's Contribution Statement: The author's contribution rate in this study is 100%.

REFERENCES

Ajax, (2024). De succesvolste club van Nederland, historiea. Access. 27.05.2024 Available: https://www.ajax.nl/club/historie/#

Akşar, T. (2005). *Endüstriyel futbol, literatür* Yayınları.

Ashton, J.K., Gerrard, B. & Hudson, R., (2003). The economic impact of national sporting success: evidence from London stock exchange. *Applied Economics Letters*, 10(12), pp. 783-785, DOI: 10.1080/1350485032000126712

Aygören, H., Uyar, S., & Sarıtaş, H. (2008). Are investors influenced by the results of football matches? An empirical. *Hacettepe University Journal of Economics and Administrative Sciences,* 26, 1, pp. 121-137

Bernile, G. & Lyandres, E. (2011). Understanding investor sentiment: The case of soccer. *Financial Management*, 40(2), 357-380.

Cox, D. R. & Snell, E. J. (1989). A*nalysis of binary data,* 2nd edition. New York: Chapman and Hall

Edmans, A., Garcia, D. & Norli, Ø, (2007). Sport sentiment and stock return. *The Journal of Finance*, 62(4), pp.1967-1998

Euronext (2024). Euronext Amsterdam is the financial heart of the Netherlands. Access. 27.05.2024 Available: https://www.euronext.com/en/markets/amsterdam

Firildak, A. C. & Akin, H. (2020). Footballpreneurship: *The role of scouting and youth academies in football entrepreneurship and value creation from young talents: A case study on AFC Ajax and Borussia Dortmund*. [Master Thesis]. Linnaeus University. Sweden.

Hirt, E., D. Zillman, G. Erikson, C. & Kennedy (1992) Costs and benefits of allegiance: Changes in fan's self-ascribed competencies after team victory versus defeat, *Journal of Personality and Social Psychology*, 63, 724-738

Hosmer, D. W., Hosmer, T., Le Cessie, S. & Lemeshow, S. (1997). A comparison of goodness-of-fit tests for the logistic regression model. *Statistics İn Medicine*, 16(9), 965-980.

IFFHS, (2009Die IFFHS: Eine vertrauenswürdige quelle für fakten und zahlen über fussball. Available: https://www.iffhs.de/

Júnior, A. J. R. (2014). Cultura organizacional e gestão de equipes de alto rendimento: os casos FC Barcelona, sporting club de Portugal e AFC Ajax. *PODIUM Sport, Leisure and Tourism Review*, 3(2), 12-25. DOI: 10.5585/podium.v3i2.72

Kanışlı, E., & Gül, M. (2024). The Impact of Soccer Player Transfers as "Transfer Steal" on Stock prices: Turkish Super League 2022-2023 Season. *Hitit Journal of Social Sciences ICAFR'23* (Special Issue), 172-194. https://doi.org/10.17218/hititsbd.1391436

Kerr, A. K., Smith, N. F., & Anderson, A. (2011). As American as mom, apple pie and Dutch soccer?': The team ıdentification of foreign Ajax FC Supporters. I*n Sport as a Business: International, professional and commercial aspects* (pp. 15-34). London: Palgrave Macmillan UK.

Keskin, M. (2021). Correlation analysis between Euronext 100 ındex and the Federal Reserve Board interest regulations. *Ekev Akademi Dergisi.* 25 (87): 387-398.

Keskin, M. (2024a) *Fırst examples of herd behaviour in the Netherlands and London stock exchanges*. 10th Internatıonal Parıs Congress On Socıal Scıen Ces & Humanıtıes. pp. 76-88. Paris, France. Available: https://www.iksadparis.org/_files/ugd/614b1f_9777231f92c94c09af22142d6b0c7045.pdf

Keskin, M. (2024b) *Examples of fınancıal asset dependency ın markets from past to present*. 3rd Silk Road. International Scientific Research Congress. pp.294 -302. Samarkand, Uzbekistan. Available: https://www.researchgate.net/publication/379582272_Examples_of_Financial_Asset_Dependency_in_Markets_From_Past_to_Present

Köylü, K. M., Şişman, M. Y., & Yücel, A. (2017). Wıns/losses ın games and stocks: an analysis on a football club's stock performance. *Injosos Al-Farabı Internatıonal Journal On Socıal Scıences*, 1(3), 335-354.

Murgea, A., & Schank, M. J. (2016). Why do goals matter? Sports events and capital market returns. *Ovidius University Annals, Economic Sciences Series*, 16(2), 577-582.

Nagelkerke, N. J. (1991). A note on a general definition of the coefficient of determination. *Biometrika,* 78(3), 691-692.

Özdurak, C., & Ulusoy, V. (2020). Moneyball in the Turkısh football league revısıted: anomalıes in Galatasaray, Fenerbahce and Besıktas stock returns durıng Covıd-19 incıdent, *Journal of Economics Finance and Accounting*, 7(2), 155-165

Palomino, F., Renneboog, L., & Zhang, C. (2009). Information salience, investor sentiment, and stock returns: The case of British soccer betting. *Journal Of Corporate Finance*, 15(3), 368-387. doi:10.1016/j.jcorpfin.2008.12.001

Sönmez, Y. (2023). Analysıs of The fınancıal performances of football clubs traded on BIST. *Nişantaşı University Journal of Social Sciences,* 11(3), 261-276. DOI: 10.52122/nisantasisbd.1351721

Statman, M. (1999). Behavioural finance: Past battles and future engagements. *Financial Analysts Journal*, 55(6), 18-27.

Stokvis, R. (2008). Ajax isn't Ajax anymore: On power, rhetoric and identity. *Soccer & Society*, 9(4), 497-508. https://doi.org/10.1080/14660970802257564

Tzetzes, J. (2015). *Allegories of the Iliad*. Harvard University Press, Prologue 526. ISBN 978-0-674-96785-4

Van Der Meij, L., Klauke, F., Moore, H. L., Ludwig, Y. S., Almela, M., & Van Lange, P. A. (2015). Football fan aggression: The importance of low basal cortisol and a fair referee. *Plos One*, 10(4), DOI:10.1371/journal.pone.0120103

Whitehead, K. (2014). The impact of European football player transfers on share price. [Senior Theses]. University of Vermont Honors College. The USA.