Original Article

Investment potential of the football industry¹

OLEG LITVISHKO¹, ROMAN VEYNBERG², IGOR BODROV³

^{1,2,3}Plekhanov Russian University of Economics, RUSSIA

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Abstract:

After the Union of European Football Associations introduced the rules of financial discipline, a new stage in the development of the football industry began. In 2017, football clubs for the first time reported a total profit of more than 600 mln Euros, while a few years earlier the total losses of clubs representing the top European football divisions amounted to 1.7 bln Euros. This fact indicates a possible change in the investment attractiveness of sports clubs. The purpose of this study is to assess the investment potential of the football industry as a possible object of capital investment. Basing on the analysis it can be concluded that the football industry has a significant potential for the revenue growth, which indicates the attractiveness of the sports clubs shares as an investment object. However, such investments are characterized by a high degree of risk due to the specificity inherent in the professional sports industry. The structure of non-current assets and the share of tangible assets including the sports infrastructure and other facilities is an important factor that determines the specific risk inherent in the activities of sports subjects, which enables to compensate for losses incurred as a result of a failure to achieve a seasonal goal set for the team due to the income from other activities, which affects the investment attractiveness of clubs.

Key Words:sports industry, football clubs, securities, profitability, investments, regression analysis, market value, volatility, risk.

Introduction

The issues of economic and financial processes occurring in professional sports, as well as the problems of strategic management of sports subjects were considered in a large number of studies that made an important contribution to the formation of the theoretical and methodological foundations of the field of study. The basic works that reveal the economic and social aspects of the sports industry development include the works by the following scientists: Altukhov S.V., Alekseev S.V., Vorobyov A.I., Zolotov M.I., Pochinkin A.V., Seyranov S.G., Andreff V., Fisher H., Cooper S., Shaaf F., and Shimanski S. These authors had a significant impact on the definition of the development of the sports industry. Thus, in the scientific works by Andreff V. 2 approaches to the development of professional sports were considered. The first is based on the desire to maximize profits, while the sports results are seen as a means to achieve it. According to the second approach the sports rivalry is a priority factor, while financial performance remains in the background. Nevertheless, as for the terms of increasing the investment attractiveness of sports subjects the authors of the above mentioned studies give priority to the first approach.

The critical level of total debt, permanent losses, and negative cash flows that occurred in the European football industry at the turn of 2000-2010 could evoke a collapse of the entire football industry. This can be associated with the European approach to the implementation of sports activities, where in pursuit of high sports performance the club administration forgets about the market efficiency and basic business principles. In order to increase the economic profitability of the football industry, the Executive Committee of the Union of European Football Associations (hereinafter referred to as UEFA) in 2011 unanimously approved and introduced the concept of “financial fair game” rules as a criterion for licensing football clubs. The main tasks pursued by UEFA with these rules were to make the clubs financial policy more disciplined, efficient and rational, and to encourage long-term investments in youth sports and infrastructure development, which ultimately would make European clubs more stable and financially sustainable in the long-term perspective.

In accordance with the UEFA comparative report on European club football for 2017, the concept was proved fruitful as since the new fiscal discipline rules were introduced, the total net losses of European football clubs decreased by 84%, and the net debt of clubs decreased from 65% of total income in 2008 to 34%. The clubs net assets increased 4 times from 1.8 bln Euros in 2008 to 7.7 bln Euros in 2017. From 2008 to 2017 the revenues of top division clubs increased by 77% from 11.4 to 21.1 bln Euros, which is primarily due to a

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significant increase of the cost of rights to broadcast matches. It's also important that for the last 5 years the income of European clubs has been growing faster than the costs of wages to sportsmen and staff: the revenues increased by 8.9%, while the wages by 6.7%. The current wages to income ratio, which is 61.3% in European clubs, is the lowest for the last 10 years. The clubs cumulative losses have been declining every year since the introduction of fiscal discipline rules from the maximum of 1.7 bln Euros in 2011, and at the moment the top division clubs of European football championships report cumulative profits of over 600 mln Euros. Another important point illustrating the change of clubs policy regarding their long-term development is the fact that since 2009 European clubs and football associations put into operation 104 new stadiums, reconstructed 16 stadiums and carried out major repairs at 40 stadiums, while the revenues from transfers of sportsmen including graduates of their own sports academies more than doubled and outpaced the growth of revenues from the media, sponsorship, and commercial activities. According to the STOXX Europe Football index that includes all European public football clubs, an upward trend began to form on the stock market of these companies since mid 2013, and the index has now grown by 33%, while in the preceding five-year period the overall decline of the football clubs stock market was 57%.

The purpose of this study is to assess the investment potential of the football industry as a possible object of investing capital in sports clubs. An increase of the financial profitability of the football industry, growth of the share prices of public clubs, as well as the fact that European clubs are increasingly becoming global companies entering new foreign markets can attract the attention of professional investors.

Material&methods

The study is based on the information obtained from an analysis of official statistical sources, including the UEFA comparative report for 2017 on club licensing, legal acts regulating social and economic relations in the field of sports industry, publications in mass media and online resources describing practical aspects and issues in the development of professional sports, as well as statistical data from www.stoxx.com and www.investing.com. The methodological principle of the study is a systematic approach to the objects that consists in examining the subjects of professional sports, on the one hand, as an element of the system of sports competitions designed to popularize sports and a healthy lifestyle, and on the other hand, as economic entities, whose activities are characterized by financial results. The study is based on the use of such methods as the statistical and economic analysis, comparison, analogies, synthesis, as well as the method of measuring and aggregating data, graphical and tabular method.

Results

In the mid-90s - early 2000s many European clubs, especially in the UK, paid attention to the stock market in order to raise capital for their development. Thus, during the peak popularity about 50 sports clubs held the IPO procedure on the stock exchange. But at the moment, 21 European top division football clubs are listed on the stock exchange and the tendency of the last 10-15 years shows a decline in the clubs interest in the stock market leading to the delisting of their securities due to the significant costs of maintaining stocks in the stock exchange list, falling stock quotes, change of ownership or takeover. This process took place on the background of the growing debt burden of sports clubs and overall unprofitability of the football industry. However, under the current favorable conditions the owners of football clubs can restart to consider the possibility of entering the financial markets to attract capital for business development, which will give the market new interesting investment tools.

Analyzing the prospects of investments in financial instruments that make up the STOXX Europe Football index (hereinafter referred to as FCTR) let's compare it with EURO STOXX 50 Index (hereinafter referred to as SX5E) that comprises companies with the highest capitalization and industrial orientation representing various sectors of the economy of the EU countries. As can be seen on the index change graph (fig. 1), the STOXX Europe Football Index is moving in the trend of the European stock index SX5E.

Fig.1 - Comparative dynamics of the EUROSTOXX 50 and STOXX Europe Football indices

Source: <https://www.stoxx.com/benchmark-compare>

The value of the correlation ratio between the FCTR and SX5E indices is rather high. The value of this indicator calculated for the period from January 01, 2000 to January 01, 2019 is 0.752 units (calculated by the author according to the stoxx.com data). This result is due to an increased role of the sport industry in the world economy, as well as the presence of economic interdependence between the companies included in the quotation lists of the indices and other fundamental and psycho-emotional factors. This level of correlation between the indices indicates that the securities of sports clubs can't be related to exotic financial instruments, as they are fully involved in the exchange process and are perceived by investors as traditional assets.

For further analysis of the investment attractiveness of the football industry we should address the data in Table 1 that contains key indicators characterizing the dynamics of the EUROSTOXX 50 and STOXX Europe Football indices.

Tab. 1 -Comparative analysis ofEUROSTOXX 50and STOXXEuropeFootballIndex

Stockindex	Capitalization of the free float index (bln Euros)	Change from the beginning of the year (%)	Annual change in 2014-2018(%)	Change (%) in the period from 01.01. 2014 till 31.12.2018	Average trading volume (млн. евро/мес)	Volatility (%)	Coefficient of kurtosis	Asymmetry coefficient	P/E ratio	P/B ratio	P/S ratio	Dividendpershare(%)
EURO STOXX50	2 847.0	3.71	-0.42	-3.46	887.5	13.97	3.95	-0.50	13.97	1.52	1.09	1.5
STOXX Europe Football	3.542	9.16	7.5	39.92	13.1	24.41	6.30	0.59	6.67	3.37	0.75	-

Source: compiled by the author according to the investing.com data

The data in Table 1 indicates a low level of market capitalization of the assets included in the FCTR index; it's only 0.124% of the capitalization of the SX5E index. Traditionally, the securities of companies with low free-float index and small capitalization are less in demand among investors than the assets of large issuers, which is confirmed by the average monthly trading volume of securities included in the FCTR index (13.1 mln Euros vs. 887.5 for assets that make up the SX5E index components). Since a small amount of shares is available to investors for making purchase and sale transactions on the secondary securities market, the liquidity of such instruments will be lower than the market average. It's quite risky to use such securities in purchase and sale transactions due to a high spread. On the other hand, investors may be interested in such companies if their low capitalization is caused by a general undervaluation of an asset by the market, and the issuing company has a significant potential for its development. Investors are prepared to undertake an additional risk associated with low liquidity and high volatility of such a tool, if there is a corresponding premium embedded in the expected return as a separate component of the overall premium for the risk of investing in such specific assets. Thus, over the past 5 years the average yield on the stock market of sports clubs is higher than the return on shares included in the SX5E index (7.5% vs. 0.42%), which provides investors with an additional premium for the risk of entering this high risk market.

The prospects for the football industry are based on a further increase in revenues from the sales of broadcasting rights to the media, introduction of the practice of deductions to sports clubs for income received by bookmakers through the use of a football club brand, optimization of the cost part of the club budget including through the establishment of a so called "salary ceiling" in a sports league, improvement of efficiency and use of sports infrastructure, as well as investments in youth sports. For successful placement of shares in the primary market the administration of a sports club should offer to interested parties to invest money not just in the team of sportsmen, who participate in various tournaments, but in the organization that promotes actively its brand on the market and manages effectively the socially significant infrastructure, which enables to generate income from various activities including those that aren't directly related to sports.

The undervaluation of assets by the market and the growth potential of the stock price are confirmed by the indicators given in Table 1 including the P/E (price/profit), P/S (price/sales volume), and P/B (price/book value) ratios. In our case, the P/B ratio shows a large overvaluation of stocks included in the FCTR index, rather than financial instruments that make up the XX5E index (3.37 vs. 1.52). This is due to the fact that only 19% of European top division football clubs are direct owners of stadiums, where they hold competitions and train, or use them as an asset belonging to the overall parent structure, and 2% of clubs run municipal stadiums and show them as assets basing on the long-term financial leasing. Thus, only 21% of clubs show stadiums on their balance sheet. The rights to register sportsmen in a profile sports federation (the football players' contractual

obligations to the club) have the lion's share in the sports organization asset structure, but not all clubs put them on the balance sheet placing the cost of such an intangible asset to the period expenses, which leads to a low book value that doesn't take into account all assets capable of generating income for sports organizations. The remaining coefficients in Table 1 indicate that there is a greater growth potential for stocks of companies in the FCTR index. Thus, the P/E ratio is 6.67 units vs. an average value of 13.97 units for companies that form the SX5E index, and the P/S ratio is 0.75 units vs. 1.09 units. These values mean that the securities market of sports clubs is undervalued compared to the shares that form the SX5E index.

It should be noted that the economic performance of sports clubs is usually lower than an average of the companies from different sectors of the economy, as they use the generated amount of retained earnings to acquire sportsmen, who can achieve seasonally set goals, rather than paying dividends to shareholders, which is confirmed by the "Dividend yield" coefficient shown in Table 1. However, in case of a change of priorities in terms of the development strategy from the principle of maximizing utility to the principle of maximizing profits the shares of sports clubs can be considered not only as a speculative tool, but also as an object of long-term capital investment.

The fact that the shares of football clubs are a specific and quite risky tool is indicated by the coefficients of kurtosis and asymmetry given in Table 1. A positive value of the asymmetry coefficient of the FCTR index (0.59) in contrast to the similar indicator of the SX5E index (-0.50) speaks of a distribution that leads to a right-sided asymmetry and means that during the period under review there were more positive price increments, and upward deviations of the market value are more likely than downward ones. Such a value of the coefficients in general confirms the price dynamics in recent years on the two compared markets. The positive and higher value of the coefficient of kurtosis compared with the SX5E index (6.30 vs. 3.95) indicates that the distribution of the STOXX Europe Football index chart has a more pronounced peak than the normal distribution. Such a distribution is called peaked and characterizes trade that is subject to large price increases, i.e. such a market is highly volatile (24.41% vs. 13.97% in the SX5E market).

Discussion

The high volatility of the football club shares market, on the one hand, indicates the risks of investing in this market, and on the other hand, it shows that investors have the opportunity to earn income due to significant fluctuations in share prices including the intraday trading. From this point of view, it's advisable to consider the factors that influence on the change of the market price of the sports clubs shares.

In accordance with the discounted cash flow method, the fundamental value of a company equals the sum of all the cash it generates during its operation. Based on this concept, the value of shares of public clubs should depend on sports results, because in the football industry the lion's share of revenues is directly related to the team success during a season, as well as the popularity of its brand among consumers of sports services. Within this article it seems appropriate to consider the main factors affecting the change of the market value of shares of sports teams. The basis of the observations in the framework of this study were the results of football matches of the English Premier League (hereinafter referred to as the EPL), the Champions League, and the Europa League (hereinafter referred to as Eurocups) for the period from 2008 till 2016 for 19 teams of the English Premier League that have a public status and are included in the STOXX Europe Football index. The choice of this period is explained by an increase of fluctuation in the value of shares during this time interval, which simplifies the process of formation and processing of primary data.

For our analysis we selected the following variables that according to some authors have an impact on the fluctuation of profitability of the club shares (Andreff et al., 2006; GarcíadelBarrio et al., 2009):

1. "Victory in the match" (V). This variable is used to distinguish between the team wins and losses/draws during the analysis. The indicator equals to 1 in case of a positive outcome of the match (win) and to 0 in case of other outcomes (draw, loss).
2. "Loss in a match" (L). If the team lost a match, this variable equals to 1, and in case of other outcomes it equals to 0.
3. "Season stage" (S) is a variable introduced in order to simulate an increasing value of matches, as the end of the season approaches and the team moves in the tournament grid. It equals to 1 if the match took place in the period from March to May, and in a different period it equals to 0.
4. "International match" (I) is a variable designating a match having an international status. It equals to 1 if the match was played within the framework of the Champions League or the Europa League, in other cases it equals to 0.
5. "EPL" (N) is a variable that indicates the match held in the framework of a national championship. It equals to 1, if the match was played in the framework of the English Premier League, in other cases it equals to 0.
6. "Goal difference in the match" (GD) is a variable pointing to the team form that predicts the result of the next games. For the regression analysis, it's an artificial variable that is required to separate successful matches. The indicator equals to 1 if the goal difference was more than 2, otherwise it equals to 0.
7. "The rival status" (R) is an artificial variable that takes into account the level of the rival team. The indicator equals to 1 if the rival team has a comparable level of skill, history of victories, and is expected to take a high

place in the overall rankings at the end of the season, and it equals to 0 as for the other opponents in the tournament.

Before the regression analysis a correlation matrix shown in Table 3 was generated in Matlab, that includes all the correlation coefficients between seven independent variables to identify the relationship between them.

Tab.3 -Correlation coefficients between independent variables

	V	L	S	I	GD	N	R
V	1.0000						
L	-0.5949	1.0000					
S	0.0074	-0.0020	1.0000				
I	-0.0434	0.0484	-0.1363	1.0000			
GD	0.3010	0.0769	-0.0009	-0.0144	1.0000		
N	-0.1271	0.1082	-0.0117	-0.1461	-0.0234	1.0000	
R	-0.0602	0.0368	0.0194	-0.0938	-0.0320	-0.0178	1.0000

Sources: compiled by the author according to the www.stoxx.com and www.sports.ru data.

As can be seen from Table 3, most of the independent variables have low correlation coefficients, but a certain relationship is still observed. Some variables have a positive coefficient value: GD/V (0.3010). Others have a negative correlation, for example, I/S (-0.1363). The results of the correlation analysis are quite objective, for example, the indicators V and L have a high negative correlation, which is confirmed by common sense and the rules of the competition. The presence of a low correlation between most of the selected variables indicates the required level of purity of the experiment, since the model will show the influence of a specific factor on the objective function. Now, let's proceed to the regression analysis.

To determine the influence of the above mentioned factors on the change of the market value of the football club shares, let's consider a linear multiple regression model that besides the independent variables includes a control variable (M), i.e. the change of the EUROSTOXX 50 index (%):

$$R = \alpha + \beta_1 M + \beta_2 V + \beta_3 L + \beta_4 S + \beta_5 I + \beta_6 GD + \beta_7 N + \beta_8 R + \varepsilon,$$

R – the stock price change (%); α – a constant value independent of the selected factors; $\beta_1, \dots, \beta_8$ – angular coefficients that characterize linear effects; ε – random factor that has a normal distribution (calculation error).

The regression results are presented in Table 4. The dependent variable R has a significant correlation with the control variable (M), and in each new action one independent variable is added.

Tab. 4 – Results for different variable options

	R[-1,+1]	R[-1,+1]	R[-1,+1]	R[-1,+1]	R[-1,+1]	R[-1,+1]	R[-1,+1]	R[-1,+1]	Model 1
α	0.0172**	0.0186***	0.0289***	0.0174**	0.0145*	0.0158**	0.0131*	0.0170**	0.0196**
M	0.093***	0.091***	0.089***	0.092***	0.094**	0.088***	0.091**	0.090***	0.089***
V		0.0161***							0.0141***
L			-0.0134***						-0.0061**
S				-0.0008					-0.0012
I					-0.0041***				0.0032
GD						0.0043***			0.0003
N							0.0022*		0.0046***
R								-0.00284	-0.0003
r^2	0.0007	0.0232	0.0125	0.0007	0.0014	0.0022	0.0010	0.0008	0.0250

Statistical error amounting to 1%, 5%, and 10% is marked with ***, **, and * respectively.

Sources: compiled by the author according to the www.stoxx.com and www.sports.ru data.

Table 4 shows that such indicators as “Victory in the match” and “Loss in the match” have the greatest impact on the variable R. The direction of independent variables has positive values for “Victory in the match” and negative values for “Loss in the match”. It corresponds to the expectations and conclusions mentioned earlier. As for the remaining indicators, it's possible to conclude that they have little effect on the variable R. However, it seems appropriate to consider the effect of independent indicators on the variable R that is revealed in the interaction of selected factors. To do this, let's consider several non-linear models of relationship between the dependent and a set of independent variables:

$$R = \alpha + \beta_1 M + \beta_9 VR + \beta_{10} GDR + \varepsilon,$$

$$R = \alpha + \beta_1 M + \beta_{11} LI + \beta_{12} IS + \varepsilon,$$

$$R = \alpha + \beta_1 M + \beta_{13} VGD + \beta_{14} SRN + \varepsilon,$$

$\beta_9, \dots, \beta_{14}$ are coefficients that characterize the effects of the interaction of variables.

The analysis showed that the multiplicative interaction of such factors of influence as winning a rivalry match and winning a rivalry match with a big difference in scored and missing goals increases the significance of the "Victory in the match" indicator leading to a change of the asset market price (β amounts to 0.0243 and 0.0214 respectively). The combination of the following factors has a negative impact on the market: a loss in a match that has international status and takes place during the final stage of the season (β amounts to - 0.0173 and - 0.0195, respectively). Speaking about the other coefficients used for the analysis it's possible to note their insignificant influence on the dependent variable.

Conclusion

In the context of an increase of the investment attractiveness of the sports industry, the shares of professional football clubs can be considered by investors as a promising financial instrument that is an alternative to traditional investment objects. However, such assets are characterized by a high degree of risk associated with the specifics of the sports industry, which includes the unpredictability of the final outcome of both a single match and the entire tournament. Although the price of the clubs shares depends on the outcome of sports competitions, it occurs in a form that is quite specific for the stock market. A delayed and sluggish market reaction to the result can be caused by low market liquidity, which is associated with a small share of free-float and low trading volumes compared to other markets, because a large proportion of the issued shares is in the hands of fans, who can't be called rational investors, as they don't take the news background and stock indicators as a signal to active transactions with securities. Such investors have a great passion for sports and loyalty to a particular club, and, thereby, they choose a long-term strategy for investing in the shares of their favorite team. In addition, because of the many activities of many football clubs the prices of their assets don't always move in accordance with the outcome of a sporting event. Thus, the prospects and directions of further research in this area are seen in a more detailed consideration of all factors affecting the stock price fluctuations of sports clubs and determining the contribution of each of them to the overall change of prices for these financial instruments.

Conflicts of interest - The authors state that there is no conflict of interest.

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