

## The German Sport Satellite Accounts (SSA)

Gerd Ahlert



**Gesellschaft für Wirtschaftliche Strukturforschung mbH**

Heinrichstr. 30

D - 49080 Osnabrück

**Corresponding author:**

Gerd Ahlert ( [ahlert @ gws-os.com](mailto:ahlert@gws-os.com) )

Tel.: +49 (541) 40933-170

Fax: +49 (541) 40933-110

Internet: [www.gws-os.com](http://www.gws-os.com)

This publication has been prepared within the research project „*Sport Satellite Accounts 2008*” funded by the Federal Institute of Sports Science (BISp) and the Federal Ministry of Interior (BMI).



### **Address of the author**

Gerd Ahlert

Gesellschaft für Wirtschaftliche Strukturforschung (GWS) mbH, Heinrichstr. 30,  
49080 Osnabrück, [ahlert@gws-os.com](mailto:ahlert@gws-os.com)

### **Publisher of the gws Discussion Papers**

Gesellschaft für Wirtschaftliche Strukturforschung mbH  
Heinrichstr. 30  
D - 49080 Osnabrück

ISSN 1867-7290

### **Title**

The German Sport Satellite Account (SSA).

### **Publication date**

July 2013

## TABLE OF CONTENTS

<b>TABLE OF CONTENTS</b> .....	<b>III</b>
<b>1 INTRODUCTION</b> .....	<b>1</b>
<b>2 SATELLITE ACCOUNTS TO THE NATIONAL ACCOUNTS FRAMEWORK</b> .....	<b>1</b>
<b>3 SPORT SATELLITE ACCOUNTS (SSA) ACTIVITIES AT THE EU LEVEL</b> .....	<b>2</b>
<b>4 OPERATIONALIZATION OF THE VILNIUS-DEFINITION OF SPORT WITHIN THE GERMAN SSA</b> .....	<b>3</b>
4.1 REVISION-BASED CHANGES OF THE VILNIUS DEFINITION .....	3
4.2 PRODUCT CATEGORIES RELEVANT TO SPORT BEYOND THE VILNIUS DEFINITION.....	5
4.3 LINKING TO SPORT – REFERENCE TO TYPES OF SPORT .....	5
<b>5 DETERMINATION OF SPORT-RELATED EXPENDITURE FOR THE GERMAN SSA</b> .....	<b>6</b>
<b>6 THE MODEL TO COMPILE THE GERMAN SSA</b> .....	<b>8</b>
6.1 THE GENERAL STRUCTURE OF THE GERMAN SSA .....	8
6.2 THE GENERAL COMPILATION PROCEDURE .....	9
<b>7 THE ECONOMIC IMPORTANCE OF SPORT IN GERMANY – SOME RESULTS</b> .....	<b>10</b>
<b>8 CLASSIFICATION OF THE GERMAN SSA RESULTS IN THE EUROPEAN CONTEXT</b>	<b>14</b>
<b>9 CONCLUSIONS</b> .....	<b>16</b>
<b>REFERENCES</b> .....	<b>17</b>

## 1 INTRODUCTION

For many people sport is their favourite leisure activity. Whether for active participation as a leisure sportsperson or passively following as a spectator of sporting events, the enthusiasm for sport leads to a wide range of expenses such as the purchase of sports equipment and clothing, or the entry charges to visit sports facilities or events.

At the same time, the passive interest the public has for sport and thus also their consumer behaviour receives massive stimulation from professional top-level sport which is driven by competition. The latter, however, can in turn only develop from the provision of a diverse and high-quality range of services and infrastructures for mass sport. In Germany this is provided in particular by sports clubs, sporting facilities in the public sector and in the course of school sports. Calculations by Meyer and Ahlert (2000) concerning Germany in the 1990s have already shown the sizeable economic relevance of sport.

With the “White Paper on Sport” which the EU Commission introduced in 2007, it was recommended for the first time at a European level that because of the high degree of social importance of sport, its economic importance should be adequately and consistently included in the national accounting system (see COM 2007). At the national level, too, political interest in the economic importance of sport has yet again increased, as was shown by a meeting of the Sports Committee of the German Bundestag in December 2011 (see German Bundestag: 2011, Heinze et al.: 2011). It was recommended that the calculations for Germany made in the 1990s should be updated, to create once again an evidence-based data set as a solid basis for sporting policy related decisions.

Against this backdrop the Federal Institute for Sports Science (BISp) commissioned the Institute of Economic Structures Research (GWS) to set up a sport satellite accounts (SSA) for the reporting year 2008 according to the international recommendations. The empirical proof was produced by using very detailed data on the Input-Output accounts provided by the Federal Statistical Office (Destatis). In addition, due to the fact that there was no empirically founded in-depth information on crucial macroeconomic related sport economic aspects available, several survey-based studies have been carried out prior to the research project on SSA compilation (i.a. on the sport-related expenditure of private households, on the capital formation related expenditure with regard to sporting facilities).

Looking on the results of the German SSA for the reference year 2008 identifies that the direct gross value added of sports sum up to a total of almost 73.1 billion Euros. This means that in 2008, sport-related services represented 3.3% of the German gross value added to the amount of 2,217 billion Euros. Some 1.765 million people were directly employed in the sport-related industries contained in the SSA. That was almost 4.4% of the total of employed people, 40.348 million.

## 2 SATELLITE ACCOUNTS TO THE NATIONAL ACCOUNTS FRAMEWORK

The principal idea of satellite accounts of the National Accounts goes back to the French National Accounts statistician André Vanoli (1969). His ideas were taken up at the end of the 1970s in Germany by Stahmer (1977) and were put to practical test in the years

which followed for the cross-cutting topic “The environment and the economy” by the setting up of an environmental satellite account to the National Accounts framework. In the meantime the basic idea of satellite accounts together with their design are exemplarily explained in the international reference handbook to the National Accounts framework, the so-called “System of National Accounts (SNA)” (European Communities et al.: 2008).

Within a satellite account to the SNA, for economic and/or social cross-cutting activities all connections macro-economically relevant to the topic are displayed explicitly by numerical numbers. For this purpose, on the one hand, all economic transactions connected to the topic are made explicitly visible in accordance with the accounting and definition standards of the SNA, in other words, evidenced in very much greater detail than in comparison with the existing SNA statistics. Therefore it is necessary that all displayed theme relevant aggregate transactions have to be substantiated by additional statistical information (i.a. by a much more refined analysis and surveys connected with the topic). On the other hand, for the sake of clarity, all other transactions not connected to the topic are shown in a summarised form. This process ensures that all macroeconomic connections to the SNA performance indicators are always given.

Along with an exclusive “visualisation” resp. identification of the transactions specific to the topic, a satellite account can also contain in an expanded approach alternative valuation and estimation methods and definitions of activities and transactions. The latter adaptations ultimately decide the distance of a satellite account from the SNA. Through the compilation of satellite accounts to the SNA, macroeconomic accounting statistics offer an established procedure for understandable determination of the direct economic importance of cross-section activities.

### **3 SPORT SATELLITE ACCOUNTS (SSA) ACTIVITIES AT THE EU LEVEL**

With the “Vilnius Definition of Sport” published in the autumn of 2007 it was clearly laid down which production activities within the classification of economic statistics can be categorised as having a connection with sport. In a very comprehensive approach, more than 400 categories of products which are relevant to sport were identified (SpEA: 2007).

The use of key performance indicators for describing the economic importance of sport in the course of political consultation at a national and international level requires both a standardised definition for the demarcation of sport from other activities and a standardised methodical approach for their identification within the SNA. The EU Commission therefore announced in the “White Paper on Sport” that sport satellite accounts should be created which are orientated towards the methodical approach utilised in the SNA (see COM: 2007). Subsequently several methodological papers have been produced for the EU working group, which outline the basic approach within the supply and use tables (SUT) or Input-Output tables (IOT), respectively (i.a. SpEA: 2010, Panagouleas & Kokolakis: 2012, Statistics Netherlands & the HAN University of Applied Sciences: 2012).

The conceptual considerations concerning the establishment of the economic importance of sport which have been developed since the middle of the last decade at a European level consistently follow the analytical approach already introduced for Germany at the end of the 1990s (see Meyer & Ahlert: 2000, Ahlert: 2000 & 2001). On the basis of an official IOT and additional sport-economic investigations, the direct contribution of

sport-related expenditure activities to the gross domestic product was determined in an Input-Output table on sport (IOTSp).

## **4 OPERATIONALIZATION OF THE VILNIUS-DEFINITION OF SPORT WITHIN THE GERMAN SSA**

The following is a brief explanation of how the Vilnius-Definition of Sport has been operationalized in the course of the German SSA compilation process.

### **4.1 REVISION-BASED CHANGES OF THE VILNIUS DEFINITION**

In recent years there has been a revision of the statistical classifications of economic activities (European level: NACE Rev. 1.1 to 2.0 and in Germany: statistical classifications of industries WZ03 to WZ08) and the classification of products by activity (CPA), carried out by statistical offices. Against this backdrop a reconciliation of the Vilnius Definition of Sport existing in NACE Rev 1.1 was necessary.

The majority of the activities in the statistical definition of sport now are contained in WZ No. 93.1 of the Federal Statistical Office's classification of economic activities "Sports activities". In addition, the activities of sports schools, individual sport teachers, trainers and coaches are accounted for in WZ 85 "Education" in five-digit numerical level code 85.51.0 "Sports and recreation teaching".

After the transition of the Vilnius Definition from WZ03 to WZ08, there followed a linking with the corresponding product heading of the current system of product grouping in Input-Output accounts (SIO 2008) (see also Ahlert: 2013, Annex). But at the same time, intensive discussion on classifications revealed some inadequacies and peculiarities in the existing product list of the Vilnius Definition of Sport. The following table shows a summary overview of the particular sport-specific products which are contained in the German SSA.

**Tab. 1: Overview concerning sport-relevant products**

goods directly related to sports	Services directly related to sports
Commodities directly related to gross capital formation (investments) in sport facilities	Construction services
Animals and their upkeep	Wholesale and retail trade; repair of motor vehicles and motorcycles
Dietary foods	Transportation services
Isotonic drinks	Accommodation and food service activities
Paper and print products	Publishing activities
Products of mineral oil production	Programming and broadcasting activities
Textiles	Storage information and communication services (and for sport-related investments)
Clothing	Insurance services
Shoes and bags	Real estate activities
Chemical products	Legal and accounting activities (and for sport-related investments)
Pharmaceutical products	Management consultancy activities
Sports equipment and accessories, (incl. balls, weapons, organising competitions)	Architectural and engineering activities; technical testing and analysis
Vehicles specifically for sport (incl. bicycles, motor bicycles, boots)	Scientific research and development
	Advertising and market research
	Veterinary activities
	Rental and leasing activities
	Travel agency, tour operator reservation service
	Other services for sport-related investments
	Public administration and defense; compulsory social security
	Education
	Human health activities
	Sport-specific public administration services
	Services of sports administrations
	Operation of sports facilities
	Activities of sport clubs
	Fitness facilities
	Other sports activities
	Other services due to sports (e.g. repair services, washing and cleaning services)

*Source: Authors' representation*

## 4.2 PRODUCT CATEGORIES RELEVANT TO SPORT BEYOND THE VILNIUS DEFINITION

Within the overall research plan there was intensive dialogue concerning the data requirements. Along with the necessary compatibility with the concepts and definitions of the IOA of the Federal Statistical Office, compatibility with the Vilnius Definition which had been agreed at a European level had to be guaranteed. Upon examination of the completeness of the sports-related goods identified in the Vilnius Definition, it was established that some goods were not listed, despite being explicitly and directly in demand within the context of sporting activities. So, for example, some activities which are in direct connection with investments in sports infrastructure are not part of the Vilnius Definition of Sport. This is an area in which the Vilnius Definition of Sport is “blind” as it does not include any products relevant to construction beyond the core activity of construction work. Similarly, the cleaning and care products of the chemical industry intended for the care of sports clothing and equipment are not part of the list of products.<sup>1</sup> In order for the missing categories of goods to be assigned according to the SNA specific (macroeconomic) compilation procedure and properly calculated within the SSA, an enlargement of the Vilnius list was undertaken (see product categories marked in blue within Table 1).

In the course of the calculation for the German SSA, the categories relevant to sport “SPORT (Vilnius Definition)” and “SPORT (Other)” are calculated separately with regard to the related supply and use of products. The category “SPORT” is an aggregate composed of the two partial components.

## 4.3 LINKING TO SPORT – REFERENCE TO TYPES OF SPORT

The explanations of the Vilnius Definition of Sport to date show that the list of sport-relevant goods drawn up by the EU working group is very detailed, but is still not sufficient for a comprehensive empirical foundation of sport-related expenses on consumption and investment. What was lacking was a supplementary reference to the types of sport for which this expenditure was made. Therefore, within the framework of the overall research project aim, a list of the types of sport practised in Germany and relevant within the context of the question was produced (see Preuss et al.: 2012, 37ff). The total of 71 types of sport is best interpreted as clusters of types of sport. Within the scope of the additional survey of investment in sports facilities the 71 types of sport were also linked to the sports facilities necessary for participation. In all, 59 kinds of sports facilities were identified. (see An der Heiden et al.: 2012b, 19f).

Not until the reference to types of sport was it possible to make a full and evidence-based precise and survey-based statistical investigation, as it served to tackle both the survey and the recall problem and to render simpler the later evaluation of the primary data collected.

---

<sup>1</sup> On the other hand, in the field of pharmaceutical products, for instance, some very specific products are listed that one would usually not expect to see there (e.g. antisera, vaccines).

## 5 DETERMINATION OF SPORT-RELATED EXPENDITURE FOR THE GERMAN SSA

As sport is an economic cross-section activity, along with data from official statistics a central role is especially played by statistics from sport-related expenditure surveys. Within the SSA they are evidenced and/or made visible consistent with SNA practice.

At the same time the data from official statistics form the empirical framework of the SSA. They guarantee both a complete consistency of the SSA calculations with the very detailed existing information of the economic statistics, and also the complete congruence of the SSA to the macroeconomic benchmarks of the published IOT. This key data set is however expanded by information from a large number of further studies.

Worthy of special mention here are the primary data collection-based studies which were carried out in the years 2009 – 2012 in advance of this research project as part of the overall research plans to establish a SSA for Germany.

Since sport-related consumption of private households is a major factor in determining the contribution of sport to the gross value added, and as empirically founded information for this has not previously been available, this paucity of information has been remedied. In a representative public survey, information on expenditure which had been made on 71 types of sport for both active participation and passive interest was collected (see Preuss, Alfs & Ahlert: 2012). Following comprehensive controlling and consistency tests with detailed data from official statistics, in this research project the results for the consumption of private households for active and passive sport extrapolated in accordance with the “conservative model” were used.

Sponsoring and advertising – but also the trade in media rights – have developed more and more in the last few years into an important source of income for sports. As no detailed and/or understandable data existed concerning the relevant expenditure in favour of sports in the fields of advertisement, sponsoring and media rights, this relevant data has been produced in the course of research project led by 2hm (Mainz). The survey design and central project results were published by An der Heiden, Meyrahn & Ahlert (2012a). The relevant outcome is now applied by the German Federal Statistical Office for updating the related compilation procedure. From a macroeconomic accounting perspective, such expenditure have only a positive impact on gross value added, if it actually leads to an increase in sports-related final demand of sports clubs and associations in the course of providing goods and services free of charge to member of sport clubs and athletes.

The majority of sporting activities are tied to a sports facility (such as a gymnasium, gymnastics room, swimming pool, ski lift or marked hiking paths). Since only incomplete and very rough information concerning gross fixed capital formation is available for sports facilities other than those paid for by the public purse; in the research project under the leadership of 2hm & Associates GmbH (Mainz) the economic importance of investment in sports facilities was examined (see An der Heiden et al: 2012b). The data obtained concerning the construction and modernisation/renovation of sports facilities was implemented into the SSA.

Fig. 1: The general structure of the German SSA

		OUTPUT OF INDUSTRIES (NACE), basic prices					Σ	TRANSFORMATION TO TOTAL SUPPLY, from basic to purchasers' prices						Σ	FINAL USES, purchasers' prices								INPUT OF INDUSTRIES (NACE), purchasers' prices					Σ		
		industry 1, Sp		industry n, Sp	industries 1-n, nSp	Total, nSp	Total, Sp	Imports, nSp	Imports, Sp	Trade margins, nSp	Trade margins, Sp	Taxes less subsidies on products, nSp	Taxes less subsidies on products, Sp	Total supply at purchasers' prices, nSp	Total supply at purchasers' prices, Sp	Final consumption expenditure by households etc, nSp	Final consumption expenditure by households etc, Sp	Final consumption expenditure by government, nSp	Final consumption expenditure by government, Sp	Gross fixed capital formation etc, nSp	Gross fixed capital formation etc, Sp	Exports, nSp	Exports, Sp	industry 1, Sp		industry n, Sp	industries 1-n, nSp	Total, nSp	Total, Sp	
PRODUCTS (CPA)	product group 1, Sp	production linkages						valuation							final demand								intermediate demand linkages							
	.																													
	.																													
	product group n, Sp																													
	Gütergruppen 1-n, nSp																													
TOTAL																														
PRIMARY INPUTS	Compensation of employees, nSp																generation of income													
	Compensation of employees, Sp																													
	Other net-taxes on production, nSp																													
	Other net-taxes on production, Sp																													
	Consumption of fixed capital (depreciation), nSp																													
	Consumption of fixed capital (depreciation), Sp																													
	Net operating surplus, nSp																													
	Net operating surplus, Sp																													
	Gross value added, nSp																													
	Gross value added, Sp																													

Source: Authors' representation

## 6 THE MODEL TO COMPILE THE GERMAN SSA

In contrast to the IOTSp which was consistently imbedded in the IOT, the SSA developed in the course of this research project was consistently derived from the supply and use tables (SUT) of the IOA. Methodical considerations are the central argument for this change of course. Along with being much closer to the numerous end statistics of the SNA they also permit a better integration with the sport-related primary data collections carried out within the framework of the whole research project. In addition, it is possible to determine from a SSA designed in this way the symmetrical IOT, which may be helpful for analysing indirect effects along the complete value added chain (see Eurostat: 2008, 293ff; Statistisches Bundesamt: 2010).

### 6.1 THE GENERAL STRUCTURE OF THE GERMAN SSA

The following illustration shows in a schematic way the basic set-up of the German sport satellite account. It is a further development of the description of an IOTSp in Heinze et al. 2012 (p 6f) based on Meyer and Ahlert (2000). The complete SSA consists of a combined supply and use table, which determines, in the course of macroeconomic balancing, the contribution of sport to value added within the sport-relevant areas resulting from the final demand due to sport.

For all the transactions shown in the SSA both sport-related (Sp) and other non-sport-related (nSp) supply and use activities are shown. The proof of the sport-related final demand is done in accordance with the requirements of the Vilnius Definition of Sport. For reasons of clarity, the other non-sport-related transactions are shown in the SSA in a consolidated form. This method guarantees that the connections to the SNA specific macroeconomic totals are always given.

On the left-hand part of the SSA the sport-related production or output in Germany is proven in detail by product  $i$  ( $i = 1 - n$ ) and industry  $j$  ( $j = 1 - n$ ). Details are displayed in production related basic prices, including subsidies on products, but without taxes on products. The interrelation shows the production program of sport-specific products within the various industries of the national economy. Beyond the diagonal elements, which illustrates the characteristic production of goods (so-called main resp. primary production activity), the production of goods due to the so-called secondary production is shown.

In the central part of the SSA, the domestic production is supplemented by imports, in order to keep the total supply at basic prices. The additional information concerning the mark-up on individual goods due to trade margins (services do not receive mark-ups per se) which represents de facto rebooking of the commodity-specific trade margin to the allocated product groups, allows for the transition to total supply at purchaser's price. This is the price which the purchaser actually pays for goods at the moment of sale. In addition the product-specific proof of volume of net product taxes (balance of taxes and subsidies on products) has to be taken into consideration. It is only the consistent representation of the transition from producers' basic prices to purchasers' market prices which facilitates a comparison with results obtained of the SSA with regard to the side of the table showing

use. Further, it is only in this way that the contribution to the valued added of sport-related final use resulting from trade services can be consistently and fully estimated.

In the right-hand part of the SSA, on the expenditure side, along with product-related use of income for the individual components of the final demand (private consumption, government consumption, gross fixed capital formation and exports), the intermediary consumption of goods for sport-related and the other non-sport related production activities at purchasers' prices, which also occurred as intermediate inputs in the production process of industries, is also documented. In this part of the SSA the sales structure of the sport-related products in demand in Germany is completely documented in the individual rows of the account. In the lower part the primary inputs required by the industries in the production process are also shown (e.g. compensation of employees, other net-taxes on production, consumption of fixed capital (depreciation), net operating surplus).

In this part of the SSA the cost structure of the goods produced by the German industries and used for sport-related purposes is fully documented in the individual columns of the account. Along with the expenses for primary inputs in the lower part, in the upper part the expenses for intermediate inputs are also shown in detail. When analyzing the industry-related intermediate inputs in detail consideration should be given to the fact these also contain many non-sport-related intermediate inputs beyond the Vilnius Definition (such as expenditure for IT services, office material).

Within an SSA designed in this way, the macroeconomic supply from sport-related and the other non-sport related products (at purchasers' prices) always corresponds to the macroeconomic use.

## 6.2 THE GENERAL COMPILATION PROCEDURE

In this sub-section, the general compilation procedure of the SSA developed for Germany is outlined. In this, the aspects explained in sections 4 and 5 represent important preliminary work. The calculation process which has been developed is orientated strictly in accordance with the recommendations for its preparation developed at European level. It takes into consideration the general methodical explanations and rich experience in the creation of satellite accounts for other economical cross-section activities (including European Communities et al.: 2009, United Nations Statistical Division et al.: 2009, Ahlert et al.: 2009 & 2005).

The calculations for the SSA have been recorded on the basis of a sports-related special analysis of the IOA for reporting year 2008. The special analysis of the Federal Statistical Office includes the results of the commodity flow accounts for the sports-relevant products identified in accordance with the Vilnius Definition of Sport. Along with these matrices, which show by all 65 industries of economy and all categories of final demand the domestic use of goods (in the breakdown by inland production, imports, and combined) for the sport-relevant SIO 9-digit numerical code goods (approx. 423 in accordance with Vilnius Definition), a output matrix is also provided for the calculations. This shows the production of the sport-relevant goods (at a SIO 9-digit numerical code level) by the 65 industries of economy. These very detailed sport-related results were always classified in the overall matrices with a total of 2,643 lines. In addition, detailed valuation matrices concerning the transition from producers' basic prices to purchasers' market prices for the sport-relevant

products (CPA two-digit numerical code) of the published supply and use tables were supplied, divided into 89 products and 65 industries.

The calculations to produce the SSA for reporting year 2008 were determined from this data in a complex calculation process, taking into consideration the results of the three sport-related primary data collections as well as other sport-economic studies (i.a. Breuer & Wicker: 2008). The proof of the sport-related amounts was produced on the basis of accepted statistical methods and SNA based accounting procedures and was evaluated by the Federal Statistical Office during the project.

The multi-stage SSA calculation procedure, which was carried out totally within the “limits” of the IOA, has both “bottom-up” elements – in which results of the SSA are “extracted” (more or less directly) from the special analysis – and also “top-down” elements – in which the detailed results of sport-related studies are “carried down” – in order to ensure consistency at the highly-detailed SIO 9-digit numerical code level for individual products within the sport-specific components of the final demand (for more detail see also Ahlert 2013).

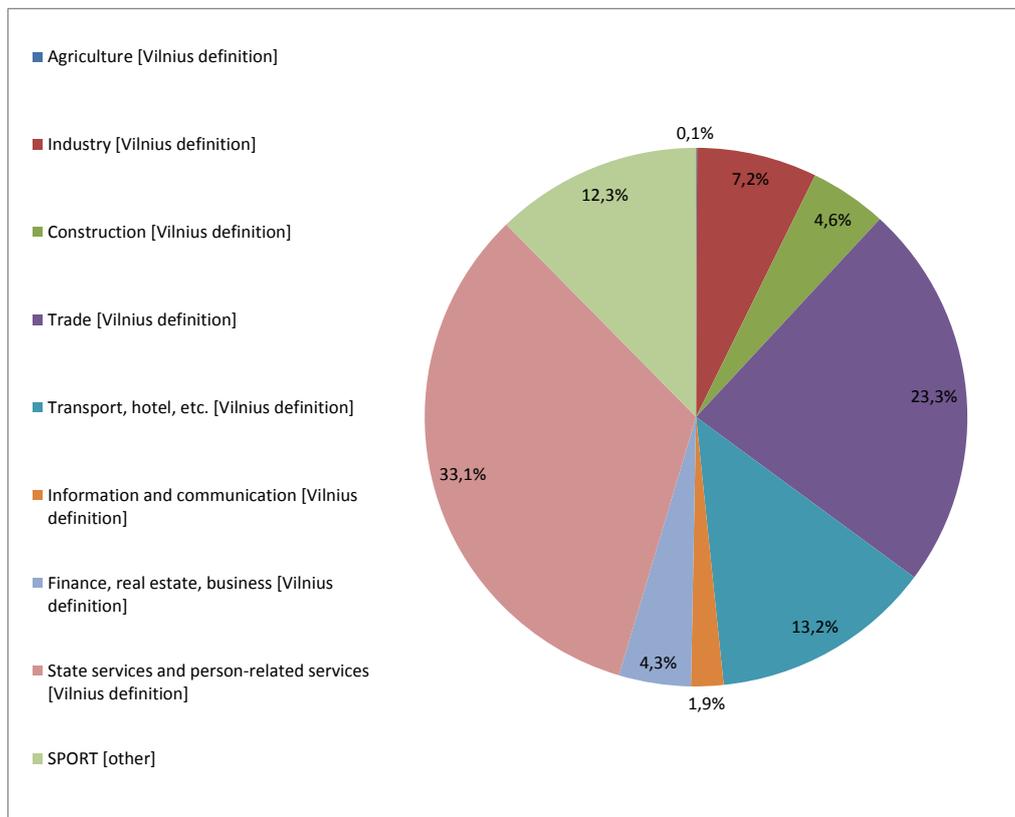
The results of the sport satellite account were finally combined in 4 (still) clearly-arranged tables. The publication of the SSA is done aggregated for 10 products and 11 industries, which facilitates both understanding the overall logic of the developed SSA and also the interpretation of its results. Within the German SSA for the reporting year 2008 the following four tables of results are distinguished (see Ahlert 2013):

- The production matrix of the SSA
- The supply matrix of the SSA at basic prices and transition to purchasers’ prices
- The use matrix of the SSA at purchasers’ prices
- The employment table of the SSA

## **7 THE ECONOMIC IMPORTANCE OF SPORT IN GERMANY – SOME RESULTS**

The sport-related gross value added identified within the SSA for 2008 was a total sum of almost 73.1 billion Euros. This means that in 2008, sport-related activities represented 3.3 per cent of the overall gross value added to the amount of 2,217 billion Euros. Thus a value added contribution similar in value to that of the German manufactures of motor vehicles was generated through the direct demand for sport-related services. The following figure 2 summarizes the results of the SSA table and shows the resulting contribution to sport-related gross value added due to sport-specific production activities of the individual industries in economy.

**Fig. 2: Contribution of individual industries to the sport-related gross value added in Germany in the reference year 2008, particulars in per cent**



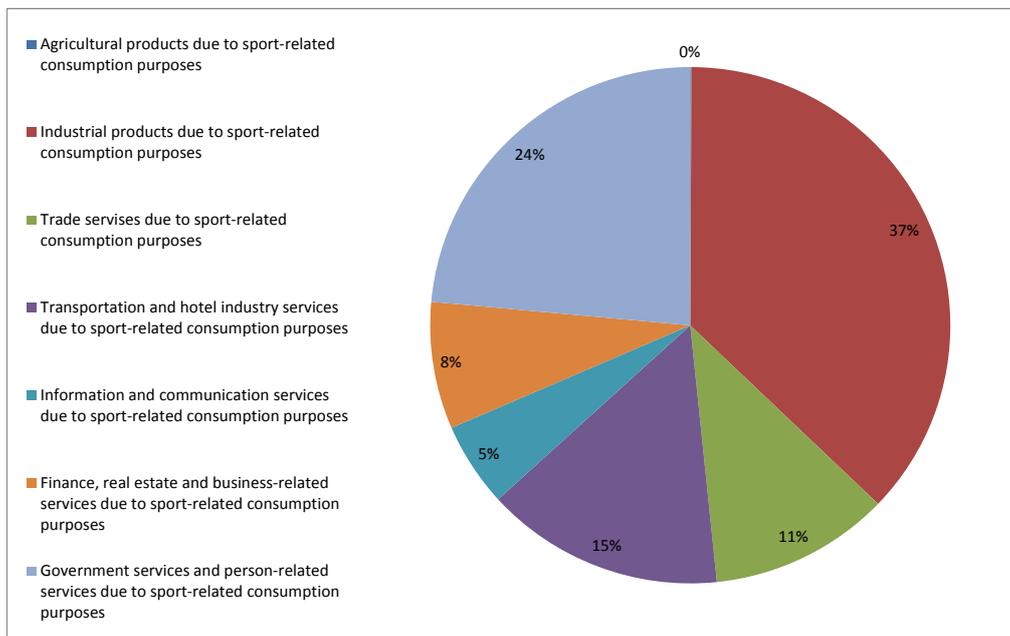
Source: Authors' calculations

The sport-related value added creation is, as was expected, determined mainly by the consumption of private households (both due to active participation in sport as well as a general passive interest in sport) and by the consumption of the sports clubs and associations. At around 89.1 billion Euros this is the largest use component of the final demand for sport-related goods and services. In 2008 approx. 6.6 per cent of all consumption expenditure by private households in Germany was on sport, at a total of 1,315 billion Euros.

Government consumption for sport purposes in 2008 amounted to 16.4 billion Euros. That represents 3.6 per cent of state expenditure. Sport-related government consumption includes those sport-related services of the regional authorities (the German state, the federal states and local communities as well as compulsory social security) which are provided for the citizens without special payment as non-individual consumer spending (e.g. collective consumption of school sport) or as social non-cash benefits (such as within the scope of compulsory health insurance).

The industries which are characteristic of sport were responsible in 2008 for gross fixed capital formation to the sum of 7.6 billion Euros. This was around 1.6 per cent of the macroeconomic real capital investment activity. Almost 7 billion Euros went on expenditure for constructions in the course of new buildings and modernization/renovation of sports facilities.

**Fig. 3: Product structure of sport-related consumption by households in Germany in the reference year 2008, particulars in per cent**



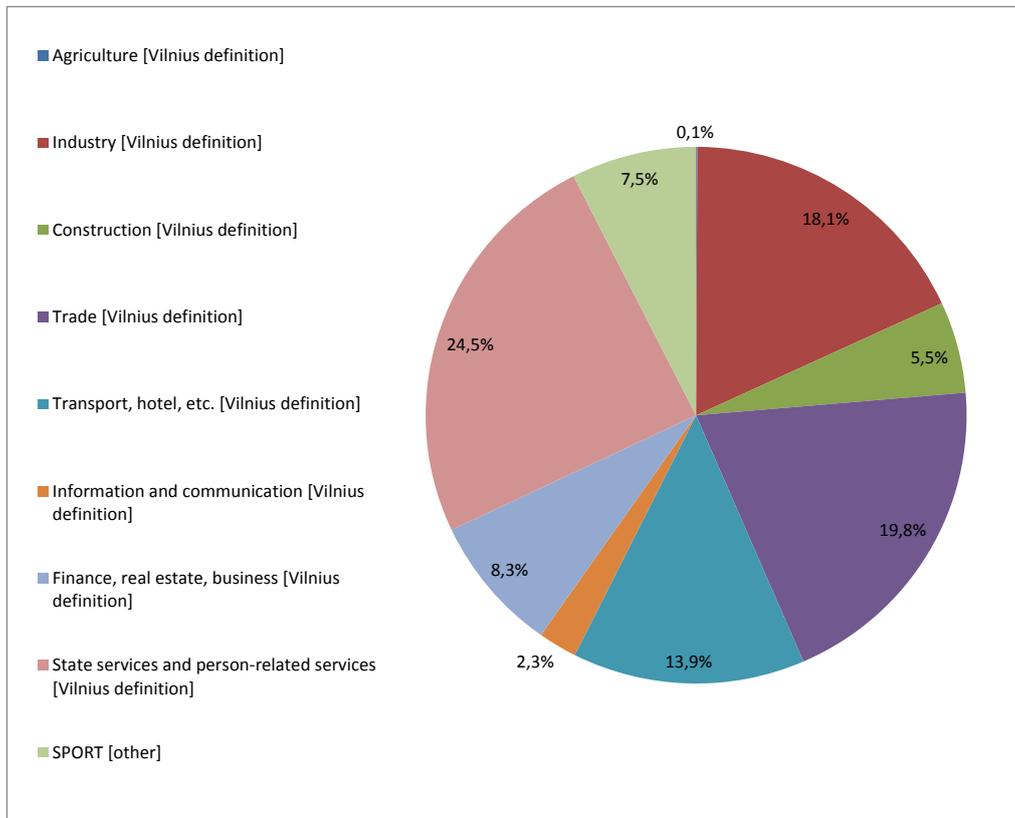
*Source: Authors' calculations*

Foreign trade is also directly affected by sport-related activities. A total of 2.1 billion Euros worth of sport-specific products were exported. As was to be expected, considerably more goods and services were imported as a result of direct demand from sport-related activities. In 2008 these amounted to some 23.2 billion Euros, approximately 2.4 per cent of all goods imported into Germany.

The total output of the sport economy within the German SSA, demarcated in accordance with the broad Vilnius Definition, amounted in 2008 to 165 billion Euros. Of this, some 17.4% went on products from the manufacturing industries. The sport-related services of the construction industry, which amounted to some 6.4% of all sport-related spending, are not included here. Some 24% of sport-related total output directly connected to sport can be attributed to the retail trade while the largest remaining share at 52.2% went, as would be expected, to the service industries.

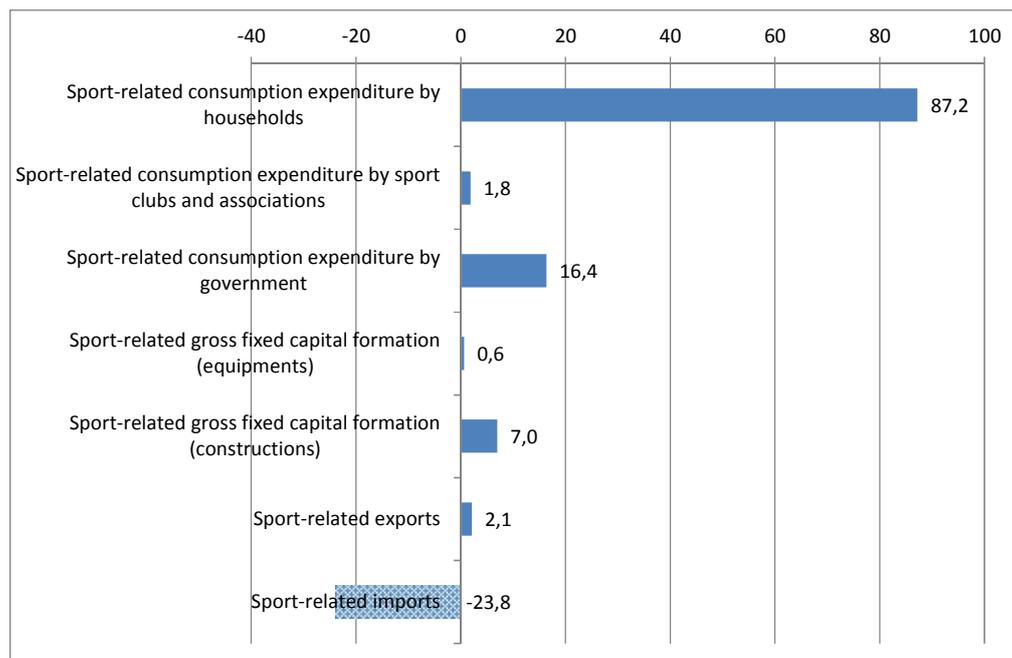
As a result of sport-related production activities, in 2008 net-taxes on products add up to 18.2 billion Euros and went from the enterprises to the state. Along with subsidies provided, this included non-deductible sales tax (value added tax), import taxes and other taxes on products. The sport-related gross tax revenue on products was thus around 7.1 per cent of the total revenue.

**Fig. 4:** Share of individual industries to overall sport-related production resp. output in Germany in the reference year 2008, particulars in per cent



Source: Authors' calculations

**Fig. 5:** Composition of the sport-related gross domestic products in Germany in the reference year 2008 with regard to its demand-side related components, particulars in bill. EUR.

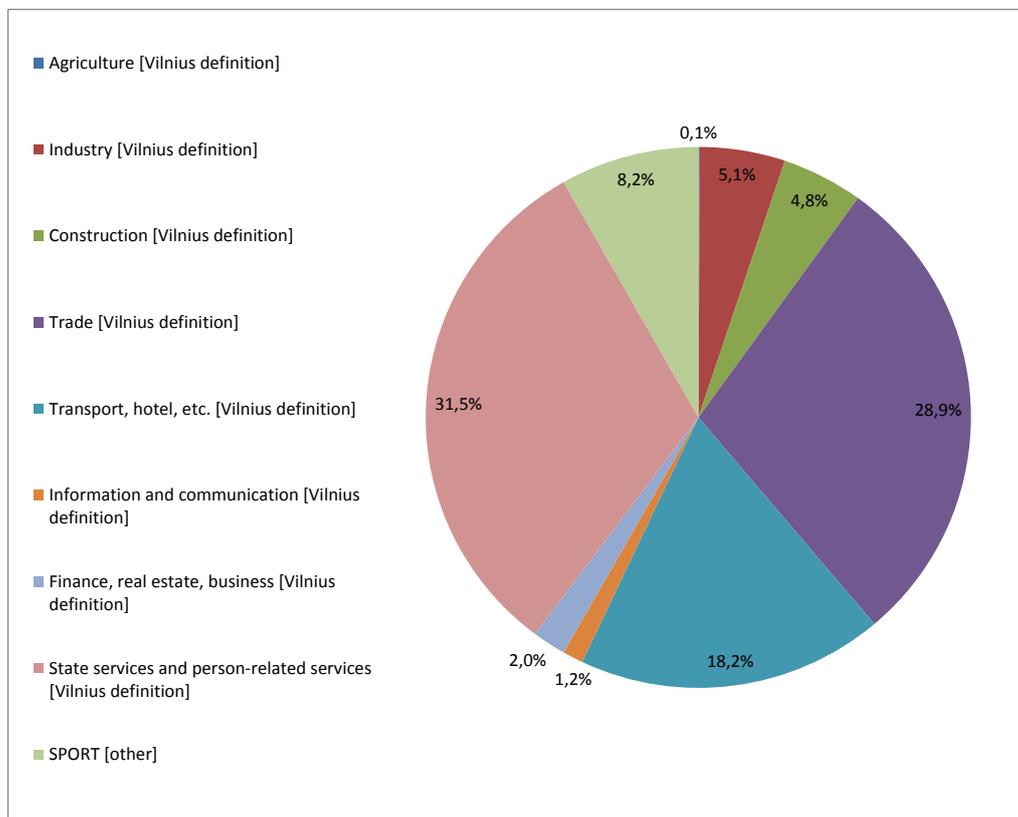


Source: Authors' calculations

Looking at supply and use also enables the calculation of the sport-related gross domestic product at 91.3 billion Euros, which represents 3.7 per cent of the total German gross domestic product. It is composed on the production side of sport-specific gross value added (73.1 billion Euros) and sport-specific revenue on net-taxes on products (18.2 billion Euros).

The employment table of the sport satellite account (see Ahlert 2013, Table 5) shows employment which results directly from sport-related final demand. In Germany in 2008 some 1.765 million people were employed in the sport-related activities contained in the SSA. That was almost 4.4 per cent of the total of employed people, 40.348 million. The fact that this proportion of employment is considerably higher than the proportion of value added at 3.3 per cent is due to the much increased proportion of part-time and poorly-paid workers in the service provision areas characteristic for sport – in particular in the field of sport organization and suppliers of training services for sport.

**Fig. 6: Contribution of individual industries to the sport-related employment in Germany in the reference year 2008, particulars in per cent**



Source: Authors' calculations

## 8 CLASSIFICATION OF THE GERMAN SSA RESULTS IN THE EUROPEAN CONTEXT

In the meantime SSAs are available for Austria, Cyprus, Poland, the United Kingdom and the Netherlands. In addition, the calculations for Switzerland are also orientated to the procedure outlined in the Vilnius Definition of Sport.

**Tab. 2: Sport satellite account (SSA) results in some EU member states and Switzerland**

	<b>AT</b>	<b>CY</b>	<b>PL</b>	<b>UK</b>	<b>NL</b>	<b>DE</b>	<b>CH</b>
<b>Report year</b>	2005	2004	2006	2006	2006	2008	2008
<b>NACE Rev.</b>	1.1	1.1	1.1	1.1	1.1	2.0	1.1
<b>Employment, in millions</b>							<i>in mill. FTE</i>
<b>sport-related</b>	0.242	0.007	0.225	0.632	0.130	1.766	0.089
<b>% of total</b>	6.4	2.2	1.54	2.5	1.5	4.4	2.5
<b>Gross value added, in bill. EUR.</b>							<i>in bill. Swiss Francs</i>
<b>sport-related</b>	10.7	0.3	5.3	39.9	4.7	73.1	9.09
<b>% of total</b>	4.9	2.4	2.0	2.3	1.0	3.3	1.7
<b>Consumption of private households, in bill. EUR.</b>							<i>in bill. Swiss Francs</i>
<b>sport-related</b>	4.9	0.3	3.5	35.2	/	87.2	/
<b>% of total</b>	3.6	3.7	2.1	2.9	/	6,6	/

Sources: European Commission: 2011, Statistics Netherlands et al.: 2012, Rütter et al.: 2011, author's calculations.

Usually, in discussions at an international level, the figures contained in Table 2 for sport-related employment, gross value added and for consumption are mentioned. The table represents an updated and supplemented version of the table published in 2011 by the EU Commission in a leaflet.

The supplementation of the results calculated within the framework of this research contract for Germany in a systematic and clear manner permit the classification within the international context. Although, in the calculations for the German SSA – in contrast to the calculations in other countries – the sport-specific expenditure of private households and of the investors in sports facilities have been primary statistically established according to the Vilnius Definition of Sport, it can be seen that this results in neither the value added nor the employment shares of sport assuming a surprisingly high value, but much more that these can be plausibly substantiated from the methodical economic and sport-institutional perspectives.

## 9 CONCLUSIONS

The displayed SSA results for Germany should of course be further differentiated in the course of future updating and more in-depth calculations beyond the results published here for 10 aggregated products and 11 aggregated industries.

That said, the current SSA in this stage of development still meets many of the demands made by the SSA:

- it fulfills a statistical information function for politics, economy and society.
- it provides a current picture of the diversity of the sport economy.
- it creates a raised awareness of the economic importance of sport.
- it facilitates an estimation of the central interrelationship between the sport economy and other economy, as well as within the areas of the sport economy.
- if regularly updated, it can serve to identify the growth segments in the sport economy and facilitate productivity analyses.
- it can make a contribution towards economic foundation of sporting political decisions.
- and it can serve the foundation of sport economic decisions in companies, clubs and associations (e.g. advertising and sponsorship budgets, investment decisions, etc.).

## REFERENCES

- Ahlert, G. (2000): Reasons for Modelling Sports in a Complex Economic Model: Two Examples. *European Journal for Sport Management*, 7(1), pp. 31-55.
- Ahlert, G. (2001): The Economic Effects of the Soccer World Cup 2006 in Germany with Regard to Different Financing. *Economic Systems Research [ESR]*, 13(1), pp. 109-127.
- Ahlert, G. (2005): Sportsatellitensysteme: Vergleich der konzeptionellen Grundlagen in Deutschland und Frankreich. Expertise im Auftrag des Bundesinstituts für Sportwissenschaft (BiSp), Köln.
- Ahlert, G. (2013). Die wirtschaftliche Bedeutung des Sports in Deutschland. Abschlussbericht zum Forschungsprojekt „Satellitenkonto Sport 2008“ für das Bundesinstitut für Sportwissenschaft (BiSp). GWS Research Report 2013/2, Osnabrück.
- Ahlert, G., Bregar, L., Dores, V., Hilario-Chaves, T., Laimer, P., Lesek, Z., Roig, R. & Vancura, P. (2009): Practical Guide for the Compilation of a TSA: Directory of Good Practices. In: European Commission [ed.]: *Tourism Satellite Accounts in the European Union*, Volume 3, Luxembourg, pp. 1-49.
- Ahlert, G., Großmann, A. & Lutz, C. (2006): Bestimmung der gesamtwirtschaftlichen Bedeutung des Verkehrs. Gutachten im Auftrag des Bundesministeriums für Verkehr, Bau und Stadtentwicklung (BMVBS), Schlussbericht, Osnabrück.
- An der Heiden, I., Meyrahn, F. & Ahlert, G. (2012a): Bedeutung des Spitzen- und Breitensports im Bereich Werbung, Sponsoring und Medienrechte. Forschungsbericht (Langfassung) im Auftrag des Bundesministeriums für Wirtschaft und Technologie (BMWi), Mainz.
- An der Heiden, I., Meyrahn, F., Huber, S., Ahlert, G. & Preuß, H. (2012b): Die wirtschaftliche Bedeutung des Sportstättenbaus und ihr Anteil an einem zukünftigen Sportsatellitenkonto. Forschungsbericht (Langfassung) im Auftrag des Bundesministeriums für Wirtschaft und Technologie (BMWi), Mainz.
- Breuer, C. & Wicker, P. (Hrsg.) (2008): Sportentwicklungsbericht 2007/2008. Analyse zur Situation der Sportvereine in Deutschland. Köln.
- Commission of the European Communities (COM) (2007): White Paper on Sport. COM(2007)391 final, Brussels.
- Deutscher Bundestag (2011): Sportausschuss: Kurzprotokoll, Tagesordnungspunkt 5. 42. Sitzung am 14.12.2011, Protokoll Nr. 17/42, S. 22-36, Berlin.
- European Commission, DG Education and Culture (2011): *Sport Satellite Accounts - A European Project: New Results*, Brussels.
- Eurostat (2008): Eurostat Manual of Supply, Use and Input-Output Tables. Eurostat Methodologies and Working Papers, Luxembourg.

- European Communities, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations and World Bank (2009): System of National Accounts 2008. New York.
- Heinze, A., Ahlert, G., Meyrahn, F., Pohlmann, A., Preuß, H. & Puth-Weißenfels, J. (2011): Die wirtschaftliche Bedeutung des Sports in Deutschland. Gemeinsame Unterlage der zur Sitzung des Sportausschusses des Deutschen Bundestages am 14. Dezember 2011 eingeladenen Sachverständigen zum Thema, Deutscher Bundestag Sportausschuss, Ausschussdrucksache 17(5)107, Berlin.
- Meyer, B. & Ahlert, G. (2000): Die ökonomischen Perspektiven des Sports: Eine empirische Analyse für die Bundesrepublik Deutschland. Band 100 der Schriftenreihe des Bundesinstituts für Sportwissenschaft, Schorndorf.
- Panagouleas, T. & Kokolakakis, T. (2012): A Manual for the Construction of a Sport Satellite Account (SSA). Paper presented at the XG SHP, Sport Industry Research Centre at Sheffield Hallam University, April 2012.
- Preuss, H., Alfs, C. & Ahlert, G. (2012): Sport als Wirtschaftsbranche - Der Sportkonsum privater Haushalte in Deutschland. Springer Gabler Research, Wiesbaden.
- Rütter, H., Höchli, C., Schmid, C., Beck, A. & Holzhey, M. (2011): Wirtschaftliche Bedeutung des Sports in der Schweiz - 2008. Studie im Auftrag des Bundesamtes für Sport BASPO. Rüslikon.
- SpEA (2007): The Vilnius Definition of Sport, Official Manual. Vienna.
- SpEA (2010): Sport Satellite Accounts, non-technical methodology paper. Commissioned by EC DG Education and Culture, Vienna.
- Stahmer, C. (1977): Stand der Überlegungen zur Verwendung der Volkswirtschaftlichen Gesamtrechnungen für Wohlstandsuntersuchungen. [Unveröffentlichte] Besprechungsunterlage für die Sitzung des Fachausschusses Volkswirtschaftlicher Gesamtrechnungen im November 1977, Wiesbaden.
- Statistics Netherlands & the HAN University of Applied Sciences (2012): Methodological Manual for the construction of a Sport Satellite Account. The Hague/Heerlen.
- Statistisches Bundesamt (2008): Klassifikation der Wirtschaftszweige 2008 mit Erläuterungen. Wiesbaden.
- Statistisches Bundesamt (2010): Input-Output-Rechnung im Überblick. 2008. Wiesbaden.
- United Nations Statistics Division (UNSD), Statistical Office of the European Communities (EUROSTAT), Organization for Economic Co-operation and Development (OECD) & World Tourism Organization (UNWTO) (2008): 2008 Tourism Satellite Account: Recommended Methodological Framework (TSA-RMF 2008). ST/ESA/STAT/SER.F/80/Rev. 1, Luxembourg, New York, Paris.
- Vanoli, A. (1969): Le Système Actuel de Compatibilité Nationale et la Planification. Review of Income and Wealth, S. 171-184.

