

CONFIDENTIAL

Measuring the Social and Economic Value of Sport in Wales

Report 2: The Economic Importance of Sport in Wales 2016/17

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List of Abbreviations

ABS	Annual Business Survey
ASHE	Annual Survey of Hours and Earnings
GDP	Gross Domestic Product
GLL	Greenwich Leisure Limited
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
SROI	Social Return on Investment
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 Wales. The research was commissioned by Sport Wales in January 2018 and conducted by the Sport Industry Research Centre (SIRC) at Sheffield Hallam University. The research presented forms part of a wider project on measuring the social and economic value of sport in Wales. The other element of the research, detailed in Report 1, measures the Social Return on Investment (SROI) of sport in Wales.

This report provides a 'snapshot' of the role and significance of sport in Wales in 2016/17 and summarises the key indicators for the economic importance of sport in Wales. 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 Wales. SIRC have carried out the Welsh 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 Welsh economy over the last 20 years.

In 2016/17, Welsh **consumers spent £1,182m on sport**. Since 2010, this represents an increase of 31% (current prices) and 14% (constant prices). Consumer expenditure on sport in 2016/17 as a percentage of total expenditure in Wales was 2.3% compared to 2.2% in 2010. Important categories of sport-related consumer spending include sport gambling (21%), sport clothing and footwear (16%), subscriptions and fees (15%) and sport TV (15%). The other category (12%) includes a range of items such as boats and admissions to events.

Sport-related economic activity generated **£1,142m GVA** in 2016/17, representing an increase of 27% in current prices since 2010. The equivalent increase in GDP for the UK economy was 24%, indicating that the sport economy in Wales has over-performed compared with the UK average. This represents an increase of 10% in real terms (constant prices) over this period. The importance of sport, in terms of GVA, increased from 1.7% of the national economy in 1998, to 2.2% in 2016/17.

The sport economy in Wales generated **29,700 sport-related jobs** (full time equivalent), corresponding to 2.1% of total employment in Wales. Sport-related employment has increased by 14% since 2010. Sport-related employment was most heavily concentrated in the commercial non-sport sector (41%); followed by the commercial sport sector (25%), the public sector (23%) and the voluntary sector (11%). The share of sport-related employment has increased gradually from 1.5% in 1998 to 1.8% in 2010, to 2.1% in 2016/17. This indicates that sport growth in the period 1998-2016/17 exceeded the overall growth within the economy, establishing sport investment as an effective policy tool for generating employment.

The Economic Importance of Sport in Wales - 2016/17

Sport-related GVA

£1,142m
of sport-related
value added



10%
increase
since 2010
(constant prices)



1.7%
of overall GVA
in Wales in 1998



2.2%
of overall GVA in
Wales in 2016/17

Sport-related employment

29,700
FTE of sport-
related jobs



14%
increase
since 2010



1.5%
of overall
employment
in Wales in 1998



2.1%
of overall
employment in
Wales in 2016/17

Consumer expenditure on sport

£1,182m
sport-related
spend on goods
and services



14%
Increase
since 2010
(constant prices)



21% Sport gambling



16% Clothing & footwear



15% Subscriptions & fees



15% Sport TV



8% Travel & skiing



7% Bicycles



6% Sports equipment



12% Other

1. INTRODUCTION

This report presents an evaluation of the economic importance of sport for Wales. The research was commissioned by Sport Wales in January 2018 and conducted by the Sport Industry Research Centre (SIRC) at Sheffield Hallam University. The research forms part of a wider project on measuring the social and economic value of sport in Wales. The other element of the research, detailed in Report 1, measures the Social Return on Investment (SROI) of participating and volunteering in sport in Wales.

This report aims to provide a 'snapshot' of the role and significance of sport in Wales in 2016/17 and summarises the key indicators for the economic importance of sport in Wales. 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 Wales. Previous studies have measured the value of sport in 1988, 1993, 1995, 1998, 2004 and 2010. SIRC have carried out the Welsh studies from 1998 onwards 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 Wales' economy over the last 20 years.

1.1 The policy context in Wales

Sport Wales is the national organisation responsible for developing and promoting sport and active lifestyles. It is a Welsh Government sponsored public body and its vision is to 'Unite a proud sporting nation, where every child is hooked on sport for life and where Wales is a nation of champions'¹. Welsh government funding for sport is channeled through Sport Wales. Within the Welsh Government, the sport portfolio is split across two Cabinet secretaries and a Minister. Elite sport and major events, including infrastructure, sit within the wider economy and tourism portfolio, in recognition of sport as a contributor to economic development in Wales. Community sport sits within the broader health portfolio recognising the role sport can play in relation to better physical and mental health and wellbeing².

The Well-being of Future Generations (Wales) Act³ 2015 is legislation requiring public bodies to put sustainable thinking and partnership working at the heart of their working, to improve

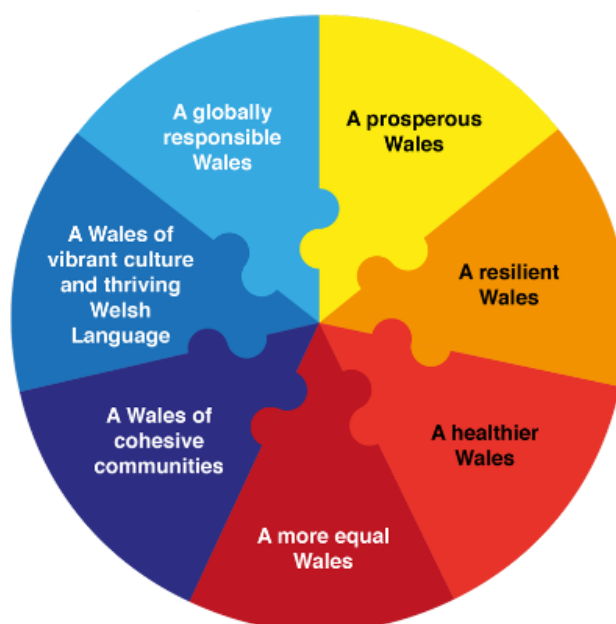
¹ <http://gov.wales/topics/culture-tourism-sport/sportandactiver recreation/sport-wales/?lang=en>

² Sport Wales. This is Sport Wales, Annual Accounts; 2016/17.

³ <https://futuregenerations.wales/about-us/future-generations-act/>

the social, economic, environmental and cultural well-being of Wales. The Act requires public bodies, including Sport Wales, to work towards seven well-being goals, as illustrated in Figure 1.1 below.

Figure 1.1: The well-being goals for Wales



Source: WCVA⁴

Measuring the Social Return on Investment (SROI) and economic value of sport will enable Sport Wales to demonstrate the contribution of sport to the well-being goals and articulate to the Welsh Government, the contribution sport makes to both portfolios. The economic evaluation will enable Sport Wales to evidence its contribution to 'A prosperous Wales'. The SROI will demonstrate the value created through sport in relation to 'A healthier Wales'; 'A Wales of Vibrant culture and thriving Welsh Language'; and 'A Wales of cohesive communities'.

1.2 Investment in sport in Wales

Throughout 2016/7, there has been substantial revenue and capital spending on sport in Wales, which has contributed to the economic value of sport presented within this report.

Sport Wales has invested over £24 million into community sport in Wales in 2016/17, including National Lottery support to over 1500 clubs and organisations to deliver thousands of local opportunities for the people of Wales to become active. Investment has been focused on both traditional sporting opportunities for those already engaged in sport, alongside more recreational opportunities, for those taking part for social reasons. There has also been targeted investment into tackling low rates of participation with specific groups.

⁴ [https://www.wcva.org.uk/what-we-do/the-future-generations-\(wales\)-act-all-you-need-to-know](https://www.wcva.org.uk/what-we-do/the-future-generations-(wales)-act-all-you-need-to-know)

Throughout 2016/17, there has been capital investment in sport facility development. Sport Wales in partnership with Hockey Wales, the Welsh Rugby Union and the Football Association of Wales, has invested in a range of 3G facilities throughout the country. There has also been capital investment in the Plas Menai Centre during the year, and in other facilities including the Star Hub at Splott Park and investment by Greenwich Leisure Limited (GLL) in a further four leisure facilities in Cardiff.

Major events continue to be a significant part of the Welsh sports economy, as they have been since the development of the Principality Stadium in 1999. However, there were relatively fewer major events in 2016/17, compared to previous years. Nevertheless, there are plans to continue the strategy of hosting major events and to leverage the tourism benefits gained from overnight stays and visits in the future. These include, but are not limited to the 2017 UEFA Champions League football finals; 2017 ICC Champions Trophy and IT20 cricket and the 2018 Volvo Ocean Race. There is also various capital facility developments planned beyond 2016/17, which are likely to sustain and potentially boost the economic activity generated by sport in Wales going forwards. Some examples include the £130m Afan Valley Adventure Resort, the £15m Rhyl waterpark development and the £7.4m refurbishment of Monmouth Leisure Centre.

1.3 Report structure

This report is structured as follows: Section 2 outlines the methodology; Section 3 presents the key indicators and Section 4 concludes with a discussion of the significance of sport in Wales 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. An alternative methodology such as Sport Satellite Accounts (SSA) cannot be used here, as it requires a national Input Output Table which is not available in the case of Wales. The NIA methodology enables the sport economy to be disaggregated into seven sectors as outlined below.

- **Consumers**, including the personal or household sector. Shows mainly sport-related expenditure, e.g. spending on sports clothing and footwear;
- **Commercial Sport**, including spectator sport clubs, sport goods manufacturers and retailers. In this section, we would classify companies such as Nike, and Swansea City AFC. We also include a section of the media associated with sport TV, sport publications, gyms and keep fit centres under private ownership but not leisure centres;
- **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;
- **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;
- **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;
- **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;
- **Outside the area sector**, including all transactions with economies outside Wales.

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*⁵. Inflation adjustment has been used for comparisons of the year 2016/17 with past data. 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. 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 can be found in the appendices.

⁵ Consumer Trends Quarter 3 2017 (ONS)

3. THE SPORT ECONOMY IN WALES

3.1 Summary of key indicators

Table 3.1 summarises the key sport-related indicators for Wales, namely consumer expenditure, Gross Value Added (GVA) and employment for the years 1998, 2004, 2010, and 2016/17.

Table 3.1: Main sport-related indicators for Wales

	1998	2004	2010	2016/17
Consumer expenditure on sport (£million)	539	707	903	1,182
percentage of Wales total	2.2	2.3	2.2	2.3
Sport-related GVA (£million)	531	704	897	1,142
percentage of Wales total	1.7	1.8	2.0	2.2
Sport-related employment (thousands)	19.4	23.4	26.0	29.7
percentage of Wales total	1.5	1.8	1.8	2.1

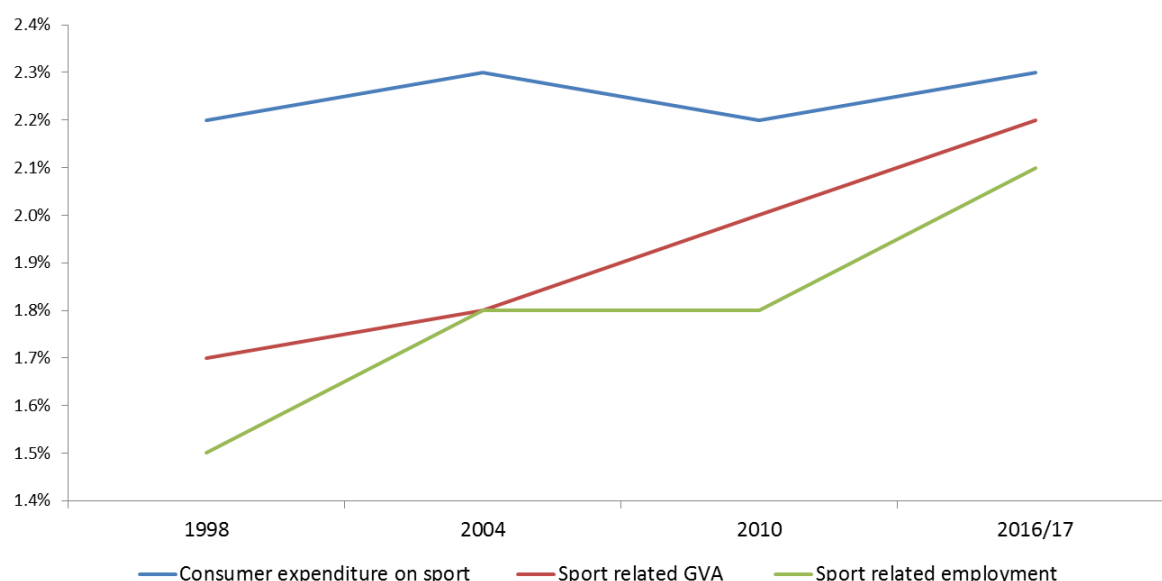
Highlights:

- Consumer expenditure on sport-related goods and services in Wales in 2016/17 was £1,182m, or 2.3% of total consumers' expenditure in Wales. The table illustrates that since 1998, sport-related expenditure has grown in absolute terms, but as a proportion of overall expenditure in Wales it has remained relatively stable.
- Sport-related value added to the Welsh economy in 2016/17 was £1,142m, or 2.2% of total GVA in Wales. Sport-related economic activity has grown from £531m, or 1.7% of Welsh GVA in 1998. This represents significant growth in terms of the absolute and relative size of the sports industry.
- Employment in sport was 29,700 in 2016/17, or 2.1% of all employment in Wales. Sport-related employment has grown from 19,400 or 1.5% of Welsh employment in 1998, again representing a substantial growth.

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. Since 2010, the strongest growth has been in employment, which is consistent with the European experience⁶. Employment generation in sport happens mainly through the network of sport clubs and from the commercial sector, which has very high multiplier associated with sport services.

⁶ <http://ec.europa.eu/assets/eac/sport/library/studies/study-contribution-sports-economic-growth-final-rpt.pdf>

Figure 3.1: Main sport-related indicators for Wales, percentage shares, 1998-2016/17



3.2 Consumer expenditure on sport

The estimates for total consumer expenditure in Wales were derived using Family Spending and Consumer Trends statistics. Table 3.2 indicates the major elements of consumers' expenditure on sport-related goods and services for 1998-2016/17. 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 £1,182m, or 2.2% of total spending in 2016/17, representing an increase of 31% relative to 2010. According to official statistics, the equivalent increase in consumer spending for the UK as a whole (in current prices) was 25%, showing that the Welsh sport economy has over performed compared to overall consumer spending.

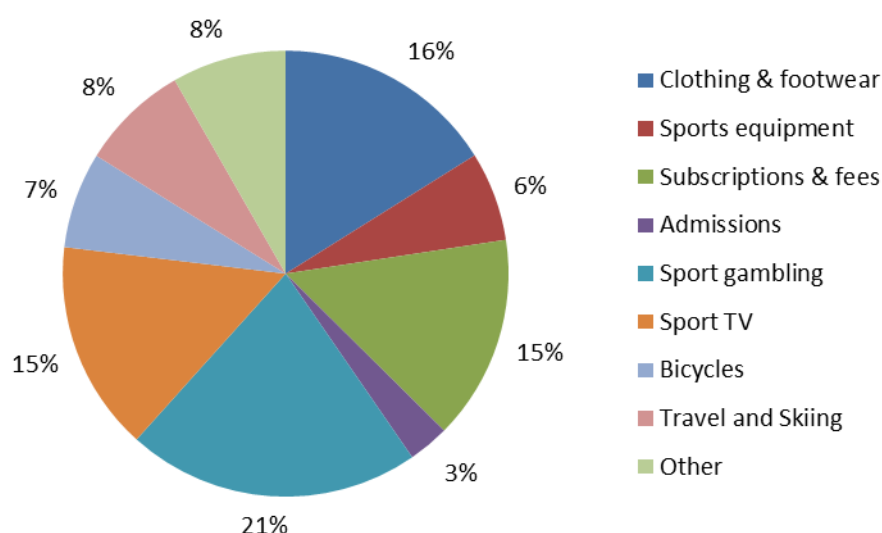
Table 3.2: Sport-related consumer spending in Wales (£million)

	1998	2004	2010	2016/17
Sport clothing and footwear	112	143	227	190
Sports goods	37	45	62	77
Participation subscriptions and fees	99	112	125	176
Admissions to events	23	22	22	35
Sport-related gambling	95	166	141	252
TV/video rental, cable and satellite subscriptions	49	94	129	180
Other sport-related spending	124	125	197	272
Total	539	707	903	1,182

Figure 3.2 shows the percentage distribution of sport-related consumer spending in Wales in the year 2016/17. Among the categories presented, the greatest share is attributed to sport-

related gambling (21%) followed by sport clothing and footwear (16%) subscriptions and fees (15%) and sport-related TV (15%). The share of bicycles (7%) is greater than in previous studies as the total spending on bicycles for adult leisure use was included to align this research with similar projects in the UK and the EU. Previous studies weighted spending according to use statistics from National Travel Survey.

Figure 3.2: Sport Consumer Expenditure in Wales, 2016/17



Gambling accounted for £252m in 2016/17, representing an increase of 79%, over the year 2010, measured in market (current) prices. An earlier increase of 75% in sport-related gambling expenditure during the period 1998-2004 can be explained by the abolition of gambling tax. In 2010, sport gambling was in decline (-15%) compared with 2004, with a strong recovery observed thereafter due to online gambling, which has increased significantly since 2010.

Sport clothing and footwear accounted for £190m of all sport-related consumer expenditure. The decline of spending in this category since 2010 corresponds to equivalent reductions in Family Spending estimates. In 2016/17, the combined participation-related sectors of subscriptions and fees (£176m), sport goods (£77m) and sportswear accounted for 37% of the market. A very significant rise over the period 2010-16 occurred in the 'participation subscription and fees category' (41%). This is based on the publication Family Spending and includes spending on participant sports and subscriptions to sports and social clubs.

The sector 'TV and video rental, cable and satellite subscriptions' accounted for £180m consumer spending in the year 2016/17. Other spending categories include publications, sport-related BBC licence fee, and sport travel.

3.2.1 Consumer spending in 2015 prices

Table 3.3 summarises the value of sport-related consumer spending in Wales 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 inflation⁷. The choice of the base year is consistent with the latest index used in the National Accounts (Consumer Price Index in Consumer Trends⁸). 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 14% in real terms during the period 2010-2016/7. However, this increase is not observed equally throughout the economy. The consumer market was driven by sport-related gambling, admissions to events and sports goods, each area increasing by 45%, 27% and 24% respectively. Participation subscriptions and fees grew by 13% during the period 2010-2016/17, reversing for the first time the decline that was observed in the 1998-2010 period.

Since 1998, sport-related consumer spending has increased by 55% in real terms. During this period, among the subsectors considered in Table 3.3, the greatest increase was observed in sport clothing and footwear, which increased in real terms by 211%. This is despite the decrease observed since 2010 (-20%).

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

	1998	2004	2010	2016/17	Change 2010- 2016/17
	£m	£m	£m	£m	%
Sport clothing and footwear	61	113	238	190	-20%
Sports goods	29	42	62	77	24%
Participation subscriptions and fees	190	172	149	168	13%
Admissions to events	44	34	26	33	27%
Sport-related gambling	171	247	167	243	45%
TV/video rental, cable and satellite subscriptions	88	139	153	173	13%
Other sport-related spending	163	158	219	268	22%
Total	745	904	1,015	1,153	14%

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

⁷ To illustrate this point, the value of consumer spending on sport in 2016/17 (£1,182m, from Table 3.2) is equivalent to £1,153m (Table 3.3), when using 2015 prices.

⁸ In our calculations $\text{volume} = 100 * \text{value} / \text{price}$.

index follows the trend of the CPI 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 1998-2016/17. Note however that despite this trend there has been a stabilisation in the goods price indices since 2010. The price of sport goods, for example, as shown in Table 3.4, has been practically unchanged during the last six years (2010-2016/17). The sport market overall has shown a 3% price inflation during the year 2016/17. During the period 2010-2016/17 prices increased by 16% corresponding to an average inflation rate of 2.5% per year.

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

	1998	2004	2010	2015	2016/17	Change 2010- 2016/17
	£m	£m	£m	£m	£m	%
Sport clothing and footwear	185	127	96	100	100	4%
Sports goods	126	107	100	100	100	0%
Participation subscriptions and fees	52	65	84	100	105	25%
Admissions to events	52	65	84	100	105	25%
Sport-related gambling	55	67	84	100	104	24%
TV/video rental, cable and satellite subscriptions	56	68	84	100	104	24%
Other sport-related spending	76	79	90	100	101	12%
Total	72	78	89	100	103	16%

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 Welsh 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 1998-2016/17. In 2016/17, sport-related economic activity added £1,142m to the Welsh economy, which represents an increase of 27% since 2010. This compares favourably to the 24% Growth of GDP in the UK economy during the same period. During a period of recession, the sports economy tends to perform worse than the overall

economy⁹ 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 have the ability to spend more on items linked to sport participation and sport attendance. It would appear that the Welsh sports economy has followed this trend in 2010 and 2016/17.

The majority of this economic activity in 2016/17 (£567m, 50%) is generated by the commercial non-sport sector. The next largest sector is commercial sport (£248m, 22%). More than two thirds 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 (£327m, 29%) of the sport-related economic activity in Wales. In each case, the ratios of wages and profits out of total turnover are calculated using the Welsh section of the Annual Business Survey and the Input Output Tables of the UK.

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

	1998	2004	2010	2016/17
Commercial sport	120	149	175	248
of which				
Spectator sports	13	27	37	78
Retailing	79	76	86	91
Commercial non-sport	267	366	466	567
Voluntary sector	69	77	98	133
Public sector	75	112	158	194
Total	531	704	897	1,142

3.3.1 GVA in 2015 prices

Table 3.6 presents the sport-related GVA in 2015 prices. This table was calculated by combining the information on GVA in Table 3.5 with the sport-related price indices of 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 2010-2016/17, sport-related GVA grew by 10% in real terms. Growth was driven by commercial sport (22%), followed by the voluntary sector (17%). Within the commercial sport sector, there is a notable rise in spectator sports (81%). The remaining commercial non-sport and public sectors grew by 5% and 6% respectively.

Over the longer period 1998-2016/17, sport-related GVA grew by 50% in real terms. The greatest growth occurred in the public sector (81%), followed by commercial non-sport, commercial sport and the voluntary sector, which grew by 48%, 44% and 34% respectively.

⁹ Chris Gratton and Themis Kokolakis (2012). 'The effect of the current economic conditions on sports participation'. A report prepared for Sport England.

Table 3.6: Sport-related GVA in Wales, 2015 prices

	1998	2004	2010	2016/17	change 2010- 2016/17
	£m	£m	£m	£m	%
Commercial sport	167	191	197	241	22%
of which					
Spectator sports	18	35	42	76	81%
Retailing	110	97	97	88	-9%
Commercial non-sport	371	469	524	550	5%
Voluntary sector	96	99	110	129	17%
Public sector	104	144	178	188	6%
Total	738	903	1,008	1,109	10%

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 the Annual Survey of Hours and Earnings (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 early economic studies. 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 Wales. Sport-related employment (FTE) grew from 26,000 in the year 2010 to 29,700 in 2016/17, representing an increase of 14% or 3,700 extra FTE jobs. The 2016/17 level of employment in sport is the highest recorded, both in absolute terms and relative to sport's share of total employment. As a percentage of total employment, sport-related employment increased from 1.8% in 2010, to 2.1% in 2016/17.

During the period 2010-2016/17, the greatest growth in employment was observed in the commercial sport sector (39%), followed by the voluntary, public and commercial non-sport sectors, which grew by 33%, 8% and 3% respectively. A comparison between Tables 3.6 and 3.7 shows that during the period 2010-2016/17, sport-related GVA increased by 10% whilst the associated employment increased by 14%. 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 voluntary sector, which grew by 17% and 33% in the cases of sport-related GVA (constant prices) and employment respectively.

During the longer period 1998-2016/17, sport employment grew by 53%. This growth was driven by the public sector (106%) and the voluntary sector (60%), followed by the commercial sport and commercial non-sport sectors which grew by 44% and 37% respectively.

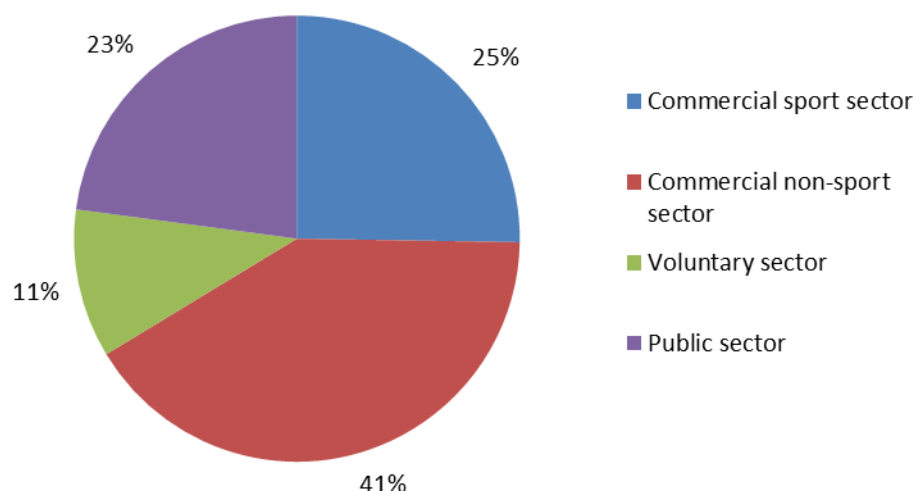
Table 3.7: Sport-related employment in Wales (FTE)

	1998	2004	2010	2016/17	change 2010- 2016/17
	('000)	('000)	('000)	('000)	%
Commercial sport	5.2	5.0	5.4	7.5	39%
of which					
Spectator sports	1.2	1.2	1.7	3.1	82%
Retailing	3.0	2.8	2.5	2.0	-20%
Commercial non-sport	8.9	11.0	11.9	12.2	3%
Voluntary sector	2.0	2.0	2.4	3.2	33%
Public sector	3.3	5.4	6.3	6.8	8%
Total	19.4	24.4	26.0	29.7	14%

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 examined sectors in the year 2016/17. As in the case of value added, the largest sector is the commercial non-sport, supporting 12,200 FTE jobs or 41% of all sport-related employment in Wales. The commercial sport, voluntary and public sectors support 25%, 11% and 23% of Wales' sport-related jobs respectively.

Sport employment has also increased its share in the national economy significantly, from 1.5% in 1998 to 1.8% in 2010 and finally to 2.1% in 2016/17. 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. Olympic Games, rises in participation in some sports, sport broadcasting rights) in the sport economy.

Figure 3.3: Sport Employment in Wales, 2016/17



3.5 Summary of income and expenditure flows

This section gives a snapshot of the sources of generated income and expenditure in the sport industry in Wales.

Table 3.8 summarises the income and expenditure flows for the seven sport-related sectors in 2016/17. The majority of income is generated in the commercial non-sport sector, accounting for £775m. This is followed by the commercial sport sector (£591m) and the consumer sector (£579m).

Within the commercial sport sector, £307m (52%) of the generated 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 £1,182m of expenditure. This is followed by the commercial non-sport (£718m) and commercial sport (£538m) sectors. These results show that the main engine for spending on sport lies on the level of people rather than institutions. 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.

Table 3.8 Sport-related income and expenditure flows, 2016/17 (£million)

	Income	Expenditure
Consumer	579	1,182
Commercial sport	591	538
of which:		
Spectator sports	105	89
Participation sports	16	15
Retailing	307	258
Other	163	176
Voluntary	237	156
Commercial non-sport	775	718
Central government	472	189
Local government	253	279
Outside the area	294	98

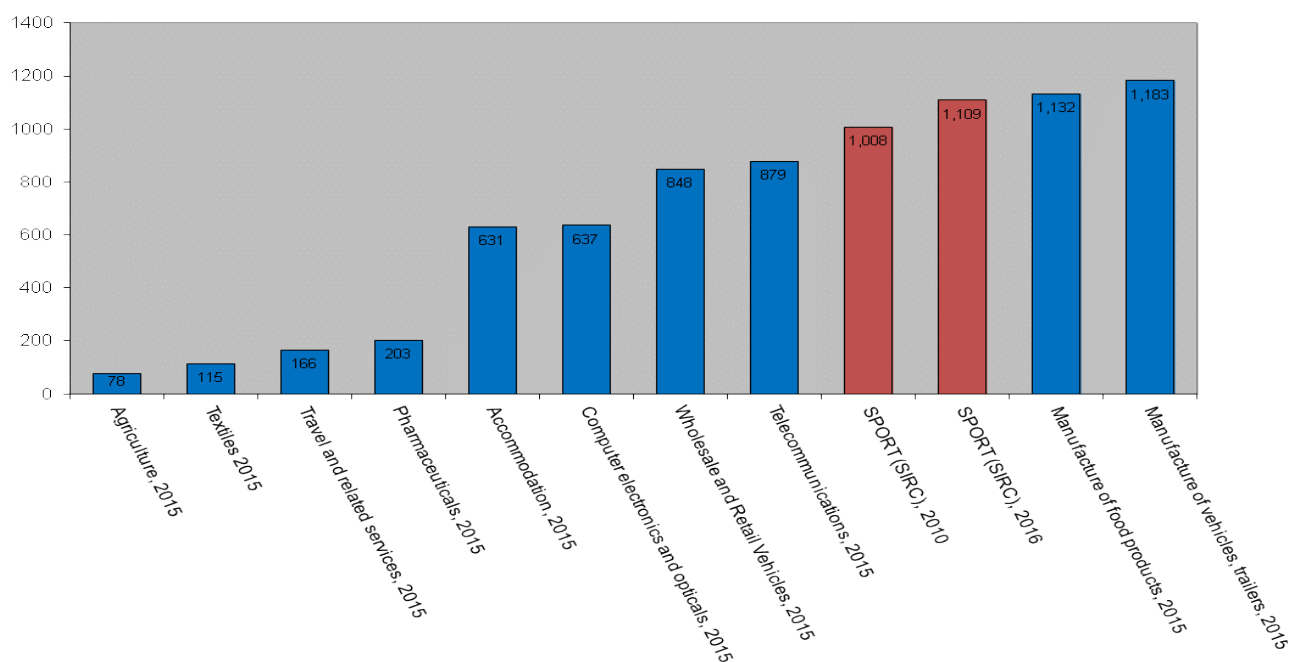
4. CONCLUSION

4.1 The sport economy in context

To place the sports economy in Wales into context, we have compared the GVA of sport to the GVA produced by other industries in Wales. This comparison is illustrated in Figure 4.1. The statistics are taken directly from the Welsh section of the latest Annual Business Survey (ABS) (2015). The 2015 non-sport statistics are represented by the blue bars, whilst the Welsh sport sector in 2010 and 2016/17 (2015 prices) are represented by the red bars.

We compared sport with the categories: Textiles; Agriculture; Computer electronics; Travel services; Accommodation (including: hotels, holiday short stay accommodation, and camping grounds); Telecommunications (including wired, wireless and satellite telecommunication activities); Pharmaceuticals, Wholesale and retail vehicles, Manufacture of food products and Manufacture of trailers, all of which are identified in the 2015 ABS Welsh tables. Note that this is a selection of economic sectors in Wales to illustrate the comparative size of Welsh sport economic performance. For the year 2010, sport-related GVA was £1,008m (2015 prices). The sport industry in Wales has grown to £1,109m in the year 2016/17 (2015 prices). Among the selected categories, only the two manufacturing sectors exceed sport in terms of their generated GVA. Additionally, sport has greater economic importance (in terms of GVA in 2016/17) than the sum of Accommodation, Pharmaceuticals, Travel, and Textiles, underlying its relative strength within Wales¹⁰.

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



¹⁰ Note that sport may also be included in some of the other categories

4.2 Summary

The results of this research demonstrate the importance of sport to the Welsh economy. This report shows that sport generates significant consumer expenditure, GVA and employment for Wales. Moreover, the relative importance of these indicators has continued to increase since 2010. In terms of GVA, sport has increased its relative standing within the economy as a whole. The construction activity related to community based sports projects 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 Wales, and, since 2010, at a faster rate than sport GVA, underlining the role of sport in generating and sustaining jobs and output. The following bullet points summarise the key findings presented in this report:

- The total value of sport-related consumer spending was £1,182m in 2016/17, representing an increase of 31% relative to 2010 (current prices), and a 14% increase in real terms (constant prices). In comparison to consumer spending for the UK as a whole, the Welsh sport economy has over performed in relation to overall UK consumer spending;
- Since 2010, there was a 13% increase in spending on participation subscription and fees (constant prices), reversing the decline before 2010;
- The greatest long term growth in consumer spending (1998-2016/17) has occurred in sportswear, increasing by 211% in real terms;
- The sport economy of Wales has improved in terms of GVA and employment since it was last measured in 2010;
- Sport-related GVA in 2016/17 was £1,142m. It has increased by 27% since 2010 (current prices), and 10% in real terms (constant prices);
- The contribution to GVA by sport in Wales has increased from 1.7% in 1998 to 2.2% in 2016/17. This represents an increase of 50% in real terms (constant prices);
- In 2016/17, the level of employment in sport was the highest ever recorded (29,700), both in absolute terms and relative to its share of total employment (2.1%);
- Since 2010, sport employment has grown by 14%, representing a larger rate of growth than GVA. This is consistent with the European experience, showing that sport is an effective policy tool for generating employment;
- The largest sector of sport-related employment in 2016/17 was commercial non-sport, supporting 12,200 jobs or 41% of all sport-related employment in Wales. The commercial sport, voluntary and public sectors support 25%, 11% and 23% of Wales' sport-related jobs respectively.

5. REFERENCES

Gratton, C. and Kokolakis, T. (2012). The effect of the current economic conditions on sports participation. A report prepared for Sport England.

Future Generations. (2018). Well-being of future generations (Wales) Act (2015). Commissioner for Wales. [online]. <https://futuregenerations.wales/about-us/future-generations-act/>

Office for National Statistics (2017). Consumer Trends Quarter 3 2017 [online]. ONS. <https://www.ons.gov.uk/releases/ukconsumertrendsjulytosept2017>

SportsEconAustria (2012). Study on the Contribution of Sport to Economic Growth and Employment in the EU. [online]. <http://ec.europa.eu/assets/eac/sport/library/studies/study-contribution-sports-economic-growth-final-rpt.pdf>

Sport Wales (2018). This is Sport Wales, Annual Accounts; 2016/17.

Wales Council for Voluntary Action (2018). The Well-being of Future Generations (Wales) Act - All you need to know. [online]. [https://www.wcva.org.uk/what-we-do/the-future-generations-\(wales\)-act-all-you-need-to-know](https://www.wcva.org.uk/what-we-do/the-future-generations-(wales)-act-all-you-need-to-know)

Welsh Government (2018). Sport Wales. [online]. <http://gov.wales/topics/culture-tourism-sport/sportandactiverекреation/sport-wales/?lang=en>

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
- 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
- Sport Wales Accounts
- Stats Wales
- Travel Trends

Appendix 2: Model output

Consumer expenditure on sport-related goods & services, 2016/17	
	£million
Admissions	35.1
Sports goods	76.5
Bicycles	82.3
Boats	25.7
Participants sports subscriptions & fees	175.5
Clothing sales	104.8
Footwear sales	83.9
Repairs and laundry	1.6
Travel	55.0
Books and magazines	7.5
Newspapers	14.6
Video: purchase and rental	0.3
BBC licence	35.7
TV and video rental, cable & satellite subscriptions	180.2
Internet subscriptions	9.8
Skiing holidays	37.7
Independent schools	4.3
Gambling: football pools	1.4
Horse racing	226.3
Raffles and gaming	23.8
Total	1,182.1

Commercial sport income, 2016/17	
	£ million
Spectator clubs:	
Admissions	34.0
Sponsorship & advertising	19.7
Corporate entertainment	7.6
Horserace Betting Levy	2.6
TV rights	35.3
Participation clubs:	
Subscriptions & fees	15.5
Retailers (net of Vat):	
Equipment	126.3
Clothing and footwear	158.6
Books, newspapers and magazines & videos	22.3
Exports and manufacturers' sales of	
clothing, footwear & equipment	88.6
TV and radio:	
BBC	35.7
Commercial	30.0
Internet subscriptions	8.1
Total income	585.7

Commercial sport expenditure, 2016/17	
	£ million
Current factor expenditure	
Spectator clubs:	
Wages	63.9
Other inputs	25.1
Participation:	
Wages	7.8
Other inputs	7.0
Retailers:	
Wages	41.3
Other inputs	216.5
Manufacturers:	
Wages	34.0
Other inputs	48.7
TV and radio:	
Wages	28.3
Other inputs	20.8
Total factor expenditure	
Total wages	175.2
Total other inputs	318.2
Total factor surplus	71.9
Total value added	247.1
Current transfers	
Corporation tax	6.5
Rates	7.4
Capital expenditure	
Investment	30.5
Total expenditure leaving sector	537.8

Voluntary sector income, 2016/17	
	£ million
Factor income (monetary)	
Players' subscriptions and match fees	98.3
Equipment	0.9
Sponsorship and advertising	13.4
Raffles and gaming machines	23.8
Bar receipts	136.4
Subtotal (factor income)	272.8
Other monetary income	
Grants	28.3
Employers' subsidies	15.8
Interest	3.7
Lottery awards	5.2
Lottery partnerships	6.2
Total monetary income (excluding bar receipts)	195.6

Voluntary sector expenditure, 2016/17	
	£million
Factor expenditure	
Wages	73.7
Ground hire and rents	13.0
Equipment	0.9
Other	37.6
(Bar purchases)	95.5
Subtotal (factor expenditure)	220.7
Rates	6.4
Interest	1.8
Investment	22.4
Total monetary expenditure (excluding bar purchases)	155.9

Commercial non-sport income, 2016/17	
	£million
Receipts net of tax from consumer spending:	
Travel	23.2
Gambling	202.2
Skiing	16.6
Independent schools	3.5
TV rental, cable & satellite subscriptions	144.2
Sales of current inputs to:	
Central government	16.2
Local government	25.3
Commercial sport	235.4
Voluntary sector	36.5
Interest from voluntary sector	1.8
Sales of capital inputs to:	
Local government	34.1
Commercial sport	18.3
Voluntary	17.9
Total income	775.2

Commercial non-sport expenditure, 2016/17	
	£million
Producers of inputs to sport:	
wages	326.5
imports	192.9
(factor surplus)	240.4
(value added)	566.9
Corporation tax	21.9
Rates	17.0
Purchases of inputs from sport:	
Sponsorship and advertising	51.8
ITV and radio advertising	30.2
Corporate entertainment at sports events	7.6
Employees' sports subsidies	4.4
Horserace Betting Levy	2.6
Interest payments to voluntary sector	3.8
Promotion expenditure for sponsorship:	
Cost of the rights to top league matches	35.3
Lottery awards	12.9
Lottery partnerships	11.1
Total expenditure leaving sector	718.0

Central government income, 2016/17	
	£ million
Taxes:	
on expenditure	234.5
on incomes generated in:	
commercial sport	51.0
voluntary sector	20.0
commercial non-sport	117.4
local government	48.9
Total income	471.9
Lottery awards	1.9
Lottery partnerships	1.3

Central government expenditure, 2016/17	
	£ million
Transfer payments	
Grants	16.2
Grant support for local government expenditure on:	
sport (net spending)	36.3
education	100.0
Factor expenditure	
Sport Wales, capital spending, wages and other inputs	21.7
Other spending, royal parks	
wages and other inputs	14.7
Total	188.8

Local government income, 2016/17	
	£ million
Local authority sports facilities:	
fees and charges	46.3
sales of equipment	21.3
ground hire	6.5
Grants from central government:	
to fund net expenditure on sport	36.3
sport education	100.0
via Sport Wales	2.4
Rates:	
voluntary sector	6.5
commercial sport	7.4
commercial non-sport	17.0
Payments for policing	1.2
Lottery awards	4.9
Lottery partnerships	3.2
Total income	252.9

Local government expenditure, 2016/17	
	£ million
Current expenditure	
Direct gross expenditure:	
Wages	46.2
Other current expenditure	39.4
Education:	
Wages	124.5
Research	3.0
Local transport and policing:	
Wages and other inputs	9.2
Grants to voluntary clubs	14.5
Capital expenditure	
Investment	42.6
Total expenditure	279.4

Outside the area income, 2016/17	
	£ million
Sports, clothing, footwear and equipment	53.9
Import content of skiing	13.6
TV imports	5.2
Prize income	10.4
Import content of UK production of:	
Sport-related goods and services	18.2
Commercial non-sport sector output	192.9
Total income	294.1

Outside the area expenditure, 2016/17	
	£ million
Sports, clothing, footwear and equipment	80.6
Admissions to sports events	7.4
Prize income	10.2
Total expenditure	98.2

Value added by sport-related economic activity, 2016/17		
	£million	Index
Commercial sport:		
Wages	175.2	
Surplus	71.9	
Total	247.9	21.7
Voluntary sector:		
Wages	73.7	
Surplus	52.1	
Lottery projects	6.9	
Total	132.8	11.6
Commercial non-sport:		
Wages	326.5	
Surplus	240.4	
Total	566.9	49.7
Central government:		
Wages	7.0	
Lottery projects	2.0	
Total	9.0	1.0
Local government:		
Wages (education)	124.5	
Wages (sports facilities)	46.2	
Wages (transport and policing)	9.2	
Lottery projects	5.0	
Total	184.9	16.0
Total value added	1,141.5	100.00

Employment, (FTE) 2016/17	
	Employment ('000s)
Sector	
Commercial sport	
Spectator clubs	3.1
Participation clubs	0.4
Retailers	2.0
Manufacturing (exports)	1.4
TV and Radio	0.7
Subtotal	7.5
Voluntary sport	3.2
Commercial non-sport	12.2
Central government	
Administration	0.2
Local government	
Sports facilities	2.2
Education	4.1
Transport/police	0.3
Subtotal	6.5
Total	29.7

The expenditure flows matrix, 2016/17 (£m)							
	Flows to:						
Flows from:	CON	CS	VOL	CNS	CG	LG	OV
Consumer sector	0.0	393.9	123.0	389.6	194.5	67.6	13.6
Commercial sport	127.0	0.0	0.0	253.7	60.2	8.6	87.6
Voluntary sector	53.7	0.8	0.0	56.2	32.2	13.0	0.0
Commercial non-sport	247.4	102.3	32.9	0.0	117.4	25.1	192.9
Central government	7.0	1.8	25.2	16.2	0.0	138.6	0.0
Local government	133.2	6.2	14.5	59.4	66.1	0.0	0.0
Overseas	10.4	86.3	0.0	0.0	1.5	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)** 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 the regions.

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.

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 BSkyB 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 Wales. 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 BSkyB statistics and 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 Sport Wales.

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 Sport Wales: Data are provided by the Sport Wales' annual accounts.

Wages: Estimates are provided from the Sport Wales' 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 Wales, 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 Wales, 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 Wales.

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

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:

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

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 Forecasts¹¹. 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.

¹¹ Sport Market Forecasts, 2011-2015, SIRC.