ANALYSIS OF MAJOR CAPITAL STRUCTURE INDEXES OF ORGANIZATIONS DEALING WITH SPORTS ACTIVITIES AND THEIR RELATION WITH THE NOTES TO THE FINANCIAL STATEMENT

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Abstract: *GDP-measurable impact of the sports sector shows a growing tendency. It is one of the most defining elements of global economy, as it is constantly opening up new markets, with profit-oriented companies appearing, where the objective is to achieve profit and wealth. Therefore, it was considered important to examine the financial situation of various sports companies based on their annual statements. The purpose of the financial statement is to provide various market participants with information about the business situation of a company in order to support their decision-making process. In order to make informed decisions, it is essential to process and analyse the financial data disclosed in the statements. The analysis provides the management with essential information on the operation of the system and ensures its awareness. The aim of present study is to show the characteristics of profit-oriented organizations located and based in Hungary in the years 2014-2017, which have TEÁOR (Hungarian version of NACE) 931 'sports activities' as their primary business activity. The financial situation is presented through the analysis of the liabilities side of the balance sheet. The survey involves mapping the relationship of the indexes with the notes to the financial statement, namely their conformity with the mandatory content stipulated by the Accounting Act.*

1. Literature review

Sport is of increasing importance in the life of modern societies of our time. It involves more and more people (either passively or actively) into the world of sport; the performance of the sport-based economic sector is constantly expanding and its role is becoming increasingly positive in various social areas (Laczkó, 2015). The economic importance of sports is no longer questioned by anyone. Sports economics is considered a relatively young field of science both within the scope of sports science and economic sciences (Kendelényi-Gulyás, 2017).

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Average annual growth rate of the global sports market between 2009 and 2013 was 7%, which means that the growth rate of the sector exceeds GDP growth rate in a significant proportion of national economies, especially in large markets such as the United States, Brazil, United Kingdom and France (Bácsné et al., 2018). Long-term prospects of the sector are also encouraging. Household expenditures of sports tools, clothing, equipment, and health and fitness reach $700 billion annually, which is 1% of global GDP (Collignon, 2014). In their study, which examined the economic situation of enterprises dealing with sports activities between 2014 and 2016, Bácsné et al. (2018) found that the results of the three-year study clearly show that the sector experiences constant development, its contribution to the added value is increasing both in terms of amount and proportion. Traditional levels of economic analysis can also be found in the field of sports economics research. Macroeconomic research primarily measures the economic importance of sports, its contribution to national economy income, employment, and consumer spending. Analysis of the economic effects of various international sporting events (Olympic Games, UEFA European Championship, FIFA World Cup) also appear within this area. Microeconomic research focuses on the issues of the operation of sports services and providers, the characteristics of supply and demand and the functioning of sports organizations. A mesoeconomic level exists between the above two levels, which deals with the specificities of sports such as the economics of leagues and the specialties of the player market (András, 2015). Present study belongs to microeconomic research.

2. Material and method of the study

Currently, in April 2019, there are 2980 companies in Hungary, which are engaged in sports activities. The survey database includes companies that are based in Hungary, identified their primary business activity as 'sports activities' (TEÁOR 931), and have 4 closed business years. In the scope of the study, the financial statements of 1747 companies were analysed (57.62%). These are the companies that prepared financial statements for the period of 2014-2017 and that are not under bankruptcy proceedings or being liquidated or terminated. The data was provided by the OPTEN database.

For the analysis, Microsoft Excel spreadsheet software, and data management and calculation options of the R statistical system were applied (Everitt – Hothorn, 2010; Huzsvai, 2013). The R statistical system was utilized through Excel, by means of RExcel (Heiberger – Neuwirth, 2009).

3. Analysis of the companies by quartiles. Analysis of the main capital structure indexes of companies by means of the quartile classification based on net sales revenues

The data used as the basis of the examination (1747 companies) were ranked by their net sales revenues of the 2014 financial year in an ascending order and were divided into four equal parts for the quartile-based analysis. Data were examined by

means of descriptive statistical characteristics (mean, extent of deviation, relative standard deviation, skewness and kurtosis

From among capital structure indexes, four main indexes were highlighted, by means of which the distribution of the capital of sports-related enterprises classified by their origin is presented among the main groups. The analysis of the financial situation in present study is carried out using vertical indexes. Financial situation of companies was analysed through the equity ratio, ratio of provisions, ratio of liabilities and ratio of deferrals for the examined periods (2014, 2015, 2016, 2017). The indexes examine the ratio of each main group of the balance sheet to total liabilities.

Table 1 shows the mean index values referring to the equity ratio of the total population and the 4 quartiles which are classified by net sales revenues; it also includes relative standard deviation, skewness and kurtosis for each analysed year. In general, it can be stated about organizations performing sports activities that their equity ratio shows unfavourable values. Mean values are characterised by negative values for the total population and all quartiles except for the 4th quartile. This means that these businesses are less profitable; in many cases, their shareholders' equity is negative. In the case of the 4th quartile (companies with the highest sales revenues), positive shareholders' equity values were recorded in 2014 and 2015 by examining the mean value. In 2016 and 2017 negative equity ratio was found in this group as well.

Table 1: Main statistical properties of the equity ratios of the quartile classification carried out based on net revenue (%)

Group	Statistical index	2014	2015	2016	2017
Total population	Mean	-1964.97%	-46.68%	-2273.70%	-893.44%
	Relative deviation	-2778.25%	-1423.30%	-2048.51%	-1306.76%
	Skewness	-39.64337	-24.72958	-30.29266	-23.70323
	Kurtosis	1618.9527	766.23255	977.01236	630.41538
1st quartile	Mean	-1758.10%	-99.46%	-6111.06%	-2610.81%
	Relative deviation	-798.46%	-1191.13%	-1301.74%	-850.89%
	Skewness	-13.06294	-16.48092	-19.68782	-13.19566
	Kurtosis	187.11567	297.5959	400.75767	186.36055
2nd quartile	Mean	-6016.26%	-21.53%	-2681.16%	-433.19%
	Relative deviation	-1796.88%	-1138.19%	-1793.86%	-717.75%
	Skewness	-20.32628	-8.611016	-20.72749	-9.100315
	Kurtosis	419.63674	97.176604	432.13348	92.032494
3rd quartile	Mean	-74.42%	-77.57%	-286.30%	-523.61%
	Relative deviation	-566.52%	-689.13%	-1428.28%	-1186.71%
	Skewness	-8.495353	-8.957937	-20.22009	-17.2762
	Kurtosis	98.37406	94.886413	416.73255	320.00203
4th quartile	Mean	7.01%	11.85%	-5.61%	-4.31%
	Relative deviation	1854.60%	893.19%	-4814.64%	-4706.37%
	Skewness	-7.32861	-6.177047	-11.83946	-6.079606
	Kurtosis	72.294685	53.169489	180.6218	46.660426

Source: Own editing

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Relative standard deviation values of the total population and each quartile also refer to an extremely heterogeneous population. The lowest, but still very high values were observed based on the data of companies belonging to the 1st and 3rd quartiles. Consequently, it might be worthwhile to subdivide the given population to additional groups by means of a multi-variable method.

Analysis of skewness indexes shows that all of the variables show a left skewness, which means that in a coordinate system most of the data are not located close to the Y-axis. Skewness indexes are gradually decreasing from the 1st quartile to the 4th quartile and in the 3rd and 4th quartiles it is already well below 20.

Examination of kurtosis values suggests that distribution in terms of the total population and the quartiles can be regarded as more peaky as compared to normal distribution.

It is mandatory for companies to present their actual financial situation in their notes to the financial statement, including the disclosure of the changes of shareholders' equity and liabilities during the financial year, their reasons, with especial regard to changes of share capital. Proportion and changes of shared capital of the parent company, the subsidiaries, joint ventures, associated companies also needs to be presented.

Following the analysis of equity, it was considered important to examine the ratio of provisions as well. Provisions are allocated resources, which have to be or can be generated by the company in conformity with the stipulations of the Accounting Act as a security for expectable liabilities following the current financial year. Based on earnings before taxes, provisions have to be allocated for liabilities originating from past or ongoing transactions, contracts with third parties, which are likely or certain to exist on the balance sheet date, the amount or due date of which is yet uncertain and for which the company did not provide the necessary financial securities. Provisions can be allocated based on earnings before taxes for such expectable, significant and periodically recurring future expenses that are – on the balance sheet date – probable or certain to occur in the future, but the amount or date of occurrence of which is still uncertain and which cannot be recognized as deferrals. Such provisions can be provisions for expected liabilities, provisions for future expenses and other provisions.

The index represents the percentile proportion of provisions within total liabilities. Table 2 shows mean ratios of provisions in a quartile classification together with other descriptive statistical indexes. It can be established for both the total population and the breakdown by quartile that enterprises engaged in sports activities allocate only minimal provisions on average. As for the index numbers of the 1st and 2nd quartiles, there were years when none of the companies allocated provisions. The amount of allocated provisions increases with higher sales revenues, but the mean value still does not reach the value of .05% even in the case of the 4th quartile.

Relative standard deviation values belonging to the total population and for each quartile also indicate an extremely heterogeneous population. Based on the above, allocation of provisions can be recorded for companies belonging to the 3rd and 4th quartiles, but in a very low volume.

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The analysis of skewness indexes suggests that each of the variables shows right skewness, which means that in the coordinate system most of the data is located near the Y-axis. Skewness indexes can be examined in the 3rd and 4th quartiles, and it can be concluded that the value has decreased during the first three years of the study, but this tendency reversed in the fourth year. Examination of kurtosis values suggests that distribution in terms of the total population and the quartiles can be regarded as more peaky as compared to normal distribution.

It is mandatory to disclose information in the notes to the financial statement about the amount of provisions for liabilities to affiliated undertakings, broken down by different purposes, with especial regard to the amount of provisions allocated for warranty liabilities to affiliated undertakings.

Table 2: Main statistical properties of the ratios of provisions of the quartile classification carried out based on net revenue (%)

Group	Statistical index	2014	2015	2016	2017
Total population	Mean	0.06%	0.04%	0.08%	0.10%
	Relative deviation	2096.01%	1411.21%	1695.93%	2073.42%
	Skewness	36.66743	18.88572	28.40632	34.39131
	Kurtosis	1446.981	406.221	946.2451	1301.291
1st quartile	Mean	0.00%	0.00%	0.00%	0.00%
	Relative deviation	0.00%	0.00%	0.00%	2090.45%
	Skewness	0	0	0	20.90454
	Kurtosis	0	0	0	437
2nd quartile	Mean	0.12%	0.00%	0.14%	0.00%
	Relative deviation	2092.84%	0.00%	1746.87%	0.00%
	Skewness	20.92845	0	19.6158	0
	Kurtosis	438	0	396.4027	0
3rd quartile	Mean	0.00%	0.04%	0.01%	0.01%
	Relative deviation	1496.58%	1925.24%	1598.51%	1408.14%
	Skewness	15.3437	20.65027	17.64305	16.68412
	Kurtosis	240.1925	429.2086	326.9977	297.8867
4th quartile	Mean	0.13%	0.12%	0.18%	0.39%
	Relative deviation	619.36%	713.63%	747.27%	1061.59%
	Skewness	7.594737	9.406272	9.947706	17.21762
	Kurtosis	63.61053	102.8738	109.4087	325.6194

Source: Own editing

Besides the ratio of shareholders' equity, the proportion of liabilities within the total liabilities needs to be examined; this is represented by Table 3. It can be established for organizations dealing with sports activities that the proportion of liabilities reflects prominently high values. Based on the expectations of technical literature, the value of the index is critical if it reaches or exceeds 70% and currently the recorded values show unfavourable results in both the total population and in each quartile. Values below 100% can only be found in the case of the 4th quartile.

Relative standard deviation values of the total population and each quartile also refer to an extremely heterogeneous population. The lowest, but still very high values were observed based on the data of companies belonging to the 4th quartile.

Consequently, it might be worthwhile to subdivide the given population to additional groups by means of a multi-variable method. The analysis of skewness indexes suggests that each variable shows right skewness, which means that in the coordinate system most of the data is located near the Y-axis. Examination of kurtosis values suggests that distribution in terms of the total population and the quartiles can be regarded as more peaky as compared to normal distribution.

Table 3: Main statistical properties of the ratios of liabilities of the quartile classification carried out based on net revenue (%)

Group	Statistical index	2014	2015	2016	2017
Total population	**Mean**	2057.70%	113.75%	2362.59%	986.04%
	Relative deviation	2653.06%	587.24%	1971.09%	1183.88%
	Skewness	39.64321513	24.48016252	30.29138477	23.69874424
	Kurtosis	1618.943492	754.7964694	976.8916122	630.1899891
1st quartile	**Mean**	1852.05%	140.65%	6193.40%	2704.20%
	Relative deviation	757.99%	846.41%	1284.13%	821.37%
	Skewness	13.06234487	16.38851708	19.68825098	13.19393995
	Kurtosis	187.1020818	295.0526515	400.7672438	186.3122249
2nd quartile	**Mean**	6112.63%	85.23%	2777.06%	529.62%
	Relative deviation	1768.55%	295.95%	1731.92%	587.14%
	Skewness	20.32626741	8.271307356	20.72745294	9.100363694
	Kurtosis	419.6363612	90.81429107	432.1324986	92.02924027
3rd quartile	**Mean**	167.56%	157.79%	380.05%	618.34%
	Relative deviation	251.97%	340.95%	1076.07%	1004.98%
	Skewness	8.487199447	8.887312618	20.21935332	17.27497399
	Kurtosis	98.19785531	93.72127311	416.710599	319.9674996
4th quartile	**Mean**	80.44%	71.39%	89.15%	90.16%
	Relative deviation	163.59%	151.93%	300.06%	225.53%
	Skewness	7.251491721	6.063259949	12.27281873	6.130443224
	Kurtosis	70.58089082	51.27197501	190.9334796	47.30817629

Source: Own editing

It is mandatory to disclose information in the notes to the financial statement about the amount of provisions allocated for liabilities to affiliated undertakings, broken down by different purposes, with especial regard to the amount of provisions allocated for warranty liabilities to affiliated undertakings.
In terms of the ratio of deferrals, relatively high values are recorded. With the increase of sales revenue, the allocation of deferrals also increases at the examined companies. In the first three quartile, the recorded ratios were below 6%, while in the 4th quartile the ratios were around 10-20%. Relative standard deviation is lower as compared to the rest of the indexes, but it still shows values around 2-300%, which indicates a heterogeneous population.

The analysis of skewness indexes suggests that each of the variables shows right skewness, which means that in the coordinate system most of the data is located near the Y-axis. Examination of kurtosis values suggests that distribution in terms of the total population and the quartiles can be regarded as more flat as compared to normal distribution.

Table 4: Main statistical properties of the ratios of deferrals of the quartile classification carried out based on net revenue (%)

Group	Statistical index	2014	2015	2016	2017
Total population	Mean	6.43%	5.80%	10.23%	6.55%
	Relative deviation	288.13%	293.38%	1074.81%	288.18%
	Skewness	4.467195	3.998122	37.0782174	4.253795
	Kurtosis	31.37091	19.90051	1468.75497	26.25778
1st quartile	Mean	3.53%	2.97%	14.92%	4.09%
	Relative deviation	535.05%	508.44%	1421.65%	449.88%
	Skewness	8.686199	7.347779	20.4927954	7.03536
	Kurtosis	97.30265	67.61919	425.087591	63.99292
2nd quartile	Mean	3.29%	3.20%	3.73%	3.34%
	Relative deviation	391.61%	398.90%	367.65%	380.64%
	Skewness	4.967574	4.883673	4.19085967	4.462935
	Kurtosis	26.31507	25.40863	17.6292771	20.51144
3rd quartile	Mean	6.51%	5.52%	6.02%	5.03%
	Relative deviation	254.62%	274.92%	264.76%	295.05%
	Skewness	3.156703	3.689655	3.32513676	3.679732
	Kurtosis	10.21245	15.70222	11.5404981	14.16574
4th quartile	Mean	12.42%	11.52%	16.28%	13.77%
	Relative deviation	184.51%	192.35%	331.85%	183.47%
	Skewness	2.143031	2.351331	13.4233586	2.54819
	Kurtosis	3.787723	5.451731	227.654274	9.602326

Source: Own editing

4. In conclusion

Our main research goal is to analyse the financial position of sports companies based on capital structure indexes. Four indexes were presented: the ratio of shareholders' equity, provisions, liabilities and deferrals for the total population and broken down by quartiles for the financial years 2014-2017. The survey involves mapping the relationship of the indexes with the notes to the financial statement, namely their conformity with the mandatory content stipulated by the Accounting Act. The database of the study was based on companies that are engaged in sports activities as their primary business according to TEÁOR (NACE) 931. Based on the classification by 2014 revenues, it can be stated that the dependency of companies on foreign capital is high and the business management of a large part of businesses is unfavourable, as mean indicators show negative shareholders' equity values. Allocation of provisions is minimal, however higher than average values are recorded in terms of deferrals. It is suggested to disclosure these indexes, their

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major changes and underlying content in the notes to the financial statement in order for them to facilitate the decisions of external actors.

5. Acknowledgements

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