Journal of Infrastructure, Policy and Development 2024, 8(16), 9222.
https://doi.org/10.24294/jipd9222

Article

Changes to the regulatory system for sports funding through the corporate tax system and the concentration of subsidies

Attila Kurucz[1,*], **Zsuzsanna Gősi**[2]

[1] Department of Corporate Leadership and Marketing, Széchenyi István University, Győr 9026, Hungary
[2] Institute of Health Promotion and Sport Sciences, Faculty of Education and Psychology, Eötvös Loránd University, Budapest 1053, Hungary
*** Corresponding author:** Attila Kurucz, kurucz.attila@sze.hu

CITATION

Kurucz A, Gősi Z. (2024). Changes to the regulatory system for sports funding through the corporate tax system and the concentration of subsidies. Journal of Infrastructure, Policy and Development. 8(16): 9222.
https://doi.org/10.24294/jipd9222

ARTICLE INFO

Received: 19 September 2024
Accepted: 31 October 2024
Available online: 18 December 2024

Abstract: Support through the corporate tax system is a very specific form of funding to promote the functioning of team sports. The basic idea of the mechanism is that profit-oriented companies can donate a larger part of their corporate tax to sports organisations. The scheme has been in operation in Hungary since 2011. Its introduction and fine-tuning required several legislative changes and EU approval. Its importance is reflected in the increase in the number of sports organisations in the respective sports. While funding is available to many sports organisations, in some cases it is quite concentrated. In our empirical research we sought to find out how the degree of concentration has changed over time. The degree of concentration has an impact on how balanced the competition is. One of the key values for sports services is the requirement of an uncertain output. The data reveal that over time the distribution has become more evenly balanced across all sport operators. The amount of funding for sports organisations has started to converge. According to these figures, there are several sports organisations with equivalent subsidies participating in the competition system. However, the majority of clubs with the highest subsidies tend to be the same from year to year. The allocation of grants is determined by the sports federation of the given sport according to the submitted applications. Decision-makers should pay particular attention to maintaining the balance of competition over a long period of time. To this end, the list of sporting organisations with the highest subsidies should be continuously assessed and revised.

Keywords: subsidies; sports financing; corporate tax; sports economy

1. Introduction

The importance of the sport economy has increased in recent decades. Its various impacts can be observed in both professional and recreational sport. The sports market in a broad sense, which we might also call the sport industry, includes all actors on the side of suppliers who are engaged in the provision of sport-related needs in any form (Paár, 2024). The sum of all these is the sport industry as a whole. The growth of world sports consumption exceeds GDP growth since the 2000s (Faragó et al., 2018). Sports equipment is one of the most demanded sports market components: the global market for winter sports equipment and gear alone is worth €16 billion, the market for sports footwear alone is worth €20 billion, and total sports goods in the global market amounted to €150 billion already in 2014 (Heitner, 2015). The services sector in the sports market reached US$18 billion in global spending in 2003. The value of the television rights market increased by 993 percent between 1991 and 2001. The growth rate is also reflected in the costs of broadcasting rights for the Summer Olympic Games. Broadcasting rights for the 1960 Olympics in Rome generated US$1.2 billion, while 40 years later in Sydney the figure was US$1332 billion. The cumulative viewing

hours on television for the 2004 Athens Olympics were estimated to be 39 billion hours (Andreff and Szymansky, 2006). Total sports expenditure (goods and services) as a percentage of GDP in Europe in the 1970s was 0.5 per cent. In 1990, the same ratio was between 1 and 1.5 percent. In the early 2000s, the average was close to 2% (Fort, 2006).

Research confirms that there are also obvious correlations between economic development and sport performance. In 2004, Bernard & Busse pointed out that there is a correlation between Gross Domestic Product (GDP), Gross National Income (GNI) and the performance of elite sports, as they positively influence each other. The capital invested in sport also translates into performance, as countries that won Olympic medals after World War II had previously devoted significant financial resources to sport (Nevill et al., 2009). In six of the nine Olympic Games held between 1988 and 2021, the country that finished at the top of the medal table was the country with the highest GDP (Pandey and Kumar, 2023).

Schultz's (1961) theory of human capital shed light on the fact that investment in human capital improves individual productive capacity. These include health services, training and recreational sports. The competitiveness and productivity of cities are also enhanced by the quality of life and healthy lifestyles of their inhabitants (Faragó, 2024). The popularity of recreational services and leisure sports is also increasing. In relation to this, sports tourism is one of the fastest growing tourism sectors within tourism, and its various elements are becoming increasingly widespread in tourism (Bánhidi, 2007). Regarding Hungary, it is the capital city, Budapest, which dominates in the field of tourism. However, this may have a positive impact on both Lake Balaton and the western part of the country (Gyurkó et al., 2024). In terms of sports, the capital excels in hosting sporting events, while almost the whole of the country is rich in water and thermal facilities. The synergy of health-sports-wellness is also increasingly dominant in the tourism sector (Bortolotti et al., 2024).

The introduction highlights the huge potential of the sport economy and its significant contribution to development. In Hungary, sport has been considered a strategic sector since 2010. Within this framework, a number of measures have been taken to support its development, ranging from direct government support to changes in the legislative environment. One of the most specific forms of support has been introduced for team sports. The idea is that companies can donate part of their corporate tax to sports organisations.

Our study focuses on the development of the support scheme. Based on the data available on the websites of the federations of the sports concerned, we provide an overview of how the Hungarian sports organisations have been affected by the new support scheme. Previous analyses have typically mapped the changes regarding a single sport. Our aim is to show the overall pattern of change for the sports concerned. Furthermore, we examine the concentration of resources through the use of certain indicators. In the field of sports, this is especially important due to the emergence of the requirement of uncertain outcomes for sporting events, which decreases in relation to the concentration of funding. The indicators presented here can provide decision-makers with a new element which, when taken into account can ensure the competitiveness of a sport in a long-term perspective.

2. Literature overview

2.1. The requirement of uncertain outcomes

One of the most important products of the sports industry is the sporting event itself. The sale of sports products, media and merchandising are all centred around the event. The foundation for the proper functioning of a sports organisation is to know and to be able to link the motivations of sports-loving people to it. This is where the requirement for an uncertain outcome arises, enhancing the excitement and the entertainment value of the sport. The hypothesis of uncertain outcome is derived from studies of competitive balance in team sports championships (Zimbalist, 2002). One of the most attractive features of the game/contest is that the outcome of the encounter is uncertain. This uncertainty generates excitement and the ability to cheering. In the world of services, an unpredictable outcome is usually a disadvantage. In sport, however, it is considered an advantage. Ambiguity creates a dramatic situation. It makes the event exciting and captivating. The spectator, the participant, can expect a much more intense fight and therefore a more enjoyable experience when two teams of similar strength or competitive ability face each other, when competition is fierce and the results constantly change. In general, the more uncertain the outcome of a sporting event, the greater the interest it generates (Andreff and Szymanski, 2006; Borland and Macdonald, 2003; Neulinger, 2008). The organisations responsible for the management of each sport therefore seek to use various means to reduce the dominance of a particular athlete or team. One such instrument is the draft system in the US major leagues (clubs can select the most talented junior players in reverse order to the previous season's results, i.e. the lowest ranked team from the previous season can select first). The institution of salary caps serves the same purpose. The goal is to ensure that no club could develop a dominant position in terms of human resources that would enable them to dominate their own sport for a long period of time (Vörös, 2017). The impact of uncertain output is best reflected at league and championship level (Csurilla and Sterbenz, 2018). For new types of funding such as corporate tax schemes, it is important to preserve the requirement of uncertain output. This aspect should also be taken into account in the development of decision mechanisms. At the time of its introduction, it reflected the intention that enterprises participating in this scheme would later become sponsors of their own volition.

2.2. Overview of the corporate tax system

The incentive of sport has been given considerable emphasis throughout Europe due to the EU objective of a healthy society. In most countries, there are sport subsidies, some of which support recreational sport while others support competitive sport. Under EU rules, a profit-oriented sports club cannot receive direct support from the government. In Hungary, there is a special support through the corporate tax system, which is mainly directed towards the development of youth sport. The idea is that organisations paying corporate tax can donate a larger part of their tax to sports organisations. The system inspires the corporate sector to support (Herczeg and Szabóné Szőke, 2016). The willingness to support is more widespread amongst large enterprises than with smaller companies (Farkas and Fanici, 2013). A special feature

of the scheme is that the company supporting sport gets back more than it has given (Erdős, 2021; Act LXXXI of 1996, 22/C§). In simple terms, the amount donated by the sponsor is accounted for both as an expense and as a tax deduction. The beneficiaries are selected from among the organisations that fall within the so-called spectacle team sports. In accordance with Government Decree 54/2004 (III.31), the following sports were included at the time of the introduction of the scheme: football, handball, basketball, ice hockey and water polo.

2.3. Development and changes in the regulatory environment

After around one and a half years of continuous consultation and technical discussions with the Hungarian government authorities, the European Commission decided in November 2011 to support the implementation of the State Aid SA.31722 (2011/N) - Hungary "Support to the Hungarian sports sector through a tax concession scheme" in its approval decision, considering that the State aid, which is part of the support scheme for spectator sports, is compatible with EU state aid rules. Since then, there have been ongoing discussions and the scheme has already been extended twice until 2024.

The basic rules of the tax relief for sports support are laid down in Act LXXXI of 1996 on corporate tax and dividend tax, in Decree 107/2011 (30.VI.2011) on the issue, use, accounting, control and repayment of the aid certificate for support for spectacle team sports, and in Decree No 39/2011 (VI. 30.) of the Ministry of National Resources on the administrative service fee to be paid in the official procedure for the approval of the sports development programme and the issue of the subsidy certificate for the support of spectator team sports.

The subsidies may only be granted for specific purposes and the beneficiary organisation must also provide its own resources. The primary objective is to improve training and competition conditions for junior athletes and to increase the sporting base. Eligible organisations at the time of introduction included: national sports federations, amateur and professional sports organisations, foundations for the development of spectator sports and the Hungarian Olympic Committee. **Table 1** shows the types of organisations and the purposes for which they could receive funding.

Table 1. Organisations eligible for support through the corporate tax system and the types of support.

Title of Support	National Sports Federation	Amateur Sports Organisation	Professional Sports Organisation	Foundation for the Development of Spectator Sports	Hungarian Olympic Committee Until 30.06.2017.
Youth Development	x	x	x	x	
Investment in Tangible Goods	x	x	x	x	
Infrastructure development to meet the safety requirements of sporting events	x	x	x	x	
Personal expenditure	x	x	x	x	x
Competition-related expenditure	x	x		x	
Operation of sports facilities (from the period 2020/2021)		x	x	x	

In case of support through the corporate tax scheme, the provision of own resources was also required. These rates are shown in **Table 2**. This also shows the legislators' intention that the primary area of development should be youth education.

Table 2. Measure of own contributions required for the different subsidy titles.

Subsidy title	Deductible
Youth Development	10%
Competition-Related Expenditure	10%
Personal Expenditure	50%
General Development	40%
Specialized Development	75%
Investment, renovation, infrastructure development	30%

The funding scheme has several specific features. One of these is that sporting organisations must first draw up a sports development programme. These will determine the amount of aid they are eligible for. In addition to the total amount, the funds that can be allocated to each title are also established in advance. The sports federations can decide according to their own system which sports organisations are eligible for specific allocations. It is primarily determined by the number of certified competitors and the success of the organisation in the sport concerned. The real challenge comes thereafter, as it is up to the sports organisation to find the sponsorship company and obtain the actual amount. In essence, an approval decision does not mean de facto support. It only comes about if the sports organisation finds a profit-oriented company with actual corporate tax liability that is willing to donate through this system. An important condition is that neither party should have any public debts, which is why the tax office is involved in the process. A schematic diagram of the scheme is presented in **Figure 1**.

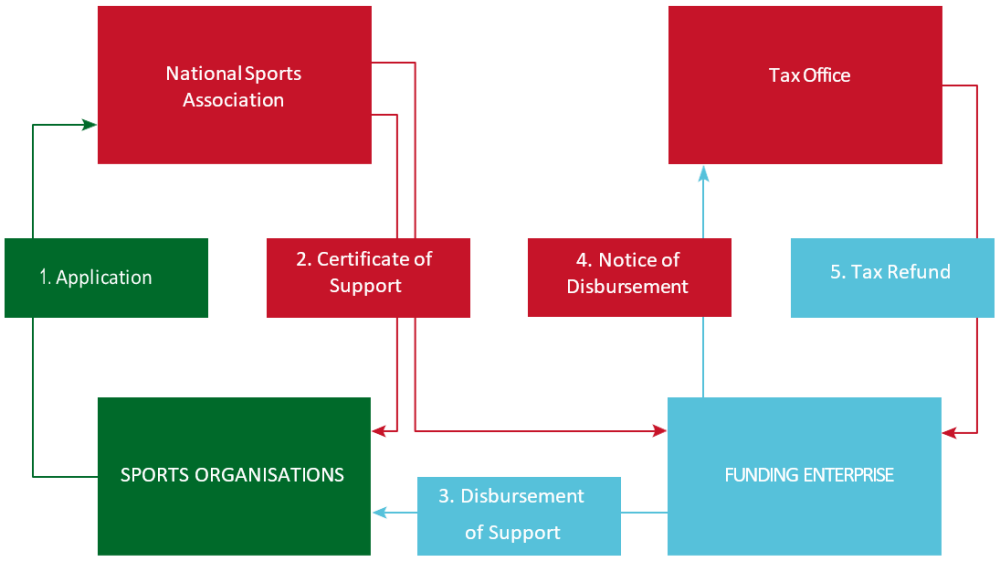

Figure 1. Scheme of funding through the corporate tax system.

3. Materials and methods

Funding through the corporate tax system is a very specific model of support. In the first part of our study, we used the documentary analysis method to follow the major changes. Subsequently, we used the official websites and databases of the affected branches of sport to determine the number of sports organisations involved from the introduction to the last completed period (2011–2023). The annual allocations have been linked to the number of the organisations involved. Subsequently, we analysed the equity of the distribution of grants. We examined the degrees of concentration every three years using the Herfindahl-Hirschman index. The Herfindahl-Hirschman index indicates the concentration in a given sector. The value of the index is between 0 and 1. A value close to zero indicates that there are several actors with small shares in the sector and that there is balanced competition. A value close to one, on the other hand, indicates an oligopolistic situation, with a few major players in a privileged position. As a complement, the scope of the beneficiaries of increased subsidies has been defined using the R-ratio. The R-index is used to determine the permanence and variability of the items in the index basket. In the case of the sports sector, permanence indicates whether the same actors are in an economic advantage from year to year.

4. Results and discussion

4.1. The relevance of funding through the corporate tax system

Due to the introduction of the system, the revenues of the sports concerned have multiplied. Its introduction is expected to have a positive impact on lifestyle patterns, increasing the popularity of spectator sports and expanding the base for recreational and youth sports. The expansion and development of facilities, the increase in the quantity and quality of equipment will have a positive impact on the standards of school- and student sport and on the willingness to participate in sports (Bardóczy, 2014). The total of government support and subsidies through the TAO system for the affected sports amounted to 15 billion HUF in the starting year 2011, multiplying by 2020. The highest amount of subsidies was achieved in 2018 (MOB, 2023). The revenues of the sports federations concerned could also reach a tenfold increase (Gősi, 2019). The number of junior athletes and coaches also shows a steady increase between 2010 and 2020. There is also a continuous development of facilities; in soccer alone, 485 infrastructure development projects were implemented between 2011 and 2016 (Balogh, 2017). The so-called “SPSETE effects” (sport, sport policy, social, economic, technological and environmental) emerge as a positive factor, which can be linked to the increase in the number of international sporting events organised in the country (Stocker and Szabó, 2017).

4.2. Major legislative changes (2011–2023)

19 May 2013 Amendment of the Corporate Tax Act, introducing the so-called additional subsidy. Until then, profit-oriented companies providing support have enjoyed a significant tax advantage, which has visibly improved their profits. The essence of the amendment is that the organisation providing the subsidy is obliged to

transfer 75% of this obtained tax advantage to the same sports through the professional associations under a sponsorship or subsidy contract. This still left a surplus, but reduced the available financial advantage to 25%. This was amended as of 01.01.2014 to the extent that the additional subsidy could also be given directly to the sports clubs without the involvement of the federation.

On 01 January 2015, Article 24/A of the Corporate Tax Act came into force, allowing for tax credit-based support. Under the original system, the subsidy amount went directly to the sports club from the company, which could then claim the rebate in its annual tax return. The new scheme allowed the company to pay the tax advance to the tax office as usual. The tax office will then transfer the subsidy to the beneficiary sports organisation and at the same time reduce the tax liability of the company. Under this new method, the tax benefit to the supporting organisation could be slightly higher. Previously, 70% of the tax could be used for this purpose, but with the involvement of the tax office this limit was raised to 80%.

In 2017, the scope of beneficiaries was modified. Volleyball was added to the list of eligible sports.

Under the Government Decree 284/2020 (17.6.20), a new title was added in respect of the pandemic. It is called: Support for COVID-related costs.

In 2020, also in response to the pandemic situation, sports organisations became eligible for 100% support intensity under Article 22/C (4C) of the TAO Act. This meant that no co-financing (from own resources) was required for costs incurred during this period. Self-financing was only required for investment in and improvement of fixed assets.

For the period 2020/2021, a new title has been introduced again, called ‘Costs for the operation of real estate for sports purposes’.

4.3. Setting of financial envelopes

Support through the corporate tax system has become increasingly popular. As a result, the amounts that can be approved each year were established by regulations in 2019. This was laid down in Government Decree 39/2019 (7 March 2019). This Regulation not only set the overall amounts of support, but also the maximum amount of support for construction projects and other operating support. The figures for each period are shown in **Table 3**.

Table 3. Maximum amounts of support under Government Decree 39/2019 (data in billion HUF).

Title	2019	2020	2021*	2022	2023	2024
Total amount of support certificates	124.9	124.9	100	124.9	124.9	125.2
Support for investments for construction	44.2	44.2	35.4	37.2	35.3	31.1
Other support for essential operating purposes	80.7	80.7	64.6	87.7	89.6	93.8

(*In the second half of 2021, the amount of grants was increased again to HUF 124.9 billion).

4.4. Data set of the study

To answer our research question in an empirical fashion, we mapped the number of sports organisations involved. The data were collected from the introduction of the

system in 2011 until the last completed season, i.e. 2023/2024. The table displays the organisations with an approved sport development programme by sector. The table highlights an overall increase in the number of sports organisations involved. Interestingly, the lowest measure of increase is observed in soccer, although the proportion of organisations is over 50%.

Table 4. Number of organisations with approved sports development programmes by sport.

Period	Basketball	Ice hockey	Handball	Soccer	Water polo	Volleyball	Period Total
2011/2012	152	36	252	1062	65	no data	1567
2012/2013	192	42	289	1233	75	no data	1831
2013/2014	211	40	314	1224	88	no data	1877
2014/2015	205	39	327	1296	84	no data	1951
2015/2016	206	47	327	1198	95	no data	1873
2016/2017	231	53	350	1253	97	no data	1984
2017/2018	248	54	376	1289	94	98	2159
2018/2019	266	72	385	1294	93	116	2226
2019/2020	275	79	379	1282	93	144	2252
2020/2021	257	78	369	1294	93	144	2235
2021/2022	255	75	371	1274	95	140	2210
2022/2023	262	75	368	1290	102	144	2241
2023/2024	270	74	385	1284	101	140	2254

The data in the **Table 4** reveal a dynamic increase in the number of sports organisations receiving support until the 2019/2020 season. The potential of the system has been recognised by the sports organisations and they have adapted their operations accordingly. However, the following years saw a period of stagnation. From the 2019 season onwards, sectoral envelopes have been set, limiting the amount of funds that can be allocated (approx. 125 billion HUF per year). This was an important change because in the previous seasons, the subsidy amounts had been increasing dynamically, and between 2016 and 2019 they even exceeded the amount of the subsequently set envelope. The available amount has therefore ceased to increase, making entry even more difficult.

4.5. Concentration test

One of the most important issues for subsidies is the distribution of the funds. The future of a sport can be largely determined by the degree of concentration. In such cases, the leaders of a sport also decide on the future of the sport. One principle is that the less concentrated the distribution of resources, the wider the pool of talent and the more equal the opportunities become. The other principle is to select a few sports organisations that receive high levels of funding and concentrate resources on this basis. The aim of this approach could be to achieve outstanding sporting results.

To measure concentration, we used the Herfindahl-Hirschman index (HHI), which can also be applied to the sports sector (Fűrész and Rappai, 2018). When using this index, pi denotes the amount of funding an organisation can obtain, then the share of the '*i*'-th team in the total TAO funding in case of 'n' organisations:

$$s_i = \frac{p_i}{\sum_{i=1}^{n} p_i} \quad (1)$$

where $0 \leq si \leq 1$. Based on the Herfindahl-Hirschman index, the concentration measure of TAO support can be determined according to the following formula:

$$HHI = \sum_{i=1}^{n} s_i^2 \quad (2)$$

The index represents the concentration of the given sector. It is basically calculated on the basis of the sum of the squares of the shares. A value close to zero indicates that the sector has a large number of actors with individually small shares. A value close to one indicates an oligopolistic situation. The index has been calculated on the basis of the amounts of subsidy approved for sports organisations every three seasons since the introduction of the system. The data are shown in **Table 5**.

Table 5. Concentration of support through the corporate tax system (HHI index) by sport.

	Basketball	**Ice Hockey**	**Handball**	**Soccer**	**Water polo**	**Volleyball**
2011/2012	0.03583	0.06246	0.02947	0.02799	0.04622	*
2014/2015	0.01788	0.04742	0.01149	0.01200	0.02487	*
2017/2018	0.02357	0.06183	0.01730	0.02213	0.11772	0.04891
2020/2021	0.01149	0.06071	0.00672	0.00746	0.06932	0.01297
2023/2024	0.01513	0.05942	0.00530	0.00320	0.02652	0.01514

The table provides evidence that the lower the number of eligible sports organisations, the higher the concentration. However, it is more important to look at whether the degree of concentration has changed over time. We investigated this change by sport:

In the case of ice hockey, similar values are present for all periods. There is about the same level of concentration in the initial period as in the last known season.

In handball, basketball and football, the degree of concentration decreases. This means that the amounts of funding have become more balanced between sports organisations.

Also in volleyball, the distribution of support is more balanced compared to the initial period. Here, however, we only have data from the 2017 season onwards, when the sport was included in the eligible range.

On the one hand, in the case of water polo, there is a relatively high degree of concentration. On the other hand, the particular changes appear to be rather isolated and there is no apparent tendency in this case.

4.6. Consistency in the range of beneficiaries

Another distinguishing feature of the system could be to look at the consistency of those receiving higher allocations per sport. To determine this, we have chosen to use the R-ratio used in index calculation to determine the persistence and variation of the elements in the index basket.

$$R = \frac{n_0 + n_i - 2m}{n_0 + n_i} \quad (3)$$

n_0 is the number of items in the basket in the base period, while n_i is the number of items in the index period, and m is the number of items in both periods. If the value of the indicator is low (close to zero), the stability is high, i.e. the basket has not changed significantly. The closer the value of the indicator is to one, the more the number of actors has changed, with different organisations having a larger amount of subsidies from year to year. The *R*-indicators associated with the basket of (20) items we have chosen are shown in **Table 6.** The comparison always occurred between two periods.

Table 6. Value of *R*-indicator (n = 20) by sport.

	Basketball	Ice Hockey	Handball	Soccer	Water polo	Volleyball
2017/2018–2018/2019	0.90	0.35	0.80	0.70	0.45	0.80
2018/2019–2019/2020	0.65	0.40	0.60	0.50	0.30	0.70
2019/2020–2020/2021	0.40	0.35	0.20	0.50	0.25	0.30
2020/2021–2021/2022	0.35	0.40	0.35	0.65	0.30	0.15
2021/2022–2022/2023	0.35	0.30	0.35	0.80	0.25	0.20
2022/2023–2023/2024	0.30	0.35	0.50	0.75	0.25	0.25

Assessment of *R*-indicator by sports

In the case of ice hockey, the average value of the indicator is 0.3583 and there is little difference between years. This means that the top 20 organisations receiving the most support are relatively stable, with the same 10–13 organisations being included in this group.

For basketball and handball, the range of organisations receiving support has also stabilised over time and is around 10–12.

For soccer, the range of organisations with the highest support has tended to change. For this sport, the number of eligible organisations is 5–6 from year to year.

The results for water polo also reflect a stable pattern. In this sport, there are 14–15 organisations at present, which are regularly and recurrently among the top 20 most highly supported.

For volleyball, the initial variability also seems to be stabilising. An outlier is the data between 2020/2021 and 2021/2022, which indicate that 17 of the 20 organisations with the highest support are the same.

The outcomes of the two indicators present partial divergences. The HHI index shows a decrease in the concentration of funding for all sports except ice hockey. In handball and football, this is of particular importance because, according to **Table 4**, they have the largest number of organisations. For football this ratio decreased from 0.02799 to 0.00320, while for handball it decreased from 0.01947 to 0.00530. In smaller sports, the change of the indicator implies an improved equity of the relatively few competing organisations. These outcomes are in line with the findings of Fűrész and Takács in 2021, who reached a similar conclusion for three sports (football, handball, basketball) up until the 2019/2020 season. However, the R-ratio reveals that,

in the other sports, apart from football, the scope of recipients with the highest level of support has remained largely static. These data imply that certain organisations may be gaining an economic advantage. This should lead policy makers to review the principles of subsidy allocation.

5. Conclusion and policy implications

The introduction of subsidies through the corporate tax system has clearly increased the number of organisations receiving support. In comparison with 2011, there has been an increase of more than 40%. The management of these organisations has become more stable and predictable. The average value of the HHI index, which indicates concentration, presented a decreasing trend with a value of 0.04039 for the 2011/2012 season whereas for the 2023/2024 season the value was 0.02078. This implies a more even resource distribution. However, with the exception of football, the R indicator has taken values close to zero in the last periods under study. For water polo and volleyball it is 0.25 while for basketball it is 0.3. This means that the seventy-five percent of clubs with the highest subsidies are the same from year to year.

According to Fazekas (2017), the primary objective of the support scheme, the expansion of youth development can be considered successful in the evaluation period, as the number of certified athletes in the spectator sports almost doubled from 2011 to 2017. This was also confirmed by the collected data, which presented an increase in the number of sports organisations. The introduction of these measures typically has its downsides. In this case, one of these was a change in the willingness of enterprises towards sports sponsorship. A company that allocates a proportion of its corporate tax to sport considers this area to be adequately supported. This has led to a drastic reduction in traditional business-based sponsorship (Váczi et al., 2017).

Subsidies through the corporate tax system have moved billions of tax incomes into the sports sector in Hungary. According to the budget amounts of government regulations and other data, the funding situation has clearly improved. Research also indicates that the revenue per organisation has also increased (Fűrész et al., 2021; Gősi and Bukta, 2020). In this study, we investigated the extent to which the distribution of subsidies is concentrated. The data shows a decreasing tendency in terms of concentration. This has led to a more balanced market situation. This is slightly contradicted by the R-indicator, which was used to examine the sports organisations with the highest subsidies. Overall, the 20 organisations with the highest 20 approved subsidies display similarities from year to year. The Hungarian Football Association examines this form of support from year to year according to different criteria. This also points out some regional correlations. The sports organisations receiving the highest levels of support in football are located in the economically more developed counties. Among these, Budapest and Pest County stand out. The lowest number of supported organisations (under 2%) is found in Nógrád County. A constraint of our research was that apart from football, there are no official public data regarding the distribution by region.

Upon summarising our outcomes, we can see that the concentration varies from one sport to another. Further research should investigate the impact of concentrated support on competitive balance. Research in the field of marketing in the sports sector

indicates that one important factor is the unpredictability of events. The result can change even at the last minute (Csóka, 2021; Mullin et al., 2014). High concentration of support and resources counteracts unpredictability, especially in team sports. This is why decision-makers should also take this aspect into account in the allocation of funds.

Subsidies through the corporate tax system, as illustrated in the introduction, are in fact a transfer of a proportion of state revenues to sports organisations. The system provides predictability for the relevant organisations, which ensures continuous operation. Its disadvantage is that the allocation of resources is subject to a bureaucratic decision-making process, which is set up by the respective federations. The amount of funding available to each organisation is primarily determined by the number of certified athletes. This is in line with the fact that governments generally aim to increase the number of people participating in sports. The sports involved are generally spectator sports, backed by spectator audiences and sponsors. The current decision-making mechanism completely ignores the market-based approach, despite the original aim of phasing out this type of support within a few years and replacing it with dedicated sponsor enterprises. In the future, a market-coordinated approach should be reinforced in these sports.

According to the data, one of the main risks of the current system is that the sports organisations with the largest amounts of funding have become static. This compromises the requirement of an uncertain outcome which is essential in sport. The federations should therefore develop internal regulations so that the list of those with the largest amount of funding fluctuates from year to year. In addition, as apart from football, the same 12–15 organisations are included among the top 20 in terms of funding, there is a risk that certain regions will continue to lose out on higher subsidies, making it more difficult for a particular sport to be available in a given region. The establishment of a funding cap would be recommended to prevent the development of an oligopolistic structure.

Author contributions: Conceptualization, AK and ZG; methodology, ZG; software, ZG; validation, AK and ZG; formal analysis, ZG; investigation, ZG; resources, ZG; data curation, ZG; writing—original draft preparation, AK and ZG; writing—review and editing, AK and ZG; visualization, ZG; supervision, AK. All authors have read and agreed to the published version of the manuscript.

Conflict of interest: The authors declare no conflict of interest.

References

Act LXXXI of 1996 on Corporate Tax and Dividend Tax (TAO) https://net.jogtar.hu/jogszabaly?docid=99600081.tv (accessed on 08.09.2024).

Andreff, W., Szymanski, S. (2006). Handbook on the economic of sport. MPG Books Ltd, Bodmin, Cornwall, Great Britain https://doi.org/10.4337/9781847204073

Balogh, R. (2017). A blessing or a curse. The impact of TAO on Hungarian football (Hungarian). Magyar Sporttudományi Szemle, 18 (72). 25–28

Bánhidi, M. (2007). Sports science and tourism (Hungarian). Magyar Sporttudományi Szemle, 8(2), 32-38.

Bardóczy, G. (2014). The situation and perspectives of support for spectator team sports (Hungarian). In. A felsőoktatás szerepe a sportban, az élsportban és az olimpiai mozgalomban, különös tekintettel a társasági adóból (TAO) támogatott sportágak

helyzetére és a támogatások hasznosítására. Tanulmánykötet. Debreceni Egyetem Gazdálkodástudományi és Vidékfejlesztési Kara, Debrecen, 50–71.

Bernard, A. B., Busse, M. R. (2004). "Who Wins the Olympics: Economic. Resources and Medal Totals." Review of Economics and Statistics (86) 413– 417. https://doi.org/10.1162/003465304774201824

Borland, J. and Macdonald R. (2003). "Demand for Sport". Oxford Review of Economic Policy 19.4, 478–502. https://doi.org/10.1093/oxrep/19.4.478

Bortolotti, A., Jreij, A., Mazza, F., Vecchi, V. (2024). Sports as Well-Being Practice: The Diversification of Tourism Through the Integration of Sport, Wellness, and Health. In A. Arcidiacono, S. Di Vita (Eds.), Beyond the 2026 Winter Olympic Games . Mega Event Planning. Palgrave Macmillan, Singapore. (63–81) https://doi.org/10.1007/978-981-99-8092-5_5

Csóka, L. (2021) Links between sport consumption and lifestyle (Hungarian). Doctoral dissertation. University of Pécs. Available online:: https://ktk.pte.hu/sites/ktk.pte.hu/files/images/kepzes/phd/Cs%C3%B3ka%20L%C3%A1szl%C3%B3%20disszert%C3%A1ci%C3%B3%20v%C3%A9gs%C5%91.pdf (accessed on 10.07.2024).

Csurilla, G. and Sterbenz, T. (2018). The Role of Uncertainty in Sport (Hungarian). Magyar Sporttudományi Szemle 19(5) 18–22.

Erdős, G. (2021). Corporate tax base and tax relief in the state subsidies system (Hungarian). In: Bán, D., Nemessányi, Z., (ed.) Gazdasági jogi és adójogi tanulmányok. Budapest, Magyarország, Budapesti Corvinus Egyetem, 101-133.

Faragó, B. (2024). Competitiveness indicators sports cities in Central-Eastern Europe. Theoretical and Empirical Researches in Urban Management 19 (1) 30-53.

Faragó, B., Konczosné Szombathelyi, M., ; Béki, P. (2018). The Dynamic Development Spaces of the World's Sport Market in the Processes of World Economic and World Policy of the 21st Century Multidiszciplináris Kihívások Sokszínű Válaszok (2) 94-115.

Farkas P., Fanici M. (2013). Survey of TAO beneficiary team sports sponsors (Hungarian). Magyar Sporttudományi Szemle XIV (1) 30-34.

Fazekas, A. E. (2017). The role of the exhibition team support system in Hungarian sports financing (Hungarian). Scientific conference on TAO (experiences, analyses, evaluations, perspectives in the support system for spectator sports). Magyar Sporttudományi Társaság, Budapest, 28 September 2017.

Fort, R. D. (2006): Sports Economics. (2nd ed.) Upper Saddle River: Prentice Hall.

Fűrész, D. & Rappai G. (2018). Concentration metrics in a "sporting" role (Hungarian). Statisztikai Szemle 96 (10) 949-972. https://doi.org/10.20311/stat2018.10.hu0949

Gősi, Zs. (2019): Economic situation of sports associations receiving corporate tax aid (Hungarian). Gradus, 6. (3) 82–87.

Gősi, Zs., Bukta, Zs. (2020). Sport NGOs as winners of the last decade (Hungarian). Civil Szemle 17 (2) 59–68.

Government Decree 107/2011 (30.VI.2011) https://net.jogtar.hu/jogszabaly?docid=a1100107.kor (accessed on 08.09.2024).

Government Decree 39/2019 (7.3.2019) https://niszteszt.njt.hu/jogszabaly/2019-39-20-22 (accessed on 08.09.2024).

Government Decree No 39/2011 (VI. 30.) https://net.jogtar.hu/jogszabaly?docid=a1100039.nem (accessed on 08.09.2024).

Gyurkó, Á., Bujdosó, Z., Rahmat, A. F., Dávid, L. D. (2024). Characterisation of Hungary's Regional Tourism and Economic Performance between 2004 and 2022 in the Light of EU Funding Geographica Pannonica 28 (1) 20-33. https://doi.org/10.5937/gp28-48906

Heitner, D. (2015). Sports Industry To Reach $73.5 Billion By 2019, Forbes USA https://www.forbes.com/sites/darrenheitner/2015/10/19/sports-industry-to-reach-73-5-billion-by-2019/ (accessed on 09.07.2024).

Herczeg, A; Szabóné Szőke R. (2016). Tax specialities in Hungary in the perspective of the competitiveness of transport organisations (Hungarian). Taylor Gazdálkodás- és Szervezéstudományi Folyóirat VIII. (4) 45-53

Magyar Olimpiai Bizottság (Hungarian Olympic Committee) (2022). Competitive sport strategy for the Olympic sports (Hungarian). Available online: http://archiv.olimpia.hu/images/MOB/Versenysport_strategia.pdf (accessed on 10.07.2024).

Mullin, B., Hardy, S., Sutton W., (2014). Sport Marketing, Fourth Edition. Champaign, IL, Human Kinetics. https://doi.org/10.4324/9781315776767-1

Neulinger, Á (2008). Sport Behaviour in Hungary In: Marnauza, M (edit.) The 4th International Scientific Conference Theory For Practice in The Education of Contemporary Society Riga Teacher Training and Educational Management Academy 225-230.

Nevill, A. M., Balmer, N. J., Winter, E. M. (2009)- Why Great Britain's success in Beijing could have been anticipated and why it should continue beyond. British Journal of Sports Medicine. (43). 1108-1110. https://doi.org/10.1136/bjsm.2008.057174

Paár, D. (2024). Sports – Economics. Pécs, Magyarország, University of Pecs Faculty of Health Sciences. https://doi.org/10.15170/spkozg-etk-2024

Pandey, B., Kumar, V., (2023). What does the GDP of a country say about its medals tally? Mapping relation between economic development and sporting performance at the Olympics International Journal of Social Science Exceptional Research 2 (6) 195-203. https://doi.org/10.54660/ijsser.2023.2.6.195-203

Schultz, T. W. (1961). Investment in Human Capital. The American Econominc Review 51(1) 1-17. Link: https://la.utexas.edu/users/hcleaver/330T/350kPEESchultzInvestmentHumanCapital.pdf (accessed on 09.07.2024).

Stocker, M., Szabó, T. (2017) The role and activities of national sport governance for major domestic sporting events (Hungarian). In. Szmodis, M., Szőts, G. (edit.): Economic issues in sport governance – 2017. Magyar Sporttudományi Társaság, Budapest, 91–108 Link: https://mstt.hu/wp-content/uploads/2018/06/Sportiranyitas-Gazdasagi-Kerdesei-honlapra.pdf. (accessed on 09.07.2024).

Váczi, P., Boda, E., Herpainé Lakó J., Müller A. (2017). Assessing the systemic impact of Tao on Hungarian basketball teams (Hungarian). Testnevelés, Sport, Tudomány 2 (1-2) 79-82. https://doi.org/10.21846/TST.2017.1-2.13.

Vörös, T. (2017). Incentive regulation in competition design – the influence of pay-off structure on sport performance. In. A Sportirányítás Gazdasági Kérdései – 2017. Ed. M., Szmodis, and G., Szots, Hungarian Review of Sport Science XVI. Budapest: Magyar Sporttudományi Társaság, 23–36.

Zimbalist, A. S. (2002). "Competitive Balance in Sports Leagues: An Introduction". Journal of Sports Economics 3.2, 111–121. https://doi.org/10.1177/152700250200300201