



FINANCIAL AND SPORTS RESULTS OF PUBLIC SECTOR ENTERPRISES OPERATING PROFESSIONAL SPORTS CLUBS

Artur Wyszynski

Faculty of Economic Sciences
University of Warmia and Mazury in Olsztyn
ORCID: <https://orcid.org/0000-0002-3326-7399>
e-mail: artur.wyszynski@uwm.edu.pl

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Abstract

This article analyses the extent of state ownership and examines whether there are differences in business and sports activity results between state-owned and private entities running football clubs in the Polish Ekstraklasa. The study examined a panel of 100 entities (N) comprising 26 enterprises running football clubs whose male teams participated in Ekstraklasa games during five seasons: 2016/2017, 2017/2018, 2018/2019, 2019/2020 and 2020/2021. The study covered five consecutive financial years ending in 2017, 2018, 2019, 2020 and 2021. The statistical and financial analysis method was applied. The financial and sports results of state-owned and private enterprises in the period of 2017-2021 were compared based on selected ratios. The mean and median values of the variables taken for analyses (financial and sports ratios) were calculated. A non-parametric Kruskal-Wallis test was applied to assess the differences between the ratios for the groups of enterprises under study. The analysis revealed that state-owned Companies and local government units are major shareholders in Polish professional football clubs. Examination of the financial results of public and private enterprises that run such clubs revealed statistically significant differences between most of them. Among the three groups of enterprises, those run by local government enterprises achieved the worst financial results measured by profitability, financial liquidity, debt, team cost and equity. The best financial situation was observed in the state-owned enterprises. Although no statistically significant difference was found in the sports achievements between the groups of clubs, the privately owned enterprises had better results (the median and the mean values) than the other enterprises concerning the number of points and a higher place at the end of the season.

WYNIKI FINANSOWE I SPORTOWE PRZEDSIĘBIORSTW SEKTORA PUBLICZNEGO PROWADZĄCYCH PROFESJONALNE KLUBY SPORTOWE

Artur Wyszyński

Wydział Nauk Ekonomicznych
Uniwersytet Warmińsko-Mazurski w Olsztynie

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Abstrakt

Celem artykułu jest określenie zakresu własności państwowej oraz zbadanie, czy występują różnice w wynikach finansowych i sportowych między państwowymi a prywatnymi przedsiębiorstwami prowadzącymi kluby piłki nożnej w polskiej Ekstraklasie. Badaniem objęto panel składający się ze 100 podmiotów (N) zawierający 26 przedsiębiorstw prowadzących kluby piłki nożnej, których męskie drużyny w pięciu sezonach – 2016/2017, 2017/2018, 2018/2019, 2019/2020 i 2020/2021 – uczestniczyły w rozgrywkach Ekstraklasy. Zakres czasowy badań obejmował pięć kolejnych lat sprawozdawczych kończących się w latach 2017, 2018, 2019, 2020 i 2021. Do przeprowadzenia badań zastosowano metodę analizy statystycznej i finansowej. Opierając się na wybranych wskaźnikach, porównano wyniki finansowe i sportowe przedsiębiorstw państwowych i prywatnych w latach 2017–2021. Obliczono średnie i mediany przyjętych do analizy zmiennych (wskaźników finansowych i sportowych). Do oceny różnic między wskaźnikami badanych grup przedsiębiorstw zastosowano nieparametryczny test Kruskala-Wallis. Z przeprowadzonej analizy wynika, że państwo w postaci spółek Skarbu Państwa oraz jednostek samorządowych pozostaje istotnym akcjonariuszem w strukturze własności przedsiębiorstw prowadzących profesjonalne kluby piłki nożnej w Polsce. Badanie różnic w wynikach finansowych między przedsiębiorstwami państwowymi a prywatnymi wykazało statystycznie istotne różnice w wysokości większości wskaźników finansowych. Spośród trzech grup przedsiębiorstw najgorsze wyniki finansowe mierzone wskaźnikami rentowności, płynności finansowej, zadłużenia, kosztów zespołu oraz wielkości kapitału osiągnęły przedsiębiorstwa sektora samorządowego. Najlepszą sytuacją finansową charakteryzowały się przedsiębiorstwa sektora państwowego. Pomimo że nie zaobserwowano statycznej istotnej różnicy wyników sportowych w grupach klubów, to przedsiębiorstwa prywatne osiągnęły lepsze rezultaty (wartości mediany i średniej) od pozostałych przedsiębiorstw w zakresie większej liczby zdobytych punktów i wyższego miejsca na koniec sezonu rozgrywek.

Introduction

This article analyses the extent of state ownership and examines whether there are differences in business and sports activity results between state-owned and private entities running football clubs in the Ekstraklasa. A State-Owned Enterprise (SOE) is an enterprise where the state or local government has a controlling interest as either a majority or minority shareholder. Two groups were identified among the public sector enterprises. The first group included those controlled by State Owned Companies, while the other included those

controlled by a Local Government. The scope of the study covered 26 enterprises (clubs) operating as joint-stock companies.

The financial and sports results of the state- and private-owned enterprises in the period of 2017–2021 were compared based on selected ratios (11). The study was conducted for the whole group of clubs that participated in the Ekstraklasa games.

This study is justified by the need to fill a significant gap concerning the effect of state ownership on the efficiency of enterprises running sports clubs and the factors affecting them. Therefore, the study will expand a model analysis for professional football club ownership in Europe by the model with the state as a supervisor. The assessment will identify potential solutions to improve financial situations for national associations and the Union of European Football Associations.

The Enterprise Results and the Ownership Structure – Literature Review

The economic results of state-owned enterprises compared to private enterprises have been widely discussed since the 1980s and 1990s. Economists are attempting to resolve the issue through either theoretical analysis, which considers the state's unreliability and inherent features of state ownership as a base, or empirical studies of the subject. Theoretically, an analysis of state-owned enterprise operations is based on the theory of ownership rights (Demsetz & Villalonga, 2001). Given the specific features of a state owner, three major problem areas can be identified, with significant differences between state and private entities, i.e. the multitude and diversity of goals pursued by state-owned enterprises, restricting the decision-making independence of state-owned enterprises and their soft budget restrictions (Bałtowski & Kwiatkowski, 2018).

The issue of the role and the impact of state ownership on effectiveness in the literature is discussed mainly regarding the enterprises unrelated to the sports sector, e.g. the financial sector (Berger, 2005) or sectors of special national interest, such as the power industry, the arms industry and the network industry (Robinett, 2006). These enterprises are often used to support public security, long-term investment and social affordability (Florio, 2013a, 2013b). State ownership seems permanent despite the privatisation processes that started in many developed and post-socialist countries in the 1980s and 1990s (Roland, 2000; Megginson & Netter, 2001).

Studies on the effectiveness of public sector enterprises running professional sports clubs are relatively infrequent. Mitić *et al.* (2016) and Wyszyński (2021a) attempted to assess and compare local government ownership versus private ownership in professional football clubs.

There are review articles in the economic literature that analyse and summarise earlier studies on the efficiency of state-owned enterprises. They attempted to compare in a systematic manner the findings of many studies concerning various countries, based on diverse study methodologies and employing various efficiency measures. The most important among such review studies include ones published in the “Journal of Economic Literature” by eminent researchers of the socialist transformation: William L. Megginson and Jeffrey M. Netter (2001) and Simeon Djankow and Paul Merrell (2002). The former analysed the efficiency of state ownership compared with private ownership and post-privatisation results, both in developed countries and in countries where a system transformation had taken place. They found evidence to support the claim that state-owned enterprises were less efficient and less profitable than private ones and that privatisation improved the results of sold enterprises. The latter authors performed a multi-aspect meta-analysis of enterprise operation after privatisation by analysing over a hundred scientific articles, in which these issues were examined in countries during the course of economic transformations that began in the late 1980s. Based on this, they found that privatisation improved the enterprise efficiency. They pointed out that the key issues in the context of economic results – apart from the enterprise privatisation itself – included the institutional environment quality. Other studies (Megginson, 2017; Wang & Shailer, 2018; Tihanyi *et al.*, 2019) also provided evidence of poorer SOE results compared with private-owned ones. A noteworthy study review on enterprise efficiency is Holger Muchlenkamp’s 2015 paper, in which it is suggested that more recent studies do not show such a significant difference between state-owned and private-owned enterprises as earlier ones. The author suggested that this may result from the increasing role of professionalisation of state-owned enterprises and state-owner supervision. Muchlenkamp points out that the effectiveness of state enterprise operation is distinctly lower in developing and post-socialist countries, while the difference is less noticeable in developed countries.

State-owned enterprises can achieve worse results than private enterprises for many reasons. These may include agency issues, the absence of properly defined monitoring groups, soft budgetary restrictions, exploitation of SOEs as “political assets”, and cronyism (Megginson & Netter, 2001; La Porta *et al.*, 2002). The divergence of objectives between agents and ordering parties was analysed by agency theorists in 1976. This issue is of particular importance for state-owned enterprises. SOE managers may not be motivated to improve the financial results because of the lack of clearly defined stimuli and the absence of sufficient monitoring by many mandators (e.g. the government, the ministry, the state-owned holding, the society) in connection with their monitoring obligations (D’Souza & Nash, 2017). Significant factors restricting state-owned company efficiency include soft budgetary restrictions (Kornai *et al.*, 2003). The state can support such companies through public aid, beneficial taxation, crediting policy and limited competition in the sector, which allows the ineffective

operation of SOEs without the risk of insolvency or bankruptcy (Bałtowski & Kwiatkowski, 2018). State-owned enterprises can also be exploited by politicians for private benefits. The evidence pointing to trusted collaborators can be found in regular management rotations in SOEs, depending on the election results and partisanship in appointments to significant positions, as well as other benefits (Szarzec *et al.*, 2020). Moreover, SOEs can be used as political tools to manipulate economic results in the run-up to elections, thereby supporting the re-election of incumbent leaders and, at the same time, resulting in political cycles (Englmaier *et al.*, 2017). Some authors (e.g. Muhlenkamp, 2015; Bałtowski & Kwiatkowski, 2018; Estrin *et al.*, 2019) have also emphasised that the relatively worse financial results of SOEs may result mainly from the fact that they pursue a broader set of goals than PCs, including non-commercial ones, which obviously affect their profitability, but which are advantageous from the social perspective.

Data and Characterisation of the Enterprises and Study Methodology

The study examined a panel of 100 entities (N) comprising 26 enterprises operating football clubs whose men's teams took part in Ekstraklasa games in five seasons: 2016/2017, 2017/2018, 2018/2019, 2019/2020 and 2020/2021. The panel included 31 local government enterprises, seven state-owned ones and 62 private-owned ones). The study covered five consecutive financial years ending in 2017, 2018, 2019, 2020 and 2021. The clubs under study ran their operations during various financial periods. In six cases, the period ended on 31 December, i.e. it coincided with the calendar year, and in the others – it ended on 30 June, i.e. it was linked to the seasonality of football games in Poland. The football season in Poland lasts from late July to June. Therefore, it is justified to link the financial year with these dates to evaluate the results achieved during the period. A different method of presenting financial data makes it difficult to compare the results of companies analysed in the study, but it was the only possible way of evaluation because the enterprises did not submit semi-annual reports.

Two types of public sector and one type of private sector enterprises operating football clubs were defined for this paper.

– a public sector enterprise controlled by a local government (commune) is one in which a commune has a share exceeding 50.01%, i.e. it is its majority shareholder, and it makes decisions concerning the directions of the company operation and development;

– a State Treasury-controlled public sector enterprise is a State-Owned Company (SOC) in which the State Treasury holds more than 50.01% of shares or exercises supervisory control. Two such enterprises are included in this study:

Zagłębie Lubin SA and Górnik Łęczna SA. KGHM Polska Miedź SA – a state-controlled company – is the sole shareholder of Zagłębie Lubin. The supervisory control in Górnik Łęczna (electing the Supervisory Board members) is exercised by the State Treasury through the club's main shareholder – Stowarzyszenie Górnicy Klub Sportowy “Górnik” Łęczna, founded by Lubelski Węgiel “Bogdanka” SA – a company linked to the State Treasury;

– a private sector enterprise controlled by private persons is a private-owned enterprise (POE) in which individuals or legal entities directly hold more than 50.01% of shares.

The data for the study were taken from the financial statements submitted to the National Court Register and published on the clubs' websites. It was crucial to determining the ownership structure of the enterprises. Eight local government entities were identified, in which a local government unit (a commune) held more than 50.01% of shares, two state-owned enterprises in which the State Treasury exercised the supervisory control (SOC) and 16 POEs, in which individuals held over 50.01% of shares. The data on the type and percentage share of a controlling entity in the clubs under study, depending on the ownership structure as of 31 December 2022, are shown in Table 1.

The financial ratios were selected based on their use in the public sector entity (Szarzec, 2017) and sports club evaluation (Perechuda, 2019; Wyszyński, 2017, 2021b; Wilson *et al.*, 2013). Additionally, selected ratios from the 2022 UEFA licence handbook (*UEFA Club Licensing...*, 2022) were used to evaluate the clubs' financial criteria. Therefore, five groups of financial ratios and sports indices were selected for the study (Tab. 2): the ability to generate profit (profitability), financial liquidity, debt, financial operating efficiency, UEFA indices and sports efficiency.

Profitability was measured with net return on sales and operating activity ratios. The former can grasp the return on the enterprise's main activities. The main activity reported in the profit and loss account by professional sports clubs is represented mainly by the matchday income (e.g. ticket sale, Skybox, hospitality, etc.), from sponsoring and advertising activity, from TV licence sales and payroll. When clubs are compared, a higher ratio value indicates a higher professionalisation level, which manifests itself in higher income from sports activities. When calculating the second profitability ratio on the operating level, one must take into account both the main and non-operating activity, which includes public subsidies and the return on sale and purchase of players (assets).

The financial liquidity was measured with the current financial liquidity ratio, which is a common and the most general ratio used to assess the liquidity risk, covering all the elements of working capital management.

The debt (financial leverage) was assessed with two ratios. The former, often used in financial analysis – total debt ratio – is measured by the total debt book value to book value of assets ratio. The other, proposed by the author, is the licence liabilities to total debt ratio. This ratio assesses the debt structure, taking

Table 1

The data on the type and percentage share of a controlling entity depending on the ownership structure as of 31 December 2022

Clubs	The number of games in the Ekstraklasa during the study period	The type of controlling entity – private state local government	Share [%] of the private or state entity in the ownership structure	Date the financial year ended
Arka Gdynia	3	POE	100.00	30 June
Bruk-Bet Termalica Nieciecza	2	POE	100.00	31 December
Cracovia	6	POE	66.110	31 December
Górnik Łęczna	1	SOE	90.123	31 December
Górnik Zabrze	6	LG	84.70	31 December
Jagiellonia Białystok	6	POE	100.00	31 December
Korona Kielce	4	LG	99.07	30 June
Lech Poznań	6	POE	100.00	30 June
Lechia Gdańsk	6	POE	100.00	30 June
Legia Warszawa	6	POE	100.00	30 June
ŁKS Łódź	1	POE	100.00	30 June
Miedź Legnica	2	POE	100.00	31 December
Piast Gliwice	6	LG	66.68	30 June
Podbeskidzie Bielsko-Biała	1	LG	65.00	30 June
Pogoń Szczecin	6	POE	95.15	30 June
Raków Częstochowa	4	POE	98.33	30 June
Sandecja Nowy Sącz	1	LG	100.00	31 December
Stal Mielec	3	POE	100.00	31 December
Śląsk Wrocław	6	LG	99.11	31 December
Warta Poznań	3	POE	95.00	31 December
Wisła Kraków	5	POE	80.82	31 December
Wisła Płock	6	LG	100.00	31 December
Zagłębie Lubin	6	SOE	100.00	31 December
Zagłębie Sosnowiec	1	LG	98.46	31 December
Radomiak Radom	2	POE	100.00	31 December
Widzew Łódź	1	POE	88.00	31 December

LG – Local Government

SOE – State Owned Company

POE – Private-Owned Enterprise

Source: prepared by the author based on the companies' financial statements.

Table 2

The ratios used in the study and their calculation formulas

Abbreviation	Ratio	Formula
Profitability ratios		
ROS1	return on sales	net profit/loss on sales
ROS2	operating return	profit/loss on operating activities/operating income
Financial liquidity ratio		
CRUU	current ratio	short-term liabilities/current assets
Debt ratios		
DEBT1	total debt ratio	liabilities and provisions/total assets
DEBT2	licence debt ratio	licence liabilities/total liabilities
Operating efficiency ratios		
COLL	receivables turnover ratio (days)	short-term receivables/operating income*365
CRED	licence liabilities turnover ratio (days)	licence liabilities/operating income*365
UEFA indices		
KW	equity	equity amount
KZ	team cost index	operating cost/ (net income on sales + non-operating income)
Sport indices		
LP	score	end-of-season score in the table
MwT	place	end-of-season place in the table

Source: prepared by the author.

into account the licence-related liabilities. These could include the liabilities to players (payroll) and public law liabilities. A high ratio that affects the financial risk is associated with the untimely meeting of licence liabilities on specific days of the licencing process, which, in effect, can affect the assessment by the licencing bodies.

The financial operating efficiency can be defined and measured in a variety of ways. Due to the specificity of the sector of professional sports clubs, a decision was made to determine the period of receipt of short-term receivables and current receivables with the following ratios: short-term receivables turnover and licence liabilities turnover (days).

In group five, two ratios introduced by UEFA were chosen to licence the clubs with respect to the financial criteria for the clubs beginning the national and European games from season 2024/2025: the net equity and the team cost. The net equity ratio refers to whether a club has met a certain rule as of December 31st of a given year. The club must either have a positive equity value or, if the value is negative, show an improvement of 10% or more compared to the previous year's value as of December 31st. The equity ratio was taken as the equity value for the

end of the given financial year. As there are no data on the equity amount as of 31 December for the clubs whose financial year ends on 30 June, the equity amount was taken as of the end of June of a given year.

The sport effectiveness assessment was based on the score and place in the table at the season's end. These data were obtained from the internet portal 90minut.pl.

The mean and median values were calculated, and a non-parametric Kruskal-Wallis test was performed to assess the differences between the results for the groups of companies under study. The statistical analysis was performed with Statistica 13.

Study Findings

The values of descriptive statistics (the mean and the median) were calculated for all the selected ratios, and the Kruskal-Wallis test was performed for three independent samples, verifying whether the value structures for individual variables were the same in the groups under analysis. All of the tests were verified at the significance level of p 0.1 and 0.05. The statistical values and the non-parametric test results for the individual variables are presented in Tables 3, 4 and 5.

Table 3

The mean and median ratios for the clubs with respect to the ownership structure

Ratio	Local government-run		State-run		Private	
	mean	median	mean	median	mean	median
Return on sales	-0.51	-0.56	-0.17	-0.14	-0.37	-0.31
Operating return	-0.17	-0.10	-0.01	-0.04	-0.05	-0.01
Current ratio	0.84	0.72	2.29	1.12	1.18	0.86
Total debt ratio	2.47	2.22	0.50	0.38	2.24	1.29
Licence debt ratio	0.48	0.48	0.32	0.24	0.35	0.31
Receivables turnover ratio (days)	40.00	24.00	21.00	15.00	57.00	48.00
Licence liabilities turnover ratio (days)	92.00	75.00	40.00	42.00	78.00	62.00
Equity (million PLN)	-9,341.00	-6,145.00	46,853.00	48,493.00	-10,480.00	-2,907.00
Team cost index	1.12	1.07	0.94	0.93	0.99	0.95
Score	45.00	46.00	44.00	45.00	49.00	47.00
Place	10.00	10.00	10.00	9.00	8.00	8.00

Source: prepared by the author.

Table 4

The Kruskal-Wallis test results for the enterprises with respect to the ownership structure

Specification	Kruskal-Wallis test; grouping variable: ownership structure of LG {1}, SOC {2}, POE {3}; N important {1} = 31, {2} = 7, {3} = 62 df = 2, N = 100					
	sum of ranks			N	H	p
	LG	SOC	POE			
Return on sales	1,199	513	3,338	100	10.2872	0.0058**
Operating return	1,297	389	3,364	100	4.0173	0.1342
Current ratio	1,329	491	3,230	100	5.5405	0.0626*
Total debt ratio	1,870	107	3,073	100	13.9314	0.0009**
Licence debt ratio	1,968	291	2,791	100	9.0874	0.0106**
Receivables turnover ratio (days)	1,310	172	3,568	100	11.7529	0.0028**
Licence liabilities turnover ratio (days)	1,869	148	3,033	100	10.8822	0.0043**
Equity (million PLN)	1,370	634	3,046	100	14.9578	0.0006**
Team cost index	1,890	307	2,853	100	5.8838	0.0528*
Score	1,403	308	3,340	100	2.2053	0.3320
Place	1,735	409	2,907	100	2.5783	0.2755

The number of asterisks denotes the significance of p , and the symbols denote the statistical significance at *, **: 0.1 and 0.05, respectively.

Source: prepared by the author.

Table 5

The level of significance of the differences between ratio ranks with respect to the enterprise ownership structure

Return on sales	{1} R:38.677	{2} R:73.286	{3} R:53.839
1	2	3	4
LG {1}	-	0.0131**	0.0525*
SOC {2}	0.0131**	-	0.2782
POE {3}	0.0525*	0.2782	-
Operating return	{1} R:41.839	{2} R:55.571	{3} R:54.258
LG {1}	-	0.7740	0.1549
SOC {2}	0.7740	-	1.0000
POE {3}	0.1549	1.0000	-
Current ratio	{1} R:42.871	{2} R:70.143	{3} R:52.097
LG {1}	-	0.0740*	0.4448
SOC {2}	0.0740*	-	0.3563
POE {3}	0.4448	0.3563	-
Total debt ratio	{1} R:60.323	{2} R:15.286	{3} R:49.565
LG {1}	-	0.0006**	0.2755

cont. Table 5

1	2	3	4
SOC {2}	0.0006**	-	0.0091**
POE {3}	0.2755	0.0091**	-
Licence debt ratio	{1} R:63.484	{2} R:41.571	{3} R:45.016
LG {1}	-	0.2133	0.0114**
SOC {2}	0.2133	-	1.0000
POE {3}	0.0114**	1.0000	-
Receivables turnover ratio (days)	{1} R:42.258	{2} R:24.571	{3} R:57.548
LG {1}	-	0.4355	0.0497**
SOC {2}	0.4355	-	0.0131**
POE {3}	0.0497**	0.0131**	-
Licence liabilities turnover ratio (days)	{1} R:60.290	{2} R:21.143	{3} R:48.919
LG {1}	-	0.0038**	0.2243
SOC {2}	0.0038**	-	0.0490**
POE {3}	0.2243	0.0490**	-
Equity (million PLN)	{1} R:44.194	{2} R:90.571	{3} R:49.129
LG {1}	-	0.0004**	1.0000
SOC {2}	0.0004**	-	0.0010**
POE {3}	1.0000	0.0010**	-
Team cost index	{1} R:60.968	{2} R:43.857	{3} R:46.016
LG {1}	-	0.4762	0.0574*
SOC {2}	0.4762	-	1.0000
POE {3}	0.0574*	1.0000	-
Score	{1} R:45.242	{2} R:44.000	{3} R:53.863
LG {1}	-	1.0000	0.5302
SOC {2}	1.0000	-	1.0000
POE {3}	0.5302	1.0000	-
Place	{1} R:55.952	{2} R:58.357	{3} R:46.887
LG {1}	-	1.0000	0.4665
SOC {2}	1.0000	-	0.9642
POE {3}	0.4665	0.9642	-

The number of asterisks denotes the significance of p , and the symbols denote the statistical significance at *, **: 0.1 and 0.05, respectively.

Source: prepared by the author

The analysis reveals statistically significant differences between most financial ratios calculated for the groups of enterprises. Profitability was highly varied and highly asymmetric. Due to the specific nature of the sport sector, many football clubs in Europe and in Poland are unprofitable, which means that they generate losses instead of profit in nearly all types of activities.

This study's findings confirm it, as the mean and median values for the enterprise groups under study were negative. Of the three groups, the highest profitability ratios were found in clubs with dominant private (POE) and state (SOC) capital. These findings are confirmed by the statistically significantly higher return on sales ratios in these clubs compared with the ones run by local governments. The situation regarding profitability indicates that POE and SOC are more professionalised than LG because they generate a much higher net return on sales income from sources related directly to sports activities, i.e. sponsoring, ticket sales, TV licences, etc. A comparison of the arithmetic mean, and median of financial liquidity ratios shows that the state sector enterprises were the most capable of covering short-term liabilities because the mean and median values were higher than 1. The lowest liquidity ratios (under 1) were observed in enterprises run by local government units.

Clubs run by local governments and by private enterprises had the greatest debt. The mean and median values of total debt ratios above 1 (2.47 and 2.22, and 2.24 and 1.29) are indicative of the negative equity amount resulting from high losses generated by the clubs in the course of their activities. A high debt level may be a sign of financial issues and bad management. POE and SOC have a lower share of licence-related liabilities in total liabilities compared with LG, which is confirmed by the non-parametric test results. A high share of licence-related liabilities in clubs run by local governments (nearly 50%) at the end of the financial year may suggest a high level of past-due liabilities in the total debt structure.

The financial operational efficiency analysis revealed substantial discrepancies in the turnover ratios of receivables and liabilities. The former ratio in private enterprises is higher compared with public ones – SOC and LG. This indicates a long period of cash inflow in private clubs. This is confirmed by the results of the non-parametric tests, which indicate statistically significant differences between the public and private sector enterprises. It was the opposite of the licence-related liabilities turnover ratio in the enterprise groups under study. Statistically lower values of the ratios were noted for SOC and POE. It is difficult to establish whether the shorter crediting period is a symptom of worse results. One can observe that a longer crediting period ensures an effective method of operating cycle financing. However, in a longer perspective, a longer crediting period can lead to an increased risk of insolvency.

The analysis found a positive equity amount among the state sector enterprises. A positive and high share of equity in the structure of each entity denotes a safe financing structure from the financial risk perspective. The negative equity values in the local government and private clubs mean that they use foreign resources in the form of external financial instruments, especially loans, to finance their activities. Financing the activities of professional clubs by loans is a common practice in the sports market. In the case of a deficit from operating activities, the owners grant a loan to the club, which becomes due at a later time.

The team cost analysis shows its highest values in the public sector clubs. The values above 1 mean that LG clubs used recapitalisation resources (share issue income) to finance the expenses, apart from the operation income. In the event of a deficit of financial resources, both in the public and private sector clubs, a significant role is played by the Polish municipal local governments. They support sports clubs by subsidies or by sponsoring and advertising for promotional purposes (Wyszyński, 2021b).

The last group of results that provided the basis for comparison of enterprises depending on the ownership structure were the sports results, i.e. the score and the club's ranking at the end of the season. There were no significant statistical differences found, but the private clubs group had higher scores and rankings. The mean and median values for the score were 49 and 47, respectively, and the mean and median values for place in the table were 8 and 8, respectively.

Conclusions

The analysis has shown that the state, represented by state-owned Companies and local government units (communes), are significant shareholders in companies which run professional football clubs in Poland. There were nearly 40% of state-owned enterprises (SOE) with supervisory and ownership control over the companies managing clubs taking part in men's Ekstraklasa games in 2017-2021.

Examination of the financial results of public and private enterprises that operate such clubs revealed statistically significant differences between the majority of them. The enterprises run by local government entities achieved the worst financial results measured by profitability, financial liquidity, debt, team cost and equity among the three groups of enterprises. The best financial situation was observed in the state-owned enterprises. Owing to debt ratios under 1, these clubs enjoyed positive equity amounts. Private clubs achieved better results than local government clubs in terms of profitability and financial liquidity. The profitability analysis shows that the private and state-owned clubs earned higher income from their basic (sports) activities than those run by local governments. This may mean that they are "more" professional organisations than those run by public sector units. They are more capable of generating cash from their basic activities, i.e. they achieve higher revenue from sales of tickets, from sponsoring, from the sale of television rights and from trade activities. However, sponsoring income in private clubs is often received from private investors. Funds in clubs owned by the state often come from state-owned investors. Zagłębie Lubin received about 16 million PLN from the main shareholder – a company controlled by KGHM Miedź SA under a sponsoring agreement, and these funds accounted for nearly half of its budget for the year.

Professional sports clubs' financial results depend on their sports results. Although no statistical difference was found in the sports results between the groups of clubs, the privately owned enterprises achieved better results than the other ones with respect to the number of points and a higher place at the game season end.

However, these findings should be regarded with caution because of the small number of state-owned companies, the non-random sample and the unequal sizes of the three groups. There were many more private-owned enterprises than state-owned ones in the sample under analysis, which may have distorted the findings. However, the analysis certainly shows that not all the ratios determining company efficiency are higher for private entities.

Further study areas include a model analysis for a larger number of enterprises, e.g. one covering clubs operating in other sports disciplines than football. This will help to determine whether the differences between the types of ownership have a significant impact on economic efficiency.

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