

department for
**culture, media
and sport**

2004 Sport Satellite Account for the UK

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Executive Summary

1. On 11 July 2007, the European Commission adopted the White Paper on Sport which announced that the Commission will seek to develop a European statistical method for measuring the economic impact of sport and that method would be used to create satellite accounts for sport in EU Member States. This could, in time, lead to a European Satellite Account for sport. These initiatives have been coordinated by the EU Working Group (WG) on Sport and Economics which first met in 2006 and has met six times since then.
2. A Satellite Account System is aimed at measuring the economic importance of a specific industry, which is not observable in the traditional system of National Accounts, because it does not correspond to a specific statistically delineated economic activity. Sport is one such area of economic activity.
3. The UK is one of several EU Member States that have agreed to construct a satellite account for sport and this report publishes the first set of results for the UK using 2004 data.
4. The WG established a common definition of sport (the 'Vilnius definition') which is broad and includes all relevant parts of industries for which sport is an important input for their production processes.
5. Under this definition of sport which, was agreed by all EU partners, the estimated size of the UK's sports economy, in terms of consumer expenditure, exceeds 3% of total consumer spending with a Gross Value Added (GVA) of 2.2% of the national economy. This shows the value of consumer expenditure on sport at £23.6bn, the corresponding value added at £22.9bn and employment at 569,000.
6. The level of sport-related employment is 2.0% of the UK's total employment, which is lower than the corresponding GVA level. This implies that the UK's sport workforce produces more economic activity than would be expected based on the average for the economy as a whole. In other words, the UK's sports economy has achieved a higher-than-average level of productivity, making it an attractive tool for local and regional regeneration policies.

7. The main source of the Sport Satellite Account is the ONS publication: 'UK Input-Output Analyses' and sport is significantly related to 53 out of 123 Input-Output product groups. This is consistent with the UK National Accounts (The Blue Book) and the UK Balance of Payments (The Pink Book). It is also consistent with Eurostat's European System of Accounts (ESA) 1995 and the United Nations System of National and Regional Accounts (SNA) 1993.

8. The Sport Satellite Account identifies the intermediate demand in the production process. Each consumer demand group requires intermediate inputs for their own production. Some of them are associated with sports clubs or organisations that help to produce a service or product rather than households. The most important categories of intermediate demand occur in recreational services and in the security of sports activities and sports events.

9. The results reported here are based on 2004 data, which is the base year agreed by the WG, and this forms part of a larger European project. The UK and Austria have both produced Sport Satellite Account reports for 2004. Cyprus will do the same in early 2010 with Germany, France, and Hungary due to complete their work in 2011. The strength of this initiative is that all of these countries will be using the same definition and methodology making genuine international comparisons possible for the first time.

10. For the UK, the immediate next steps are to make comparisons of the UK results for 2004 with those of both Austria and Cyprus, the other two pilot countries. The intention is for the WG to prepare a publication in early 2010 reporting these preliminary results from the project for the three pilot countries. On the basis of these comparisons, the UK estimates will be further informed.

11. This is the first phase of developing a sport satellite account for the UK. In addition to carrying out international comparisons with other countries, work will continue by publishing the UK's results for each year from 2005 to 2009 by the end of 2011, while similar work will be done in the other pilot countries.

1. Introduction

1.1 It is widely recognised that sport is now a significant sector of economic activity. Terms such as the 'sports industry' or the 'sports business' are now used regularly at national and, increasingly, international level. What is less certain is what is meant by these terms. In some discussions, particularly in the United States, the sports business refers mainly to the major professional team sports that generate vast income through sponsorship, payments for broadcasting rights, and income from paying spectators. In the European context, the sport industry is much broader and encompasses businesses involved in supplying goods and services across the whole of sport including those for mass participation sport

1.2 Many European countries first tried to estimate the economic importance of sport in the 1980s as part of a coordinated Council of Europe project (Jones 1989). However, in these studies, the overall definition of sport and the methodology used to estimate its importance varied from country to country which meant that it was not possible to make meaningful international comparisons. Since these pilot studies many countries including the UK have carried out studies of the economic importance of sport on a regular basis. However, none of these studies has used a satellite account approach and estimates from these studies are not directly comparable to those produced in this report.

1.3 On 11 July 2007, the European Commission adopted the White Paper on Sport, in which it announced that:

‘The Commission, in close cooperation with the Member States, will seek to develop a European statistical method for measuring the economic impact of sport as a basis for national statistical accounts for sport, which could lead in time to a European satellite account for sport.’

Prior to this announcement there was an initiative of the Austrian EU Presidency to develop a framework for sport satellite accounts and to establish an EU Working Group on Sport & Economics (WG). This report delivers the results of this initiative for the UK by reporting the outcome of the first attempt to construct a UK Sport Satellite Account.

2. The EU Sport Satellite Account initiative

2.1 The decision to set up the WG was taken by EU Sport Directors at their meeting in Vienna in March 2006, as an initiative of the Austrian Presidency. The first meeting of the group took place in Vienna on 27 and 28 September 2006 at the invitation of the Austrian authorities. When the WG was set-up, there was no legal basis for EU intervention in the area of sport, however, that has now changed with the ratification of the Lisbon Treaty and, from 1 December 2009, sport is now a new EU competency.

2.2 There was consensus in Vienna that the activities of the WG would have three main purposes:

- (i) To measure the sport sector as a percentage of GDP and the effects of sport on employment, value added, and purchasing power in the Member States as well as at EU level;
- (ii) To measure the dynamics of the sport sector over time;
- (iii) To have reliable data as a basis for future decision-making with a bearing on the sport sector.

2.3 In most EU member states, the contribution of sport to the economy is still greatly underestimated. Basic statistical publications of many Member States contain no information on the sport sector at all, yet studies indicate that sport makes a considerable and growing contribution to European economies. Since national statistics focus on a small fraction of what is generally understood as sport, the contribution of sectors other than those covered are generally left

unaccounted for. For instance, sport-related value added plays an important role in retail trade and tourism. This implies a discrepancy of country-specific magnitude between the statistically covered economic sport sector and the common understanding of sport activities. For this reason, the WG set out to encourage both Member States and the EU as a whole to have better statistical data on sport at their disposal. To achieve this aim, it was decided that it would be useful to set up a sport satellite account in the Member States and, at a later stage, at EU level.

2.4 Since the Vienna meeting, there have been six more meetings of the WG. The meetings took place in January and May 2007 in Brussels, October 2007 in Vilnius, May 2008 in Vienna, February 2009 in Paris, and October 2009 in Budapest. As a result, of these meetings, a common methodology for creating a sport satellite account has been developed, and seven countries (Austria, Cyprus, France, Germany, the Netherlands, Hungary and the UK) have begun the process of producing a sport satellite account.

3. Definition of Sport

3.1 At the fourth EU workshop in Vilnius, consensus was reached on the definition of sport. This is referred to as '**the Vilnius definition of sport**'. The following section is reproduced from the WG policy paper on satellite accounts for sport (Meerwaarde/Spea, 2007), which describes the Vilnius definition of sport.

"At the European level, economic activities are measured within a specific statistical nomenclature called NACE. NACE category 92.6 "Sporting Activities" refers only to a small part of the sport sector. This category includes sport facilities such as swimming pools and professional sport organisations. The EU Working Group 'Sport and Economics' has termed this category the '**statistical definition of sport**'. However, to limit the sport sector to this category is quite arbitrary from an economic point of view. Another, conceptually better, definition of the economic sport sector encompasses all industries which produce goods that are necessary to perform sport. Besides sport facilities, this classification includes, for

example, manufacturing of sport shoes and tennis rackets. The latter definition is referred to as the '**narrow definition of sport**'. In addition, the so-called '**broad definition of sport**' includes not only the statistical definition and the narrow definition, but also relevant parts of the industries for which sport is an important input for their production processes, e.g. television broadcasting."

3.2 After a scrutinised examination of the Classification of Economic Activities in the European Community (NACE), it was jointly decided which categories or sub-categories are fully or partly related to sports and the definition they belong to. In the third meeting (May 2007), the Classification of Products by Activity 2002 (CPA 2002) was used. The CPA relates directly to the classification structure under NACE (Rev. 1). Specifically, the first four digits are identical. Given the fact that the CPA is a highly segregated classification of products, its use can provide further guidance in identifying and estimating the sport-related element of every NACE category.

3.3 In parallel to the employment of the CPA, the consumption of sport goods and services of every CPA category was distinguished between intermediate and final. The former relates to raw materials in the production process, while the latter refers mainly to household or public consumption, capital formation, and exports.

4. What is a Sport Satellite Account?

4.1 The WG policy paper on sport satellite accounts (Meerwaarde/Spea, 2007) describes what such an account is and the rationale for having one. A Satellite Account System (SAS) is an extension of the System of National Accounts. The System of National Accounts (SNA), in turn, can be considered as the top of an information pyramid (De Haan 2003), which consolidates the micro economic data of different industries into macro economic aggregates, such as Gross Domestic Product, National Income, and government deficit. National Accounts are essential for economic policy, for they not only form the basis of the most

important economic indicators, but they are also a means to ensure international comparability, coherence, and coordination.

4.2 A Satellite Account System is specifically aimed at subjects, themes, or sectors of the economy, which are not observable in the traditional System of National Accounts, because they do not correspond to a specific statistically delineated economic activity. In other words, a Satellite Account System is a robust statistical framework for measuring the economic importance of a specific industry, e.g. the sports sector, within the national economy.

4.3 The Vilnius definition of sport applied to the System of National Accounts forms the basis for the Sport Satellite Account (SSA). By using the methodology of satellite accounts, the advantages of the core system of National Accounts are retained, while overburdening this system with too much detail is prevented (De Haan, 2003).

4.4 The advantages of Sport Satellite Accounts (SSA) can be summarised as follows:

1. The SSA system is part of the information pyramid formed by the national accounts and therefore comparability and coherence with other economic sectors and indicators is ensured;
2. The SSA methodology serves as a coordination tool for national and international guidelines for economic data gathering;
3. SSA provide key economic indicators for the development of the sport sector such as the Gross National Sports Product, income formation in sports, sports productivity;
4. SSA allow for economic modelling and forecasting for the sport industry.

4.5 The coordination function of a European SSA effort is an important potential benefit. By standardisation of data gathering, international comparisons can be carried out at substantially reduced costs. Furthermore, SSA may serve as a backbone and programming device for economic research in the sport sector in different countries, as it furthers contact and exchange of methodologies between researchers. This may help to attain the European goals of the Lisbon strategy of

a knowledge based economy. Although many countries have done research into certain aspects of the economy of sports, all feature uncharted territories, i.e. areas where there is no information available for a specific country (Ahlerlert 2005, Felderer 2006). A concerted European research effort will help to fill in the blank spots by drawing upon experiences and data from other countries.

4.6 The main purpose of the SSA is to integrate the demand side with the supply side of the sport economy preserving international comparability. For every country, the foundations of this analysis are its Input-Output tables (I-O). According to the UK National Accounts, The Blue Book 2007: '*Satellite accounts are accounts which involve areas or activities not dealt with in a central framework above, either because they add additional detail to an already complex system or because they actually conflict with the conceptual framework*'. Januard (1971) argues that satellite accounts deal with economic activities that in the central framework are traced in a non-exhaustive or non-explicit manner, or they make a complete analysis of the economic or social functions that appear only partly in the central framework.

4.7 UK Satellite Accounts have already been under construction for households and tourism. The large size of the tourism sector, in tandem with the complexity in measuring it, has resulted in the creation of Tourism Satellite Accounts by many countries around the world. Evidence of the great interest for the economic definition and the quantification of the tourism industry was the initiative of the statistical division of the United Nations with the Organisation for Economic Cooperation and Development, the World Trade Organisation and Eurostat, to publish a methodological guide for the production of a Tourism Satellite Account. The purpose of this action was to allow international comparisons.

4.8 Satellite Accounts illustrate a very detailed methodology for measuring the size of the economic activity generated by the industry they examine. This is done by preserving consistency with the national accounts, which make use of international nomenclatures. At the end, the SAs integrate their findings in an input-output framework through industry-by-products Supply and Use Tables

(SUTs). This is the approach followed for the production of the UK Sport Satellite Account.

4.9 The SSA will be consistent among European countries due to a consensus on the definition of the sport industry. This implies an agreement on which economic sectors, categories, and sub-categories are sport related. The European accepted definition of sports contribution to the economy takes into account a bigger fraction of the economy by covering a wider range of sport-related economic activities than previous studies conducted by the Henley Centre and the Sport Industry Research Centre. Consequently, it is expected that the SSA estimate for the economic activity generated by sports will be greater than the already existing estimates.

4.10 The SSA is using as a major statistical source the UK National Accounts and the Input Output tables. This makes a repetition of the analysis at the national or regional level very difficult or even impossible. A further difficulty is presented by the unavailability of inter-regional trade. An exception to that is Scotland, where regional input output tables are well established. Similarly, a thorough regional analysis requires the establishment of an economic regional account (in the input-output table format), before proceeding with the satellite one. However, even in the cases where this is not going to be feasible, the existing UK analysis can help the analysis of the regional economies, especially at the level of consumption, gross value added and employment.

5. Data Sources

5.1 The main source of the Sport Satellite Account is the ONS publication: '**UK Input-Output Analyses**'. This is consistent with the UK National Accounts ('The Blue Book') and the UK Balance of Payments ('The Pink Book'). It is also consistent with Eurostat's European System of Accounts (ESA) 1995 and the United Nations System of National and Regional Accounts (SNA) 1993. It makes use of a 123 Industry/product classification which is consistent with SIC(03) and NACE (see table A in the Appendix). The aforementioned table illustrates the

correspondence between the NACE and the 123 Input-Output product groups. Within it, the 53 sports related categories are presented in bold.

5.2 Each industry is classified according to which product accounts for the greatest part of its output. The type of business (i.e. type of product) related to each industry is defined by the ONS Inter-Departmental Business Register (IDBR). The I-O 123 industry/product classification is consistent with SIC(03) in the sense that every SIC sub-category, in its totality, relates with only one input-output category (i.e. no overlaps). Furthermore, NACE and SIC are consistent with each other in the sense that they are identical up to the 4 digit class level.

5.3 The main disadvantage of the Input-Output tables is that they do not provide detailed data (i.e. only 123 industry/product categories). However, they provide the measure for deciding the total size in each sport sector. The combined use table is instrumental for deciding intermediate demand, while the 'household final demand' table (table 4 in Input-Output Analyses) is important for the allocation of the household spending.

5.4 Other ONS publications can provide information in further detail; namely: the 'Annual Survey of Hours and Earnings' (ASHE), 'UK Trade in Goods', 'Product Sales and Trade', 'Consumer Trends', 'Family Spending', and the 'Annual Business Inquiry' (ABI). The first two and the ABI make use of the Standard Industrial Classification (SIC). 'Consumer Trends' and 'Family Spending' use the Classification of Individual Consumption by Purchase (COICOP), which is inconsistent with any classification mentioned above. Lastly, 'Product Sales and Trade' is based on the PRODUcts of the European COMmunity (PRODCOM) which is a very analytical classification consistent with the NACE or SIC. HM Revenue & Customs provide a very detailed source for imports and exports data at www.uktradeinfo.com. The latter makes use of the SITC (Standard International Trade Classification).

5.5 Unfortunately, the aggregate statistics of the aforementioned sources differ to some extent. This is partially explained by adjustments which serve the purpose

of bringing full consistency between I-O tables' figures and the European System of Accounts 1995 (ESA).

5.6 ABI

The ABI is the second most important statistical source. It is constructed in two parts, namely the financial and the employment inquiries. The former covers about two-thirds of the UK economy. Education for central government and local authorities, insurance banking, public administration, and parts of agriculture and health are excluded. Information is presented for various economic categories including GVA, employment cost, and number of jobs.

5.7 Consumer Trends

Consumer Trends provides estimates of the UK household final consumption expenditure (HHFCE) at current purchasers' prices. It is classified according to the ESA 95 and the COICOP and it is consistent with the UK National Accounts ('The Blue Book'). Consequently, it is the main source for the I-O tables as far as household expenditure is concerned. Unfortunately, direct comparisons between household expenditure from Consumer Trends and the I-O tables are not feasible. ONS has constructed an ad-hoc table to relate the COICOP with the 123 industry/product groups. This table referring to the year 2004 is presented in part E of the "UK Input-Output Analyses, 2006 Edition".

5.8 Annual Survey of Hours and Earnings (ASHE)

ASHE replaced the New Earnings Survey in 2004. Data for 2004 are based on a 1% random sample of employees registered in business that are included in the Inter-Departmental Business Register (IDBR) (i.e. business registered for PAYE or VAT). ASHE is consistent with SIC(03). It provides data regarding employment and wages as well as information on their statistical reliability (i.e. Coefficients of Variation).

5.9 UK Trade in Goods

This business monitor provides data on the value of the UK imports and exports grouped according to the SIC(03). Its figures are expressed in current prices and are fully compatible with the National Statistics Balance of Payments and the

National Accounts. The two main sources of data are the HM Revenue & Customs (HMRC) (for EU trade statistics) and Intrastat (for non-EU trade statistics). Initially, the data are collected by the HMRC's Statistics and Analysis of Trade Unit (SATU) which in turn supplies it to the Office for National Statistics. The latter applies changes for the purpose of bringing consistency with the International Monetary Fund Balance of Payment definition. The most important change is the deduction of freight and insurance from the value of imports. It should be noted that 'UK Trade in Goods' does not cover services. Information regarding the latter can be found in the United Kingdom Balance of Payments, 'The Pink Book', which absorbed the United Kingdom Trade in Services publication in 2006.

5.10 Product Sales and Trade

The Product Sales and Trade publications contain data on the sales/turnover, imports and exports (in terms of both value and volume) of the UK based manufacturers. The publications follow the PRODUcts of the European COMmunity (PRODCOM) classification which is consistent with SIC(03). The two sources of data are HMRC and Intrastat. A very big advantage of these publications is that they break down the data to a very detailed level (up to 8-digits). However, they cover only a part of NACE or SIC, providing data only for the categories: C – Mining and Quarrying, D – Manufacturing and E – Electricity, Gas and Water Supply.

5.11 Family Spending

Another ONS publication is 'Family Spending - A Report on the Expenditure and Food Survey' (EFS). This is an annually conducted survey with a sample size approximately equal to 7,000 households in the UK. The survey interviews individuals aged 16 and over, and asks them to keep diary records of their daily expenditure for a two-week period. 'Family Spending' and 'Consumer trends' are not directly comparable as the latter is only partially based on the EFS. Usually, the Family Spending estimates for household consumption are smaller than that of the Consumer trends or I-O tables.

5.12 Usually, the aforementioned official sources do not contain sufficient data for estimating the sport-related element of every economic activity. Thus, research based on secondary sources is necessary.

5.13 Further publications consulted included the ONS construction industry statistics, the BBC Annual Report, the Annual Report of the Gambling Commission, BEFRA's report on the horse industry in Britain and various interviews and questionnaires. For the identification of sports tourism, vital sources are the publication *UK Tourist Statistics* and *Visitor Attraction Trends*. All enquiries start from the official statistics before proceeding to secondary data and interviews.

6. Methodology

6.1 The construction of a Sport Satellite Account is based primarily on secondary data. As such, it is impossible to present indices of statistical bias. The focus is the maintenance of consistency of any sport estimates with the I-O tables as presented in the ONS publication *UK Input Output Analyses*. The starting point for the construction of the Satellite Account was the comparison of all information provided by the examined official data sources.

6.2 Table 1 below presents an overview of the classification used by each source as well as the type of data they provide.

6.3 After the analysis presented in the data sources section, an order of approach was decided to help the examination of the official data. The first criterion is compatibility with the 'Input-Output Analyses'. Secondly, it is preferable using ABI rather than ASHE statistics, because of their consistency with the Input-Output Tables. For the same reason, we prefer referring to Consumer Trends rather than Family Spending, although the latter provides a more detailed picture of consumer behaviour which is helpful in the identification process of sports components. Furthermore, the UK Trade in Goods is a better option than the Product Sales and Trade since it is compatible with both National Accounts and the UK Balance of Payments. Lastly, the uktradeinfo dataset, although not consistent with NACE, offers a detailed classification of products. The first criterion

is compatibility with the 'Input-Output Analyses'. It is preferable to use ABI rather than ASHE statistics as the former is a major data input in the production of the UK I-O tables. In addition, ASHE does not provide statistics leading to GVA estimation.

Table 1: The main economic aggregates and the main official data sources

Statistics	I-O table	ABI	Consumer Trends	ASHE	UK trade in goods	Product sales and trade	Family Spending
GVA	√	√					
Employment	√	√		√			
Costs							
No of jobs		√		√			
Average Annual Salary		√		√			
Profits	√						
Net taxes	√						
Consumer spending	√		√				√
Imports	√				√	√	
Exports	√				√	√	
Nomenclature	123 Ind./Pr. Groups	SIC(03)	COICOP	SIC(03)	SIC(03)	PRODCOM	COICOP

√ indicates that data for the particular variable exists

Note: The 123 Industry Product Groups of the I-O tables are consistent with the SIC(03). SIC(03), PRODCOM and NACE are always consistent up to the 4th digit of classification.

6.4 For the identification of final household demand, the most useful source of information came from Table 4: Households final consumption expenditure by COICOP heading in 2004 as presented in the publication *Input-Output Analyses*. This is a cross- tabulation of the 123 Input-Output groups and the COICOP groups

of the publication 'Consumer Trends' at the first decimal point of detail. Despite having very general COICOP categories the cross classification was the most useful tool in our disposal. On this basis we could identify groups with zero, or very insignificant household demand that is sport-related. These included the wholesale distribution sector, postal and courier services, banking and finance, insurance and pension funds, research and development, legal activities, advertising etc.

6.5 On the other hand, the most important source of information for the determination of intermediate demand was Table 3 'Demand for products in 2004, the combined use matrix', as presented in the 2006 'Input-Output Analyses'. This is a cross tabulation of industries and products used in production. Hence, the basis of the aforementioned table is a 123x123 matrix identifying intermediate demand for the economy as a whole. Based on this matrix we could isolate many groups with zero or very insignificant sport related intermediate demand. The aforementioned groups include retail distribution, wholesale distribution and the construction industry. In the case of the construction industry, the intermediate demand element is treated as capital formation.

6.6 It is important to note that the case of demand generated by sports clubs is treated as intermediate demand within the matrix. Hence, according to the conventions used in the national accounts, if a sport club buys sport equipment for its members, it will be recorded in the main matrix of the combined use table. This was instrumental in the determination of a maximum figure in each intermediate demand group. In many cases, the estimates derived by the combined use table coincided with the estimates derived by enquiries and interviews. An example is the group 'weapons and ammunitions' where independent enquiries resulted to a figure near £1m of intermediate demand by clubs as suggested by the 'Input Output Analyses'. The figure used came from the cell combining groups 63 (weapons) and 121 (recreation) in the combined matrix of the aforementioned publication.

6.7 The detailed analysis of consumer demand and intermediate demand aids the analysis of the remaining macroeconomic categories such as Gross Value

Added, employment and international trade. However, none of the aforementioned categories is as detailed as the information available for consumer spending. Finally, the analytical process ends in the separation of the Input-Output table in two parts: each sport related column (industry) and row (product) is divided into its sport and non-sport element.

6.8 It is not possible to produce a SSA at regional level without significant primary data collection. Although there is a rich vein of regional economic statistics, and data on international trade, we have very little information on interregional trade within the UK. This makes the construction of Regional Economic Input-Output Tables a major challenge, which prevents the estimation of a regional satellite account for sport.

7. Results: Sport Demand in 2004

7.1 Under the definition agreed by all the EU partners, the value of sport spending, and the corresponding value added and employment, are estimated at: £23.6bn, £22.9bn and 569,000 respectively (see Table 2). This corresponds to more than 3% of the general consumer spending. All the results have taken into account the state of the UK economic accounts in the Input-Output Tables, and are consistent with them. The source of Gross Value Added (GVA) and Employment is not only the economic activity related to consumer spending, but also indirect activity related to finance, insurance, advertising etc.

7.2 Table 2 splits total consumer spending on sport, according to the sport-related Input-Output groups. It also includes the corresponding values for GVA and Employment. We have identified 53 categories of importance (out of a total 123), for which a sport element is derived. The codes of the left-hand-side column refer to the Input-Output groups (ONS) and the derived results partly reflect the proportions of household spending and GVA within the economy as a whole, at £732.5bn and £1,044bn respectively. There is spending that is not generating much GVA, such as in footwear, and there is GVA that is not reflected in consumer spending, such as in banking.

TABLE 2: CONSUMER SPENDING, GVA AND EMPLOYMENT ON SPORT, 2004.

Code	Group	Consumer spending (£m)	GVA (£m)	Employment ('000s)
1	Agriculture		388	7.8
17	Other food products	55	53	0.9
19	Energy drinks	184	43	0.6
24	Made up textiles (e.g. sails)	380	43	2.0
26	Other textiles (e.g. rope)	70	79	2.5
27	Knitted goods (e.g. hosiery)	47	5	0.2
28	Wearing apparel	2,763	110	4.0
29	Leather goods		6	0.2
30	Footwear	1,371	2	0.1
34	Publishing		363	8.0
	<i>Books and Magazines</i>	214		
	<i>Newspapers</i>	395		
	<i>DVDs</i>	267		
35	Coke ovens, petroleum		3	0.1
43	Pharmaceuticals	157.8	27	0.3
44	Soap and toilet preparations		18	0.3
47	Rubber products		3	0.1
61	Other metal products (hooks)	1.5	2	0
62	Mechanical power equipment		19	0.5
67	Weapons and ammunition	15	1	0
72	Electrical equipment		39	1.2
73-5	Radio TV components		16	0.4
76	Medical precision instruments	25	36	0.8
77	Motor vehicles manufacturing	82	39	1.0
78	Shipbuilding and repair	640	503	15.0
79	Bicycles, Motor cycles	740	40	1.0
80	Aircraft (e.g. gliders)	257	39	0.7
83	Sports goods		158	6.1
	<i>Sports goods</i>	1,553		
	<i>Electronic games</i>	123		
84	Manufacturing nec	1	0	0
88	Construction		148	3.1
89	Motor vehicle distribution	246	59	1.2

Code	Group	Consumer spending (£m)	GVA (£m)	Employment ('000s)	
92	Hotels catering pubs		2,067	502	29.0
93	Railway transport		42	19	0.6
94	Other land transport		47	97	2.6
95	Water transport		3.2	1	0
96	Air transport		115	55	0.8
97	Ancillary transport services		64	651	14.0
98	Postal and courier services		2	17	0.6
99	Telecommunications		2,335	2,136	33.4
	<i>BBC</i>	490			
	<i>Cable, satellite</i>	1,837			
	<i>Internet</i>	8			
100	Banking and finance			122	1.4
101	Insurance and pension funds			39	0.4
106	Renting of machinery		46	91	2.6
108	Research and development			17	0.4
109	Legal activities			35	0.8
110	Accounting			172	3.9
111	Market research			209	4.8
112	Architectural activities			112	2.3
113	Advertising			146	2.2
114	Other business services			207	9.9
115	Public administration			30	0.6
116	Education		173	1,032	54.0
117	Health and vet services		173	58	1.7
121-2	Recreational services		8,878	14,845	344.2
	<i>Dance schools</i>	133			
	<i>Spectator sports</i>	756			
	<i>Health and fitness</i>	1,980			
	<i>Other participant sport</i>	1,720			
	<i>Sports Betting</i>	3,318			
	<i>Boat Renting</i>	100			
<i>Massage, fitness</i>	871				
	TOTAL		23,588	22,881	568.6

Note: all zeros above are the result of rounding up.

7.3 To illustrate the methodology used, we consider Publishing and Sports goods as examples. In general, it is important to emphasise that Consumer Spending can, in most cases be estimated directly, but it is not a good guide for the estimation of GVA. The latter has to be linked to employment or vice versa, as a significant amount of spending may be related to imports and not to domestic production.

7.4 Publishing: Printing and Publishing is illustrated in category 34 of the Input-Output Tables. It includes Books and Magazines, Newspapers and DVDs, although these are not separately identified in the Input-Output Tables. Hence, other sources such as the Annual Business Inquiry, Family Spending, UK Trade in Goods, and Consumer Trends can be used to illustrate the subdivisions. The aforementioned sources can provide economic estimates for the market as a whole. The sport-related part is obtained as a percentage of the market. These percentages are derived separately for Books and Magazines, Newspapers and DVDs. In the case of Books and Magazines (6%), we use estimates from various intelligence reports, the Bookseller, the Institute of Publishing, the Bookcareer.com. and ABC reports (magazines). Total spending on Books and Magazines is derived from Family Spending and then the sport element is derived as 6% of the total. Similarly, in the case of Newspapers, total Consumer Spending is derived from Family Spending. Following that, a sport element of 15% is estimated according to the average number of pages in newspapers dedicated to sport. Spending on DVDs in general is derived from the British Video Association Annual Report. A 10% sport element is imposed, based on information contained in the aforementioned report. In total, £876m is spent on sport-related Printing and Publishing. The aforementioned figures help us to derive the sport element in terms of employment and GVA, using ABI statistics. Total employment for the general sector is 347,000 (ABI), giving a sport element of more than 8,000 jobs. An average salary is calculated from the Employment Cost (Input-Output Tables) and total employment (ABI). Following that, the sport related Employment cost is calculated using the previous employment figure, and then adjusted according to the Input-Output Tables structure to derive the sport related GVA (£363m).

7.5 Sports goods: Spending on sport goods can be derived from many statistical sources, such as Family Spending and Consumer Trends. None of these statistics is consistent with the present definition. The new methodology has mapped the sports equipment market in its totality. Significant aid was provided by enquiries and telephone interviews. The basis of the consumer spending estimation is the Consumer Trends figure (£2,656m, code: 9.9.2). The Consumer Trends definition is much more inclusive than the one used in ABI and Input-Output Tables and has to be adjusted for consistency. It is firstly multiplied by the ratio 12/14 to eliminate stoves and barbecues. The aforementioned ratio is derived from both Family Spending and our own telephone interviews. Following that, we subtract estimates on planes, gliders, balloons bicycle chains, hooks, ropes, sails, sleeping bags and parachutes, arriving at £1,553m. The subtracted categories appear elsewhere in the Account. Sport-related employment is provided directly from ABI at 5,000. Similarly, sport related GVA is derived directly from ABI at £168m, which is adjusted to the Input-Output structure arriving at £158m.

7.6 Note that some sectors relate very high values of consumer spending with very low values of GVA and Employment. A characteristic example is 'Footwear' (code 30). Consumer spending on footwear is estimated at almost £1.4bn, although its GVA is very little at £2m and Employment at around 100 people. This reflects the fact that only specialist footwear is produced in the UK. Most exported footwear from the UK is usually recycled imports.

7.7 Table 3 below illustrates the main results for the sports market, in terms of Consumer Spending, Gross Value Added and Employment

TABLE 3: KEY STATISTICS OF THE SPORTS ECONOMY, 2004

	£m, '000s	% of the national economy
Consumer spending (£m)	£23,588	3.2%
Gross Value Added (£m)	£22,881	2.2%
Employment ('000s)	568.6	2.0%

In terms of consumer spending, the sports market corresponds to 3.2% of the total economy. In terms of GVA, the sports economy reached £23bn, representing 2.23% of the national economy. Similarly, 569,000 people (both full-time and part-time) are employed directly or indirectly because of the sports economy. GVA is boosted because of the examination through the National Accounts of the relationship between sport and sectors such as Banking and Insurance that are not linked directly to consumer spending. On the other hand, it is disadvantaged from sectors such as footwear with insignificant manufacturing presence. The employment figures are derived mostly based on the Annual Business Inquiry and the Input-Output Tables for each sector of the economy. An average salary is derived for the general input-output sector using total sector employment and total compensation to employees (Input-Output Tables). This average, together with the numbers for sport-related employment, enables us to calculate the sports-related GVA in each case in accordance with the National Accounts.

7.8 The level of sport-related employment (as a percentage of the national total), is lower than the corresponding GVA level. This implies that the given workforce produces more economic activity than it would be expected in the economy as a whole. In other words, the sports economy has achieved higher-than-average levels of productivity, making it an attractive tool for local and regional regeneration policies.

7.9 Intermediate Demand

The main innovation of the SSA is the identification of the intermediate demand in the production process. The idea is that each consumer demand group requires intermediate inputs for their own production. Some of them have demand elements that are associated not with households but with sports clubs or organisations that help to produce a service or product. Demand by sports clubs is treated as intermediate demand. The full picture is enhanced by the technological requirements in each case. This is presented in Table 4 below.

7.10 In Table 4, by far the most important categories of intermediate demand occur in recreational services and in the security of sports activities and sports

events. The organisation of a sport event involves intermediate demand from the economy, which does not appear in a survey of spectators and participants. This is an important element, helping to identify the full cost and benefit of a sports event. Note that the intermediate demand component is not part of consumer spending. These are outputs required for the final demand to be realised. As such, they exist in the main operation of the economy, and they appear in the results in terms of GVA and Employment. For example 'Advertising' is not directly attributed to consumers. Yet it is important to pay for sports provision in TV-channels such as ITV. Similarly, people pay for health and fitness membership in the form of annual fees yet, in order to make this provision, fitness clubs even have to make a series of spending decisions on the level of soap buying and toilet preparations. All these activities will produce GVA through mainly wages and profits. Hence, the table above is independent of the household demand, but is organically linked to both GVA and Employment.

7.11 Where possible, the indirect demand was derived from telephone interviews with statisticians or experts compiling statistics who could provide further details about the sports elements. In many cases, the final figure is modelled around the cell at the intersection of an examined row (e.g. 'clothing') and the 'recreational' column as they appear in the Input-Output Tables. In other cases, such as Boat engines, the indirect element is sourced from Annual Reports.

TABLE 4: INTERMEDIATE DEMAND FOR SPORT 2004.

Code	Group	£m
01	Agriculture	123
24	Made up textiles (sails)	15
29	Leather goods (harness)	30
34	Printing and Publishing	64
35	Fuel in sports vehicles	40
44	Soap and toilet prep.	31
47	Rubber products	4
62	Engines	29
67	Weapons	1
72	Electrical equipment	155
73-75	Radio and TV productions	34
76	Medical precision instruments	41
77	Motor vehicles	99
78	Boats	207
79	Motorcycles	23
80	Aircraft (e.g. gliders)	30
84	Riding crops	1
89	Maintenance of sport vehicles	170
91	Retail distribution	46
92	Accommodation- sport tourism	30.8
93	Railway transport	6
94	Other land transport	14
95	Water transport	2
96	Air transport	22
97	Travel agents	42
98	Postal and courier services	22
99	Telecommunications	52
100	Banking and Finance	67
101	Insurance and Pension Funds	83
108	Research and development	12
109	Legal activities	20
110	Accountancy services	65
111	Consultancy services	65
112	Architectural activities	79
113	Advertising	93
114	Security activities	372
115	Public administration	30
116	Education	35
117	Health and vets	22
121	Recreational services	385

7.12 The following examples of non-profit sports clubs spending (indirect demand) have been taken from the Central Council of Physical Recreation Sports Club Survey.

TABLE 5: NON-PROFIT SPORT CLUB INCOME AND SPENDING CASE STUDIES

	CASE 1 Rugby Union Club	CASE 2 Hockey Club
County	Somerset	Nottinghamshire
Playing facility	Owning	Renting
Social facility	Owning	Leased
Adult members	200	150
Junior members	200	75
Playing members (adults)	100	145
Annual Fees-adults	£70	£60
Annual Fees-juniors	£45	£10
Volunteers	20	18
INCOME	£74,000	£27,000
<i>Including</i>		
Annual membership fees	£7,000	£7,230
Match game fees	£2,500	£20,756
Bar, catering and hospitality	£28,000	£15,403
Sales of merchandise	£500	£623
Renting out of facilities*	£1,000	£350
Fundraising*	£12,000	£0
Sponsorship*	£15,000	£250
EXPENDITURE*	£62,000	£40,000
<i>Including</i>		
Cost of sales	£22,000	£13,608
Cost of premises	£15,000	£25,298
Sport-related cost	£8,000	£1,764
Utilities	£12,000	£7,908

* Indirect demand

7.13 In the two examples of Table 4, direct consumer sport-related spending includes the club income from annual fees, match game fees, bar, catering and hospitality and sales of merchandise. This is the majority of sport club income. Income attributed to fundraising, renting and sponsorship, as well as the entire expenditure side is related to indirect demand for sports. The above example illustrates that even the simplest of sports units is associated with a complex and diversified economic structure. This justifies the approach of directly modelling the indirect demand in sport.

8. Conclusions

8.1 The results of the sport satellite estimation for the UK in 2004 shows that sport accounts for 2% of total employment, 2.2% of GVA and 3.2% of total consumer expenditure. In 2004, sport generated a significant amount of economic activity in the UK economy.

8.2 The results reported here relate mainly to the 2004 consumer, GVA and employment statistics of the UK's Sport Satellite Account. This work is part of a larger European project that will allow international comparisons of the structure of the sports sector across European countries in the coming years. The UK and Austria have both produced the Sports Satellite Account estimates for the year 2004. Cyprus will do the same by early 2010. Germany, France, and Hungary will complete the work in 2011. The strength of this initiative is that all of these countries will be using the same definition of sport and the same methodology to construct the sport satellite account making genuine international comparisons possible for the first time.

8.3 The significance of this research goes beyond the boundaries of the European Union. Because a methodology has been developed that allows international comparisons of the structure of sport industry, there is interest from countries outside the European Union wanting to carry out similar work using the same methodology in their own country, allowing a broader comparative base in future years.

9. Next Steps

9.1 For the UK, the immediate next steps are to make comparisons of the UK results for 2004 with those of both Austria and Cyprus, the other two pilot countries. The intention is for the WG to prepare a publication in early 2010 reporting these preliminary results from the project for the three pilot countries. On the basis of these comparisons, the UK estimates will be further informed.

9.2 This is the first phase of developing a sport satellite account for the UK. In addition to carrying out international comparisons with other countries, work will continue by publishing the UK's results for each year from 2005 to 2009 by the end of 2011, while similar work will be done in the other pilot countries.

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APPENDIX

ABBREVIATIONS

ABI	Annual Business Inquiry
ASHE	Annual Survey of Hours and Earnings
ATs	Analytical Tables
COICOP	Classification of Individual Consumption by Purpose
CPA	Classification of Products by Economic Activity
ESA	European system of Accounts
GDP	Gross Domestic Product
GVA	Gross Value Added
HHFCE	Household Final Consumption Expenditure
HMRC	HM Revenue and Customs
IDBR	Inter-Departmental Business Register
I-O	Input - Output
NACE	Classification of Economic Activities in the European Community
nec	Not elsewhere classified
ONS	Office of National Statistics
PAYE	Pay As You Earn
PRODCOM	PRODUcts of the European COMmunity
SA	Satellite Account
SIC	Standard Industry Classification
SNA	United Nations' System of National and Regional Accounts
SSA	Sport Satellite Account
SUTs	Supply and Use Tables
VAT	Value Added Tax
WG	EU Working Group on Sport and Economics

Table A: Classification of Input-Output industry/product groups by SIC(03)

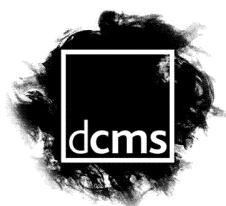
(Bold lines represent sport-related economic sectors)

	123	Industry Product Groups	SIC (03)
Agriculture	1	Agriculture, hunting and related service Activities	1
	2	Forestry, logging and related service activities	2
	3	Fishing, fish farming and related service activities	5
Mining and quarrying	4	Mining of coal and lignite; extraction of peat	10
	5	Extraction of crude petroleum and natural gas; service activities incidental to oil and gas ...	11+12
	6	Mining of metal ores	13
	7	Other mining and quarrying	14
Manufacturing	8	Production, processing and preserving of meat and meat products	15.1
	9	Processing and preserving of fish and fish products; fruit and vegetables	15.2+15.3
	10	Vegetable and animal oils and fats	15.4
	11	Dairy products	15.5
	12	Grain mill products, starches and starch products	15.6
	13	Prepared animal feeds	15.7
	14	Bread, rusks and biscuits; pastry goods and cakes	15.81+15.82
	15	Sugar	15.83
	16	Cocoa; Chocolate and sugar confectionary	15.84
	17	Other food products	15.85 to 15.89
	18	Alcoholic beverages - alcohol and malt	15.91 to 15.97
	19	Production of mineral waters and soft drinks	15.98
	20	Tobacco products	16
	21	Preparation and spinning of textile fibres	17.1
	22	Textile waving	17.2
	23	Finishing of textiles	17.3
	24	Made-up textile articles, except apparel	17.4
	25	Carpets and rugs	17.51
	26	Other textiles	17.52 to 17.54
	27	Knitted and crocheted fabrics and articles	17.6+17.7
	28	Wearing apparel; dressing and dyeing of fur	18
	29	Tanning and dressing of leather; luggage, handbags, saddlery and harness	19.1+19.2
	30	Footwear	19.3
	31	Wood and wood products, except furniture	20
	32	Pulp, paper and paperboard	21.1
	33	Articles of papers and paperboard	21.2
	34	Publishing, printing and reproduction of recorded media	22
	35	Coke, refined petroleum products and nuclear fuel	23
	36	Industrial gases, dyes and pigments	24.11+24.12
	37	Other inorganic basic chemicals	24.13
	38	Other organic basic chemicals	24.14
	39	Fertilisers and nitrogen compounds	24.15
	40	Plastics and synthetic rubber in primary forms	24.16+24.17
	41	Pesticides and other agro-chemical products	24.2
	42	Paints, varnishes and similar coatings, printing ink and mastics	24.3

	43	Pharmaceuticals, medicinal chemicals and botanical products	24.4
	44	Soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations	24.5
	45	Other chemical products	24.6
	46	Man-made fibres	24.7
	47	Rubber products	25.1
	48	Plastic products	25.2
	49	Glass and glass products	26.1
	50	Ceramic goods	26.2+26.3
	51	Bricks, tiles and construction products in baked clay	26.4
	52	Cement, lime and plaster	26.5
	53	Articles of concrete plaster and cement; cutting, shaping and finishing of stone; manufacture ...	26.6 to 26.8
	54	Basic Iron and steel and of ferro-alloys; manufacture of tubes and other first processing of iron ...	27.1 to 27.3
	55	Basic precious and non-ferrous metals	27.4
	56	Casting of metals	27.5
	57	Structural metal products	28.1
	58	Tanks, reservoirs and containers of metal; central heating radiators and boilers; steam ...	28.2+28.3
	59	Forging, pressing, stamping and roll forming of metal; powder metallurgy; treatment and ...	28.4+28.5
	60	Cutlery, tools and general hardware	28.6
	61	Other fabricated metal products	28.7
	62	Machinery for the production and use of mechanical power; except aircraft, vehicle and cycle ...	29.1
	63	Other general purpose machinery	29.2
	64	Agricultural and forestry machinery	29.3
	65	Machine tools	29.4
	66	Other special purpose machinery	29.5
	67	Weapons and ammunition	29.6
	68	Domestic appliances not elsewhere classified	29.7
	69	Office machinery and computers	30
	70	Electric motors, generators and transformers; manufacture of electricity distribution and ...	31.1+31.2
	71	Insulated wire and cable	31.3
	72	Electrical equipment not elsewhere classified	31.4 to 31.6
	73	Electronic valves and tubes and other electronic components	32.1
	74	Television and radio transmitters and apparatus for line telephony and line telegraphy	32.2
	75	Television and radio receivers, sound or video recording or reproducing apparatus and ...	32.3
	76	Medical, precision and optical instruments, watches and clocks	33
	77	Motor vehicles, trailers and semi-trailers	34
	78	Building and repairing of ships and boats	35.1
	79	Other transport equipment	35.2+35.4+35.5
	80	Aircraft and spacecraft	35.3
	81	Furniture	36.1
	82	Jewellery and related articles; musical instruments	36.2+36.3
	83	Sports goods, games and toys	36.4+36.5
	84	Miscellaneous manufacturing not elsewhere classified; recycling	36.6+37
Electricity, gas and water supply	85	Production, transmission and distribution of electricity	40.1
	86	Gas; distribution of gaseous fuels through mains; steam and hot water supply	40.2+40.3
	87	Collection, purification and distribution of water	41
Construction	88	Construction	45

Wholesale and retail trade	89	Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel	50
	90	Wholesale trade and commission trade, except of motor vehicles and motorcycles	51
	91	Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods	52
	92	Hotels and restaurants	55
Transport and communication	93	Transport via railways	60.1
	94	Other land transport; transport via pipelines	60.2+60.3
	95	Water transport	61
	96	Air transport	62
	97	Supporting and auxiliary transport activities; activities of travel agencies	63
	98	Post and courier activities	64.1
	99	Telecommunications	64.2
Financial Intermediation	100	Financial intermediation, except insurance and pension funding	65
	101	Insurance and pension funding, except compulsory social security	66
	102	Activities auxiliary to financial intermediation	67
	103	Real estate activities with own property; letting of own property, except dwellings	70.1+70.2(pt)
	104	Letting of dwellings, including imputed rent	70.2(pt)
	105	Real estate activities on a fee or contract basis	70.3
	106	Renting of machinery and equipment without operator and of personal and household goods	71
	107	Computer and related activities	72
	108	Research and development	73
	109	Legal activities	74.11
	110	Accounting, book-keeping and auditing activities; tax consultancy	74.12
	111	Market research and public opinion polling; business / management consultancy activities; ...	74.13 to 74.15
	112	Architectural and engineering activities and related technical consultancy; technical testing and ...	74.2+74.3
	113	Advertising	74.4
114	Other business services	74.5 to 74.8	
Public administration	115	Public administration and defence; compulsory social security	75
Education, health and social work	116	Education	80
	117	Human health and veterinary activities	85.1+85.2
	118	Social work activities	85.3
Other services	119	Sewage and refuse disposal, sanitation and similar activities	90
	120	Activities of membership organisations not elsewhere classified	91
	121	Recreational, cultural and sporting activities	92
	122	Other Service Activities	93
	123	Private households employing staff and undifferentiated production activities of households ...	95 to 97

Source: "United Kingdom Input Output analysis, 2006 Edition", ONS publication



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