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Research

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# The Economic Importance of Sport in Scotland 1998-2016

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A research report for  
**sport**scotland by the Sport  
Industry Research Centre,  
Sheffield Hallam University

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[sportscotland.org.uk](http://sportscotland.org.uk)

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## List of Abbreviations

ABS	Annual Business Survey
ASHE	Annual Survey of Hours and Earnings
GDP	Gross Domestic Product
GVA	Gross Value Added
FTE	Full Time Equivalent
NES	New Earnings Survey
NIA	National Income Accounting
ONS	Office for National Statistics
SIRC	Sport Industry Research Centre
SSA	Sport Satellite Accounts

## Glossary

Constant prices:	Prices adjusted for inflation.
Current prices:	Actual prices at a given time.
Gross Value Added:	The difference between the value of sport-related goods and services produced and the costs involved in producing them. It roughly equates to wages/salaries and profits.

## EXECUTIVE SUMMARY

This report presents an evaluation of the economic importance of sport for Scotland. The research was commissioned by **sportscotland** and conducted by the Sport Industry Research Centre (SIRC) at Sheffield Hallam University.

This report provides a 'snapshot' of the role and significance of sport in Scotland in 2016 and summarises the key indicators for the economic importance of sport in Scotland. These are consumer expenditure, Gross Value Added (GVA) and employment. This is the seventh study to be undertaken on the economic importance of sport for Scotland. SIRC have carried out the Scottish studies from 1998 onwards, consistently applying the same National Income Accounting methodology. A trend analysis from 1998 onwards is provided to illustrate the change in importance of sport to the Scottish economy over the last 20 years.

In 2016, Scottish **consumers spent £2,669m on sport**. Since 2014, this represents an increase of 7% (current prices) and 3% (constant prices – inflation adjusted). Consumer expenditure on sport in 2016 as a percentage of total expenditure in Scotland was 3.0% compared to 2.8% in 2014. Important categories of sport-related consumer spending include sport clothing and footwear (20%), sport gambling (17%), subscriptions and fees (16%) and sport TV (14%).

Sport-related economic activity generated **£2,749m GVA** in 2016, representing an increase of 8% in current prices since 2014. The equivalent increase in GDP for the whole Scottish economy was 4%, indicating that the sport economy in Scotland has over-performed compared with the national average. This represents an increase of 4% in real terms (constant prices) over this period. The importance of sport, in terms of GVA, increased from 1.5% of the national economy in 1998, to 2.1% in 2016.

The sport economy in Scotland generated **64,800 sport-related jobs** (full time equivalent), corresponding to 2.7% of total employment in Scotland. Sport-related employment has increased by 13% since 2014. Sport-related employment was most heavily concentrated in the commercial non-sport sector (44%); followed by the commercial sport sector (26%), the public sector (20%) and the voluntary sector (10%). The share of sport-related employment has increased gradually from 1.6% in 1998 to 2.2% in 2010, to 2.7% in 2016. Throughout this period, the growth of sport-related employment has been greater than the growth of sport-related GVA. This indicates that sport growth in the period 1998-2016 exceeded the overall growth within the economy, establishing sport investment as very effective in generating employment.

# 1. INTRODUCTION

This report presents an estimate of the economic importance of sport in Scotland prepared by the Sport Industry Research Centre (SIRC) at Sheffield Hallam University on behalf of **sportscotland**. The report provides a 'snapshot' of the role and significance of sport in Scotland in 2016 and summarises the key indicators for the economic importance of sport in Scotland. It includes the economic value of sports participation, volunteering and major events. The key indicators presented are:

- Consumer spending;
- Gross Value added (GVA); and
- Employment.

This is the seventh study to be undertaken looking at the economic importance of sport in Scotland. Previous studies have measured the value of sport in 1998, 2001, 2004, 2008, 2012 and 2014. SIRC carried out these previous Scottish studies and have consistently applied the same methodology. This report will provide some comparative trend analysis from 1998 onwards to illustrate the change in the importance of sport to Scotland's economy over time

## 1.1 The policy context in Scotland

**sportscotland** is the national agency responsible for developing and promoting sport in Scotland. It is a Government funded public body (NDPB) and it operates through three directorates: sports development, high performance and corporate services<sup>1</sup>. **sportscotland** emphasises the role of school sport (to build young people's confidence and competence in sport); a network of quality places for participating in sport; quality support in training plans; performance sport for preparation to compete at the highest level, and the development of clubs. In 2016 there was a network of 179 community sport hubs in Scotland, whilst additional support is provided to communities within the lowest 5% of Scottish Index of Multiple Deprivation areas. The Active Schools programme continues to increase the number of activity sessions and participants. Investment in facilities, such as the Inverclyde national centre and the new Oriam sport performance centre, promote both participation and sport performance. Following the Commonwealth Games in 2014, other important home events in 2016 helped to ensure the continuation of sport legacy in terms of economic impact. These included the Open Golf Championship, generating an impact of approximately £64m, the Fort William Mountain Bike World Cup (generating £33m over 14 years), and the UCI Cycling World Cup.

The current research investigates the possibility of having an increased economic impact from sport, primarily in terms of sport GVA and employment. This research coincides with strong economic results for Scotland as a whole, showing increasing levels of employment<sup>2</sup>. The sport

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<sup>1</sup> <https://sportscotland.org.uk/>

<sup>2</sup> <https://www.bbc.co.uk/news/uk-scotland-scotland-business-35357497>

industry is likely to contribute further to this growth and benefit from it in terms of economic impact and sport participation.

## **1.2 Report structure**

The rest of this report is structured in the following order. Section 2 outlines the methodology, Section 3 presents the key indicators and Section 4 concludes with a discussion of the significance of sport in Scotland in comparison to other industrial sectors. The appendices in Section 5 provide more detailed information on the methodology used to construct the economic model, detailed tables per sector and data sources.

## 2. METHODOLOGY

The SIRC model of economic impact assessment uses economic variables from official statistics as its basic input. Hence, with the sole exception of the voluntary sector, there is no need for collection of primary data.

The National Income Accounting (NIA) methodology provides the framework for this model, which is consistent with the UK National Accounts. The NIA methodology enables the sport economy to be disaggregated into seven sectors as outlined below.

1. **Consumers**, including the personal or household sector. Shows mainly sport-related expenditure, e.g. spending on sports clothing and footwear.
2. **Commercial Sport**, including spectator sport clubs, sport goods manufacturers and retailers. In this section, we would classify companies such as Nike, Goals Soccer Centres and Celtic football club. We also include a section of the media associated with sport TV, sport publications, gyms and keep fit centres under private ownership etc.
3. **Commercial non-sport**, which includes suppliers involved in the production of sport-related goods and services. This sector includes commercial companies that do not provide a sport product, but which assist through the supply of inputs or revenue in its production. Examples include: a bank sponsoring a professional football club; the demand generated by the construction projects of sport clubs; utility requirements etc. In the case of sponsorship, the revenue received by the club represents a flow from the commercial non-sport sector to the commercial sport sector. Hotels serving sport-tourists are also classified in this sector provided they are not part of a sport resort.
4. **Voluntary**, including non-profit making sport organisations such as amateur sports clubs run by their participants. Professional football clubs are not included in this category even if they are managed on a non-profit basis.
5. **Local government**, including income from sport facilities, sport-related grants from central government and rates from the commercial and voluntary sector. The sector has expenses such as wages for labour (a flow towards consumers) and grants to the voluntary sector.
6. **Central government** including taxes, grants and wages on sport-related activities. For example, a person buying a ticket for a football match records two flows: one towards the government sector as VAT, and another towards the commercial sport sector for the remainder of the price.
7. **Outside the area sector**, including all transactions with economies outside Scotland.



We record income and expenditure flows between the seven sectors above. As a result we can draw up a set of income and expenditure accounts for each sector. The 'double entry' accounting principle is applied, so every expenditure flow from sector A to sector B is also an income flow in the sector B accounts. The income and expenditure accounts are then used to derive estimates for three economic impact indicators of the sport economy:

- Sport-related consumer expenditure;
- Sport-related value added; and
- Sport-related employment.

Sport-related value added is the most comprehensive statistic of economic value as it corresponds to the Gross Value Added (GVA) in the economy as a whole. It shows the contribution of the sport industry to the economy. We measure it as the sum of wages and profit surplus in the sector. Note that GVA is different to total turnover; the latter, using the terminology of the Annual Business Survey (ABS) is defined as:

$$\text{Total turnover} \approx (\text{Wages \& salaries}) + (\text{Profits}) + (\text{Purchases of goods materials and services})$$

The NIA method used is consistent with the Office for National Statistics (ONS) estimates, as reported in the publication *Consumer Trends*<sup>3</sup>. Inflation adjustment has been used for comparisons of the 2016 results with the results from previous years. The sport-generated GVA, as percentage of the total product, is an important statistic to consider as it relates directly to the headline GDP figure of the economy. Together with average wages per sector and profit margins, GVA also contributes towards producing estimates for sport-related employment. To do so, average wages per sector (full time) were recorded using the Annual Survey of Hours and Earnings<sup>4</sup>. The resulting employment figures are therefore Full Time Equivalent (FTE) jobs, not a headcount of employees.

Further details on the data sources and methods used for deriving sport-related estimates, and the income and expenditure accounts and flows of the internal sports economy are available in the appendix.

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<sup>3</sup> Consumer Trends Quarter 3 2017 (ONS)

<sup>4</sup><https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/bulletins/annualsurveyofhoursandearnings/2017provisionaland2016revisedresults>

### 3. THE SPORT ECONOMY IN SCOTLAND

#### 3.1 Overview of key indicators

Table 3.1 summarises the key sport-related indicators for Scotland, namely consumer expenditure, GVA and employment for the years 1998, 2001, 2004, 2008, 2010, 2012, 2014 and 2016.

**Table 3.1: Main sport-related indicators for Scotland**

	1998	2001	2004	2008	2010	2012	2014	2016
<b>Consumer expenditure on sport (£million)</b>	1,019	1,266	1,567	1,830	1,898	2,120	2,493	2,669
<b>percentage of Scottish total</b>	2.2	2.5	2.7	2.5	2.5	2.6	2.8	3.0
<b>Sport-related GVA (£million)</b>	965	1,196	1,537	1,737	1,838	2,128	2,538	2,749
<b>percentage of Scottish total</b>	1.5	1.7	1.9	1.7	1.9	2.0	2.1	2.1
<b>Sport-related employment (thousands)</b>	37.9	39.3	43.0	47.2	46.3	52.3	57.5	64.8
<b>percentage of Scottish total</b>	1.6	1.8	2.0	2.1	2.2	2.5	2.6	2.7

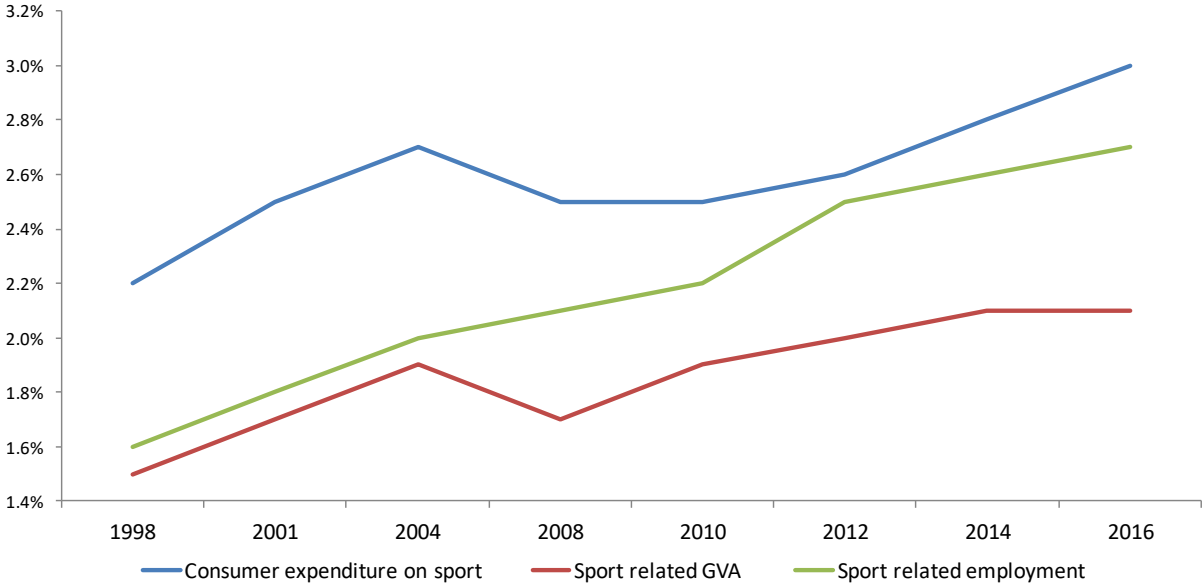
Highlights:

- Consumer expenditure on sport-related goods and services in Scotland in 2016 was £2,669m, or 3.0% of total consumers' expenditure in Scotland. The table illustrates that since 1998, sport-related expenditure has grown both in absolute terms and as a proportion of overall expenditure in Scotland, from 2.2% in 1998 to 3.0% in 2016. Since 2014, sport-related consumer spending increased from £2.5bn to £2.7bn, representing an increase of 7.1%.
- Sport-related value added to the Scottish economy in 2016 was £2,749m, or 2.1% of total GVA in Scotland. Sport-related economic activity has grown considerably from £965m (in current or prevailing prices), or 1.5% of Scottish GVA in 1998. This represents significant growth in terms of the absolute and relative size of the sports industry. Since 2014, sport-related GVA has increased from £2.5bn, representing an increase of 8.3%.
- Employment in sport was 64,800 in 2016, or 2.7% of all employment in Scotland. Sport-related employment has grown from 37,900 or 1.6% of Scottish employment in 1998, again representing a substantial growth. Since the last 2014 report, sport-related employment has grown from 57,500 to 64,800, representing an increase of 12.7%.

Figure 3.1 shows a trend analysis of the key sport-related indicators in percentage terms since 1998. As shown, the main indicators demonstrating strong growth are GVA and employment.

However throughout the examined period, the strongest growth has been in employment, which is consistent with the European experience. In the latest 'Study on the economic impact of sport through sport satellite accounts' in almost all the EU countries the growth in employment exceeds the equivalent growth in GDP<sup>5</sup>. Employment generation in sport happens mainly through the network of sport clubs and from the commercial sector, which has a very high multiplier associated with sport services. For example, according to the latest Scottish Input Output Tables<sup>6</sup>, an increase of sport and recreation's GVA by £1m would generate a GVA of £1.4m throughout the Scottish economy (multiplier 1.4). Further, if clubs spent extensively on construction activity, then each increase of £1m in sport GVA would generate £1.6m throughout the Scottish economy (multiplier 1.6).

**Figure 3.1: Main sport-related indicators for Scotland, percentage shares, 1998-2016**



### 3.2 Consumer expenditure on sport

The estimates for total consumer expenditure in Scotland were derived using Family Spending<sup>7</sup> and Consumer Trends statistics. Table 3.2 indicates the major elements of consumers' expenditure on sport-related goods and services for 1998-2016. The figures are in current prices and hence reflect the rise in actual prices (including inflation) over this period. The table shows that the total value of sport-related consumer spending was £2,669m, or 3.0% of total spending in 2016, representing an increase of 41% relative to 2010 (the year 2010 was chosen for a series of comparisons throughout as it was the point closest to the end of the last recession, providing the opportunity of uninterrupted progress). According to official statistics, the equivalent

<sup>5</sup> <https://publications.europa.eu/en/publication-detail/-/publication/865ef44c-5ca1-11e8-ab41-01aa75ed71a1/language-en/format-PDF>

<sup>6</sup> <https://www.gov.scot/Topics/Statistics/Browse/Economy/Input-Output>

<sup>7</sup> <https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/expenditure/bulletins/familyspendingintheuk/financialyearending2017>

increases in consumer spending for the UK and Scotland as a whole (in current prices) were 25% and 16% respectively, showing that the Scottish sport economy has over performed compared to overall consumer spending.

**Table 3.2: Sport-related consumer spending in Scotland (£million)**

	1998	2001	2004	2008	2010	2012	2014	2016	Change 2010- 2016
	£m	£m	£m	£m	£m	£m	£m	£m	%
<b>Sport clothing and footwear</b>	246	277	336	356	439	521	527	538	23%
<b>Sports goods</b>	78	127	108	51	110	112	126	173	11%
<b>Participation subscriptions and fees</b>	204	261	279	236	289	253	398	424	47%
<b>Admissions to events</b>	51	54	62	48	52	54	69	88	69%
<b>Sport-related gambling</b>	168	173	312	490	353	399	442	453	28%
<b>TV/video rental, cable and satellite subscriptions</b>	83	124	167	264	251	303	355	381	52%
<b>Other sport-related spending</b>	189	250	303	385	404	478	576	612	51%
<b>Total</b>	<b>1,019</b>	<b>1,266</b>	<b>1,567</b>	<b>1,830</b>	<b>1,898</b>	<b>2,120</b>	<b>2,493</b>	<b>2,669</b>	<b>41%</b>

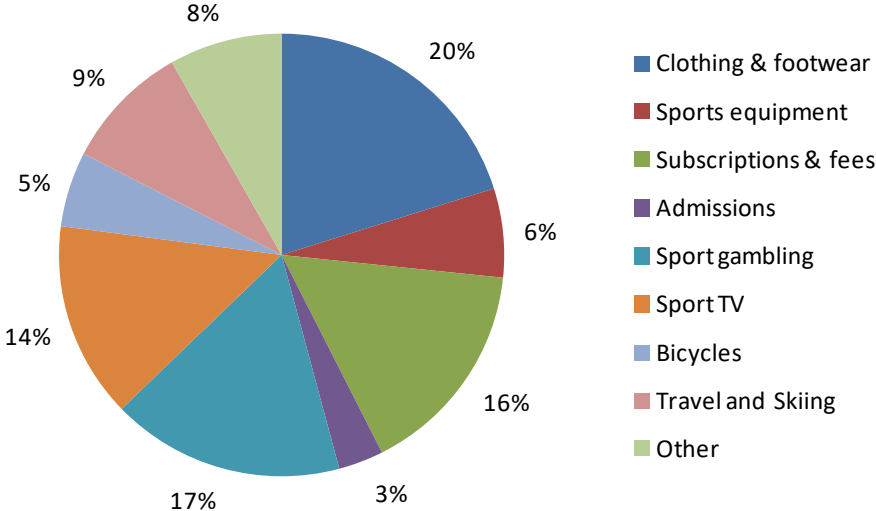
Figure 3.2 shows the percentage distribution of sport-related consumer spending in Scotland in the year 2016. Among the categories presented, the greatest share is attributed to sport-clothing and footwear (20%) followed by sport gambling (17%), subscriptions and fees (16%) and sport-related TV (14%).

Sport clothing and footwear accounted for £538m of all sport-related consumer expenditure. In 2016, the combined participation-related sectors of subscriptions and fees (£424m), sport goods (£173m) and sportswear accounted for 43% of the market. A very significant rise over the period 2010-16 occurred in the 'participation subscription and fees category' (47%). Data information for this category is derived from the publication Family Spending and includes spending on participant sports and subscriptions to sports and social clubs.

Gambling accounted for £453m in 2016, representing an increase of 28%, over the year 2010, measured in market (current) prices. In 2010, sport gambling was in decline (-28%) compared with 2008, with a strong recovery observed thereafter due to online gambling, which has

increased significantly since 2010. The 'TV and video rental, cable and satellite subscriptions' sector accounted for £381m of consumer spending in 2016.

**Figure 3.2: Sport Consumer Expenditure in Scotland, 2016**



**3.2.1 Consumer spending in 2015 prices**

Table 3.3 summarises the value of sport-related consumer spending in Scotland using 2015 prices (constant prices). The presentation of consumer expenditure in this way enables spending to be compared on a like for like basis without being influenced by inflation<sup>8</sup>. The choice of the base year is consistent with the latest index used in the National Accounts (Consumer Price Index in Consumer Trends<sup>9</sup>). The price index used is equivalent to the ratio of consumption in current prices over consumption in constant 2015 prices. The exact price indices used are presented in Table 3.4.

Table 3.3 shows that consumer spending on sport increased by 22% in real terms during the period 2010-2016. However, this increase is not observed equally throughout the sport economy. The consumer market was driven by sport goods, admissions to events and sport TV; these sectors increased by 57%, 36% and 23% respectively. Two other important sectors in terms of real growth are ‘participation subscription and fees’ and ‘sport clothing and footwear’, both of which increased by 18% over the period 2010-2016.

Since 1998, sport-related consumer spending has increased by 88% in real terms. During this period, among the sub-sectors considered in Table 3.3, the greatest increase was observed in sport clothing and footwear, which increased in real terms by over 300%. This growth became possible by the declining price index in sportswear since 1998.

<sup>8</sup> To illustrate this point, the value of consumer spending on sport in 2016 (£2,669m, from Table 3.2) is equivalent to £2,610m (Table 3.3), when using 2015 prices.  
<sup>9</sup> In our calculations volume= 100 \* value / price.

**Table 3.3: Sport-related consumer spending in Scotland, 2015 prices**

	1998	2001	2004	2008	2010	2012	2014	2016	Change 2010- 2016
	£m	£m	£m	£m	£m	£m	£m	£m	%
<b>Sport clothing and footwear</b>	133	186	265	342	457	532	529	539	18%
<b>Sports goods</b>	62	108	101	52	110	113	124	172	57%
<b>Participation subscriptions and fees</b>	392	436	429	300	344	279	412	405	18%
<b>Admissions to events</b>	98	90	95	61	62	59	71	84	36%
<b>Sport-related gambling</b>	305	290	466	627	420	438	455	437	4%
<b>TV/video rental, cable and satellite subscriptions</b>	148	206	246	337	299	332	365	366	23%
<b>Other sport-related spending</b>	249	324	384	439	449	502	579	606	35%
<b>Total</b>	<b>1388</b>	<b>1639</b>	<b>1985</b>	<b>2159</b>	<b>2141</b>	<b>2255</b>	<b>2536</b>	<b>2610</b>	<b>22%</b>

Price indices, as illustrated in Table 3.4, follow a general increasing trend in the case of services and a declining trend in the case of sport clothing and footwear and sport goods, mainly because of the influx of cheaply produced goods from overseas. In this case, the sport index follows the trend of the Consumer Price Index in the general categories of clothing and sport goods. The declining prices in these categories boosted the fast growth of 'real' spending during the period 1998-2016. Note however that despite this trend there has been a stabilisation in the goods price indices since 2010. The price index of sport goods, for example, as shown in Table 3.4, has fluctuated very little during the six years (2008-2016), increasing from 99 in 2008 to just 100 in 2016.

**Table 3.4: Sport-related price indices, 2015 prices (=100)**

	1998	2001	2004	2008	2010	2012	2014	2016	Change 2010- 2016 %
<b>Sport clothing and footwear</b>	185	149	127	104	96	98	100	100	4%
<b>Sports goods</b>	126	118	107	99	100	99	102	100	0%
<b>Participation subscriptions and fees</b>	52	60	65	79	84	91	97	105	25%
<b>Admissions to events</b>	52	60	65	79	84	91	97	105	25%
<b>Sport-related gambling</b>	55	60	67	78	84	91	97	104	23%
<b>TV/video rental, cable and satellite subscriptions</b>	56	60	68	78	84	91	97	104	24%
<b>Other sport-related spending</b>	76	77	79	88	90	95	99	101	12%
<b>Total</b>	<b>73</b>	<b>77</b>	<b>79</b>	<b>85</b>	<b>89</b>	<b>94</b>	<b>98</b>	<b>102</b>	<b>15%</b>

The sport market overall has shown a 4% price inflation during the years 2014-2016. However, during the longer period 2010-2016, prices increased by 15% corresponding to an average inflation rate of 2.4% per year.

### 3.3 Sport-related GVA

Sport-related GVA, or value added, can be described as the difference between the value of the sports-related goods and services produced and the costs involved in producing them. Value added is calculated as the sum of wages and profits generated within the sector. The value added to the Scottish economy through the production of sports-related goods and services has significant implications for sport-related employment.

Table 3.5 shows the figures for GVA in the different sectors of the sports economy in current prices for the years 1998-2016. In 2016, sport-related economic activity added £2,749m to the Scottish economy, which represents an increase of 50% since 2010. This compares favourably to the 21% Growth of GDP in the Scottish economy during the same period<sup>10</sup>. The same relation is confirmed from 2014 to 2016, when sport GVA increased by 8% whilst Scottish GDP in general rose by 4%. During a period of recession, the sports economy tends to perform worse than the overall economy<sup>11</sup> with spending withdrawn from non-essential items; on the contrary, during periods of economic growth the sport economy over performs the general economy as people

<sup>10</sup><https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/nominalandrealregionalgrossvalueaddedbalancedbyindustry>

<sup>11</sup> Chris Gratton and Themis Kokolakis (2012). 'The effect of the current economic conditions on sports participation'. A report prepared for Sport England.

have the ability to spend more on items linked to sport participation and sport attendance. The Commonwealth Games and various important home events, such as the Open, helped to sustain the growth of the sport economy in terms of GVA and employment. Another factor of growth is the high level of tourism (such as golf tourism) from outside Scotland, or outside the UK.

The majority of this economic activity in 2016 (£1,348m, 49%) is generated by the commercial non-sport sector. The next largest sector is commercial sport (£650m, 24%). More than 50% of the valued added in this sector is attributable to professional football clubs and retailing. The latter includes sport-related clothing and footwear, equipment and publications. The voluntary and public sectors account for the remainder (£751m, 27%) of the sport-related GVA in Scotland. In each case, the ratios of wages and profits out of total turnover are calculated using the Scottish section of the Annual Business Survey and the Input Output Tables of Scotland.



**Table 3.5: Sport-related GVA in Scotland (£million)**

	1998	2001	2004	2008	2010	2012	2014	2016	Change 2010- 2016
	£m	£m	£m	£m	£m	£m	£m	£m	%
<b>Commercial sport</b>	256	325	382	298	346	417	470	650	88%
<b>of which</b>									
<b>Spectator sports</b>	29	62	72	71	81	119	114	148	83%
<b>Retailing</b>	156	177	215	120	170	196	212	227	34%
<b>Commercial non-sport</b>	472	553	767	1,025	975	1,122	1,345	1,348	38%
<b>Voluntary sector</b>	120	161	205	181	241	249	353	351	46%
<b>Public sector</b>	116	159	183	233	276	339	370	400	45%
<b>Total</b>	<b>965</b>	<b>1,196</b>	<b>1,537</b>	<b>1,737</b>	<b>1,838</b>	<b>2,128</b>	<b>2,538</b>	<b>2,749</b>	<b>50%</b>

### 3.3.1 GVA in 2015 prices

Table 3.6 presents the sport-related GVA at 2015 prices. This table was calculated by combining the information on GVA in Table 3.5 with the sport-related price indices in Table 3.4. Again, comparison of GVA in this way enables values to be compared on a like for like basis without being influenced by inflation. During the period 2010-2016, sport-related GVA grew by 30% in real terms. Growth was driven by commercial sport (63%), followed by the voluntary and public sector (26%). Within the commercial sport sector, there is a notable rise in spectator sports (58%). The rest of the commercial non-sport sector grew by 20% in real terms during the period 2010-2016.

Over the longer term period 1998-2016, sport-related GVA grew by 105% in real terms. Among the categories considered, the greatest growth occurred in the public sector (148%), followed by the volunteering, commercial non-sport and commercial sport sectors which grew by 110%, 105% and 82% respectively. Some more detailed categories, such as spectator sports have grown at even greater rates (over 200% in the period 1998-2016).

**Table 3.6: Sport-related GVA in Scotland, 2015 prices**

	1998	2001	2004	2008	2010	2012	2014	2016	change 2010- 2016
	£m	£m	£m	£m	£m	£m	£m	£m	%
<b>Commercial sport</b>	349	421	484	352	390	443	478	636	63%
<b>of which</b>									
<b>Spectator sports</b>	39	80	91	84	91	127	116	145	58%
<b>Retailing</b>	212	229	272	142	192	208	216	222	16%
<b>Commercial non-sport</b>	643	716	972	1209	1100	1193	1368	1318	20%
<b>Voluntary sector</b>	163	208	260	214	272	265	359	343	26%
<b>Public sector</b>	158	206	232	275	311	361	376	391	26%
<b>Total</b>	<b>1313</b>	<b>1551</b>	<b>1947</b>	<b>2049</b>	<b>2074</b>	<b>2262</b>	<b>2582</b>	<b>2688</b>	<b>30%</b>

### 3.4 Sport-related employment

Sport-related employment estimates are derived from calculations based on wage payments and average salaries per sector, as reported in ASHE. The latter has been adopted as a basis of average wages per sector following the abolition of the New Earnings Survey (NES) which was used in the early Scottish economic studies of sport. ASHE introduced greater detail in the definition of economic sectors. Although the GVA estimates were not affected by ASHE, employment estimates can now be derived more reliably using GVA and wages because of the improved data quality. All employment in sport and the national economy is estimated as Full Time Equivalent jobs (FTE) where, for example, two 0.5 part time jobs are approximately equivalent to one full time job.

Table 3.7 provides estimates for sport-related employment in Scotland. Sport-related employment (FTE) grew from 46,300 in 2010 to 64,800 in 2016, representing an increase of 40% or 18,500 extra FTE jobs. The 2016 level of employment in sport is the highest recorded, both in absolute terms and relative to sport's share of total employment (2.7%, in Table 3.1). As a percentage of total employment, sport-related employment increased from 2.2% in 2010, to 2.7% in 2016.

**Table 3.7: Sport-related employment in Scotland (FTE)**

	1998	2001	2004	2008	2010	2012	2014	2016	change 2010- 2016
	('000)	('000)	('000)	('000)	('000)	('000)	('000)	('000)	%
<b>Commercial sport</b>	10	9.6	9.5	10	10.4	11.9	12.9	16.7	61%
<b>of which</b>									
<b>Spectator sports</b>	3.5	3.1	2.4	3.2	3.2	4.2	3.9	4.6	44%
<b>Retailing</b>	3.5	3.7	4	4	4.5	4.9	5.1	5.3	18%
<b>Commercial non-sport</b>	17.8	18.1	22.2	23.8	21.9	24.6	27.5	28.6	31%
<b>Voluntary sector</b>	3.9	4.5	4.6	4.6	4.7	4.8	5.3	6.3	34%
<b>Public sector</b>	6.2	7	6.7	8.7	9.3	11.1	11.8	13.2	42%
<b>Total</b>	<b>37.9</b>	<b>39.3</b>	<b>43</b>	<b>47.2</b>	<b>46.3</b>	<b>52.3</b>	<b>57.5</b>	<b>64.8</b>	<b>40%</b>

During the period 2010-2016, the greatest growth in employment was observed in the commercial sport sector (61%), followed by the public, voluntary, and commercial non-sport sectors, which grew by 42%, 34% and 31% respectively. A comparison between Tables 3.6 and 3.7 shows that during the period 2010-2016, sport-related GVA increased by 30% in real terms, whilst the associated employment increased by 40%. This shows that sport is an effective generator of employment, provided that there is an effective demand for any sport-related investment that may be undertaken. This effectiveness is especially pronounced in the case of the public sector, which grew by 26% and 42% in the cases of sport-related GVA (constant prices) and employment respectively. This strong growth in employment is likely to be associated with the organisation of large scale events (such as the Commonwealth Games in 2014) during the examined period and the impact they had through capital spending on sport related employment.

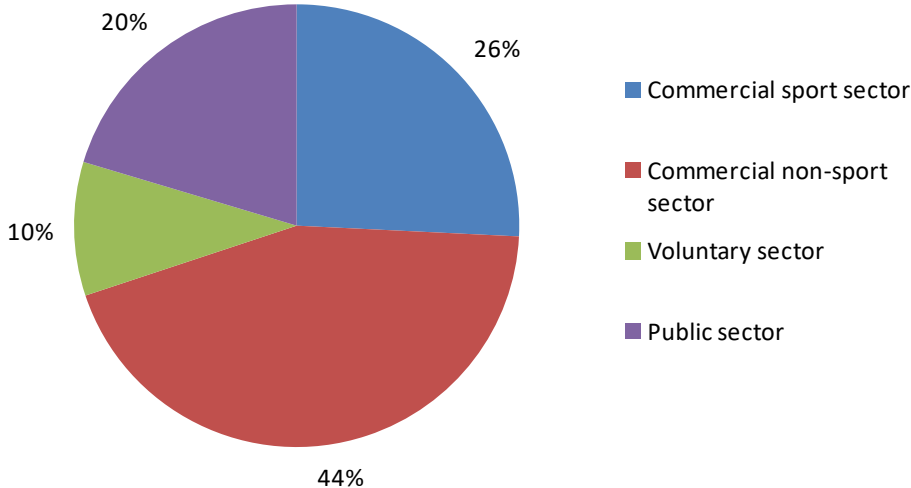
During the longer term period 1998-2016, sport employment grew by 71%. This growth was driven by the public sector (113%) and the voluntary sector (62%), followed by the commercial sport and commercial non-sport sectors which grew by 67% and 61% respectively.

The relative share of employment generated within each sector is broadly consistent with their share of value added to the national economy. Figure 3.3 shows the percentage distribution of sport employment among the major sectors examined in 2016. As in the case of value added, the largest sector is commercial non-sport, supporting 28,600 FTE jobs or 44% of all sport-related employment in Scotland. The commercial sport, public and voluntary sectors support 26%, 20% and 10% of Scotland's sport-related jobs respectively.

Sport employment has also increased its share in the national economy significantly, from 1.6% in 1998 to 2.2% in 2010 and subsequently to 2.7% in 2016. In this sense, over the long term,

the sport industry has increased its influence on the economy as a whole. This is attributed to both the passing of the recession and endogenous growth (e.g. Commonwealth Games, rises in participation in some sports, such as gymnastics in Scotland, sport broadcasting rights) in the sport economy.

**Figure 3.3: Sport Employment in Scotland, 2016**



**3.5 Summary of income and expenditure flows**

This section gives a snapshot of the income and expenditure in the sport industry in Scotland. Table 3.8 summarises the income and expenditure flows for the seven sport-related sectors in 2016. The majority of income is generated in the commercial non-sport sector, accounting for £1,865m. This is followed by the commercial sport sector (£1,751m) and the consumer sector (£1,356m).

Within the commercial sport sector, £825m (47%) of the income comes from retailing. This consists mainly of sport equipment, clothing, footwear, and sales of sport-related books, magazines, and other media.

On the expenditure side, by far the most important category is the consumer sector accounting for £2,669m of expenditure. This is followed by the commercial non-sport (£1,697m) and commercial sport (£1,585m) sectors. This has two implications: firstly sport provides significant benefit to government finances through VAT and secondly it links to sports participation and sport attendance as two important elements in growth in the sport economy. For example, club membership in Governing Bodies of Sport in Scotland increased from 706,764 in 2013/14 to 768,212 in 2016/17 (representing an increase of 8.7%), and is one of the factors associated with

higher sport-related consumer spending in the period 2014-2016 (representing an increase of 7.1%).

**Table 3.8 Sport-related income and expenditure flows, 2016 (£million)**

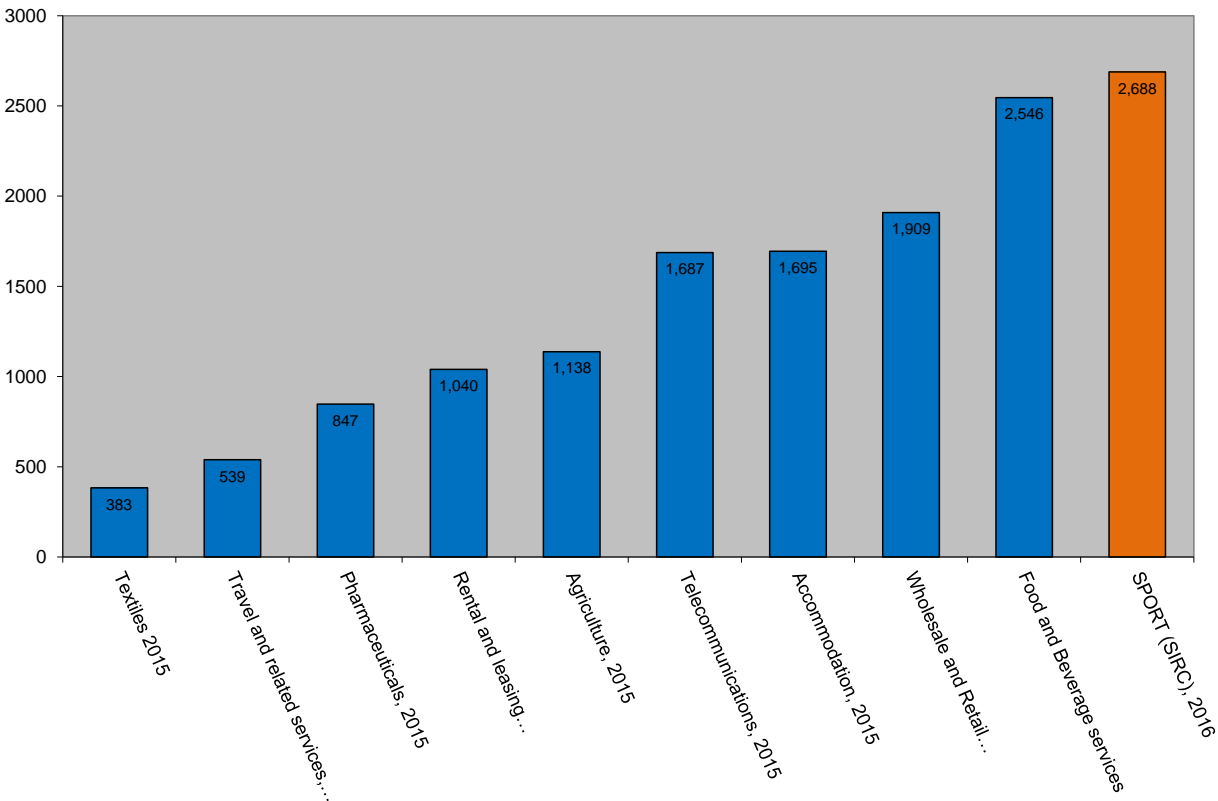
	Income	Expenditure
<b>Consumer</b>	1,356	2,669
<b>Commercial sport</b>	1,751	1,585
<b>of which:</b>		
<b>Spectator sports</b>	193	168
<b>Participation sports</b>	72	68
<b>Retailing</b>	825	716
<b>Other</b>	661	633
<b>Voluntary</b>	604	290
<b>Commercial non-sport</b>	1,865	1,697
<b>Central government</b>	1,098	497
<b>Local government</b>	493	639
<b>Outside the area</b>	856	569

# 4. CONCLUSION

## 4.1 The sport economy in context

To place the sport economy in Scotland into context, we have compared the GVA of sport to the GVA produced by other industries in Scotland. This comparison is illustrated in Figure 4.1. The statistics are taken directly from the Scottish Input Output Table (2015). The 2015 non-sport statistics are represented by the blue bars, whilst the Scottish sport sector in 2016 (at constant 2015 prices) is represented by the red bar.

**Figure 4.1: GVA Scotland, selected industries, £m (2015 prices)**



We compared sport with the categories: textiles; travel services; pharmaceuticals; rental and leasing; agriculture; telecommunications (including wired, wireless and satellite telecommunication activities); accommodation (including: hotels, holiday short stay accommodation, and camping grounds); wholesale and retail vehicles, and food and beverage services, all of which are identified in the 2015 Input-Output Scottish tables. Note that this is a selection of economic sectors in Scotland to illustrate the size of the Scottish sport sector compared to other recognised (in official statistics) industries. The sport industry in Scotland generated £2,688m of GVA in the year 2016 (2015 prices). Among the selected categories, only the food and beverages sector approached this level of activity in terms of its generated GVA. Additionally, sport has greater economic importance (in terms of GVA in 2016) than the sum of

Textiles, Pharmaceuticals, and Travel and related services, underlying its relative strength within Scotland<sup>12</sup>.

## 4.2 Summary

The results of this study demonstrate the importance of sport to the Scottish economy. This report confirms that sport generates significant consumer expenditure, GVA and employment for Scotland. Moreover, the relative importance of these indicators has continued to increase since 2010. In terms of employment, sport has increased its relative standing within the economy as a whole. The construction activity related to community based sports projects and the organisation of significant home events has contributed to increasing growth and economic stability. Furthermore, sport-related employment has continued to grow at a faster rate than overall employment growth in Scotland, and at a faster rate than sport GVA, underlining the role of sport in generating and sustaining jobs and output. The key findings of this study are summarised below.

- The total value of sport-related consumer spending was £2,669m in 2016, representing an increase of 41% relative to 2010 (current prices), and a 22% increase in real terms (constant prices). In comparison to consumer spending for the UK as a whole, the Scottish sport economy has over performed in relation to overall UK consumer spending.
- The sport economy of Scotland has improved both in terms of GVA and employment since it was last measured with 2014 data.
- Sport-related GVA in 2016 was £2,749m. It has increased by 50% since 2010 (current prices), and 30% in real terms (constant prices).
- The contribution to GVA by sport in Scotland has increased from 1.5% in 1998 to 2.1% in 2016. This represents an increase of 105% in real terms (constant prices).
- In 2016, the level of employment in sport was the highest ever recorded in Scotland (64,800), both in absolute terms and relative to its share of total employment (2.7%).
- Since 2010, sport employment has grown by 40%, representing a larger rate of growth than GVA. This is consistent with the European experience, showing that sport is very effective in generating employment.
- The largest sector of sport-related employment in 2016 was commercial non-sport, supporting 28,600 jobs or 44% of all sport-related employment in Scotland. The commercial sport, public and voluntary sectors support 26%, 20% and 10% of Scotland's sport-related jobs respectively.

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<sup>12</sup> Note that sport may also be included in some of the other categories in the Input Output tables.

## 6. APPENDICES

### Appendix 1: Statistical sources

Sources of data used in the model include the following publications:

- Annual Business Survey
- Annual Survey of Hours and Earnings
- BBC Annual Report and Accounts
- British Marine Federation statistics
- BSkyB Annual Report
- Consumer Trends
- Deloitte: Annual Review of Football Finance
- Family Spending
- Financial Statement and Budget Report
- Gambling Commission Statistics
- Government's Expenditure Plans
- HM Customs and Excise Report
- Horserace and Betting Levy Board Report
- Housing and Construction Statistics
- Scottish Input Output Tables
- Labour Force Survey
- Labour Trends
- Local Government Finance statistics
- Monthly Digest of Statistics
- National Travel Survey
- ONS data on number of households and population
- ONS: the Blue Book
- PRODCOM Annual Industry Reports
- Regional Accounts
- **sportscotland** Accounts
- Stats Scotland



- Travel Trends

## Appendix 2: Model output

<b>Consumer expenditure on sport-related goods &amp; services, 2016</b>	
	£million
Admissions	87.6
Sports goods	172.5
Bicycles	145.9
Boats	127.2
Participants sports subscriptions & fees	424.3
Clothing sales	405.1
Footwear sales	133.2
Repairs and laundry	3.7
Travel	113.7
Books and magazines	12.6
Newspapers	42.5
Video: purchase and rental	1.0
BBC licence	66.0
TV and video rental, cable & satellite subscriptions	315.1
Internet subscriptions	17.1
Skiing holidays	132.6
Independent schools	15.9
Gambling: football pools	2.5
Horse racing	408.1
Raffles and gaming	42.8
<b>Total</b>	<b>2,669.2</b>

<b>Commercial sport income, 2016</b>	
	£ million
<b>Spectator clubs:</b>	
Admissions	94.7
Sponsorship & advertising	34.9
Corporate entertainment	18.9
Horserace Betting Levy	5.8
TV rights	31.3
<b>Participation clubs:</b>	
Subscriptions & fees	71.8
<b>Retailers (net of Vat):</b>	
Equipment	317.1
Clothing and footwear	451.7
Books, newspapers and magazines & videos	55.9
<b>Exports and manufacturers' sales of</b>	
clothing, footwear & equipment	516.3
<b>TV and radio:</b>	
BBC	66.0
Commercial	56.5
Internet subscriptions	14.2
<b>Total income</b>	<b>1,737.7</b>

<b>Commercial sport expenditure, 2016</b>	
	£ million
<b>Current factor expenditure</b>	
<b>Spectator clubs:</b>	
Wages	121.0
Other inputs	47.3
<b>Participation:</b>	
Wages	35.9
Other inputs	32.3
<b>Retailers:</b>	
Wages	118.4
Other inputs	597.3
<b>Manufacturers:</b>	
Wages	106.8
Other inputs	338.3
<b>TV and radio:</b>	
Wages	52.5
Other inputs	38.4
<b>Total factor expenditure</b>	
Total wages	434.6
Total other inputs	1,053.5
Total factor surplus	213.6
Total value added	648.2
<b>Current transfers</b>	
Corporation tax	19.4
Rates	19.5
<b>Capital expenditure</b>	
Investment	57.8
<b>Total expenditure leaving sector</b>	<b>1,584.9</b>

<b>Voluntary sector income, 2016</b>	
	£ million
<b>Factor income (monetary)</b>	
Players' subscriptions and match fees	237.6
Equipment	2.2
Sponsorship and advertising	23.8
Raffles and gaming machines	42.8
Bar receipts	306.5
Subtotal (factor income)	612.9
<b>Other monetary income</b>	
Grants	99.4
Employers' subsidies	70.1
Interest	9.0
Lottery awards	12.2
Lottery partnerships	14.6
<b>Total monetary income (excluding bar receipts)</b>	<b>511.8</b>

<b>Voluntary sector expenditure, 2016</b>	
	£million
<b>Factor expenditure</b>	
Wages	182.0
Ground hire and rents	21.7
Equipment	2.4
Other	39.3
(Bar purchases)	214.5
<b>Subtotal (factor expenditure)</b>	<b>459.9</b>
Rates	17.0
Interest	2.1
Investment	25.9
<b>Total monetary expenditure (excluding bar purchases)</b>	<b>290.4</b>

<b>Commercial non-sport income, 2016</b>	
	£million
<b>Receipts net of tax from consumer spending:</b>	
Travel	73.0
Gambling	364.6
Skiing	82.4
Independent schools	12.7
TV rental, cable & satellite subscriptions	252.1
<b>Sales of current inputs to:</b>	
Central government	58.0
Local government	84.2
Commercial sport	756.8
Voluntary sector	42.3
Interest from voluntary sector	2.1
<b>Sales of capital inputs to:</b>	
Local government	81.4
Commercial sport	34.7
Voluntary	20.7
<b>Total income</b>	<b>1,865.0</b>

<b>Commercial non-sport expenditure, 2016</b>	
	£million
<b>Producers of inputs to sport:</b>	
wages	795.6
imports	526.5
(factor surplus)	552.7
(value added)	1,348.2
Corporation tax	50.3
Rates	40.4
<b>Purchases of inputs from sport:</b>	
Sponsorship and advertising	95.4
ITV and radio advertising	56.5
Corporate entertainment at sports events	18.9
Employees' sports subsidies	10.5
Horserace Betting Levy	5.8
Interest payments to voluntary sector	9.0
<b>Promotion expenditure for sponsorship:</b>	
Cost of the rights to top league matches	31.3
Lottery awards	30.6
Lottery partnerships	26.3
<b>Total expenditure leaving sector</b>	<b>1,697.0</b>



<b>Central government income, 2016</b>	
	£ million
<b>Taxes:</b>	
on expenditure	534.5
on incomes generated in:	
commercial sport	120.1
voluntary sector	49.5
commercial non-sport	280.5
local government	96.2
<b>Total income</b>	<b>1,098.1</b>
Lottery awards	4.6
Lottery partnerships	3.1

<b>Central government expenditure, 2016</b>	
	£ million
<b>Transfer payments</b>	
Grants	85.2
Grant support for local government expenditure on:	
sport (net spending)	138.7
education	115.5
<b>Factor expenditure</b>	
Sportscotland, capital spending, wages and other inputs	65.4
Other spending, royal parks	
wages and other inputs	19.4
<b>Total</b>	<b>496.8</b>

<b>Local government income, 2016</b>	
	£ million
<b>Local authority sports facilities:</b>	
fees and charges	77.6
sales of equipment	39.4
ground hire	10.9
<b>Grants from central government:</b>	
to fund net expenditure on sport	138.7
sport education	115.5
via Sportscotland	12.8
<b>Rates:</b>	
voluntary sector	17.0
commercial sport	19.5
commercial non-sport	40.4
Payments for policing	2.1
Lottery awards	11.6
Lottery partnerships	7.6
<b>Total income</b>	<b>493.0</b>

<b>Local government expenditure, 2016</b>	
	£ million
<b>Current expenditure</b>	
Direct gross expenditure:	
Wages	176.8
Other current expenditure	150.6
Education:	
Wages	142.0
Research	5.1
Local transport and policing:	
Wages and other inputs	35.4
Grants to voluntary clubs	27.0
<b>Capital expenditure</b>	
Investment	101.8
<b>Total expenditure</b>	<b>638.7</b>

<b>Outside the area income, 2016</b>	
	£ million
Sports, clothing, footwear and equipment	168.6
Import content of skiing	23.6
TV imports	10.8
Prize income	19.7
Import content of UK production of:	
Sport-related goods and services	107.1
Commercial non-sport sector output	526.5
<b>Total income</b>	<b>856.4</b>

<b>Outside the area expenditure, 2016</b>	
	£ million
Sports, clothing, footwear and equipment	469.8
Admissions to sports events	30.8
Prize income	19.7
<b>Total expenditure</b>	<b>568.8</b>

<b>Value added by sport-related economic activity, 2016</b>		
	£million	Index
<b>Commercial sport:</b>		
Wages	434.6	
Surplus	213.6	
Total	650.1	23.7
<b>Voluntary sector:</b>		
Wages	182.0	
Surplus	153.0	
Lottery projects	15.7	
Total	350.7	12.8
<b>Commercial non-sport:</b>		
Wages	795.6	
Surplus	552.7	
Total	1,348.2	49.1
<b>Central government:</b>		
Wages	29.6	
Lottery projects	4.5	
Total	34.1	1.2
<b>Local government:</b>		
Wages (education)	142.0	
Wages (sports facilities)	176.8	
Wages (transport and policing)	35.4	
Lottery projects	11.2	
Total	365.4	13.3
<b>Total value added</b>	<b>2,748.5</b>	<b>100.00</b>

<b>Employment, (FTE) 2016</b>	
	Employment ('000s)
<b>Sector</b>	
<b>Commercial sport</b>	
Spectator clubs	4.6
Participation clubs	1.4
Retailers	5.3
Manufacturing (exports)	4.2
TV and Radio	1.1
Subtotal	<i>16.7</i>
<b>Voluntary sport</b>	<i>6.3</i>
<b>Commercial non-sport</b>	<i>28.6</i>
<b>Central government</b>	
Administration, other	1.0
<b>Local government</b>	
Sports facilities	6.8
Education	4.4
Transport/police	1.0
Subtotal	<i>12.2</i>
<b>Total</b>	<b>64.8</b>

**The expenditure flows matrix, 2016 (£m)**

	Flows to:						
Flows from:	CON	CS	VOL	CNS	CG	LG	OV
Consumer sector	0.0	1044.8	282.7	735.9	451.2	117.0	23.6
Commercial sport	316.5	0.0	0.0	791.5	149.1	21.6	306.2
Voluntary sector	132.6	1.9	0.0	65.1	63.0	27.8	0.0
Commercial non-sport	596.4	163.9	70.1	0.0	280.5	59.6	526.5
Central government	29.6	10.2	132.0	58.0	0.0	266.9	0.0
Local government	261.7	36.2	27.0	165.7	148.1	0.0	0.0
Overseas	19.7	494.0	0.0	0.0	6.2	0.0	0.0

### Appendix 3: Sources and methods

This section explains how the estimates are derived. Many are generated through the flows in the model. The flows among the sectors in the SIRC model are based on a double entry principle between income and expenditure. Data sources mostly relate to the expenditure side, especially in the case of consumers. The Outside the Area sector is treated as residual in the flow system. No data exist to adequately describe the Voluntary sector; however the income and expenditure relationships suggested by the Survey of Sport Clubs (SRA)<sup>13</sup> have been taken into account. Past studies and surveys have been used to link the Voluntary sector to the sport economy. The estimation of the remaining five sectors is explained below:

#### **1. Consumer expenditure**

Many items of sport-related consumer expenditure are detailed in the Family Expenditure Survey (FES) at UK level. Only broader categories of spending exist for UK regions. The latter are used to extract the relative statistics from the UK figures in a proportionate manner, or directly using the Essex Archives.

**Admissions:** They are estimated from FES. Data exist for 'Spectator sports - admission charges' for the UK as a whole and for 'Sports admissions and subscriptions' for Scotland.

**Sports goods:** Expenditure is estimated from FES 'Sports and camping equipment' and annual reports of major sports companies.

**Bicycles:** The basis of the estimate comes from Consumer Trends. This is filtered regionally based on FES, and weighted according to adult use. Bicycles designed for children and commuting are excluded.

**Boats:** The estimate is derived from a SIRC model for the sector based on statistics from the British Marine Federation.

**Participant sports subscriptions and fees:** Expenditure is estimated using the FES categories: 'participant sports excluding subscriptions' and 'subscriptions to sports and social clubs'.

**Clothing and footwear sales:** The estimate is based on a SIRC model, annual reports from sports companies and statistics from Consumer Trends and FES.

**Sport-related travel:** This is derived from a SIRC model based on NTS statistics and the publication Consumer Trends.

**Books, magazines and newspapers:** Statistics are based on FES and Consumer Trends.

**Video and DVDs purchase and rental:** Based on statistics from FES and the British Video Association.

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<sup>13</sup> Although this is focused on England, it can elucidate some general questions on the health of the volunteering sector.



**BBC licence:** Expenditure is derived from the sport-related content of the BBC licence. It is based on data from the BBC annual report, a SIRC model and the number of households.

**TV rental, cable and satellite subscriptions:** The basic estimate is derived from FES. Its sport-related element is derived by using Sky and BBC statistics.

**Sport-related gambling:** The basis of the estimates is the UK figure which is derived from official HM Customs and Excise data. A model by SIRC is used to ensure that the value of the overall gambling sector corresponds to the Consumer Trends statistics. Subsequently the regional element is derived by using FES and the number of households.

## **2a. Commercial sport income**

**Spectator club admissions:** This is a flow of income coming from the domestic consumer sector and from overseas visitors to Scotland. Data from FES and HM Customs and Excise have been used. Income from tourists is estimated from Travel Trends.

**Sponsorship:** Most of this income comes from the commercial non sport sector. Various sources are used from the SIRC archive. We also assume that the sponsorship market is associated with the size of the spectator sports industry.

**Horserace betting levy:** These statistics are calculated using data from the Horserace Betting Levy Board Annual Report and population statistics from ONS.

**Cost of the rights to top league matches:** The basic estimate is derived from media reports.

**Subscriptions and fees:** This is derived from the income and expenditure flows in the model.

**Retailing:** Income from retailing is associated with consumer expenditure on sport-related equipment, clothing, footwear, books, newspapers, magazines and DVDs. A part of this expenditure flows towards Local Authorities, whilst VAT reverts to central government.

**Exports:** Income from exports is estimated using trade assumptions based on Input-Output tables for wider (than sport) sections of the economy. These ratios are applied to sport-related consumer spending.

**TV and radio:** Income in the case of BBC comes directly from the licence fee. Only the sports-related component is included in our analysis.

## **2b. Commercial sport expenditure**

**Wages:** The calculation of wages is based on the flow of income to the sector and the existing Annual Business Survey data that relate wages to total income. This method of calculating wages is repeated in all sectors of the sport economy.

**Other inputs:** In the case of spectator and participation clubs, an estimation of profits is required. Then 'other inputs' is the residual income after accounting for profits and wages. In the case of retailers, 'other inputs' can be estimated directly through statistics from the Input-Output tables and the ABS at regional level.

**Investment:** Investment is estimated as a ratio of the generated value added in each sub sector. We make some assumptions, based on Input Output Tables, so that we derive the best possible estimates given the existing information. For example, the share of investment within value added in the sport retail sector is assumed to be the same as in the retail sector as a whole.

## **3a. Commercial non-sport income**

**Income coming from consumer spending (net of tax):** This is determined according to the flows of consumer expenditure. For example in the case of gambling, consumer spending flows to government as taxes and to the Commercial Non-Sport sector as income.

**Sales of current inputs to other sectors:** These are determined from the flows of the model. For example, in order to identify sales to the commercial sector we examine spending of commercial sport. The latter is directed either to the commercial non-sport sector or overseas, in a ratio dictated from the Input-Output Tables and the sector-specific statistics of regional ABS, deriving in this way the required sales estimate.

**Sales of capital inputs to other sectors:** They are related to the capital expenditure of the Local Government, Commercial and Voluntary sectors. Information is derived from ABS, the survey of sport clubs and Local Government accounts.

## **3b. Commercial non-sport expenditure**

**Wages:** Spending on wages is calculated as a percentage of total income accruing to the sector. This income can be expressed as wages, profits, or imports (before tax and investment decisions). The part of turnover allocated to wages is estimated from a SIRC model based on the Annual Business Survey (regional data).

**Imports:** These are estimated using the same method as above (wages).

**Corporation tax:** It is derived from the profits accruing to the sector (factor surplus, estimated as above) and the tax rate, estimated from the National Accounts (Blue Book).

**Rates:** The estimate is based on the value added generated in the sector and a model estimating rates as a percentage of value added for the two commercial sectors.

**Sponsorship and advertising:** They are estimated using non-official statistics and a SIRC model. Some independent information can be found in RTR sports and Mintel reports.

**Lottery awards:** They are estimated using data from DCMS and the Lottery Fund Accounts of Sportscotland.

#### **4a. Central government income**

Income accruing to the central government is mainly in the form of taxation. These estimates are determined from the tax rates and the flows within the model.

#### **4b. Central government expenditure**

**Grants via Sportscotland:** Data are provided by the **sportscotland'** annual accounts.

**Wages:** Estimates are provided from the **sportscotland's** annual accounts.

**Support for local government expenditure:** It is determined in the local government income below.

#### **5a. Local government income**

**Fees and charges:** The estimates are based on Local Government Financial Statistics, Stat Scotland, and on a SIRC model for the sector.

**Sales of equipment:** This is derived from consumer spending on sport equipment as detailed above.

**Grants from central government:** Using the HM Treasury Budget Report, an estimate of grants from central government as a percentage of Local Authority receipts is derived. This is then applied to local government expenditure categories.

**Rates:** This is tax income received from the voluntary, commercial sport and commercial non-sport sectors. The estimates are derived from the flows of the SIRC model.

#### **5b. Local government expenditure**

**Total expenditure on sport services:** This is derived from the Local Government Financial Statistics, Stats Scotland, and a SIRC model for processing the data. This is then distributed into wages and other inputs.

**Education:** Spending on Education is derived from the Blue Book and the Government's Expenditure Plans (DES) and Stats Scotland.

**Capital expenditure:** This is based on statistics from the Blue Book and Stats Scotland.

## Appendix 4: Definitions

### 1. National Income Accounting

The concepts of National Income Accounting were developed for macro-economic analysis in the 1930s and 1940s. The basic principle is that there is accounting equality between total output, total income and total expenditure. The most common definitions of total output in the economy as a whole are the Gross Domestic Product (GDP) and Gross Value Added (GVA). For example, assume that the total output in a factory producing football boots is £100m. This is equivalent to the income generated as wages (say £60m) as profits (say £10m) and as flows to the companies selling inputs (£30m) required in the production. In this example, GVA is the sum of wages and profits. Further, total income will also be identical to total expenditure because output that is not sold in the current financial year is treated as investment expenditure.

### 2. Gross Value Added (GVA)

GVA is the difference between total output (based on wages and profits) and the cost of inputs used in the production process (raw materials and services). Alternatively, it can be expressed as:

$GVA = GDP - \text{taxes on products} + \text{subsidies on products}.$

GVA shows the contribution of the sports sector to the economy as a whole. Its basis is the sum of wages and profits in the economy.

### 3. Sport

We follow the definition employed in the publication Sport Market Forecasts<sup>14</sup>. Sport is divided into the following sectors: sport clothing and footwear, sport equipment, health and fitness, other participant sports, boats, spectator sports, sport gambling, sport TV and video, sport-related publications and sport-related travel.

### 4. Employment

This shows Full Time Equivalent (FTE) jobs, where for example two half-time jobs are regarded as being one FTE job. Employment is derived by dividing the wage bill of a sector by the associated full time wage (excluding overtime) from ASHE.

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<sup>14</sup> Sport Market Forecasts, 2011-2015, SIRC.

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