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Evaluation of Financial Performance of Football Clubs: An Application in the BIST

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ABSTRACT: *Being more active player in developing industrial football market for football clubs depends on taking more shares from this market. Within creasing competition environment, the clubs tend to new sources of income in order to maximizing their share in the market. The most important one of the activities is that clubs get into capital markets. It is result of rapid changes in Turkish football sector that Beşiktaş, Fenerbahçe, Galatasaray and Trabzonspor Football Clubs known as Turkey's big four firstly incorporated, then offered to public their stocks of founded companies and quoted to BIST. Changes occurred especially on incomes and costs feature sport financing.*
The aim of this study is determination of which financial rate is effective on grouping of football clubs listed on BIST in 2012-2015 period for financial performance. In accordance of this purpose, evaluation will be made with discriminant analysis from statistical methods. In scope of the analysis, while net profit margin will be used as financial performance indicator of football clubs, current ratio, liquid ratio, accounts receivables turnover rate and asset turnover will be used as financial indicators which will be evaluate in determination of financial performance.
Keywords: *Discriminant Analysis, Financial Performance, Financial Ratios, Football Clubs*

I. INTRODUCTION

Recently, sport activities have gained an important place both in social and economic life. Football, as a sport activity, has been professionalized and turned out to be a huge business.Investments in the football business are not restricted to sport clubs and footballers. They also cover the associated businesses such as media, bets, textile and tourism [1, 2].

As Football has become a part of economic activity, the soccer clubs has started to establish companies to maximize their revenues, a process witnessed since 1980s. In this period, club's professional football branches are transferred to established joint stock companies.

It is the result of the rapid changes in the football business that the football clubs first establish their company, and then publicize the shares of the companies they establish and start trading on the stock exchange. Especially the changes in the revenue and the costs of the football clubs give the sport financing the forefront. It is due to the link between the financial successes of sport clubs and their sportive achievements [3].

Although various football clubs go for corporate formation in Turkey, the ones that go to the public are only those established by the clubs called Big Four. Firstly, Beşiktaş Futbol Yatırımları Sanayi and Ticaret Inc. and Galatasaray Sportif Sınai and Ticari Yatırımlar Inc. opened to the public and joined to BİST in 2002 and then Fenerbahçe Sportif Hizmetler Sanayi and Ticaret Inc. followed suit in February 2004. Trabzonspor Sportif Yatırım and Ticaret Inc. took its place in BİST in April 2005.

In this study, it is aimed to determine which financial ratios are effective by grouping of football clubs traded in BIST between 2012 and 2015 by their financial performances. For this purpose, we will apply statistical method of discriminant analysis. Accordingly, in evaluating the financial performance of football clubs, it will be tried to determine which financial ratios are prevalent besides sportive achievements.

II. LITERATURE REVIEW ON FINANCIAL PERFORMANCES OF FOOTBALL CLUBS

Businesses use a variety of methods to assess their financial successes. One of these methods is to evaluate the financial ratios of businesses. Businesses have to make various decisions in order to attain the goal of maximizing market value, which is the main objective of the business. The results of these decisions are reflected in the financial ratios of the enterprises. Therefore, businesses evaluate various financial indicators in order to determine their performances.

Various theories about the success of sports clubs have been developed. These theories are related to maximizing the financial performance, maximizing the sporting success or maximizing both the financial performance and the sporting performance that the sport managers set as the main objective [4].Besides, as stated in Haas.et al. [5]. study says, the social aims linked to the supporters of sports clubs are also one of the goals of the clubs.

When the studies evaluating the financial performance of the sports clubs in the literature are considered, it is seen that some of the studies directly evaluate the financial ratios and some of them links the elements of sportive performance to the financial performance.

One of the first empirical studies to examine the relationship between sportive performance and financial performance was made by Arnold (1991)[6]. The study, which was realized with an OLS model, examined the English football clubs between 1905 and 1985. The results show that there is a strong correlation between the level of return of English football clubs and their sportive performances.

Szymanski(1998)conducted one of the studies that examined the relationship between the financial performance of sport clubs and various indicators. Szymanski (1998) examined the relationship between pre-tax profit and sport outcomes of forty British sport clubs. According to the results obtained, it is seen that increasing sportive performance is related to the increase in the profits of the clubs. As a result, a good performance in the league indicates a high return. Another part of the relationship is that the growth of spending is correlated to a better sportive performance[7].

Berument, Ceylan and Gözpınar (2006)examined the relationship between stock returns and sporting success of the three major football teams. According to the results they obtained, the success achieved in the competitions played on the ground of the opponent's team influences more financial performance than the success that the football teams have in the case of being the host. As a result, the success of the guest teams increases the stock returns more than the success of the host team. In Muslim countries like Turkey, football is an important activity reflecting the situation of the individuals. The victories that football clubs gain against foreign competitors increase stock market returns. While this is seen on BJK, one of the three major clubs, the other two clubs, GS and FB, do not have the same effect [8].

Pinnuck and Potter (2006)examined the relationship between football performance and financial performances in the Australian soccer league over the 1993-2002 period. According to the results obtained, there is a significant relationship between sportive achievement level and market return. Both short-term and long-term success of football clubs has an impact on financial performance [9].

Edmans, Garcia and Narlı (2007)examined the international matches played in the world cup and major continental cups during the period 1973-2004. They used equity market incomes on the first trading day following the match to measure the impact of the results of international sports on the share prices. According to the results obtained, the stock market showed a negative link with the matches that were lost [10].

Benkraiem et al.(2011) examined the financial success of the British Football Clubs traded on the stock market of AIM and Dow-Jones during the 2006-2007 period over four hundred and eight matches. According to the results obtained, sportive performances of sport clubs have been found to have a significant influence on the financial performances of the clubs. Accordingly, it has been seen that the results of the matches are influential on the stocks of the football clubs depending on being host or guest team. It appeared that the defeats of the host football clubs have led to fluctuations in the stocks, and investors lost their confidence in these clubs [11].

Dobson and Goddag (1998) examined the causal relationship between the revenues and the annual performance of seventy-seven football clubs during the period 1946-1994. According to the results obtained, it is observed that the return in the period T-1 make an effect on the period T performance, and this effect is felt more intensely in the small football clubs than in the big football clubs [12].

Boido and Fasano (2007) examined the relationship between stock dividends and team performance on the Italian Football Clubs. It is seen that the average price gain ratio is higher than the defeated games following winning ones. In some studies, when the relationship between the international soccer results and stock promotion is examined, it is found that stock market makes a negative reaction after the defeated matches. In particular sport branches and football are popular weekend activities. These activities are both actively involved and have passive observers. Therefore, this is an important factor affecting the stock market's opening share prices on Monday [13].One of the main factors in the evaluation of the relationship between the sports performance of sports clubs and financial performance is "emotional effect". Accordingly, the investor's sensitivity plays a key role in investment decisions. Investors' feelings of good or bad influence expectations from stocks they invest. Another factor affecting financial performance is the result of successful sporting performance. Consumers can meet their needs and satisfy themselves by purchasing a quality product or service. Soccer teams likewise satisfy investors with good performance [13].

In his study, Atmaca (2012)aimed to provide useful information to researchers, analysts, investors by converting financial performance levels (2003-2010) of sport businesses into a single score. For this purpose, he measures the financial performance of four sport service companies traded on the Istanbul Stock Exchange by using the TOPSIS model. In the study, ratio analysis is used to obtain financial data. The asset structure and capital structure ratio as well as the liquidity, financial structure, activity and profitability ratios frequently used in the literature have been utilized [14].

Dimitropoulos (2009)evaluated the factors influencing the profitability of Greek football clubs during the period 1994-2004. According to the results, it is seen that Greek clubs are experiencing serious loss of income; they have high borrowing levels, negative equity and asset profitability. While the sportive success leads to financial success, the improvement of financial situation also positively make an impact on the sportive achievements[15].

III. DATA AND METHOD

This study evaluates the financial performances of Fenerbahçe Sportif Hizmetler Sanayi and Ticaret Inc., Beşiktaş Futbol Yatırımları Sanayi and Ticaret Inc., Galatasaray Sportif Sınai ve Ticari Yatırımlar Inc. and Trabzonspor Sportif Yatırım ve Ticaret Inc. through their financial ratios.

Due to the match-fixing incidents of the 2010-2011 and 2011-2012 football seasons, the study period was determined as the 2012-2015 seasons for evaluating club performances to omit the periods of match-fixing. The financial data for football clubs were compiled from the official website of BİST and the Public Enlightening Platform.

In order to determine the financial success or failure of the Turkish Football Clubs, a discriminant analyses is applied. Discriminant Analysis is a statistical technique used to classify an observation into one of several a priori groupings dependent upon the observation's individual characteristics. It is used primarily to classify and/or make predictions in problems [16] Discriminant analysis, which considers many features of the units, is applied for assignment of the units to the real classes at natural environment optimally. Also, the variables which have the greatest correlation with the groups, and their prediction capability of group membership defined. IBM SPSS 21 package program was used to analyze the data.

The financial ratios and calculations involved in the analysis in the study are indicated in Table 1. In this context, it is found that the previous studies regarding the evaluation of business performance generally examine the ratios on business liquidity, profitability, and operations. Accordingly, the performance evaluation of sports clubs will be made on the basis of the main financial ratios as current ratio, acid-test ratio, turnover rate, asset turnover and return on equity.

Table 1. Variables in Analysis

Variables	**Calculating**
Current Ratio	Current Assets / Short-Term Liabilities
Acid-Test Ratio	(Current Assets - Inventories) / Short Term Liabilities
Receivable Turnover	Sales / Receivables
Asset Turnover	Net Sales / Total Assets
Return On Equity	Net Profit / Equity

For the football clubs which are trading on the stock exchange, the financial performance which reflects the financial success and the criteria for the classification of the setback are defined according to the being over or under the average net earnings for every term. The failure periods, that are periods of under average net profit, are coded as "0", while the success periods are coded as "1". The success/failure coding on the basis of periods are taken as the dependent variable in the discriminant analysis. To define the effect of financial ratios on the financial success, they are used as independent variables in the analysis.

IV. FINDINGS

The eigenvalues of the soccer clubs were examined first in the discriminant analysis for the determination of the variables that would lead investors to evaluate financial success. One discriminant analysis function was obtained after making decomposition analysis. As presented at Table 2, eigen value showing importance of the discriminant analysis is 0.787 and defined variance ratio is 100 %. The canonical correlation coefficient of the function is 0.664. As presented at Table 2, eigenvalue showing importance of the discriminant analysis is 0.787 and the defined variance ratio is 100 %. The canonical correlation coefficient of the function is 0.664.In the literature, the eigenvalue is generally expected to be above 0.40. [17].In our study, it is seen that the eigenvalue statistic is 0.778 and that a large part of the dependent variable is explained by that function. In our study, our dependent variable was categorized into 2 categories and 1 discriminant function was obtained. When Wilks' Lambda value is examined (sig = 0,000), the obtained discriminant function is significant.

Table 2. Results of Discriminanat Analysis

Results of Discriminanat Analysis				
Function	Eigenvalue	% of Variance	Cumulative %	CanonicalCorrelation
1	0,787	100,0	100,0	0,664
Test Of Function	Wilks' Lambda	Chi-square	Df	Sig.
1	0,560	34,817	4	0,000

When the Standard Discriminant Function's Coefficients showed at Table 3 are studied, for the sampling of football clubs, "CR, AR, ATO, ROE" variables are most contributing factors to the discriminant function of the model. Below are discriminant function equations which are designed by using standardized values.

$$DF = 6{,}098\ CR - 5{,}225\ AR + 0{,}383\ ROE - 0{,}697\ ATO$$

Table 3. Discriminant Function Coefficients

Standardized Canonical Discriminant Function Coefficients		Classification Function Coefficients (Fisher's linear discriminant functions)		
Independent Variables	Function	Independent Variables	Financial Unsuccessful Football Club	Financial Successful Football Club
CR	6,098	CR	54,862	113,613
AR	-5,225	AR	-43,592	-92,864
ROE	,382	ROE	,066	,246
ATO	,697	ATO	4,819	8,295
(Constant)			-2,850	-7,892

* 78,1% of original grouped cases correctly classified.

When analysis results are studied, the variables used to distinguish the success and set back which are related to the football club's financial performance evaluated. When the independent variables are studied, It is seen that current ratio, acid test ratio, return on equity and asset turnover define financial success or set back but receivables turnover has no affect to define financial performance. According to this, it is seen that mostly liquidity ratios come into prominence to assessment of football clubs' financial performance.

The CR and AR which are two of the financial ratios distinguishing the financial performance of football clubs show their short-term debt repayment ratios. The ability of football clubs to fulfill their daily activities and to meet the obligations arising from the debt are two of the rates that have come to the fore in determining financial success and failure. Another variable that comes to foreground when evaluating the financial performance of football clubs is the return on equity. Return on equity, which expresses the profit to be obtained from the capital support provided by the business owners, is one of the effective rates used in assessing the financial performance of the enterprises. The asset turnover rate, which expresses the levels of effective use of the assets of football clubs, is also among important financial ratios in defining their financial performance. It is anticipated that the businesses with higher asset turnover would have higher business profitability and higher financial performance.

V. CONCLUSION

The evaluation of the financial performance of soccer clubs, which have become part of the economic system today, is important both for investors and for various financial actors. Particularly high-margin contracts, supports provided by sponsors, additional income from football products constitute a market for football. Depending on the industrialization of football, the Soccer Clubs traded on the Stock Exchange have also started to attract investors. In this respect, it is observed that the investors have been evaluating the financial performances of the football clubs and, within the context of these evaluations, decide to make or not to make investments.

In this study, discriminant analysis is applied to evaluate which financial ratios prevailed in evaluating the financial performances of football clubs. When the analysis results are considered, it is seen that the variables used to distinguish the successes and failures of the football club's financial performance are the current ratio, the acid-test ratio, the return on equity and the asset turnover rate within the scope of the examined independent variables and that the turnover rate is not effective to distinguish the financial performance. Accordingly, it is found that the liquidity ratios are predominant in the evaluations on the financial performance of football clubs.

The results obtained are indicative for the investors intending to invest in soccer clubs and are shedding light on the financial success of soccer clubs as well as on their sportive achievements.

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