

“Influence of general government expenditure on the development of sports entrepreneurship: The case of some OECD countries”

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INFLUENCE OF GENERAL GOVERNMENT EXPENDITURE ON THE DEVELOPMENT OF SPORTS ENTREPRENEURSHIP: THE CASE OF SOME OECD COUNTRIES

Abstract

The low level of the nation's health and physical activity highlights the need to find additional mechanisms for the development of the sports sphere, one of which is to increase its financing. This paper aims to investigate how an increase in general government expenditure on recreation and sports affects sports entrepreneurship (turnover or gross premium written in the sports industry; value added at factor cost of sports enterprises; sports industry market size) and the share of the population involved in sports (as an indicator characterizing the development of sports). The study used the panel unit root test and fixed and random effects models. Modeling proved that the increase in general government expenditure on recreation and sports by 1% largely determines the increase in value added at factor cost of sports enterprises (by 5.48%). A significantly less effect is for turnover or gross premium written in the sports industry (by 0.85%), and the smallest is for the sports industry market size (by 0.4%). A 1% increase in general government expenditure on recreation and sport has the greatest impact in the Czech Republic (by 2.37%) and Slovakia (by 2.44%) and the least – in Australia (by 0.4%). The share of the population involved in sports is almost independent of general government expenditure on recreation and sports in all 10 OECD countries.

Keywords

sports industry, social integration, sports, economic growth, government expenditure

JEL Classification

L67, L83, L26, D25

INTRODUCTION

One of the areas of business activity that has been gaining popularity in recent years is sports entrepreneurship. The constant decline in the nation's health level and the increase in its morbidity and mortality rate are associated, among other things, with low physical activity. According to the WHO, today, only 30-40% of young people are sufficiently active, while among teenagers, the figure is at most 20% (WHO, 2022). At the same time, there is a constant increase in the amount of time young people spend watching TV, on the Internet, or using mobile phones.

This stimulates increased attention to improving the health of the nation, including through the sports industry and more active involvement of the population in sports and a healthy lifestyle. Under these conditions, the sports industry, from the sphere of leisure, has transformed into one of the leading and most profitable areas of business activity, which attracts significant attention of businesses and inves-

tors every year. According to estimates of individual experts (World Health Organization, 2022), the value of the global sports industry ranges from 400 to 500 billion US dollars on average and grows by 6-8% annually.

The sports industry is a significant source of filling state and local budgets. Mass sports events held at the local level, state and international championships, and the Olympic Games are a source of income for their organizers. In addition, the construction of infrastructure, modernization and reconstruction of sports facilities, and training of athletes attract a sufficiently large amount of investment funds, charitable contributions, and budget allocations.

Thus, the sports industry and the economy become interrelated and interdependent components of the state's development. On the one hand, sports is a socially beneficial activity that provides various services to preserve and strengthen the population's health, raise the level of its culture, and fight bad habits. On the other hand, the development of the sports industry ensures an increase in the population's life expectancy and its working age, an improvement in the quality of labor resources, and a decrease in morbidity and staff turnover. All of this is essential for the country's economic growth.

Despite the relevance and importance of sport entrepreneurship, the theoretical justifications for the dependence between general government expenditure on the development of sports entrepreneurship and indicators of its development are isolated and unsystematic and require a more thorough analysis.

1. LITERATURE REVIEW

The high popularity and profitability of the sports industry worldwide leads to an increase in the number of interested parties in financing its development. Howard (2018), Dart (2014), Litvishko et al. (2019), and Petry et al. (2004) identify three main sources of funding for the sports industry:

- the state, which finances the development of the sports industry for the realization of its national interests;
- sponsors, who finance this industry for profit, promotion of their products, expansion of the distribution network, etc.;
- national and international sports organizations for which the development of the sports industry is the basis for their functioning.

State and local budget funds are the main funding source for sports entrepreneurship. According to Amara (2020), in addition to the social effect of increasing the level of health of the population and reducing its morbidity, investment in the sports industry opens many opportunities for the country. Thus, the active participation of the state in the development of the sports industry contrib-

utes to a positive brand of the country, both from the point of view of the development of tourism and conducting business. In addition, it opens access to the international network of business and political elites (Lyeonov et al., 2021, 2022; Ziming, 2021; Eskiler et al., 2021; Yan, 2020; Shevchenko & Petrushenko, 2022; Lahouirich et al., 2022; Oe et al., 2022).

Pauna et al. (2020), based on cross-country OLS regressions for 32 European countries (most of which are members of the European Union), proved the positive role of state funding of sports for results in international competitions, life expectancy, and population health. Furthermore, based on a comparative analysis of actual sports indicators of countries with hypothetical ones determined by a certain level of financing and gross domestic product, the authors concluded the important growing role of sports activities in society.

Dallmeyer et al. (2018) investigated the relationship between public spending on sports financing and the level of public involvement in sports. According to the empirical calculations, the average long-term expenses do not significantly affect the level of sports (except for expenses for the swimming pool for 10- and 15-year periods). At the same time, fixed costs for developing sports

infrastructure have a positive relationship with the level of participation in sports and physical exercises. Thus, the key to the government's promoting population participation in sports and physical exercises should be a consistent investment in sports infrastructure.

Until recently, private investment in sports was the least common funding source. Most investors approached this process with high caution and mistrust. The arrival of investments was mainly associated with individual businesses' initiatives to improve their image (Koibichuk et al., 2022; Greco & Matta, 2021; Imbroda-Ortiz et al., 2015; Jedel, 2019; Darchia, 2022; Nsouli, 2022; Ramli et al., 2022).

Recently, the sports industry has been characterized by long-term partnerships between business representatives and sports organizations. One of the reasons is the high level of profitability of investments in this area. For example, over the past five years, the value of a franchise in the National Basketball Association (NBA) has increased by an average of 300% (Badenhausen, 2018). Likewise, the value of a team in the National Football League has increased 8-fold over the past 20 years, with an annual return of 11.6% (Forbes Staff, 2018). In addition, the value of Europe's three most valuable clubs (Manchester United, Real Madrid, and FC Barcelona) has nearly tripled over the past 12 years, exceeding \$4 billion at the end of 2018 (Forbes, 2018).

Investing in sports allows the investor to get a significant amount of stable profit in the medium term (Spaaij & Westerbeek, 2010; Kanaan-Jebna et al., 2022; Rayevnyeva et al., 2020; Melnyk et al., 2021; Kaya, 2022). In addition to direct economic results, according to Ginesta and de San Eugenio (2014), investing in the sports industry provides several benefits and opportunities, remarkably increasing recognition and loyalty to the investor's brand. Furthermore, the high level of trust of fans and spectators in representatives of the sports industry (individual athletes, sports teams, and their coaches) contributes to a close long-term relationship between sellers and customers.

The founder of the concept of "sporting countries" Xifra (2010), emphasized that the development of

the sports sphere contributes to realizing the main task of political and social structures – establishing relations with the public as their potential audience. In general, it contributes to the development and building of the nation, maintaining and/or changing the relationship between government officials and the public.

Lee and No (2022) studied the reasons for attracting foreign direct financial investment in the sports industry. Using the example of nine Chinese firms that acquired football clubs during 2014–2017, in most cases, firms have their own specific reasons influencing the decision to invest in sports, while political factors are decisive when purchasing sports clubs.

Peredo and Chrisman (2006) consider sports entrepreneurship as a catalyst for improving the current economic situation in the country, reducing the rate of economic decline, and identifying new opportunities for value creation. Legg and Gough (2012) substantiated the role of entrepreneurship in transforming sports organizations into professional and highly competitive companies. Finally, Vamplew (2018) considered sports entrepreneurship as agents of change that direct their efforts to increase labor productivity in sports, increase social interest in sports products and services, and create new markets for sports services.

Thus, the results of the conducted analysis prove the relevance of financing the sports industry considering their impact on the indicators of development of sports entrepreneurship (Čingienė, 2020; Giebe et al., 2020). However, most scientific works are devoted to the study of the role of the sports industry in supporting a healthy lifestyle of the population and finding mechanisms to attract young people to sports, while the issues of sports financing require more detailed research (SportsEconAustria et al., 2012; Ratten, 2012; Pozeriene et al., 2021; Le et al., 2022; Dorofieieva, 2022; Dotsenko & Kolomiiets, 2022). In particular, the substantiation of the role of sport entrepreneurship and the determination of the most important sources of financing in sports deserve more detailed attention.

Considering the importance of sports in improving the population's health, the object of the re-

search is the impact of budget funding on the development of sports entrepreneurship. This will make it possible to determine the role of budgetary funding in sports development and justify the most effective tools for its stimulation. Therefore, the purpose of this study is to investigate how general government spending on recreation and sports affects the indicators of the development of sports entrepreneurship.

2. METHODOLOGY

This study investigates the influence of general government spending on recreation and sports on indicators of the development of sports entrepreneurship. The object of the study is the relationship between indicators of the development of sport entrepreneurship and its main financial determinants in ten OECD countries: Australia, Croatia, the Czech Republic, Denmark, France, Germany, Lithuania, Poland, Slovenia, and Slovakia. The information base is the data of the European Commission, World Health Organization, and Organization for Economic Co-operation and Development. The calculations are carried out using the Stata 16 software package.

The indicators of the development of sports entrepreneurship include turnover or gross premium written in the sports industry (TGPW), million euros; value added at factor cost of sports enterprises (VAFC), million euros; and sports industry market size (MS). In addition, the share of the population involved in sports (ES, thousand persons) was used as an additional indicator characterizing the level of development of the sports industry in the countries. Finally, general government expenditure on recreation and sports (GERS, %) was used as an indicator characterizing the level of budgetary financing of sports entrepreneurship.

The study used the panel unit root test and fixed and random effects models. In the first stage, the study checks the analyzed data series for non-stationarity and the presence of unit roots. The null hypothesis assumes the presence of a unit root, and the alternative hypothesis assumes the stationarity of the data. For this purpose, the panel unit root test is used:

$$y_t = D_t + z_t + \varepsilon_t, \quad (1)$$

where D_t – the deterministic component; z_t – the stochastic component; ε_t – the stationary error process.

To choose a model that most reliably formalizes the relationship between indicators (model with fixed and random effects), the Hausman test is used:

$$Y = \beta \cdot x + c + \varepsilon, \quad (2)$$

where ε – error.

The value of the Hausman test statistic is estimated by:

$$H = \frac{\beta_0 - \beta_1}{\text{Var}(\beta_0) - \text{Var}(\beta_1)}, \quad (3)$$

where β_0 and β_1 – model with the fixed and random effects, respectively.

Based on the values of the test statistic, p-values are obtained. If the p-value is less than the statistical significance level, the relationship between the indicators should be described using a fixed effects model. Otherwise, the random effects model is more efficient. In addition, the test statistic values are compared with the critical table value. If the value of the test statistic exceeds the critical value of the table, a random effects model should be used.

3. RESULTS

The prerequisite for determining the model that best describes the relationship between indicators is to check the data for stationarity. For this purpose, the study analyzes time data using panel unit root tests (Levin, Lin, and Chut test; Im, Pesaran, and Shin W-stat; ADF – Fisher Chi-square; and PP – Fisher Chi-square tests).

The results of the Levin, Lin, and Chut test, Im, Pesaran, and Shin W-stat, ADF – Fisher Chi-square, and PP – Fisher Chi-square tests (Table 1) show that all variables are stationary.

Table 1. Panel unit root test for indicators of the development of sports entrepreneurship

Country	Variables	Levin, Lin, and Chut	Im, Pesaran, and Shin W-stat	ADF – Fisher Chi-square	PP – Fisher Chi-square	Conclusion
Australia	TGPW	-18.744**	-2.383**	64.423**	76.577**	1(0)
	VAFC	-2.965***	-0.992***	61.350***	84.535***	1(0)
	MS	-41.293**	-3.887***	3.463**	61.606***	1(0)
	ES	-0.632***	-44.642***	40.654***	46.262***	1(0)
	GERS	-1.079***	-0.892**	8.557***	18.328**	1(0)
Croatia	TGPW	-3.428***	-1.244**	63.874***	78.956**	1(0)
	VAFC	-0.885**	-0.586***	55.729**	95.961***	1(0)
	MS	-2.377**	-0.605***	54.804**	73.825***	1(0)
	ES	-23.641***	-4.261***	78.907***	80.463***	1(0)
	GERS	-8.356**	-2.810***	25.329***	97.036**	1(0)
Czech Republic	TGPW	-13.112*	-3.178***	81.425***	81.691**	1(0)
	VAFC	-7.396**	-2.108***	79.652***	84.685**	1(0)
	MS	-2.377**	-1.094***	10.696***	73.668**	1(0)
	ES	-2.241**	-0.605***	58.837**	67.232***	1(0)
	GERS	-18.744***	-2.383**	64.423**	62.605**	1(0)
Denmark	TGPW	-2.965***	-0.992**	61.350***	69.111***	1(0)
	VAFC	-41.293***	-3.887**	3.463***	50.366***	1(0)
	MS	-0.632***	-44.642*	40.654**	37.822***	1(0)
	ES	-1.079***	-0.892***	8.557*	14.984*	1(0)
	GERS	-3.428***	-1.244***	63.874**	64.550***	1(0)
France	TGPW	-0.885***	-0.586***	55.729**	78.453***	1(0)
	VAFC	-2.377**	-0.605***	54.804***	60.355**	1(0)
	MS	-23.641***	-4.261***	78.907**	65.783**	1(0)
	ES	-8.356***	-2.810***	25.329***	79.331***	1(0)
	GERS	-13.112***	-3.178**	81.425*	66.787***	1(0)
Germany	TGPW	-12.848**	-3.114**	79.785**	80.046**	1(0)
	VAFC	-7.343*	-2.093**	79.082**	84.079***	1(0)
	MS	-2.391**	-1.101**	10.760**	74.111**	1(0)
	ES	-2.284**	-0.617**	59.975*	68.533***	1(0)
	GERS	-19.360*	-2.461**	66.540**	64.662**	1(0)
Lithuania	TGPW	-0.989***	-0.655*	62.293**	87.693***	1(0)
	VAFC	-2.692**	-0.685*	62.071*	68.358*	1(0)
	MS	-27.131**	-4.890*	90.555*	75.494**	1(0)
	ES	-9.717*	-3.268*	29.453*	92.248**	1(0)
	GERS	-15.449***	-3.744*	95.939*	78.691**	1(0)
Poland	TGPW	-3.145**	-1.141***	58.599***	72.435*	1(0)
	VAFC	-0.823*	-0.545**	51.804***	89.203*	1(0)
	MS	-2.239*	-0.570**	51.620**	69.536**	1(0)
	ES	-22.563**	-4.067**	75.308***	76.793**	1(0)
	GERS	-8.081*	-2.717**	24.494*	93.837**	1(0)
Slovenia	TGPW	-3.103**	-1.038*	64.206**	72.328**	1(0)
	VAFC	-43.788**	-4.122*	3.672**	53.409**	1(0)
	MS	-0.679**	-47.967*	43.682**	40.639**	1(0)
	ES	-1.175*	-0.971**	9.309**	16.313***	1(0)
	GERS	-3.782*	-1.372**	70.463**	71.209**	1(0)
Slovakia	TGPW	-16.100**	-2.047**	55.336*	65.776*	1(0)
	VAFC	-2.581***	-0.863**	53.395**	73.574*	1(0)
	MS	-36.415**	-3.428**	3.054**	54.329*	1(0)
	ES	-0.565**	-39.891**	36.327***	41.338**	1(0)
	GERS	-0.977**	-0.808**	7.748**	16.594**	1(0)

Note: * p < 0.05, ** p < 0.01, and *** p < 0.001. Standard errors in parentheses.

The null hypothesis is rejected because all the p-values are smaller than 1%. This indicates the stationarity of the data series. Furthermore, both the resulting and the factor indicators are homogeneous variables of the first order. Thus, in further calculations, the paper uses the values of the first differences in the data to avoid false regressions.

The regression coefficients were calculated at the next stage using a regression fixed effects model (Hausman test). The results are given in Table 2.

The results of the assessment of the dependence between the general government expenditure on recreation and sports and the indicators of the development of sports entrepreneurship (Table 2) stress the feasibility of formalizing the dependence between the indicators using a fixed individual effects model. Thus, for all analyzed indicators, the p-value is less than the statistical significance level, and the coefficient of determination is high. This rejects the null hypothesis about the feasibility of using the random effects model.

Table 2. Hausman test for indicators of development of sports entrepreneurship

Country	Variables	Coef.	Std. err	t	P> t	[95% Conf. Interval]	
Australia	TGPW	0.009	0.003	0.406	0.003	0.010	0.013
	VAFC	0.001	0.001	1.727	0.004	0.003	0.004
	MS	0.005	0.010	1.445	0.003	0.003	0.003
	ES	0.001	0.004	0.799	0.002	0.001	0.002
Croatia	TGPW	0.009	0.001	0.292	0.001	0.001	0.001
	VAFC	0.063	0.029	0.839	0.001	0.144	0.107
	MS	0.003	0.011	0.306	0.000	0.053	0.039
	ES	0.001	0.004	0.112	0.000	0.019	0.014
Czech Republic	TGPW	0.009	0.001	0.041	0.000	0.007	0.005
	VAFC	0.079	0.061	0.263	0.001	0.169	0.326
	MS	0.005	0.022	0.096	0.000	0.062	0.119
	ES	0.003	0.008	0.035	0.000	0.023	0.043
Denmark	TGPW	0.008	0.003	0.013	0.000	0.008	0.016
	VAFC	0.068	0.086	1.053	0.000	0.036	0.101
	MS	0.001	0.031	0.384	0.000	0.013	0.037
	ES	0.002	0.011	0.140	0.000	0.005	0.013
France	TGPW	0.009	0.004	0.051	0.000	0.002	0.005
	VAFC	0.041	0.022	0.889	0.007	0.006	0.142
	MS	0.006	0.008	0.324	0.003	0.002	0.052
	ES	0.003	0.003	0.118	0.001	0.001	0.019
Germany	TGPW	0.010	0.001	0.043	0.000	0.000	0.007
	VAFC	0.045	0.025	0.921	0.000	0.000	0.000
	MS	0.002	0.009	0.336	0.000	0.000	0.000
	ES	0.005	0.003	0.123	0.000	0.000	0.000
Lithuania	TGPW	0.010	0.001	0.045	0.000	0.000	0.000
	VAFC	0.056	0.017	1.134	0.000	0.011	0.027
	MS	0.003	0.006	0.414	0.000	0.004	0.010
	ES	0.001	0.002	0.151	0.000	0.001	0.004
Poland	TGPW	0.001	0.001	0.055	0.000	0.001	0.001
	VAFC	0.054	0.103	0.510	0.008	0.012	0.040
	MS	0.003	0.038	0.186	0.003	0.004	0.015
	ES	0.001	0.014	0.068	0.001	0.002	0.005
Slovenia	TGPW	0.001	0.005	0.025	0.000	0.001	0.002
	VAFC	0.068	0.000	0.164	0.009	0.000	0.000
	MS	0.004	0.000	0.060	0.003	0.000	0.000
	ES	0.001	0.000	0.022	0.001	0.000	0.000
Slovakia	TGPW	0.019	0.000	0.008	0.000	0.000	0.000
	VAFC	0.073	0.072	0.592	0.009	0.061	0.101
	MS	0.004	0.026	0.216	0.003	0.022	0.037
	ES	0.001	0.010	0.079	0.001	0.008	0.013

Table 3. Random effects model for indicators of development of sports entrepreneurship

Country	Variables	Coef.	Std. err	t	P> t	[95% Conf. Interval]		Cons
Australia	TGPW	0.003	0.001	0.100	0.040	0.000	0.000	0.001
	VAFC	0.001	0.000	0.426	0.027	0.000	0.000	0.006
	MS	0.001	0.003	0.356	0.018	0.000	0.000	0.000
	ES	0.000	0.001	0.197	0.058	0.000	0.000	0.000
Croatia	TGPW	0.006	0.031	0.048	0.015	0.008	0.006	0.075
	VAFC	0.044	0.021	0.032	0.010	0.005	0.004	0.050
	MS	0.002	0.014	0.021	0.007	0.004	0.003	0.033
	ES	0.001	0.009	0.014	0.004	0.002	0.002	0.022
Czech Republic	TGPW	0.014	0.064	0.015	0.044	0.033	0.003	0.026
	VAFC	0.012	0.044	0.010	0.060	0.023	0.002	0.018
	MS	0.001	0.004	0.001	0.001	0.002	0.000	0.001
	ES	0.000	0.020	0.032	0.010	0.005	0.004	0.049
Denmark	TGPW	0.009	0.090	0.061	0.017	0.025	0.017	0.078
	VAFC	0.079	0.063	0.042	0.012	0.017	0.012	0.054
	MS	0.001	0.033	0.022	0.006	0.009	0.006	0.028
	ES	0.002	0.023	0.015	0.006	0.004	0.004	0.020
France	TGPW	0.011	0.023	0.051	0.063	0.012	0.043	0.349
	VAFC	0.052	0.016	0.035	0.044	0.008	0.030	0.242
	MS	0.007	0.008	0.019	0.023	0.004	0.016	0.127
	ES	0.004	0.006	0.013	0.016	0.003	0.011	0.088
Germany	TGPW	0.014	0.026	0.053	0.000	0.009	0.000	0.155
	VAFC	0.064	0.018	0.037	0.857	0.006	0.000	0.108
	MS	0.003	0.009	0.019	0.698	0.003	0.000	0.057
	ES	0.006	0.007	0.013	0.578	0.002	0.000	0.039
Lithuania	TGPW	0.018	0.049	0.066	0.081	0.012	0.131	0.117
	VAFC	0.101	0.034	0.046	0.056	0.008	0.091	0.081
	MS	0.005	0.018	0.024	0.030	0.004	0.048	0.043
	ES	0.002	0.012	0.017	0.021	0.003	0.033	0.030
Poland	TGPW	0.001	0.109	0.028	0.028	0.007	0.023	0.324
	VAFC	0.054	0.076	0.019	0.019	0.005	0.016	0.225
	MS	0.003	0.040	0.010	0.010	0.003	0.008	0.118
	ES	0.001	0.028	0.007	0.007	0.002	0.006	0.082
Slovenia	TGPW	0.001	0.000	0.009	0.165	0.012	0.000	0.503
	VAFC	0.068	0.000	0.006	0.065	0.008	0.000	0.349
	MS	0.004	0.000	0.003	0.085	0.004	0.000	0.184
	ES	0.001	0.000	0.002	0.132	0.003	0.000	0.128
Slovakia	TGPW	0.019	0.074	0.034	0.150	0.014	0.121	0.343
	VAFC	0.073	0.051	0.024	0.104	0.010	0.084	0.238
	MS	0.004	0.027	0.012	0.055	0.005	0.044	0.125
	ES	0.001	0.019	0.009	0.038	0.004	0.031	0.087

To verify the conclusions' validity, the study evaluates the parameters using the random effects model (Table 3).

The results indicate the feasibility of formalizing the relationship between general government expenditure on recreation and sports and indicators of the development of sports entrepreneurship using a fixed effects model. At the same time, the results of the calculations testify to the insignificant impact of budget funding on the development of sports entrepreneurship.

4. DISCUSSION

The analysis testifies to the insignificant influence of general government expenditure on recreation and sports on the indicators of the development of sports entrepreneurship. The results correlate with previous studies regarding the more significant influence of private investments on developing sports entrepreneurship. This study supports the results of Xifra (2010) regarding the impact of investments on establishing relations with the public (considering the turnover of sports enterprises) and Legg and Gough (2012) regarding the role of entrepreneurship in the transformation of sports organizations into highly competitive companies (based on the value added indicator of sports organizations). In addition, the findings align with

Vamplew (2018) regarding the impact of investments on increasing public interest in sports products and services and creating new markets for sports services (based on the share of the population involved in sports (ES) indicator).

At the same time, this study does not support the findings of Amara (2020), Pauna et al. (2020), and Dallmeyer et al. (2018), who consider funds from state and local budgets as the main source of funding for the sports industry. According to the results, general government expenditure on recreation and sports has a minor impact on indicators of the development of sports entrepreneurship.

The main limitation of this study is the need for more data on the amount of investment in the development of sports entrepreneurship. Thus, the obtained results are based primarily on the analysis of the relationship between the indicators of the development of sports entrepreneurship and general government expenditure on recreation and sport, and not on the amount of sponsorship, investments of national and international sports organizations, and private investors.

In addition, the lack of data characterizing the activity of sports entrepreneurship for an extended period (more than five years) reduces the results' reliability due to the impossibility of considering a larger number of indicators.

CONCLUSION

This study is devoted to analyzing the impact of general government expenditure on recreation and sports on the development of sports entrepreneurship. The paper used a panel unit root test and fixed and random effects models to model the impact of general government expenditure and private investments on the main indicators of the development of sports entrepreneurship (turnover or gross premium written in the sports industry, value added at factor cost of sports enterprises, and value added at factor cost of sports enterprises). According to the results of economic and mathematical modeling, it was proved that budgetary funding has an insignificant influence on sports entrepreneurship.

The value added at factor cost of sports enterprises is the most sensitive to changes in the volume of general government expenditure on recreation and sports. Their increase of 1% leads to an increase in the value added at factor cost of sports enterprises on average by 5.48% (by 7.9% in the Czech Republic, 6.4% – in Germany, and 5.4% – in Poland). The volume of turnover or gross premium written is in second place regarding the influence of the volume of general government expenditure on recreation and sports (an average of 0.85%). Among all analyzed indicators, the impact of general government expenditure on recreation and sports on the volume of the sports industry market size is the smallest (on average by 0.4%).

An additional analysis of the sensitivity of the share of the population involved in sports to changes in the amount of general government expenditure on recreation and sports showed a slight dependence between them. However, this indicator does not exceed 0.01% for most of the analyzed countries.

The insignificant impact of general government expenditure on the development of sports entrepreneurship proves the vital role of private investment in developing this sector. At the same time, the government must consider the importance of the sports industry for improving the nation's health, the growth of the country's image in the international arena, and the improvement of its culture. Therefore, the government policy toward sport should increase the amount of state funding for this sector (providing access to sports services for poorly protected segments of the population and people with disabilities, improving the quality of training of participants in international competitions), as well as the receipt of funds from national and international sports organizations, private investors (for whom this area is a tool for obtaining profit and increasing capital).

AUTHOR CONTRIBUTIONS

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