## The Impact of Lotteries as a Funding Source for European Sport



SportsEconAustria Institute of Sports Economics

# *The Impact of Lotteries as a Funding Source for European Sport*

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Study on behalf of the European Lotteries

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## **1** Executive Summary

Lotteries are closely connected to good causes, especially regarding sport, in many European countries. As they are one of the main funding sources for sport in Europe, both for grassroots and top-class sport, this study deals with the question about the contribution of their funding to growth, gross value added and employment in the EU in general and in specific to the sports sector.

In 2012 the European Lotteries (EL) members spent in total 2.5 bn euro to good causes on sport, in the EU more than 2 bn. This volume can be compared with the total funding of the EU programme for the Competitiveness of Enterprises and Small and Medium-sized The EL-member payments to good causes on sport in the EU is nearly one quarter of the GDP of Malta.

Enterprises (COSME), which has a planned budget from 2014-2020 of 2.3 bn euro<sup>1</sup>, or the total amount of the EL-member payments to good causes on sport is nearly one quarter of the GDP of Malta.<sup>2</sup> Five countries were responsible for more than 80 percent of all EU-28 lottery payments to good causes on sport: In absolute terms these highest amounts were paid from UK, Germany, France, Finland and Poland. If the total payments per country are divided by population the ranking of the top five countries looks different. The EL-member payments to good causes on sport within the EU per inhabitant have the highest value in Cyprus (33.47 euro), followed by Finland (27.80 euro), Denmark (17.20 euro), UK (17.20 euro) and Austria (9.47 euro) at the fifth position.

Every 9,000<sup>th</sup> euro generated in the EU can be traced back to the EL-member payments on sport. Through the EL-member payments to good causes on sport, a total gross value added of 1,550.47 mn euro are generated in the EU. The contribution to the GDP is thus 0.01 percent, or in other words: every nine-thousandth euro generated in the EU can be traced back to the EL-members' payments

for sports directly or indirectly. The largest share of this gross value added effect occurs in the UK, followed by Germany, France, Finland and Poland. Those countries represent around 80 percent of the total GVA-effect. The direct GVA-effect of those payments amounts to approximately 926 mn euro and the indirect effect, which are generate at the suppliers along the entire value chain, to around 625 mn euro.

Total GVA-effect of ELmember payments (1.6 bn euro) exceeds the total funding volume from 2014-2020 of the EU-programme "Creative Europe".

<sup>&</sup>lt;sup>1</sup> COSME, 2015.

<sup>&</sup>lt;sup>2</sup> The amount was compared to the GDP of Malta in 2012 (7 226 mn euro) (Eurostat, 2015).

The total effect can be compared with the total funding of the European Commission in the programme "Creative Europe" from 2014-2020<sup>3</sup> or it is more than one fifth of the GDP of Malta.<sup>4</sup>

In 2012 the EL-member payments to good causes on sports have generated a direct employment

impact by creating 26,639 jobs. Through economic ties with suppliers and upstream sectors, further 13,913 jobs, so-called indirect jobs, were created and ensured. Thus, a total of 40,552 jobs were secured through the EL-member payments on Sport which

Total number of jobs safeguarded through ELmember payments exceeds the number of inhabitants of Liechtenstein.

exceeds the number of inhabitants of Liechtenstein (Population 2012: 36,475)<sup>5</sup>. Hence, the employment multiplier takes the value of 1.52 which implies that every new job created through ELmember payments on sport ensured additionally one half of a job in Europe. From a country perspective one quarter of all jobs created through the EL-member payments on sport are secured in the UK. The second-most jobs are generated in Poland, followed by Germany, Finland and France.

For many EU countries the EL-member payments to sport form a substantial part of the national sport economy. As sport forms a substantial part of the EU's economy, it was also analysed which role the EL-member payments play in regard to the national sport sectors with regard to the Broad Definition of sport<sup>6</sup>. The result is very clear cut and the importance of the EL-member payments

on their domestic sport-related economy can be read off directly. Especially in Cyprus and Finland the respective lotteries' payments on sport are of substantial size compared to the countries' sport sectors.

#### Figure 1: Impact of the EL-member payments to good causes on sport at a glance

EL-members' funding of sport in the EU: > 2 bn euro in total: 2.5 bn euro In total 40,552 jobs secured through EL-member payments on sport in the EU In total 1.5 billion euro GVA through EL-member payments on sport in the EU

Source: European Lotteries, SpEA, 2015.

<sup>&</sup>lt;sup>3</sup> "Creative Europe" is the funding programme of the European Union for the culture and creative sector. The total funding for the period 2014-2020 equals to 1.5 bn euro (Creative Europe, n.d.).

<sup>&</sup>lt;sup>4</sup> The amount was compared to the GDP of Malta in 2012 (7 226 mn euro) (Eurostat, 2015).

<sup>&</sup>lt;sup>5</sup> Eurostat, 2015.

<sup>&</sup>lt;sup>6</sup> The total impact of sport to GVA and employment in the EU can be divided in a statistical, a narrow and a broad definition of Sport. For the definition see chapter 4 (SportsEconAustria, 2012).

## 2 Overview

In several EU member states, lottery licensing fees (and similar sources) are used to support sport. The present study is dedicated to carry out an evidence-based impact analysis of these transfers using economic state-of-the-art methods. In a nutshell, the primary research question under scrutiny is: "What is the contribution of such lottery-related payments to growth, gross value added and employment both EU-wide and on the national level of the individual EU member states?"

Lotteries are closely connected to good causes, especially regarding sport, in many European countries. Licence payments of different kinds are used to support clubs, athletes, and the like. Without these funds, European sport would be very different from what it is today. Since even in the best case it takes many years to become an athlete who can make a living on his or her own, support is necessary during the initial years of investment. But those who finally succeed and become well-known act as role models and multipliers for the public to engage more actively in sports. Thus, they create a wide range of positive effects on individuals and society, reaching from better subjective well-being to the social integration of outsiders, apart from sizeable economic effects. Examples for the latter are, inter alia, the higher productivity of sporting individuals, increased demand for and the augmented production of sport-related goods and services, enhanced employment opportunities and additional gross value added, but also decreased costs for social services. Many of the positive effects on society bear characteristics of so-called "positive externalities".

Although the importance of follow-on effects generated through lottery-based transfer payments is often claimed, their overall effect has not been calculated so far. The proposed study will make an original and authentic contribution to fill the gap and assess the effects of the additional demand for sport induced by lottery-related (licence and other) payments.

Since EU member states form a tightly connected economic network, positive externalities created by a specific country's lottery, in paying licence fees to sport, feed into all the other countries' economic system as well. If, for example, a sport centre is built with such money, intermediate goods will most likely also be imported from countries without lottery licensing fees or which use such fees for nonsport-related activities. This "export" of positive externalities across countries has never been addressed so far.

## 3 Methodology

The study deals with the economic impact of funds from the European Lotteries to sport: the transfers to sport lead to economic activity and thus to additional growth, gross value added and employment. As an example, sport infrastructure needs to be built and maintained. Construction will be carried out by firms, which employ staff and generate gross value added. Such are the **direct effects** of construction activities. In addition, the construction firms need goods (e.g. sand, wood) and services (e.g. transportation, financial services) as inputs to perform their tasks. Therefore the providers of intermediate goods and services benefit too. Since these supplying firms in turn need intermediate goods and services as well, a long, theoretically infinite supply chain can be linked to the direct effects. The impacts stemming from this supply network are called **indirect effects** and literally affect the whole economy. Generation of employment and gross value added through economic activity also leads to taxes being paid. Figure 2 visualises the relationships between the participants in the creation of direct effects.





Source: SpEA, 2015.

Through foreign-trade relations between countries, indirect effects feed into the whole EU-28 (and the rest of the world) as some intermediate goods and services have to be imported. Thus lottery-based payments to sport have a positive effect on all EU-28 member states, even if no country-specific sport-related lottery licensing fees are levied there.

These economic effects, as mentioned above, are calculated with so-called satellite accounts within an Input-Output-Table (IOT). Latter is a table showing i.a. all cross-sector deliveries within an economy, value added, and foreign trade. Researching the production of a good, one can thus calculate how many goods from other domestic sectors (intermediate goods), how many imports, and how much domestic value added in the original sector are necessary (the direct effects). Tracing the supply network (intermediate goods) in the same manner, indirect effects are calculated.

A satellite account is an extension of the standard national account system (in this case in form of an IOT), which is the main reference point for economic policy-formulation on the macro level and is normally maintained by the statistical office of a country. A Sport Satellite Account (SSA) filters the national accounts for sport-relevant activities to extract all sport-related gross value added while maintaining the structure of the national accounts. The instrument of SSAs permits all sport-related economic activities to show up explicitly, rather than to keep them concealed in deeply disaggregated (low-level) classifications of the national accounts. Sport related direct and indirect effects can therefore be calculated very precisely.

National SSAs have been developed in several EU Member States based on the statistical definition of sport agreed by the EU Working Group on Sport and Economics in 2007 ("Vilnius definition of sport"). In 2012 a consortium led by SportsEconAustria completed a Multiregional Input Output Table: Sport (MR-IOT:S) as a special form of an SSA. The multiregional structure allows assessments of economic impact for single countries- as well as on an EU-wide scale by making use of foreign trade data. Thus one can follow imported intermediate goods and calculate the indirect effects in the respective country of production. These are the EU-wide/global indirect effects. In this study the MR-IOT:S will be the basis to derive the economic impact of lottery-based payments to sport:

- In a first step, it is intended to retrieve the distribution of these funds to sport on a countryby-country basis. This will result in a CPA-based attribution of funds so that the effects on final uses become known.
- In a second step, due to the enlargement of the European Union by Croatia, the MR-IOT:S is extended to encompass all 28 member states.
- Having done so, direct and indirect effects (impacts) on the national level as well as on all EU-28 member countries are assessed, also accounting for cross-border deliveries of intermediate goods and services. Economic activity in a single country thus leads to indirect effects throughout the entire EU-28. This can be considered to constitute an "export of positive economic impact".

## 4 The impact of sport on the EU Economy

In 2012, the macroeconomic importance of sport on the EU economy was analysed by using the "Multiregional Input Output Table: Sport" (MR-IOT:S).<sup>7</sup> These data demonstrate an overview of the total impact of sport to GVA and employment in the EU according to a statistical, a narrow and a broad definition of Sport. This so-called Vilnius definition of sport is defined as follows:

- Statistical Definition: comprised of NACE/CPA 92.6 Rev. 1.1 and NACE/CPA 93.1 since 2008 respectively ("Sporting activities", the only part of the sport sector having its own NACE/CPA category).
- Narrow Definition: all activities which are inputs to sport (i.e. all goods and services which are necessary for doing sport) plus the Statistical Definition.
- Broad Definition: all activities which require sport as an input (i.e. all goods and services which are related to a sport activity but without being necessary for doing sport) plus the Narrow Definition.

Even if the study refers to the year 2005 and therefore only includes the EU-27 it is a valuable source to relate the results for the economic impact of lottery-based transfer payments to the overall economic impact of sport. For the calculations in chapter 5 and chapter 6 the results for 2005 were updated for the reference year 2012 and completed with Croatia to maintain the EU-28 data base. Norway gets its own chapter 6.21 with the respective numbers being added or treated nowhere else in the report in order to strictly separate them from their EU counterparts.

## 4.1 The share of sport in overall gross value added

The results of the MR-IOT:S show that the share of sport-related direct gross value added of total EU gross value added is 1.13 percent for the narrow definition and 1.76 percent for the broad definition of sport. The share of what is generally known as the organised sport sector (sport clubs, public sport venues, sport event organisers) is reflected in the statistical definition. Its share of gross value added is 0.28 percent. It thus becomes evident that the real share of sport in terms of production and income is about six times as high as reported in official statistics.

<sup>&</sup>lt;sup>7</sup> SpEA et al. (2012)

Sport-related gross value added (limited to direct effects) amounts to 112.18 billion euro according to the narrow definition and 173.86 billion euro according to the broad definition. By contrast, gross value added according to the statistical definition of sport was a mere 28.16 billion euro.

The direct effects of sport, combined with its multiplier (indirect) effects, add up to 2.98 percent (294.36 billion million) of overall gross value added in the EU.

The average gross value added of the statistical definition of sport shows a broad division between high income West European member states and lower income East European states. In absolute terms, the gross value added per capita in the Eastern member states is around 5 to 10 euro per capita, while in the higher income states this amount is around 50 to 100 euro per capita. Of course, it could be expected that richer countries spend more on sport than poorer countries, but this is true not only in absolute terms but also in relative terms: the share of gross value added of sport is lower in low income EU member states compared to high income states. On a cross-section basis, the national income elasticity of sports is 1.14, which means that if national income rises by 1 percent, the gross value added related to sport rises (over-proportionally) by 1.14 percent.

#### 4.2 Employment effects

For the EU as a whole, the contribution of sport-related employment to total employment is 2.12 percent. In absolute terms this is equal to 4.46 m employees. This figure ranges above the sport-related share in gross value added (1.76 percent), indicating that sport is comparatively labour-intensive.

The largest number of sport-related jobs in absolute terms can be found in Germany, which accounts for 1.15 million sport-related jobs or nearly 26 percent of all sport-related jobs in the EU. The runnerup is the UK, with more than 619,000 jobs, followed by France with more than 417,000 jobs in sport.

### 4.3 Comparison of effects

The share of sport (in the broad definition) respective to national gross value added and employment is given in the figures below. For comparison: The contribution of three sectors agriculture, forestry and fishing combined to gross value added amounts to 1.3 percent in Austria, 0.8 percent in Germany and 0.6 percent in the UK.<sup>8</sup> The economic impact of sport in its Broad Definition (Austria: 4.03 percent,

<sup>&</sup>lt;sup>8</sup> Values from the respective input-output tables of 2010.

Germany: 2.31 percent and UK: 2.33 percent)<sup>9</sup> therefore often vastly exceeds agriculture, forestry and fishing.



#### Figure 3: Broad definition: Share of sport-related gross value added in nationwide value, 2005

Source: SpEA, 2012.

#### Figure 4: Broad definition: Share of sport-related employment in nationwide value, 2005



#### Share of employment

Source: SpEA, 2012.

<sup>9</sup> SpEA et al. 2012

## 5 The impact of European Lotteries funding on sports in the EU

According to several studies and reports carried out in past years lotteries, betting and gambling operators in EU contribute to the funding of sport mainly in three ways:

- Payments to designated sporting bodies under statutory or non-statutory schemes in accordance with the terms of their license. Statutory schemes are the compulsory levies according to national regulations, whereas non-statutory schemes refer to voluntary payments. The payment according to former is made to the state budget or to a fund set up to fund general interest.
- Commercial payments to third parties active in sport (advertisement and sponsorship programmes)
- Payments of corporate and local taxes to national and/or local governments.

The regulatory systems applying to lotteries, betting and gambling operators vary across countries. The differences relate to four dimensions:

- 1. Types of lottery operators in the market,
- 2. The way lottery revenue is channelled to sport:
  - the revenue from the compulsory levies and taxes go to the state budget, or specifically to the budget of certain ministries,
  - the revenue is allocated to a fund created for the purpose of funding general interest objectives.
  - the revenue is allocated from the lotteries, betting and gambling operators directly to the sport organisations;
- 3. The third dimension in which the different schemes across countries vary is the tax base: in some Member States the total turnover of the operators is calculated as the tax base, where as in others it is based on net profits.
- 4. The effective rate of tax constitutes another difference among different schemes and in the level of revenue generated from those

In addition, in several EU Member States, charity lotteries and small lotteries exist along with the state lotteries. Their funding is not always channelled via the (state or local government) budget, but goes directly to sport. Examples are Denmark, Finland, the Netherlands and the United Kingdom, where charity lotteries make direct payments to sport organisations, on the basis of voluntary agreements. Finally, the sport organisations can also organise their own special purpose lotteries. Again, this is not channelled via a government budget, and revenue from this activity is exempt from tax.

In most EU Member States, the redistribution of revenue from state lotteries to good causes including sports is legally provided for. Also, in most Member States, the law defines the amount of the contribution and the destination of the revenue.<sup>10</sup>

In 2012 the European Lotteries (EL) members spent in total 2.5 bn euro to good causes on sport, in the EU nearly 2 bn. If the amount payed to good causes on sport of Norway would be included, the sum would even rise to 2.3 bn. The amount of money lotteries spend on sport varies from zero in some countries to hundreds of millions of euro. In absolute terms the highest values paid from lotteries to good causes on sport can be found in the UK (731.57 mn euro), Germany (400.45 mn euro), France (223.74 mn euro), Norway (218.75 mn euro) and Finland (150.86 mn euro). These four countries (Norway is excluded as it is not an EU-28 member state) are responsible of nearly 70 percent of all EU-28 lottery payments to good causes on sport. Figure 5 visualizes the results for the absolute amount of money lotteries spend on sport.



						Austria	80.00
						Belgium	3.55
UK					731.57	Bulgaria	12.33
Germany			400.45			Croatia	2.80
France		223.74				Cyprus	28.98
Norway*		218.75					20.50
Finland	15	0.86				Czech Republic	16.00
Denmark	06 28	8.09				Denmark	96.38
Austria	80.00					Finland	150.86
Portugal	59.15					France	223.74
Netherlands	43.77					Germany	400.45
Cyprus	28.98					Greece	0.93
Czech Republic	= 16.00					Hungary	21 33
Bulgaria	12.33					Lithuania	21.55
Slovenia	9.61					Lithuania	3.54
Belgium	3.55					Luxembourg	1.00
Lithuania	3.54					Netherlands	43.77
Croatia	2.80					Norwav*	218.75
Spain	1.24					Poland	1/18 69
Greece	0.93						140.05
Greece	0.55					Portugal	59.15
0	.00 200	0.00 4	00.00	600.00	800.00	Slovenia	9.61
	mn					Spain	1.24
						UK	731.57
						TOTAL	2,254.64

<sup>&</sup>lt;sup>10</sup> Eurostrategies, Amnyos, CDES, Deutsche Sporthochschule Köln (2011a); Eurostrategies, Amnyos, CDES, Deutsche Sporthochschule Köln (2011b)



Source: European Lotteries, SpEA, 2015.

\* Note: The payments to good causes on sport of EL-members in Norway are shown in the figures above. Nevertheless they are not included in the claculations of the gross value added and employment effects resulting from EL-member payments to good causes on sport in chapter 4 as these sums just include the spendings of EL-members located in the EU-28.

If you take the lotteries payments on sport per inhabitant then you get a completely different picture. In relative terms the highest values paid from lotteries to good causes on sport can be found in Norway (42.28 euro), Cyprus (33.47 euro), Finland (27.80 euro), Denmark (17.2 euro) and UK (11.45 euro). Although Austria's lottery payments exceed the payments in other countries by far the relative amount per inhabitant equals 9.47 euro which results in rank five of the EU-28. Figure 6: EL-member payments in the EU to good causes on sport per inhabitant per country, in euro, 2012





Source: European Lotteries, SpEA, 2015.

\* Note: The payments to good causes on sport of EL-members in Norway are shown in the figures above. Nevertheless they are not included in the claculations of the gross value added and employment effects resulting from EL-member payments to good causes on sport in chapter 4 as these sums just include the spendings of EL-members located in the EU-28.

## 5.1 Gross value added effects

Gross value added, a key indicator of the national accounts, is defined as the total value of goods and services (gross output) generated in the production process minus the value of transformed goods and

services (intermediate consumption) consumed in the production process. In other words, the gross value added of the sector measures the amount that represents the actual remuneration of factors of production labour (wages and salaries), and capital (profit, interest on borrowings, depreciation and amortization).

Figure 7 describes the value added effects<sup>11</sup> of payments of the European Lottery members to good causes on sport. The rightmost column shows the value of the total gross value added, which is composed of the direct and indirect gross value added. The total gross value added effect amounts to 1,550.47 million euro; that is almost 0.01% of the European gross domestic product, i.e. one euro in every nine-thousandth euro generated in the EU can either be directly or indirectly attributed to the EL-member payments to sports.

The majority of the gross value added effect, amounting to 925.51 million euro yearly, occurs directly through those payments. The proportion of direct gross value added in total gross value added is 60 percent. Through the intermediate goods used along the supply chain, the lottery payments on sports generated an indirect value added effect of approx. 625 million euro. These indirect effects occur mainly in the country of the original direct effect. But since every sector in every country uses imports, a certain part of the indirect effects always occurs abroad. This could be computers for sport administration, paint for the wardrobe of a public swimming pool, or special steel for a golf club. In the exemplary case of Belgium<sup>12</sup>, there is a direct GVA-effect of 2.02 million euro leading to a domestic indirect effect of 0.73 million euro. In addition to that, another 0.12 million euro of GVA are generated in the rest of the EU due to the imports of intermediate goods by Belgian companies. Looking at this exchange from the other side, Belgium exports 3.24 million euro (this number is not stated anywhere else in the report) to other countries to satisfy their demand arising from economic activity from their EL-funding. A large part of these 3.24 million euro exports go to France, where more than 120 million euro of GVA are generated due to the French lottery's payment to good causes of sport.

Summing only the domestic GVA-effects of the 28 Member-States would therefore underestimate the GVA-effect of EL-members payments on sport in the EU and lead to less than the correct 1,550.47 million euro stated here. National values in chapter 6 therefore show an additional category of foreign (but intra EU) indirect GVA effects.

<sup>&</sup>lt;sup>11</sup> See chapter 3 for a description of the calculations.

<sup>&</sup>lt;sup>12</sup> See chapter 6.2 for the numbers.





Gross value added - EU

Source: European Lotteries, SpEA, 2015.

The value added multiplier of the EL-members payments on sports is evaluated to be 1.68. This value is used to illustrate the magnitude of the indirect value added effect (ratio between total and direct effect) of the entity under study. The higher the multiplier, the greater the economic "leverage" on the whole economy. In this specific case a multiplier of 1.68 means that each euro spent to good causes on sport triggered 68 euro cents gross value added in other establishments that supplied intermediate goods along the supply chain.

In terms of GVA the sector profiting most from the EL-member payments to good causes on sport is the recreational, cultural and sporting service sector. Nearly two thirds of the total GVA derived from the EL-member payments are secured in that sector. The next sector is lagging far behind: with 135.44 million euro the other business services has the second place among the top 10-sectors profiting most in terms of gross value added followed by constructions work with 80.18 million euro.



#### Figure 8: Top 10-sectors profiting most of payments in terms of GVA in the EU, in million euro, 2012

Figure 9 indicates the sum of the domestic and foreign gross value added effect of the EL-member payments to good causes on sport. As the graph shows, Camelot UK Lotteries Ltd. generates in total the highest effect with more than 562.1 million euro. Germany (336.4 mn euro) is following with less than one third of the effects of the UK. France, Finland and Poland are as well under the top five countries with the hightest GVA effect.

Source: European Lotteries, SpEA, 2015.





Total GVA-effect per country

Source: European Lotteries, SpEA, 2015.

## 5.2 Employment effects

The economic activities of the EL-member payments to good causes on sport has generated a total employment impact<sup>13</sup> by creating 40,552 jobs (Figure 10). The total employment effect, similar to the value added effect, is made up of direct and indirect employment together. Nearly two thirds of the total jobs created or saved are directly employed through those payments, and amount to 26,639 employment places in headcount. In addition, 13,913 jobs in headcount were created or safeguarded in supplier sectors of the economy; this is referred to as the indirect employment effect of the EL-member payments to good causes on sport.

<sup>&</sup>lt;sup>13</sup> See chapter 3 for a description of the calculations.

#### Figure 10: Employment effects in the EU, in heads, 2012



Employment - EU

Source: European Lotteries, SpEA, 2015.

The employment multiplier, defined as the ratio of the total and the direct employment effect has the value of 1.52 in terms of the effect in heads. This means that half a full-time job will be created or safeguarded with every job created through the lottery payments.

In terms of employment the ranking of the sectors profiting most from the EL-member payments to good causes on sport is similar to the one of the GVA profiting sectors. On the first place with more than two thirds of the total employment created is the recreational, cultural and sporting service sector. The other business sector is on the second place with 2,805 jobs followed by construction work with 2,243 jobs.

## Figure 11: Top 10-sectors profiting most of payments in terms of employment in the EU, in heads, 2012



Source: European Lotteries, SpEA, 2015.

The total employment effects per country are indicated in Figure 12. The figure shows that the payments of Camelot UK Lotteries Ltd. has the highest impact on employment (9,046 jobs). Poland is on the second place with 7,973 jobs, whereas it has just the fifth place in terms of the GVA effect (see Figure 9). Germany is closely following and the lottery payments are creating or safeguarding more than 7,800 jobs. Less than half of the jobs generated in Poland or Germany are secured in Finland.



Figure 12: Total employment effects (domestic and foreign) per country, in heads, 2012

Total employment effect per country

Source: European Lotteries, SpEA, 2015.

#### 5.3 Country wise comparison of multipliers

The multiplier is the ratio between the total effect and the direct effect and describes the interrelatedness of a sector. If an economic activity requires no intermediary goods or services, no company would be stimulated indirectly and the total effect would equal the direct effect. In this case, the multiplier would therefore take on the value of 1.0. The more interrelated the directly stimulated sector is, the larger is the multiplier. In modern western economies, they usually take on values around 1.4 to 1.5, but may reach 2.0 or even higher values. If a country imports many (intermediary) goods, the impulse will leave this country of origin, since production and thus gross value added and employment are generated abroad.

Figure 13 shows a country-wise comparison of multipliers of GVA (left figure) and employment (right figure). Since the EU-wide multi-regional input-output table for sport is used, the effects of an economic impulse can be traced all over the EU, not just single countries. E.g. the economic effect of a French investment may to some extent leave France via an import to Germany. Although the effect on the German supplier does not count in the national value of France, the German company in turn

may have a French supplier again, thus sending a part of its effect back again to France. Thus the model follows an infinitely long supply network throughout the whole EU which is a unique feature. The values shown in Figure 13 are the multipliers of the payments of the European Lotteries members in their respective home country. Effects on other countries were of course accounted for during the calculation but are not reported in the table. The value for the EU is an exception, as the multipliers are not the results of the national values, but from the EU-wide effects (e.g. if a direct impulse in France leads to an indirect in Germany, the latter value is taken into account here too).





Source: European Lotteries, SpEA, 2015.

As one can see on a first glance, multipliers take on values within a normal, sometimes even high range. A gross value added of one euro directly derived from the payments to good causes in Denmark leads to another 58 Cent of gross value added in the Danish supply network. For each employee in the directly stimulated Danish companies, another 0.50 employees in the rest of the Danish economy are created or secured.

Taking a closer look at the values reveals a pattern: gross value added multipliers are, with the exception of the UK, always higher than the employment multipliers. The answer to this puzzling result lies in one of the major conclusions of the "Study on the Contribution of Sport to Economic Growth and Employment in the EU"<sup>14</sup>: sport is employment intensive. This means that sport-related economic activity creates more employment than gross value added, while usually these two variables correlate quite strongly. For the multipliers presented in Figure 13 this implies that the direct effect is larger in the case of employment compared to the gross value added. The following indirect effects are close to the economy's average, thus they are relatively smaller compared to the larger direct employment effect and vice versa larger for the smaller gross value added.

### 5.4 Sport-related impact of European Lotteries funding on sports

The shares of the EL-member payments to good causes on sport according to the Broad Definition of sport for gross value added and employment are given in the figure below.

Knowing that sport forms a substantial part of the EU's economy, one may be interested in the size of the role the European Lotteries' members play. Answers are given in Figure 14 showing the share of the national total effect of the payments on sport in the countries' sport sector. The Broad Definition of sport is used again to cover each possible aspect of sport including i.e. sport-related tourism, sport-betting, and TV-rights. Economic effects on other EU member states are ignored. In the figure only the national effects are reported, countries without payments therefore are not shown. Croatia is an exceptional case. Although the economic effects of its lottery payments can be calculated, the economic dimension of sport in this country cannot be calculated yet for statistical reasons.

<sup>&</sup>lt;sup>14</sup> SportsEconAustria, 2012.

Figure 14: Share of sport-related GVA/employment generated through EL-member payments on sports in relation to the overall sport-related GVA/employment effect (broad definition), in percent, 2012



Source: European Lotteries, SpEA, 2015. Note: All values correspond to the broad definition of sport and encompass total effects. Figure 15: Share of sport-related GVA/employment generated through EL-member payments on sports in relation to the overall sport-related GVA/employment effect (narrow definition), in percent, 2012



Source: European Lotteries, SpEA, 2015.

Note: All values correspond to the narrow definition of sport and encompass total effects.

The picture presented is very clear cut and the importance of the EL-member payments on their domestic sport-related economy can read off directly. In Cyprus and Finland, the respective lotteries' payments on sport are of substantial size compared to the countries' sport sectors (7.15 percent and 3.72 percent of gross value added as well as 6.97 percent and 4.34 percent of employment). Portugal, Poland, Bulgaria, Denmark, Slovenia, Hungary, Lithuania, and UK follow in differing order. Czech Republic, Germany, Austria, France, and the Netherlands form a very compact set of countries in the lower middle.

## 6 Country profiles

### 6.1 Austria

The Austrian Lotteries' sports funding has a direct gross value added impact<sup>15</sup> equal to 40.71 million euro (Figure 16). The direct gross value effect added occurs in those sectors that are immediately impacted by the Austrian Lotteries' sports funding; which is mainly the sector recreational, cultural and sporting services. Additionally, the suppliers benefit from a gross value added effect amounting to 18.71 million euro in Austria. This sum denotes the domestic indirect gross value added effect. Suppliers in the other European countries apart from Austria are impacted by a 2.51 million euro gross value added effect; that is the indirect gross value added effect abroad. In total, sports funding by the Austrian Lotteries has a gross value added contribution amounting to 59.42 million euro in Austria and 2.51 million euro in other European countries. The total gross value added effect of the Austrian Lotteries' sports funding represents 0.018 percent of the Austrian GDP and is several times the size of the sector water transport (13.6 million euro in 2010) or fishing and aquaculture (17.7 million euro in 2010).



#### Figure 16: Gross value added effects Austria, in million euro, 2012

<sup>&</sup>lt;sup>15</sup> See chapter 3 for a description of terminology and calculations.

Source: European Lotteries, SpEA, 2015.

The sector recreational, cultural and sporting services benefits most from the gross value added effect of the Austrian Lotteries' sports funding. Two-thirds of the domestic gross value added effect or 43.99 million euro go into this sector (Figure 17). The sector other business services has the second highest contribution equal to 4.93 million euro or 8 percent of the domestic effect. The sector real estate services has a 2 million euro gross value added impact. Several other sectors including construction work and post and telecommunication services have a gross value added effect equal to around 1 million euro.





Top 10-sectors (GVA) in Austria

Source: European Lotteries, SpEA, 2015.

The additional demand generated by the Austrian Lotteries' sports funding also has a positive effect on employment. 1,108 jobs are created or safeguarded in the sectors directly receiving sports funding from the Austrian Lotteries. This is denoted as the direct employment effect (Figure 18). The sports funding of the Austrian Lotteries leads to the creation or safeguarding of 289 jobs in Austria in indirectly affected sectors along the supply chain; that is the domestic indirect employment effect. Additionally, 50 jobs are created or safeguarded abroad (indirect employment effect in other European countries). In total, 1397 jobs are created or safeguarded in this sector in Austria; 50 jobs are created or safeguarded abroad.



#### Figure 18: Employment effects Austria, in heads, 2012

Source: European Lotteries, SpEA, 2015.

Not only with respect to gross value added, but also in terms of employment, the sector recreational, cultural and sporting services receives the largest benefit from the Austrian Lotteries' sports funding. 1197 jobs are created in this sector. Almost 86 percent of the employment effect takes place in this sector (Figure 19). The sector other business services has the second highest contribution; 84 jobs are created or safeguarded by the sports funding of the Austrian Lotteries. Several other sectors including construction work, post and telecommunication services as well as sewage and refuse disposal services, sanitation and similar services benefit from the creation or safeguarding of between 10 and 20 jobs.
# Figure 19: Top 10-sectors profiting most of payments in terms of employment in Austria, in heads, 2012



### Top 10-sectors (employment) in Austria

### 6.2 Belgium

In Belgium, lotteries services are provided exclusively by Loterie Nationale. Its payments to good causes on sport amounted to 3.55 million euro in 2012. The economic effects<sup>16</sup> of these payments for Belgium on gross value added and employment will be described below.

The total GVA effect for Belgium is estimated at 2.75 million euro whereof 2.02 million euro are attributed to the direct GVA impact which represents 73.5 percent. Additionally indirect GVA of 0.73 million euro is generated in Belgium through the production of intermediate goods and services along the supply chain. Finally the indirect GVA effects outside of Belgium are estimated at 0.12 million euro (Figure 20).

The value added multiplier for Belgium is 1.36, while the total multiplier – including foreign indirect GVA – is given at 1.42. This value is smaller than the EU average which is 1.68 as elaborated in section 5.1.



#### Figure 20: Gross value added effects Belgium, in million euro, 2012

Source: European Lotteries, SpEA, 2015.

In Figure 21 the GVA effects on specific sectors are shown. With 1.18 million euro of GVA the recreational, cultural and sporting service sector benefits most from the payments to good causes on

<sup>&</sup>lt;sup>16</sup> See chapter 3 for a description of terminology and calculations.

sport which is in line with the results for the EU. Compared to the EU average (61.4 percent) the share of this sector is smaller with 42.9 percent which is due to the relative strong GVA impact on education services (1.07 million euro). Beside these two sectors which account for 81.8 percent of total GVA the impact of these expenditures are causing only minor effects in other sectors of the Belgium economy.

# Figure 21: Top 10-sectors profiting most of payments in terms of GVA in Belgium, in million euro, 2012



Top 10-sectors (GVA) in Belgium

Source: European Lotteries, SpEA, 2015.

In terms of employment the payments to good causes on sport by Loterie Nationale created or saved 65 jobs through direct effects and 12 jobs through indirect effects in Belgium. Since two additional jobs are indirectly created outside of Belgium the overall employment effect is 79. The domestic employment multiplier is 1.18 while the overall employment multiplier is 1.21, so both values are significantly smaller than the EU average (1.48 and 1.52 respectively).

### Figure 22: Employment effects Belgium, in heads, 2012



Source: European Lotteries, SpEA, 2015.

In terms of employment the ranking of sectors profiting most form payments to good causes on sport shows education services on the first position (38 jobs) followed closely by recreational, cultural and sporting services (34 jobs). As with the effects on GVA the employment effects on other business sectors in Belgium are negligible.

# Figure 23: Top 10-sectors profiting most of payments in terms of employment in Belgium, in heads, 2012



## Top 10-sectors (employment) in Belgium

### 6.3 Bulgaria

The sport-related gross value added in 2012, which has been created through the payments of the Bulgarian Lottery Sports Totalizator, equals in total 8.23 million euro. The effect<sup>17</sup> on Bulgaria alone is 7.39 million euro. As can be seen in Figure 24, the direct effect on GVA is 4.17 million euro, the indirect effect created by intermediate goods and service providers as well as by the further usage of their generated incomes is with 3.22 million euro relatively high - compared to the direct effect. The indirect effect which has been generated through foreign intermediates within the European Union (intra-EU) is 0.84 million euro.



#### Figure 24: Gross value added effects Bulgaria, in million euro, 2012

The highest total effect of the lottery payments to good causes on sport has been generated in the sector recreation, cultural and sporting services with a gross value added of 3.24 million euro in 2012. The total effect of the sector construction work is 1.32 million euro, followed by post and telecommunication services with 280,000 euro and financial intermediation services, except insurance and pension funding services with 280,000 euro as well. The top-10 sectors profiting most of the lottery payments can be found in Figure 25.

Source: European Lotteries, SpEA, 2015.

<sup>&</sup>lt;sup>17</sup> See chapter 3 for a description of terminology and calculations.

# Figure 25: Top 10-sectors profiting most of payments in terms of GVA in Bulgaria, in million euro, 2012



### Top 10-sectors (GVA) in Bulgaria

#### Source: SpEA, 2014.

Following the effect on gross value added, the payments of Sports Totalizator to good causes on sport, also causes employment effects. In total the effect of the Bulgarian lottery payments is 1,354 employees (in heads), in Bulgaria alone the effect counts 945 employees (Figure 26). The employment effect which is generated by the intermediate goods equals 390 in Bulgaria, the foreign indirect effects are 19 employees (in heads).

### Figure 26: Employment effects Bulgaria, in heads, 2012



Employment - Bulgaria

Source: European Lotteries, SpEA, 2015.

By having a look at the sectoral level, employees in the sector recreation, cultural and sporting services profiting – with an effect of 832 employees causes by the lottery payments to good causes on sport – most. In the construction sector 174 jobs are created or secured by these payments, in the agricultural sector 59. The top-10 employment sectors can be seen in Figure 27.

# Figure 27: Top 10-sectors profiting most of payments in terms of employment in Bulgaria, in heads, 2012



## Top 10-sectors (employment) in Bulgaria

### 6.4 Croatia

In Croatia lottery services are provided exclusively by Hrvatska Lutrija. Its payments to good causes on sport amounted to 2.8 million euro in 2012. The economic effects<sup>18</sup> of these payments for Croatia on gross value added and employment will be described here.

The total GVA effect for Croatia is estimated at 2.30 million euro whereof 1.26 million euro are attributed to the direct GVA impact which represents 54.8 percent of the total GVA effect. Additionally indirect GVA of 1.04 million euro is generated in Croatia through the production of intermediate goods and services along the supply chain (Figure 28).

The total value added multiplier for Croatia is 1.82. This value is larger than the EU average which is 1.68 as elaborated in section 5.1.





#### Source: European Lotteries, SpEA, 2015.

In Figure 29 the GVA effects on specific sectors are shown. With 1.51 million euro of GVA the recreational, cultural and sporting service sector profits most by the payments to good causes on sport. Compared to the EU average (61.4 percent) the share of this sector is larger with 65.7 percent. Post and telecommunication services (0.17 million euro) and other business services (0.11 million euro) are

<sup>&</sup>lt;sup>18</sup> See chapter 3 for a description of terminology and calculations.

ranked second and third. Beside these three sectors which account for 77.8 percent of total GVA the impact of these expenditures are causing only minor effects in other sectors of the Croatian economy.

### Figure 29: Top 10-sectors profiting most of payments in terms of GVA in Croatia, in million euro, 2012



### Top 10-sectors (GVA) in Croatia

Source: European Lotteries, SpEA, 2015.

In terms of employment the payments to good causes on sport by Hrvatska Lutrija create or save 67 jobs through direct effects and 43 jobs through indirect effects in Croatia. In total 110 jobs were safeguarded. The domestic employment multiplier is 1.63 and therefore higher than the EU average (1.48).

### Figure 30: Employment effects Croatia, in heads, 2012



Source: European Lotteries, SpEA, 2015.

In terms of employment the ranking of sectors profiting most form payments to good causes on sport shows recreational, cultural and sporting services on the first position (80 jobs) while other business services benefit from 5 jobs. As with the effects on GVA the employment effects on other business sectors in Croatia are small.

# Figure 31: Top 10-sectors profiting most of payments in terms of employment in Croatia, in heads, 2012



### Top 10-sectors (employment) in Croatia

### 6.5 Cyprus

Sports funding by Cyprus' Lotteries (Cyprus Government Lottery and OPAP Cyprus Ltd.) has a direct gross value added impact<sup>19</sup> equal to 16.73 million euro (Figure 32). The direct gross value added effect occurs in those sectors that are immediately impacted by sports funding by Cyprus' Lotteries; which is mainly the sector recreational, cultural and sporting services. Additionally, the suppliers of the sport-relevant sectors benefit from a gross value added effect amounting to 4.72 million euro in Cyprus. This sum denotes the domestic indirect gross value effect. Suppliers of sport-relevant sectors in the other European countries apart from Cyprus are impacted by a 1.44 million euro gross value effect; that is the indirect gross value added effect abroad. In total, sports funding by Cyprus' Lotteries has a gross value added contribution amounting to 21.45 million euro in Cyprus and 1.44 million euro in other European countries. The total domestic gross value added effect of the sports funding by the Cyprus' Lotteries represents 0.10 percent of Cyprus' GDP. It is about the size of sector manufacture of chemicals and chemical products in terms of gross value added (26 million euro according to the use table of 2009).





<sup>&</sup>lt;sup>19</sup> See chapter 3 for a description of terminology and calculations.

The sector recreational, cultural and sporting services benefits most from the gross value added effect of the sports funding by Cyprus' Lotteries. Nearly three-quarters (71 percent) of the domestic gross value added effect or 15.23 million euro go into this sector (Figure 33). The sector construction work has the second highest contribution equal to 2.85 million euro or 13 percent of the domestic effect. Real estate services has a 0.55 million euro gross value added impact, electrical energy, gas, steam and hot water has an effect equal to 0.47 million euro.

#### Figure 33: Top 10-sectors profiting most of payments in terms of GVA in Cyprus, in million euro, 2012



#### Top 10-sectors (GVA) in Cyprus

Source: European Lotteries, SpEA, 2015.

The additional demand generated from sports funding by Cyprus' Lotteries has a positive effect on employment. 461 jobs are created or safeguarded in the sectors directly receiving sports funding from Cyprus' Lotteries. This is denoted as the direct employment effect (Figure 34). The sports funding from Cyprus' Lotteries leads to the creation or safeguarding of 115 jobs in Cyprus in indirectly affected sectors along the supply chain. That is the domestic indirect employment effect. Additionally, 30 jobs are created or safeguarded abroad (indirect employment effect in other European countries). In total, 606 jobs are created or safeguarded, out of which 575 occur in Cyprus.

#### Figure 34: Employment effects Cyprus, in heads, 2012



Employment - Cyprus

Source: European Lotteries, SpEA, 2015.

Not only with respect to gross value added, but also in terms of employment, the sector recreational, cultural and sporting services receives the largest benefit from sports funding by Cyprus' Lotteries. 399 jobs are created in this sector. Over two-thirds (69 percent) of the employment effect takes place in this sector (Figure 35). The sector construction work has the second highest contribution; 101 jobs are created or safeguarded from sports funding by Cyprus' Lotteries. Hotel and restaurant services and wood and products of wood and cork (except furniture); articles of straw and plaiting materials benefit from the creation or safeguarding of 13 and 11 jobs respectively.

# Figure 35: Top 10-sectors profiting most of payments in terms of employment in Cyprus, in heads, 2012

	0	10	00	200	300	400		500
Recreational, cultural and sporting services						3	99	
Construction work			101					
Hotel and restaurant services		13						
Wood and products of wood and cork (except furniture); articles of straw and plaiting materials		11						
Other non-metallic mineral products	I	6						
Other business services	I	5						
Fabricated metal products, except machinery and equipment	I	5						
Electrical energy, gas, steam and hot water	I	4						
Printed matter and recorded media	I	3						
Food products and beverages	I	3						

## Top 10-sectors (employment) in Cyprus

### 6.6 Czech Republic

The sport-related gross value added<sup>20</sup> in 2012 which has been created through the payments of the Czech Lottery Sazka sázková kancelár a.s. equals 11.97 million euro. Adding the intra-EU effect results in a total GVA of 12.58 million euro. As can be seen in Figure 36, the direct effect on GVA is 6.61 million euro, the national indirect effect created by intermediate goods and service providers is with 5.36 million euro relatively high compared to the direct effect. The indirect effect which has been generated outside the Czech Republic equals 0.61 million euro.



#### Figure 36: Gross value added effects Czech Republic, in million euro, 2012

The highest total effect of the lottery payments to good causes on sport has been generated in the sector recreation, cultural and sporting services with a gross value added of 8.18 million euro in 2012. The total effect of the sector other business services, like consultancy services, equals 790,000 euro, followed by real estate services with 440,000 euro and post and telecommunication services with 380,000 euro. The top-10 sectors profiting most from the lottery payments can be seen in Figure 37. The generated GVA by the lottery payments is therefore bigger than the whole Czech sector water transportation, with a GVA of 9.2 million euro in 2012.

Source: European Lotteries, SpEA, 2015.

<sup>&</sup>lt;sup>20</sup> See chapter 3 for a description of terminology and calculations.

# Figure 37: Top 10-sectors profiting most of payments in terms of GVA in the Czech Republic, in million euro, 2012



Top 10-sectors (GVA) in Czech Republic

Source: European Lotteries, SpEA, 2015.

Following the effect on gross value added, the payments of Sazka sázková kancelár a.s. to good causes on sport also caused employment effects. In total the effect of the Czech lottery payments sums to 1,071 employees (in heads). Taking into account only those jobs which are created or secured in the Czech Republic itself, the effect counts 1,057 employees (Figure 38). The Czech lottery payments secure 723 jobs directly, another 334 jobs are created or secured indirectly in the Czech Republic and another 14 employees abroad (all in heads).



### Figure 38: Employment effects Czech Republic, in heads, 2012

Source: European Lotteries, SpEA, 2015.

By having a look at the sectoral level, employees in the sector recreation, cultural and sporting services profiting – with an effect of 894 employees caused by the lottery payments to good causes on sport – most. In other business services 32 jobs are secured by these payments, in public administration 21 jobs. The top-10 employment sectors can be seen in Figure 39.

# Figure 39: Top 10-sectors profiting most of payments in terms of employment in Czech Republic, in heads, 2012

	0	100	200	300	400	500	600	700	800	900 1 000
Recreational, cultural and sporting services										894
Other business services		32								
Public administration and defence services; compulsory social security services		21								
Membership organisation services n.e.c.	ł	15								
Wholesale trade and commission trade services, except of motor vehicles and motorcycles	I	11								
Post and telecommunication services	ł	10								
Construction work	I	7								
Hotel and restaurant services	I	7								
Other services		6								
Sewage and refuse disposal services, sanitation and similar services		6								

Top 10-sectors (employment) in Czech Republic

### 6.7 Denmark

In Denmark lotteries services are provided by Danske Spil and Det Danske Klasselotteri. Their payments to good causes on sport amounted to 96.38 million euro in 2012. The economic effects<sup>21</sup> of these payments for Denmark on gross value added and employment will be described here.

The total GVA effect for Denmark is estimated at 73.20 million euro whereof 46.41 million euro are attributed to the direct GVA impact which represents 63.4 percent of the total GVA effect. Additionally indirect GVA of 26.79 million euro is generated in Denmark through the production of intermediate goods and services along the supply chain. Finally the indirect GVA effects outside of Denmark are estimated at 3.59 million euro (Figure 40).

The value added multiplier for Denmark is 1.58, while the total multiplier – including foreign indirect GVA – is given at 1.65. This value is slightly below the EU average which is 1.68 as elaborated in section 5.1.



### Figure 40: Gross value added effects Denmark, in million euro, 2012

Source: European Lotteries, SpEA, 2015.

In Figure 41 the GVA effects on specific sectors are shown. With 49.36 million euro of GVA the recreational, cultural and sporting service sector profits most by the payments to good causes on sport

<sup>&</sup>lt;sup>21</sup> See chapter 3 for a description of terminology and calculations.

which is in line with the results for the EU. Compared to the EU average (61.4 percent) the share of this sector is even larger with 67.4 percent. Other business services (6.93 million euro) and construction work (3.92 million euro) are ranked second and third. Other sectors beside these three sectors which account for 82.3 percent of the total GVA impact, caused only minor effects in the Danish economy.





Top 10-sectors (GVA) in Denmark

Source: European Lotteries, SpEA, 2015.

In terms of employment the payments to good causes on sport by two Danish lotteries created or saved 863 jobs through direct effects and 429 jobs through indirect effects in Denmark. Since 70 additional jobs were indirectly created outside of Denmark the overall employment effect is 1,362. The domestic employment multiplier is 1.50, while the overall employment multiplier is 1.58, so both the domestic multiplier and the total multiplier are higher than the EU average (1.48 and 1.52 respectively).

### Figure 42: Employment effects Denmark, in heads, 2012



Employment - Denmark

Source: European Lotteries, SpEA, 2015.

In terms of employment the ranking of sectors profiting most from payments to good causes on sport shows recreational, cultural and sporting services on the first position (923 jobs) while other business services are far behind (133 jobs) but still ahead of construction work (68 jobs). As with the effects on GVA the employment effects on the other sectors in Denmark are small.

# Figure 43: Top 10-sectors profiting most of payments in terms of employment in Denmark, in heads, 2012



### Top 10-sectors (employment) in Denmark

### 6.8 Finland

Figure 44 describes the value added effects of payments of Veikkaus Oy to good causes on sport. The rightmost column shows the value of the total gross value added<sup>22</sup>, which is composed of direct and indirect gross value added. The gross value added effect amounts to 125.27 million euro. The majority of the gross value added effect, amounting to 75.43 million euro yearly, occurs directly through the lottery's payments. The proportion of direct gross value added in total gross value added (national and foreign GVA) is 60 percent. Through the intermediate goods used along the supply chain, the lottery payments on sports generated a national indirect value added effect of 45.90 million euro in Finland and in other EU countries an additional effect of 3.93 million euro.



#### Figure 44: Gross value added effects Finland, in million euro, 2012

Source: European Lotteries, SpEA, 2015.

In terms of GVA the sector profiting most from the payments to good causes on sport is the recreational, cultural and sporting services sector. Two thirds of the total GVA deriving from these expenditures are secured in that sector. The next sector is far behind: with just 6.27 million euro other business services has the second place among the top 10-sectors followed by real estate services with 3.92 million euro.

<sup>&</sup>lt;sup>22</sup> See chapter 3 for a description of terminology and calculations.

# Figure 45: Top 10-sectors profiting most of payments in terms of GVA in Finland, in million euro, 2012



### Top 10-sectors (GVA) in Finland

Source: European Lotteries, SpEA, 2015.

The payments of Veikkaus Oy to good causes on sport generated a total employment impact of 3,329 jobs. The total employment effect, equal to the value added effect, is made up of direct and indirect employment together. More than two thirds of the total jobs created or saved are directly employed through those payments, and amount to 2,383 jobs in headcount. In addition, 872 jobs in headcount were created or safeguarded in supplying sectors in Finland and furthermore 74 headcounts in other countries within the EU; this is referred to as the indirect employment effect of the payments on good causes on sports.

#### Figure 46: Employment effects Finland, in heads, 2012



Employment - Finland

Source: European Lotteries, SpEA, 2015.

In terms of employment the ranking of the sectors profiting most from the payments of Veikkaus Oy to good causes on sport is for the first and second place the same as to the one of the GVA profiting sectors. On the first place with more than two thirds of the total employment created is the recreational, cultural and sporting services sector. The other business services sector is lagging far behind with just 118 jobs followed by 57 jobs in public administration and defence services and compulsory social security services.

# Figure 47: Top 10-sectors profiting most of payments in terms of employment in Finland, in heads, 2012



### Top 10-sectors (employment) in Finland

### 6.9 France

Sports funding by the French Lottery (La Française des Jeux) has a direct gross value added impact equal to 75.83 million euro (Figure 48). The direct gross value added effect<sup>23</sup> occurs in those sectors that are immediately impacted by the French Lottery's sports funding. Additionally, the suppliers to the directly affected sectors benefit from a gross value added effect amounting to 48.36 million euro in France. This sum denotes the domestic indirect gross value added effect. Suppliers to directly affected sectors in other European countries are impacted by a 3.70 million euro gross value added effect; that is the indirect gross value added effect abroad. In total, sports funding by the French Lottery has a gross value added contribution amounting to 124.19 million euro in France and 3.70 million euro in other European countries. The total gross value added effect of the French Lottery's sports funding is equal to 0.006 percent of the French GDP.





#### Source: European Lotteries, SpEA, 2015.

The sector recreational, cultural and sporting services benefits most from the gross value added effect of the French Lottery's sports funding. Two-thirds of the domestic gross value added effect or 72.77 million euro go into this sector (Figure 49). The sector other business services has the second highest

<sup>&</sup>lt;sup>23</sup> See chapter 3 for a description of terminology and calculations.

contribution equal to 10.83 million euro or almost 9 percent of the domestic effect, followed by education services with 10.49 million euro gross value added due to the sports funding of the French Lottery. Real estate services has a gross value added impact of about 4 million euro.

### Figure 49: Top 10-sectors profiting most of payments in terms of GVA in France, in million euro, 2012



#### Top 10-sectors (GVA) in France

Source: European Lotteries, SpEA, 2015.

The additional demand generated by the French Lottery's sports funding has a positive effect on employment. 1,233 jobs are created or safeguarded in the sectors directly receiving sports funding from the French Lottery. This is denoted as the direct employment effect (Figure 50). The sports funding of the French Lottery leads to the creation or safeguarding of 736 jobs in indirectly affected sectors (suppliers of intermediate products) within France; that is the domestic indirect employment effect in other European countries). In total, 1,969 jobs are created or safeguarded in this sector in France; 66 jobs are created or safeguarded abroad.

### Figure 50: Employment effects France, in heads, 2012



Employment - France

Source: European Lotteries, SpEA, 2015.

Not only with respect to gross value added, but also in terms of employment, the sector recreational, cultural and sporting services receives the largest benefit from the French Lottery's sports funding. 1135 jobs are created or safeguarded in this sector. Almost 57.6 percent of the employment effect takes place in this sector (Figure 51). The sector education services has the second highest contribution; 269 jobs are created or safeguarded by the sports funding of the French Lottery. It is followed by other business services with 161 jobs. The sectors construction work and post and telecommunication services benefit from the creation or safeguarding of 33 and 30 jobs respectively.

# Figure 51: Top 10-sectors profiting most of payments in terms of employment in France, in heads, 2012



### Top 10-sectors (employment) in France

### 6.10 Germany

The sport-related gross value added<sup>24</sup> in 2012, which has been created through the payments of the 13 German Lotteries<sup>25</sup> sums up to 328.11 million euro. Counting the intra-EU effect too, total GVA equals 336.38 million euro. As can be seen in Figure 52, the direct effect on GVA is 207.73 million euro, the indirect effect created by intermediate goods and service suppliers equals 120.37 million euro. The indirect effect which was generated outside of Germany sums up to 8.27 million euro.





Source: European Lotteries, SpEA, 2015.

The highest total effect of the lottery payments to good causes on sport has been generated in the sector recreation, cultural and sporting services with a gross value added of 210.33 million euro in 2012. The total effect of the sector construction work equals 36.4 million euro, followed by other business services with 15.37 million euro and real estate services with 10.68 million euro. The top-10 sectors profiting most of the lottery payments are given in Figure 53. The directly generated GVA by

<sup>&</sup>lt;sup>24</sup> See chapter 3 for a description of terminology and calculations.

<sup>&</sup>lt;sup>25</sup> These are: Staatliche Toto-Lotto Baden-Württemberg, Lotterie Treuhandgesellschaft Thüringen, Staatliche Lotterieverwaltung (Lotto Bayern), Toto-Lotto Niedersachsen, Lotto-Toto Sachsen-Anhalt, Deutsche Klassenlotterie Berlin, Lotterie-Treuhandgesellschaft mbH Hessen, Lotto Rheinland-Pfalz GmbH, LOTTO Hamburg, Saarland-Sporttoto GmbH, Sächsische Lotto (Saxony), Verwaltungsgesellschaft Lotto und Toto in Mecklenburg-Vorpommern mbH and Westdeutsche Lotterie.

the lottery payments is therefore bigger than the whole German sector fishing and aquaculture, with a GVA of 203 million euro in 2012.

# Figure 53: Top 10-sectors profiting most of payments in terms of GVA in Germany, in million euro, 2012



### Top 10-sectors (GVA) in Germany

Following the effect on gross value added the lottery payments also caused employment effects. In total the effect of the German lottery payments were 7,858 employees (in heads), of which 7,679 employees (Figure 54) were generated or secured in Germany. The German lottery payments secured 5,365 jobs directly. The employment effect which was generated by the suppliers were 2,314 heads in Germany, the foreign indirect effects amounted to 179 employees (all in heads).

Source: European Lotteries, SpEA, 2015.



### Figure 54: Employment effects Germany, in heads, 2012

Source: European Lotteries, SpEA, 2015.

According to sectoral considerations, employees in the sector recreation, cultural and sporting services profiting – with an effect of 5,705 employees caused by the lottery payments to good causes on sport – most. In construction work 639 jobs are secured, in education services 243 jobs are secured by these payments, in the sector other business services 241 jobs. The top-10 employment sectors can be seen in Figure 55.
## Figure 55: Top 10-sectors profiting most of payments in terms of employment in Germany, in heads, 2012



Top 10-sectors (employment) in Germany

### 6.11 Greece

In Greece lotteries services are provided by OPAP S.A. Their payments to good causes on sport amounted to 0.93 million euro in 2012. The economic effects<sup>26</sup> of these payments for Greece on gross value added and employment will be described here.

The total GVA effect for Greece is estimated at 0.73 million euro whereof 0.45 million euro are attributed to the direct GVA impact which represents 61.6 percent of the total GVA effect. Additionally indirect GVA of 0.27 million euro is generated in Greece through the production of intermediate goods and services along the supply chain. Finally the indirect GVA effects outside of Greece are estimated at 0.02 million euro (Figure 56).

The value added multiplier for Greece is 1.61, while the total multiplier – including foreign indirect GVA – is given at 1.67. This value is roughly equal to the EU average which is 1.68 as elaborated in section 5.1.



#### Figure 56: Gross value added effects Greece, in million euro, 2012

Source: European Lotteries, SpEA, 2015.

In Figure 57 the GVA effects on specific sectors are shown. With 0.46 million euro of GVA the recreational, cultural and sporting service sector profits most by the payments to good causes on sport

<sup>&</sup>lt;sup>26</sup> See chapter 3 for a description of terminology and calculations.

which is line with the results for the EU. Compared to the EU average (61.4 percent) the share of this sector is slightly larger with a value of 63.0 percent. Real estate services (0.05 million euro) and other business services (0.04 million euro) are ranked second and third. Beside these three sectors which account for 75.3 percent of total GVA the impact on other sectors in Greece are much less pronounced.

#### Figure 57: Top 10-sectors profiting most of payments in terms of GVA in Greece, in million euro, 2012



#### Top 10-sectors (GVA) in Greece

In terms of employment the payments to good causes on sport create or save eleven jobs through direct effects and three jobs through indirect effects in the Greek economy summing up to an overall employment effect of 15, as one job is secured abroad. The domestic employment multiplier is 1.31 which is substantially smaller than the EU average domestic multiplier (1.48).

Source: European Lotteries, SpEA, 2015.

#### Figure 58: Employment effects Greece, in heads, 2012



Employment - Greece

Source: European Lotteries, SpEA, 2015.

Basically the employment effect is concentrated in the recreational, cultural and sporting services sector, where eleven jobs are created or saved. The impact on employment in the remaining sectors is not substantial.

## Figure 59: Top 10-sectors profiting most of payments in terms of employment in Greece, in heads, 2012



### Top 10-sectors (employment) in Greece

### 6.12 Hungary

Sports funding by the Hungarian National Lottery (Szerencsejáték) has a direct gross value added impact<sup>27</sup> equal to 8.27 million euro (Figure 60). The direct gross value effect added occurs in those sectors that are immediately impacted by the Hungarian Lotteries sports funding; which is mainly the sector recreational, cultural and sporting services. Additionally, suppliers to directly affected sectors benefit from a gross value added effect amounting to 7.75 million euro in Hungary. This sum denotes the domestic indirect gross value effect. Suppliers to directly affected sectors in other European countries are impacted by a 0.85 million euro gross value added effect; that is the indirect gross value effect abroad. In total, sports funding by the Hungarian Lotteries has a gross value added contribution amounting to 16.02 million euro in Hungary and 0.85 million euro in other European countries. The total gross value added effect of the Hungarian Lottery's sports funding is equal to 0.016 percent of the Hungarian GDP.



#### Figure 60: Gross value added effects Hungary, in million euro, 2012

Source: European Lotteries, SpEA, 2015.

The sector recreational, cultural and sporting services benefits most from the gross value added effect of the Hungarian National Lottery's sports funding. More than half (58 percent) of the domestic gross

<sup>&</sup>lt;sup>27</sup> See chapter 3 for a description of terminology and calculations.

value added effect or 9.37 million euro go into this sector (Figure 61). The sector other business services has the second highest effect equal to 1.43 million euro or nearly 9 percent of the domestic effect. Post and telecommunication services has a gross value added impact of 1 million euro.

## Figure 61: Top 10-sectors profiting most of payments in terms of GVA in Hungary, in million euro, 2012



### Top 10-sectors (GVA) in Hungary

The additional demand generated by the Hungarian National Lottery's sports funding has a positive effect on employment. 640 jobs are created or safeguarded in the sectors directly receiving sports funding from the Hungarian National Lottery. This is denoted as the direct employment effect (Figure 62). Sports funding of the Hungarian Lotteries leads to the creation or safeguarding of 343 jobs in Hungary in indirectly affected sectors along the supply chain. That is the domestic indirect employment effect in other European countries). In total, 983 jobs are created or safeguarded in this sector in Hungary; 19 jobs are created or safeguarded abroad.

Source: European Lotteries, SpEA, 2015.



#### Figure 62: Employment effects Hungary, in heads, 2012

Source: European Lotteries, SpEA, 2015.

Not only with respect to gross value added, but also in terms of employment, the sector recreational, cultural and sporting services receives the largest benefit from the Hungarian National Lottery's sports funding. 725 jobs are created in this sector. Almost three-quarters (74 percent) of the employment effect takes place in this sector (Figure 63). The sector other business services has the second highest contribution; 50 jobs are created or safeguarded by the sports funding of the Hungarian National Lottery. The sectors Public administration and defence services; compulsory social security services, post and telecommunication services as well as other services benefit from the creation or safeguarding of between 20 and 30 jobs each.

# Figure 63: Top 10-sectors profiting most of payments in terms of employment in Hungary, in heads, 2012



## Top 10-sectors (employment) in Hungary

### 6.13 Lithuania

The sport-related gross value added<sup>28</sup> in 2012, which has been created through the payments of the Lithuanian Lottery Olifeja, equals in total 2.7 million euro. Also counting the intra-EU effect the total GVA sums up to 2.84 million euro. As can be seen in Figure 64, the direct effect on GVA is 1.71 million euro, the indirect effect created by intermediate goods and service suppliers equals 0.99 million euro. The indirect effect which has been generated outside of Lithuania equals 0.14 million euro.



#### Figure 64: Gross value added effects Lithuania, in million euro, 2012

The highest total effect of the lottery payments to good causes on sport has been again generated in the sector recreation, cultural and sporting services with a gross value added of 1.89 million euro in 2012. The total effects of the sectors other business services as well as real estate services equals 110,000 euro respectively, followed by printed matter and record media with 80,000 euro. The top-10 sectors profiting most of the lottery payments are given in Figure 65.

Source: European Lotteries, SpEA, 2015.

<sup>&</sup>lt;sup>28</sup> See chapter 3 for a description of terminology and calculations.

## Figure 65: Top 10-sectors profiting most of payments in terms of GVA in Lithuania, in million euro, 2012



#### Top 10-sectors (GVA) in Lithuania

Source: European Lotteries, SpEA, 2015.

Following the effect on gross value added, the payments of Olifeja to good causes on sport also causes employment effects. The total effect of the Lithuanian lottery payments sums up to 318 employees, in Lithuania the effect counts 314 employees (Figure 66). The Lithuanian lottery payments secured 237 jobs directly, another 77 heads indirectly in Lithuania as well as 4 employees abroad (all in heads).

#### Figure 66: Employment effects Lithuania, in heads, 2012



Employment - Lithuania

Having a look at the sectoral level, in the sector recreation, cultural and sporting services 262 employees were generated or secured by the lottery payments to good causes on sport. In the other services sector 9 jobs were secured by these payments, in the real estate services sector 2 jobs. The top-10 employment sectors can be seen in Figure 67.

Source: European Lotteries, SpEA, 2015.

# Figure 67: Top 10-sectors profiting most of payments in terms of employment in Lithuania, in heads, 2012

	0	10	00 2	00	300
Recreational, cultural and sporting services				2	52
Other services	•	9			
Sewage and refuse disposal services, sanitation and similar services	7	,			
Other business services	e	5			
Printed matter and recorded media	e	i			
Retail trade services, except of motor vehicles and motorcycles; repair services of personal and	4				
Education services	3				
Wholesale trade and commission trade services, except of motor vehicles and motorcycles	2				
Post and telecommunication services	2				
Real estate services	2				

## Top 10-sectors (employment) in Lithuania

### 6.14 Luxembourg

The National Lottery of Luxembourg's sports funding has a direct gross value added impact<sup>29</sup> equal to 0.37 million euro (Figure 68). The direct gross value added effect occurs in those sectors that are immediately impacted by the National Lottery of Luxembourg's sports funding; which is mainly the sector recreational, cultural and sporting services. Additionally, suppliers to directly affected sectors benefit from a gross value added effect amounting to 0.12 million euro in Luxembourg. This sum denotes the domestic indirect gross value added effect. Suppliers to directly affected sectors in other European countries are impacted by a 0.09 million euro gross value added effect; that is the indirect gross value effect abroad. In total, sports funding by the National Lottery of Luxembourg has a gross value added contribution amounting to 0.49 million euro in Luxembourg and 0.09 million euro in other European countries. The total gross value added effect of the National Lottery of Luxembourg's sports funding is equal to 0.006 percent of Luxembourg's GDP.



#### Figure 68: Gross value added effects Luxembourg, in million euro, 2012

Source: European Lotteries, SpEA, 2015.

The sector recreational, cultural and sporting services benefits most from the gross value added effect of the National Lottery of Luxembourg's sports funding. Two-thirds (76 percent) of the domestic gross

<sup>&</sup>lt;sup>29</sup> See chapter 3 for a description of terminology and calculations.

value added effect or 0.37 million euro go into this sector (Figure 69). The sectors other business services and real estate services have an effect equal to 0.03 million euro each.

## Figure 69: Top 10-sectors profiting most of payments in terms of GVA in Luxembourg, in million euro, 2012



#### Top 10-sectors (GVA) in Luxembourg

Source: European Lotteries, SpEA, 2015.

The additional demand generated by the National Lottery of Luxembourg's sports funding has a positive effect on employment. 6 jobs are created or safeguarded in the sectors directly receiving sports funding from the National Lottery of Luxembourg. This is denoted as the direct employment effect (Figure 70). The National Lottery of Luxembourg's sports funding leads to the creation or safeguarding of one job in Luxembourg in the indirectly affected sectors along the supply chain. This is the domestic indirect employment effect. Additionally, one job is created or safeguarded abroad (indirect employment effect in other European countries). In total, 7 jobs are created or safeguarded in this sector in Luxembourg; one job is created or safeguarded abroad.

#### Figure 70: Employment effects Luxembourg, in heads, 2012



Employment - Luxembourg

Source: European Lotteries, SpEA, 2015.

Not only with respect to gross value added, but also in terms of employment, the sector recreational, cultural and sporting services receives the largest benefit from the National Lottery of Luxembourg's sports funding. Six jobs are created in this sector (Figure 71). One job is created or safeguarded in the sector other business services.

## Figure 71: Top 10-sectors profiting most of payments in terms of employment in Luxembourg, in heads, 2012



Top 10-sectors (employment) in Luxembourg

### 6.15 Poland

In Poland lotteries services are provided exclusively by Totalizator Sportowy Sp. z.o.o. Its payments to good causes on sport amounted to 148.69 million euro in 2012. The economic effects<sup>30</sup> of these payments for Poland on gross value added and employment will be described here.

The total GVA effect for Poland is estimated at 95.38 million euro whereof 53.41 million euro are attributed to the direct GVA impact which represents 56 percent of the total GVA effect. Additionally indirect GVA of 41.97 million euro are generated in Poland through the production of intermediate goods and services along the supply chain. Finally the indirect GVA effects outside of Poland are estimated at 5.68 million euro (Figure 72).

The value added multiplier for Poland is 1.79, while the total multiplier – including foreign indirect GVA – is given at 1.89. Both values are significantly higher than the EU average which is 1.68 as elaborated in section 4.1.





Source: European Lotteries, SpEA, 2015.

In Figure 73 the GVA effects are on specific sectors are shown. With 57.48 million euro of GVA the recreational, cultural and sporting services sector profits most by the payments to good causes on

<sup>&</sup>lt;sup>30</sup> See chapter 3 for a description of terminology and calculations.

sport which is line with the results for the EU. Compared to the EU average (61.4 percent) the share of this sector is very similar with 60.3 percent. Other business services (7.59 million euro) and post and telecommunication services (3.39 million euro) are clearly lagging behind. Beside these three sectors which account for 71.8 percent of total GVA effect the impact of the lottery's expenditures are rather dispersed among the other sectors of the Polish economy.





#### Top 10-sectors (GVA) in Poland

Source: European Lotteries, SpEA, 2015.

The employment effects of the payments to good causes on sport by Totalizator Sportowy Sp. z.o.o. are shown in Figure 74. There are 5,516 jobs created or saved through direct effects as well as 2,349 jobs through indirect effects in Poland. Since 109 additional jobs are indirectly created outside of Poland the overall employment effect is estimated at 7,973 jobs. The domestic employment multiplier is 1.43, which is slightly below the EU average (1.48).





Employment - Poland

With regard to the employment effect on sectors profiting most from payments to good causes on sport Figure 75 exhibits that recreational, cultural and sporting services (6,059 jobs) are ranked first in Poland. 295 jobs are saved or created in other business services which take position number two right ahead of public administration and defence services accounting for 182 jobs. These three sectors provide 83.1 percent of the jobs created through the lottery's payments.

Source: European Lotteries, SpEA, 2015.

# Figure 75: Top 10-sectors profiting most of payments in terms of employment in Poland, in heads, 2012

	0	2 000	4 000	6 00	00	8 000
Recreational, cultural and sporting services					6 059	
Other business services	295					
Public administration and defence services; compulsory social security services	182					
Wholesale trade and commission trade services, except of motor vehicles and motorcycles	141					
Other services	125					
Furniture; other manufactured goods n.e.c.	122					
Post and telecommunication services	97					
Retail trade services, except of motor vehicles and motorcycles; repair services of personal and	94					
Construction work	86					
Printed matter and recorded media	78					

### Top 10-sectors (employment) in Poland

### 6.16 Portugal

The sport-related gross value added<sup>31</sup> in 2012, which has been created through the payments of the Portuguese Lottery Santa Casa Da Misecórdia De Lisboa, equals a total of 41.36 million euro. Also counting the EU-wide effect, the total GVA sums up to 45.21 million euro. As can be seen in Figure 76, the direct effect on GVA is 20.87 million euro, the indirect effect created outside of Portugal equals 20.49 million euro and is nearly as high as the direct effect. This means that in Portugal sport-related value added has a very high spill-over effect on other sectors. The indirect effect which has been generated through foreign suppliers is calculated to be 3.85 million euro.





In 2012, the highest total effect of the lottery payments to good causes on sport was generated in the sector construction work with a gross value added of 23.23 million euro. This implies that a substantial part of the lottery payments in Portugal is used for sport-related infrastructure projects. The total effect of the sector other business services equals 4.6 million euro, followed by recreational, cultural and sporting services with 2.03 million euro. The top-10 sectors profiting most of the lottery payments can be seen in Figure 77.

Source: European Lotteries, SpEA, 2015.

<sup>&</sup>lt;sup>31</sup> See chapter 3 for a description of terminology and calculations.

## Figure 77: Top 10-sectors profiting most of payments in terms of GVA in Portugal, in million euro, 2012



#### Top 10-sectors (GVA) in Portugal

Source: European Lotteries, SpEA, 2015.

Following the effect on gross value added, the payments of Santa Casa Da Misecórdia De Lisboa to good causes on sport also caused employment effects. In total the effect of the Portuguese lottery payments equals 1,720 employees (in heads), in Portugal alone the effect is equal to 1,656 employees (Figure 78). In Portugal, the lottery payments secure 920 jobs directly and another 736 indirectly. The foreign indirect effects are 64 employees (in heads).

#### Figure 78: Employment effects Portugal, in heads, 2012



Employment - Portugal

Considering also at the sectoral level, employees in the sector construction work benefit most with an effect of 1,020 employees. In the sector other business services 184 jobs are secured by these payments. The top-10 employment sectors can be seen in Figure 79.

Source: European Lotteries, SpEA, 2015.

## Figure 79: Top 10-sectors profiting most of payments in terms of employment in Portugal, in heads, 2012



### Top 10-sectors (employment) in Portugal

### 6.17 Slovenia

Figure 80 describes the value added effects<sup>32</sup> of payments of Loterija Slovenije and Sportna Loterija to good causes on sport. The rightmost column shows the value of the total gross value added, which is composed of the direct and indirect gross value added. The gross value added amounts to 8.37 million euro. The majority of the gross value added effect, amounting to 6.44 million euro yearly, occurs directly through those payments. The proportion of direct gross value added in total gross value added (national and foreign GVA) is 77 percent. Through the intermediate goods and services used along the supply chain, the Lottery payments on sports generated a national indirect value added effect of 1.73 million euro in Slovenia and in other European countries an additional effect of 0.19 million euro.





Source: European Lotteries, SpEA, 2015.

In terms of GVA, the sector benefiting most from the Slovenian EL-member payments to good causes on sport is the education services sector. Nearly half of the total GVA deriving from these payments are secured in that sector. With 2.78 million euro the recreational, cultural and sporting services sector is close behind. The third place among the top 10-sectors profiting most from the payments in terms of GVA are other business services with 0.60 million euro.

<sup>&</sup>lt;sup>32</sup> See chapter 3 for a description of terminology and calculations.

## Figure 81: Top 10-sectors profiting most of payments in terms of GVA in Slovenia, in million euro, 2012



### Top 10-sectors (GVA) in Slovenia

Source: European Lotteries, SpEA, 2015.

The payments of Loterija Slovenije and Sportna Loterija to good causes on sport has generated a total employment impact of 491 jobs. The total employment effect is made up of the direct and the indirect employment effect. Nearly all jobs created or saved occur in sectors directly affected through these payments, and amount to 434 jobs in headcount. In addition, 52 jobs in headcount were created or safeguarded in supplier sectors in Slovenia and furthermore 4 headcounts in other countries within the EU; this is referred to as the indirect employment effect of the payments on good causes on sports.



#### Figure 82: Employment effects Slovenia, in heads, 2012

Source: European Lotteries, SpEA, 2015.

In terms of employment, the ranking of the sectors profiting most from the EL-member payments to good causes on sport is the same as the one of those sectors ranked according to their GVA benefit. More than half of the total employment created (280 jobs) occurs in the education services sector. Recreational, cultural and sporting services follows with 168 jobs and other business services is on third place in the ranking with 14 jobs.

## Figure 83: Top 10-sectors profiting most of payments in terms of employment in Slovenia, in heads, 2012



## Top 10-sectors (employment) in Slovenia

### 6.18 Spain

In Spain lotteries services are provided by Loteria de Catalunya, SELAE and ONCE. Only SELAE granted payments to good causes on sport. These amounted to 1.24 million euro in 2012. The economic effects<sup>33</sup> of these payments on gross value added and employment will be described here.

The total GVA effect for Spain is estimated to be equal to 0.99 million euro, whereof 0.65 million euro are attributed to the direct GVA impact which represents 65.7 percent of the total GVA effect. Additionally indirect GVA equal to 0.34 million euro is generated in Spain through the production of intermediate goods and services along the supply chain. Finally the indirect GVA effects outside of Spain are estimated to lie at 0.03 million euro (Figure 84).

The value added multiplier for Spain is 1.52, while the total multiplier – including foreign indirect GVA – is given at 1.57. This value is lower than the EU average which is 1.68 as elaborated in section 4.1.



#### Figure 84: Gross value added effects Spain, in million euro, 2012

Source: European Lotteries, SpEA, 2015.

In Figure 85 the GVA effects on specific sectors are shown. With 0.74 million euro of GVA the recreational, cultural and sporting services sector profits most by the payments to good causes on sport which is line with the results for the EU. But compared to the EU average (61.4 percent) the share

<sup>&</sup>lt;sup>33</sup> See chapter 3 for a description of terminology and calculations.

of this sector is larger with 74.7 percent. Beside this sector, the impact of the expenditures are rather dispersed among the other sectors of the Spanish economy, leading to only small additional effects on GVA.





#### Top 10-sectors (GVA) in Spain

Source: European Lotteries, SpEA, 2015.

The employment effects of the payments to good causes on sport by SELAE are shown in Figure 86. There are 24 jobs created or saved through direct effects as well as 8 jobs generated through indirect effects in Spain. Since one additional job is indirectly created outside of Spain, the overall employment effect is equal to 33 jobs. The domestic employment multiplier is 1.32 while the overall employment multiplier is 1.38, so both values are smaller than the EU average (1.48 and 1.52 respectively).

#### Figure 86: Employment effects Spain, in heads, 2012



Employment - Spain

Source: European Lotteries, SpEA, 2015.

With regard to the employment effect in sectors profiting most from payments to good causes on sport, Figure 87 shows that recreational, cultural and sporting services (27 jobs) are ranked first in Spain. This sector provides 84.4 percent of the jobs created through the lotteries payments. The employment effects on other sectors of the economy are insignificant.

# Figure 87: Top 10-sectors profiting most of payments in terms of employment in Spain, in heads, 2012

	0	1	0 2	.0 30
Recreational, cultural and sporting services				27
Other business services	1			
Printed matter and recorded media	0			
Construction work	0			
Products of agriculture, hunting and related services	o			
Wholesale trade and commission trade services, except of motor vehicles and motorcycles	0			
Furniture; other manufactured goods n.e.c.	o			
Retail trade services, except of motor vehicles and motorcycles; repair services of personal and	0			
Post and telecommunication services	o			
Hotel and restaurant services	0			

## Top 10-sectors (employment) in Spain

#### 6.19 The Netherlands

Sports funding by De Lotto has a direct gross value added impact<sup>34</sup> equal to 18.87 million euro (Figure 88). The direct gross value added effect occurs in those sectors that are immediately impacted by the lottery's sports funding; which is mainly the sector recreational, cultural and sporting services. Additionally, the suppliers to the directly affected sport-relevant sectors benefit from a gross value added effect amounting to 13.69 million euro in the Netherlands. This sum denotes the domestic indirect gross value added effect. Suppliers to directly affected sport-relevant sectors in other European countries are impacted by a 1.97 million euro gross value added effect; that is the indirect gross value effect abroad. In total, the lottery's sports funding has a gross value added contribution amounting to 32.56 million euro in the Netherlands and 1.97 million euro in other European countries. The total gross value added effect in the Netherlands is equal to 0.005 percent of the Dutch GDP.





Source: European Lotteries, SpEA, 2015.

The sector recreational, cultural and sporting services benefits most from the gross value added effect of the lottery's sports funding. Two-thirds of the domestic gross value added effect or 21.80 million

<sup>&</sup>lt;sup>34</sup> See chapter 3 for a description of terminology and calculations.

euro go into this sector (Figure 89). The sector other business services has the second highest contribution equal to 2.15 million euro or almost 7 percent of the domestic effect.

## Figure 89: Top 10-sectors profiting most of payments in terms of GVA in the Netherlands, in million euro, 2012



#### Top 10-sectors (GVA) in the Netherlands

Source: European Lotteries, SpEA, 2015.

The additional demand generated by the lottery's sports funding has a positive effect on employment. 412 jobs are created or safeguarded in the sectors directly receiving sports funding from lottery. This is denoted as the direct employment effect (Figure 90). Sports funding of De Lotto leads to the creation or safeguarding of 246 jobs in the Netherlands in indirectly affected sectors along the supply chain; that is the domestic indirect employment effect. Additionally, 37 jobs are created or safeguarded abroad (indirect employment effect in other European countries). In total, 695 jobs are created or safeguarded through the Dutch lottery payments.



#### Figure 90: Employment effects Netherlands, in heads, 2012

Source: European Lotteries, SpEA, 2015.

Not only with respect to gross value added, but also in terms of employment, the sector recreational, cultural and sporting services receives the largest benefit from the De Lotto's sports funding. 476 jobs are created in this sector. Almost three-quarters (72 percent) of the domestic employment effect takes place in this sector (Figure 91). The sector other business services has the second highest contribution; 51 jobs are created or safeguarded by sports funding of the Dutch lottery. The Dutch lottery creates or safeguards 42 jobs in the sector products of agriculture, hunting and related services.
## Figure 91: Top 10-sectors profiting most of payments in terms of employment in the Netherlands, in heads, 2012



Top 10-sectors (employment) in the Netherlands

Source: European Lotteries, SpEA, 2015.

## 6.20 United Kingdom

The sport-related total gross value added<sup>35</sup> generated in the United Kingdom through the payments of the British Lottery Camelot was equal to 541.62 million euro in 2012. Adding the effect abroad (in the EU) of the payments by the British Lottery Camelot, the total GVA effect sums up to 562.13 million euro. As can be seen in Figure 92, the direct effect on GVA is equal to 337.55 million euro, the indirect effect created by intermediate goods and service suppliers amounts to 204.07 million euro. The indirect effect generated through foreign suppliers is equal to 20.51 million euro.



### Figure 92: Gross value added effects UK, in million euro, 2012

The highest total GVA effect of the lottery payments to good causes on sport occurred in the sector recreation, cultural and sporting services with a gross value added effect of 361.44 million euro in 2012. The total GVA effect in the sector other business services amounted to 62.06 million euro, followed by the sector membership organisation services with 17.29 million euro and computer and related services with 11.39 million euro. The top-10 sectors profiting most of the lottery payments are depicted in Figure 93.

Source: European Lotteries, SpEA, 2015.

<sup>&</sup>lt;sup>35</sup> See chapter 3 for a description of terminology and calculations.

## Figure 93: Top 10-sectors profiting most of payments in terms of GVA in the UK, in million euro, 2012



## Top 10-sectors (GVA) in UK

Source: European Lotteries, SpEA, 2015.

The payments of Camelot to good causes on sport also cause employment effects. In total, the employment effect of the British lottery payments are equal to 9,046 employees (in heads), in the United Kingdom the employment effect amounts to 8,676 employees (Figure 94). The British lottery payments directly generate or secure 5,227 jobs in the United Kingdom. The employment effect generated within the supply chain is composed of 3,449 jobs in the United Kingdom as well as the foreign indirect effects amounting to 370 employees (in heads).

### Figure 94: Employment effects UK, in heads, 2012



Employment - UK

At the sectoral level, the sector recreation, cultural and sporting services profits most with an effect of 5,480 employees. In the sector other business services 1,172 jobs are secured by the lottery's payments, in the sector membership organisations services 550 jobs are saved or created. The top-10 employment sectors are shown in Figure 95.

Source: European Lotteries, SpEA, 2015.

## Figure 95: Top 10-sectors profiting most of payments of employment in the UK, in heads, 2012



Top 10-sectors (employment) in UK

Source: European Lotteries, SpEA, 2015.

## 6.21 Norway

In Norway lottery services are provided by Norsk Tipping. Its payments to good causes on sport amounted to 218 million euro in 2012 (1.64 billion crowns). The economic effects<sup>36</sup> of these payments for Norway on gross value added and employment will be described here.

The total GVA effect for Norway is estimated at 166.56 million euro whereof 86.44 million euro are attributed to the direct GVA impact which represents 51.9 percent of the total GVA effect. Additionally indirect GVA of 80.12 million euro is generated in Norway through the production of intermediate goods and services along the supply chain (Figure 96).

The total value added multiplier for Norway is 1.93. This value is larger than the EU average which is 1.68 as elaborated in section 5.1.



### Figure 96: Gross value added effects Norway, in million euro, 2012

Source: European Lotteries, SpEA, 2015.

In Figure 97 the GVA effects on specific sectors are shown. With 51.36 million euro of GVA the construction sector profits most by the payments to good causes on sport. Sports activities and

<sup>&</sup>lt;sup>36</sup> See chapter 3 for a description of terminology and calculations.

amusements and recreation activities<sup>37</sup> (47.51 million euro) is the second largest sector. These two sectors are by far the biggest directly stimulated sectors and account already for 59.4 percent of total GVA from the Lottery's payment to good causes on sport. The remaining 40.6 percent are spread over a wide range of different sectors, each experiencing comparatively small profits.

# Figure 97: Top 10-sectors profiting most of payments in terms of GVA in Norway, in million euro, 2012



Source: European Lotteries, SpEA, 2015.

In terms of employment the payments to good causes on sport by Norsk Tipping create or save 178 jobs through direct effects and 96 jobs through indirect effects in Norway. In total 274 jobs were safeguarded. The employment multiplier is 1.54 and therefore higher than the EU average (1.48).

<sup>&</sup>lt;sup>37</sup> Note that the exact wording of the sectors' names are different compared to the countries within the EU as a different statistical classification of sectors had to be used for Norway for technical reasons. The broad coverage of the sectors as well as the essence of the results, however, remain the same.

### Figure 98: Employment effects Norway, in heads, 2012



Source: European Lotteries, SpEA, 2015.

The two sectors profiting most are again sports activities and construction, but in the opposite order compared to GVA. These two together are responsible for 196 employees in total count, which equals 71.5 percent of the total value. As with the effects on GVA the employment effects on other business sectors in Norway are comparatively small.

## Figure 99: Top 10-sectors profiting most of payments in terms of employment in Norway, in heads, 2012



Source: European Lotteries, SpEA, 2015.

## 7 Literature

Ahlert G. (2005). Sportsatellitensysteme, Vergleich der konzeptionellen Grundlagen in Deutschland und Frankreich, Studie der Gesellschaft für wirtschaftliche Strukturforschung im Auftrag des Bundesinstituts für Sportwissenschaft, Osnabrück.

**Blien U. / Graef F. (1992)** .ENTROP: A general purpose entropy optimizing method for the estimation of tables, the weighting of samples, the disaggregation of data and the development of forecasts, in: Faulbaum F. (Hrsg.) (1992) SoftStat ´91 – Advances in statistical software 3, Gustav Fischer Verlag, Stuttgart, S. 195 – 201.

**Brody A. / Carter A.P. (1972).** Input-Output Techniques, Proceedings of the Fifth International Conference on Input-Output Techniques, Geneva, January 1971, North-Holland Publishing Company, Amsterdam

**Carter A.P. / Brody A. (1970).** Applications of Input-Output Analysis, Proceedings of the Fourth International Conference on Input-Output Techniques, Geneva, 8. – 12.1.1968, Volume 2, North-Holland Publishing Company, Amsterdam

Ciaschini M. (1988). Input-Output Analysis. Current Developments, Chapman and Hall, London

**Commission of the European Communities (2007).** White Paper on Sport, COM (2007) 391 final, Brussels 11 July.

**COSME (2015).** Link: http://ec.europa.eu/growth/smes/cosme/index\_en.htm (11th of May 2015)

Creative Europe (n.d.). Link: http://www.creativeeurope.at/ (11<sup>th</sup> of May 2015)

**Dimitrov C. / Felderer B. / Kleissner A. / Moser B. / Schnabl A. / Weissteiner T. (2006).** A Sports Satellite Account for Austria, Study financed by the OeNB Jubiläumsfonds, Vienna.

**EU-Commission (2010).** Sport Satellite Accounts – A European Project: First Results, Leaflet prepared for the meeting of Sports Director Generals in Barcelona/Spain, Brussels 25-26 February 2010.

**EU-Commission (2011).** Sport Satellite Accounts - A European Project: New Results, Leaflet, Spring 2011, Brussels.

**European Lotteries (2012).** ELISE - European Lotteries' report on Lotteries in the EU and in Europe in 2012.

**Eurostat (2008).** Eurostat Manual of Supply, Use and Input-Output Tables. Eurostat Methodologies and Working Papers, Eurostat, European Commission, 2008 edition

#### Eurostat (2015). Link: <u>http://ec.europa.eu/eurostat</u>. (11<sup>th</sup> of May 2015)

**Eurotrategies / Amnyos / CDES / Deutsche Sporthochschule Köln (2011a).** Study on the funding of grassroots sports in the EU. With a focus on the internal market aspects concerning legislative frameworks and systems of financing. Volume I.

**Eurotrategies / Amnyos / CDES / Deutsche Sporthochschule Köln (2011b).** Study on the funding of grassroots sports in the EU. With a focus on the internal market aspects concerning legislative frameworks and systems of financing. Volume II.

**Grohall G. / Helmenstein C. / Kleissner A. (2010).** Sport Satellite Accounts, Non-Technical Methodology Paper, Vienna.

Helmenstein C. / Kleissner A. / Moser B. (2006). Sports in Austria. The Economic Impact of Sports in Austria, Study ordered by the Austrian Federal Economic Chamber, Vienna.

**Hewings G. / Jensen C. (1986).** Regional, Interregional and Multiregional Input-Output Analysis, in: Nijkon P. (Hrsg.) Handbook of Regional and Urban Economics, V 1, S. 295 – 355, Amsterdam: North Holland.

Kurz H.D. / Dietzenbacher E./Lager C. (1998). Input-Output Analysis, Volume I – III, Edward Elgar.

**Leontief W. (1963).** Die multiregionale Input-Output-Analyse, Arbeitsgemeinschaft für Forschung des Landes Nordrhein-Westfalen, Heft 123, Westdeutscher Verlag, Köln

**Meerwaarde / SpEA (2007).** The Use of sport satellite accounts for policy purposes, Discussion paper for the EU sports directors, Amsterdam: Meerwaarde.

Mello de L.R. (1993). The updating of input-ouput matrices. A systematic survey, in: Economics Letters, V. 41, S. 241 - 245

Miller R.E. / Blair P.D. (1985). Input-Output-Analysis: Foundations and Extensions, Prentice-Hall

**Moses L.N. (1955).** The Stability of Interregional Trading Patterns and Input-Output Analysis, The American Economic Review, Vol. XLV, Number 5, December 1955.

**Polenske K.R. / Skolka J.V. (1974).** Advances in Input-Output-Analysis, Proceedings of the Sixth International Conference on Input-Output Techniques, Vienna, 22. – 26. 4. 1974, Ballinger Publishing Company, Cambridge.

**Polenske K.R. et al (1972).** Multiregional Input-Output-Analysis, Volume I. State Estimates of the Gross National Product 1947, 1958, 1963, Lexington Books, D.C. Heath and Company.

**Preuß H. / Alfs Ch. (2012).** Wirtschaftliche Bedeutung des Sportkonsums für Deutschland, Johannes Gutenberg-Universität Mainz, Presentation, downloaded in March 2012.

**Sevaldson P. (1970).** The Stability of Input-Output-Coefficients, in: Carter A.P./Brody A. (Hrsg.) Applications for Input-Output-Analysis, Amsterdam

**SportsEconAustria (2012).** Study on the Contribution of Sport to Economic Growth and Employment in the EU. Study in collaboration with Sport Industry Research Centre (SIRC) at Sheffield Hallam University, Statistical Service of the Republic of Cyprus, Meerwaarde Sport en Economie, Federation of the European Sporting Goods Industry (FESI), Ministry of Sport and Tourism of the Republic of Poland. Study on behalf of the European Commission, Directorate-General Education and Culture.

**Vilnius Definition of Sport**, official manual, retrieved from http://www.spea.at Vienna and Vilnius.

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