

Sport participation in Scotland - quantifying the benefits

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Introduction

It is widely believed that participation in sport creates economic and social impacts to society, which extend beyond the behavioural changes experienced by individuals taking part. This is reflected in a clear shift in policy across a number of countries, from investment in sport for sport's sake, to investment in sport for wider societal good. The *Active Scotland Outcomes Framework* (Scottish Government, 2018), is the Scottish Government's key policy framework for delivering a more active Scotland. It outlines six key outcomes desired for sport and other physical activity over the next ten years. It is clearly focused on the contribution of physical activity to personal, community and national wellbeing and considerably more so than the Government's previous strategy. While *Reaching Higher: Building on the Success of Sport 21* (Scottish Executive, 2007) was also concerned with the contribution of sport and other physical activity to broader policy agendas, it was primarily about the improvement and development of Scottish sport. The current strategy for Scotland clearly places the role of sport and other physical activity in relation to wide ranging benefits for individuals and communities.

Until recently, evidence on the impact of sport participation has largely focused on measuring the economic contribution of sport to society, in terms of traditional economic indicators such as Gross Value Added (GVA)¹, employment and consumer spending. In the UK home countries and elsewhere in Europe, there has been a primary focus on measuring the economic importance of sport (SpEA and SIRC, 2012). In Scotland, the contribution of sport to GVA, consumer spending and employment has been measured since the early 1990s (Pieda, 1991). Research on the social impact of sport has received considerably less attention, with the exception of health. However, with growing evidence to suggest that sport participation has positive (and negative) effects in many other areas of society including subjective wellbeing, pro-social and anti-social behaviour, social capital and educational attainment, there is increasingly a need to measure and value these wider impacts.

This paper is divided into three sections. The first two sections draw together and review current evidence on the economic and social impacts of sport and identify the range of benefits that have been measured and valued, both internationally and within Scotland. These sections include discussion of literature relating to sport participation and volunteering, which are an integral part of community sport, but exclude literature relating to the quantification of major spectator events. Section three examines the feasibility of

¹ Gross Value Added (GVA) is the difference between the value of sport-related goods and services produced in an economy and the costs involved in producing them.

using a Social Return on Investment (SROI) framework to value (in monetary terms) the wider social benefits of sport in Scotland. Within this section, the data requirements of the SROI model are outlined together with potential sources of data that could be used for modelling current trends and future scenarios in Scotland. The paper concludes by suggesting ways to improve the quantification of sport participation in Scotland, which may in turn strengthen the case for public investment in sport in the future.

Section 1. The economic importance of sport

Until the early 1980s, there was little evidence on the economic importance of the sport industry in the UK or elsewhere, despite receiving increasing attention from policy makers as a tool for increasing economic development. However, since this time a significant body of literature has emerged in the area (Davies, 2010).

1.1 Historical overview of evidence on the economic importance of sport

Interest in quantifying (in monetary terms) the economic impact of sport as a sector gained increasing momentum following the publication of a European study on the economic importance of sport in various Member States in the mid-1980s (Jones, 1989). The research, which aimed to measure and compare the importance of the sports industry in the economies of nine participating countries, was successful in raising the profile of the sports industry as an industrial sector within the Member States. However, cross-national comparison proved difficult, largely due to the different methodological frameworks used to measure sport, and the wide-ranging definitions of sport that were adopted.

Following the Jones report, several European countries went on to carry out further studies on the economic importance of sport. In the UK, the National Income Accounting (NIA)² framework was adopted as a standardised framework for measuring sport-related GVA, employment and consumer expenditure and there was a proliferation of studies in the 1990s. With an ever increasing need to justify public investment in sport, numerous studies have been subsequently commissioned over the last 20 years by the national Sports Councils of Scotland, England, Wales and Northern Ireland, as a way of evidencing and quantifying the wider contribution of sport to society (e.g. SIRC 2012b, 2013, 2016; Sport England, 2013). Table 1 presents the most recent data for the four home countries. It summarises the three main economic indicators for sport in each country, namely GVA, employment and consumer expenditure. The percentage figures represent the contribution of sport to the overall national total for each indicator. The data includes the economic importance of participation, volunteering and spectating in community and elite sport³.

² The NIA framework is a measurement system used to estimate the total national income and its components.

³ The England study suggests that sports participation accounts for 58% of all sport-related GVA. However, this estimate should be viewed cautiously as participation and other forms of engagement in sport (volunteering and spectating) are not easy to separate.

Across the home countries, Table 1 shows that sport-related GVA accounts for 1.9%-2.6% of overall GVA in each country; sport-related employment accounts for 2.2%-3.1% of overall employment; and sport-related consumer expenditure accounts for 1.8%-3.2% of overall spending. In relative terms, the importance of the sports industry to the overall economy in Scotland across all indicators is greater than for both Wales and England. However, this comparison should be viewed cautiously as the data relates to different years and the data for Wales and England relates to a year prior to the London 2012 Olympic and Paralympic Games. Furthermore in 2010, the UK economy was still in recession and during such times, the sport economy tends to shrink relative to other sectors. Also, given the Commonwealth Games and Ryder cup were both held in Scotland during 2014, it is possible that the figures for Scotland are above average.

Table 1: The economic importance of sport: UK home countries

	Year	Gross Value Added		Employment		Consumer expenditure	
		£m	%	000's	%	£m	%
Scotland	2014	2,538	2.1	57.5	2.6	2,493	2.8
Northern Ireland	2013	866.6	2.6	25.7	3.1	932.1	3.2
Wales⁴	2010	897.0	2.0	26.0	2.2	903.0	1.8
England	2010	20,300	1.9	440.0	2.3	n/a	-

In a further attempt to standardise and measure the value of sport in Europe, the European Union funded a study in July 2007 to develop a European statistical method for measuring the economic impact of sport. That method would be a Satellite Account for sport in the Member States which could, in time, lead to a European Satellite Account for Sport (DCMS, 2011)⁵ The UK was one of several Member States that agreed to construct a Satellite Account for sport and in January 2010, published the first results using 2004 data (DCMS, 2011). Estimates using this method have been produced regularly in the UK since this time, with the most recent year being 2016 (DCMS, 2018).

A Satellite Account system is the most comprehensive way of measuring the economic importance of a specific industry such as sport, which is not observable in the traditional system of National Accounts (Kokolakakis, 2015). As with other macro-economic techniques, developing estimates for the sports sector using the Satellite Account system requires assumptions to be made to separate out the sport and non-sport components. However, the main benefit of the Satellite Account system over the NIA framework is that it takes into account multiple rounds of (induced) spending from sport, which ripple through the economy⁶. It is therefore a more comprehensive method for estimating the sports

⁴ A study for 2016/17 is due to be published in 2018 (SIRC, 2018b)

⁵ A Satellite Account is a term developed by the United Nations to measure the size of economic sectors that are not defined as industries in a country's national accounts e.g. tourism, sport.

⁶ Economic impact is comprised of direct, indirect and induced effects. Direct impacts are those which are a direct consequence of spending on sport; indirect impacts are those arising from the spending of those

industry. The NIA framework, although an accepted method for measuring sport-related economic indicators, only takes account of the first round of induced spending. The Satellite Account system can only be used in countries that have input-output tables⁷, hence why other macro-economic techniques such as the NIA framework continue to be widely used. It can also be more time consuming to derive estimates using the Satellite Account system approach. Scotland has input-output tables, but the economic importance of sport has never been estimated using the Satellite Account system.

1.2 Quantifying the sport economy in Scotland

The first study to value the economic importance of sport in Scotland was carried by Pidea (1991), based on data from 1990. Since this time, a further eight studies have been undertaken by the Leisure Industry Research Centre (LIRC) / Sport Industry Research Centre (SIRC) using data from 1995, 1998, 2001, 2004, 2008, 2010, 2012, and 2014 (LIRC, 1997, 2001, 2004; SIRC, 2007, 2011, 2012a, 2012, 2014) . All previous studies have used the NIA framework and since 1998, the methodology and assumptions have been relatively consistent, which has enabled the derivation of time series data for the last 20 years. This may partly explain why Scotland has continued to use the NIA framework over the Satellite Account system in recent years. Table 2⁸ highlights the key indicators for Scotland since 1998 and Figure 1 summarises the main sport-related indicators for Scotland in percentage shares. As shown, there has been a growth in the absolute and relative importance of sport in Scotland across all three indicators.

Table 2: Main sport-related indicators for Scotland 1998-2014 (actual prices)

	1998	2001	2004	2008	2010	2012	2014
Consumer expenditure on sport (£m)	1,019	1,266	1,567	1,830	1,898	2,120	2,493
Gross Value Added by sport (£m)	965	1,196	1,537	1,737	1,838	2,128	2,538
Sport-related employment (000's)	37.9	39.3	43.0	47.2	46.3	52.3	57.7

Source: SIRC (2016)

Table 2 shows that in 2014, Scottish consumers spent around £2.5 billion on sport. This represents 2.8% of total expenditure in Scotland; up from 2.6% in 2012, which equates to a real increase of 13% over this period. Approximately 58% of all sport-related consumer

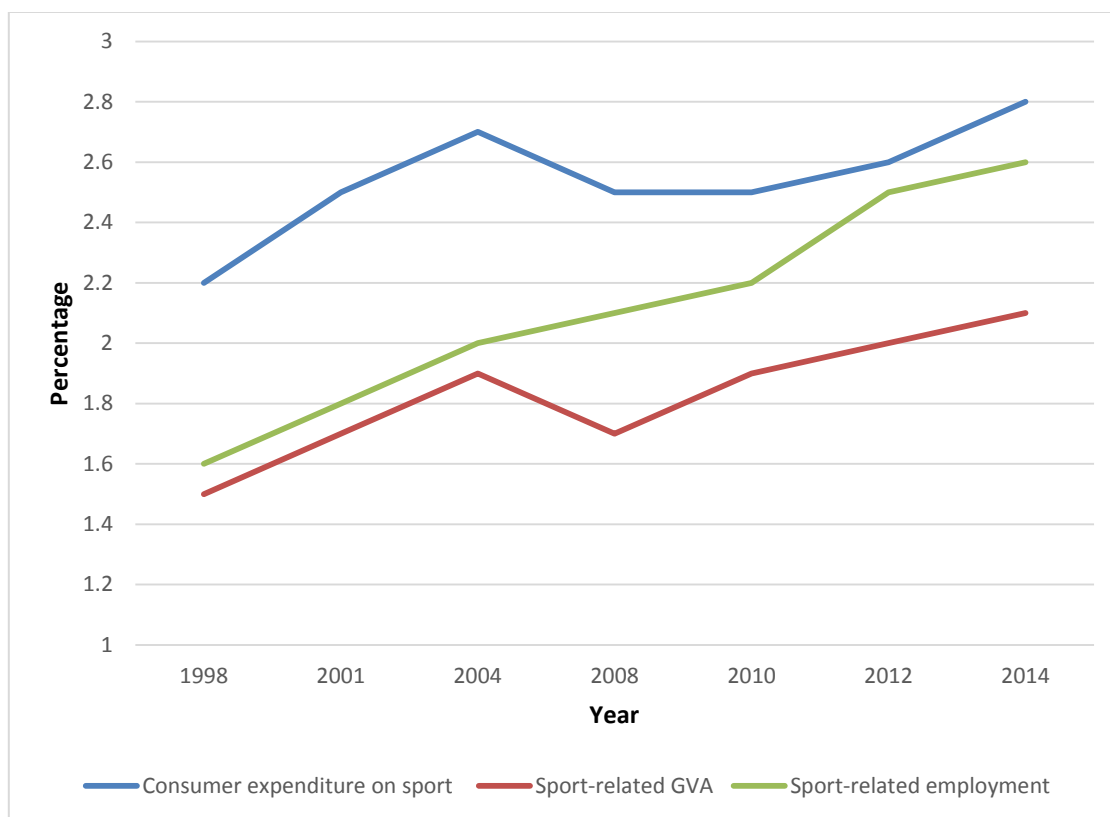
businesses receiving direct expenditure; Induced impacts are the increased personal income resulting from direct and indirect impacts (wages)

⁷ Input-Output tables provide a complete picture of the flows of goods and services (products) in an economy for a given year. They detail the relationship between producers and consumers and the interdependencies of industries. They are used to estimate Gross Domestic Product.

⁸ Consumer spending and GVA are measured in actual prices (of the year measured). They do not take account of inflation.

spending was on sport participation, and clothing and footwear was the single largest participation-related category, accounting for 37% of all participation-related expenditure⁹.

Figure 1: Main sport-related indicators for Scotland, percentage shares, 1998-2014



Sport-related GVA was £2.5 billion in 2014, or 2.1% of overall GVA in Scotland. This indicator has grown continuously since 1998 (1.5%). Similarly, sport-related employment, which was 57,500 in 2014, has grown from 1.6% of all employment in Scotland in 1998 to 2.6%. Over the last 20 years it can be seen from the indicators presented that the economic importance of sport in Scotland has grown at a faster rate than the overall economy over this period. As shown in Figure 1, growth in sport-related employment was the highest in relative terms of the three indicators measured.

Section 2: The social impact of sport

It is widely believed that sport generates social impacts for individuals and communities. There is a long history of research and evaluation on the social impact of participating in sport, including extensive studies of outdoor recreation in North America dating back to the 1960s. In the UK, interest in the role of leisure and quality of life can be traced back to research carried out in Scotland in the 1970s (HMSO, 1977a, 1977b), with increasing research on the wider role of sport and leisure developing from the 1980s onwards (e.g.

⁹ This includes all purchases of sports clothing and footwear, regardless of its intended purpose. This is methodologically consistent with other studies on the economic importance of sport.

Coalter, Long and Duffield, 1986). This body of research, which has grown considerably over the last 15 years, focuses on both individual impacts such as physical and mental health, wellbeing and life satisfaction and broader community impacts such as social capital, community cohesion, educational performance and crime and anti-social behaviour. The evidence reports both positive and negative impacts, and is variable in quality across the different outcomes. Nevertheless, there is a growing consensus that sport may have 'turned a corner' in terms of being criticised by many academics as being under-researched (Coalter, 2013; Taylor et al, 2015).

Unlike the measurement of economic outcomes, the measurement of social impacts is more challenging. It is often difficult to establish causality, direction of causality and to separate out the impact of sport from other influences. For example, the benefits of sport and other physical activity for both physical and mental health are well established in terms of causality and direction of causality (i.e. sport improves health). However, in relation to other social impacts such as reduced anti-social behaviour, it is more difficult to establish whether sports participation reduces anti-social behaviour, or whether people who engage in less anti-social behaviour are more likely to participate in sport. Also, evidence at the intervention level is often so varied that rarely if ever is the same programme effective in all circumstances because of the diversity of participants and range of contextual factors (Coalter, 2013).

2.1. Overview of evidence on the social impact of sport

A review published by the Department for Digital, Culture, Media and Sport (Taylor et al, 2015), found evidence of sport impacting on five main areas: health, subjective wellbeing, education, crime and anti-social behaviour, and social capital. The most developed and robust evidence is unsurprisingly in relation to physical and mental health, although much of this evidence does not distinguish between sport and other physical activity. There is considerable robust scientific research to suggest that participation in sport creates positive preventative and therapeutic benefits for individuals, and ultimately society in terms of reduced health and social care costs. Health benefits include prevention of premature death and reduced risk of chronic diseases including cardiovascular disease, diabetes, cancer, hypertension, obesity, osteoporosis and depression if activity is performed at a moderate or vigorous intensity over a sustained period of time (Warburton et al, 2006; O'Donovan et al, 2010; Cox, 2012; Coalter, 2013; Taylor et al, 2015). Overall, there is less evidence in support of the mental health benefits from sport and other physical activity although evidence is growing in this area.

There is also growing evidence of the negative impacts associated with sport participation, such as sports injuries. For example, Maffulli et al (2011) carried out a systematic review and synthesis of existing clinical evidence of long-term follow-up outcome of sports injuries. They found that physical injury is an inherent risk in sports participation but that there are few well conducted studies on long term outcomes of former athletes compared with the

general population. Much of the literature on sport-related injuries looks at children and young people rather than adults and reports higher rates of injury for those engaged in sport compared to the general population (e.g. Janssen and LeBlanc, 2010). Sheu et al. (2016) gathered information on injuries requiring medical attention from the National Health Interview Survey in the USA. They found the highest rate of sports related injuries was in children aged 5-14 (86.0 episodes per 1,000 persons for boys and 66.8 per 1,000 persons for girls). Many of the papers on sports participation and injuries collect data using cross-sectional surveys, which evidence an association (relationship) between sport and injuries at a given point in time, but not sport as the causal factor of injury. Evidence on the financial impact of sports injuries is also limited. Nicholl et al (1994) published research on the health costs and benefits of exercise over 20 years ago and found that for younger adults (15-44 years), the average annual medical care costs per person that might be incurred through injury exceed the costs that might be avoided by the disease-prevention effects of exercise. However, in older adults, the estimated costs avoided greatly exceed the costs incurred through injury. No recent evidence on the costs and benefits of sport has subsequently been published.

More recently there has been a growth in research on the impact of sport on subjective wellbeing, including life satisfaction and happiness (Downward and Rascuite, 2010; Kavetsos, 2011; Huang and Humpherys, 2012; Fujiwara, 2014; Rudeski et al, 2014; Wheatley and Bickerson, 2016; Sport England, 2017). Most studies indicate that there is a positive relationship between sport participation and subjective wellbeing. Much evidence relating to subjective wellbeing is based on cross-sectional analysis from large-scale population surveys. As with the evidence on sports injuries, the main difficulty in inferring causality from a single wave of cross-sectional data is that there may be a host of factors that people differ on in addition to sport participation, which are not possible to identify from a survey carried out at a single point time. However, to deal with the issue of causality relating to sports participation and subjective wellbeing, some authors have used an instrumental variable approach, which is a technique used to estimate causal relationships when experimental methods are not possible (e.g. Fujiwara et al, 2014a). They estimate the monetary value of increased subjective wellbeing by calculating how much equivalent income would be required to bring about the same increase in subjective wellbeing, gained through participation in sport.

The literature suggests that participation in sport can generate other social impacts beyond health and subjective wellbeing, although the quality of evidence is generally weaker. There is some evidence to suggest that taking part in sport has a positive effect on educational outcomes for young people, including academic achievement and cognitive benefits (Coalter, 2005, 2013; U.S. Department of Health and Human Services, 2010; Cox, 2012; Taylor et al, 2015). There are also some studies that point to potential negative educational attainment for specific groups, such as black young people (Eitle and Eitle, 2002; Southall et al, 2013). However, the evidence in relation to education is hugely varied across different

types of interventions and contexts and is heavily based on the North American experience. There is clearly some evidence of impact in relation to sport participation and educational outcomes, and the consensus of more recent research is that this is more positive than negative (Singh, Uijtdewilligen and Twisk, 2012). Nevertheless, the range and quality of evidence makes it difficult to provide definitive evidence of causal relationships (Coalter, 2013).

Another area of literature where there is evidence of positive benefits associated with participation is in relation to reduced crime and antisocial behavior (Taylor et al, 2015). Within this body of literature there is a strong focus on young males. The literature broadly divides into two categories: the rehabilitation of offenders and the prevention of crime (diversion). In terms of the latter, which tends to be the focus of social policy initiatives, there is increasing evidence to suggest that participation in sports activities reduces antisocial behaviour and improves pro-social behaviour in young people (e.g. Nichols, 2007; Witt and Caldwell, 2010; Taylor et al, 2015), although these relationships are not direct and based on the assumption of the development of intermediate outcomes such as self-efficacy and self-esteem (Coalter, 2007). Davies et al (2015) identified 23 studies that measured the association between sport and incidence of crime, of which 16 suggested positive effects, including reduced drink driving, alcohol abuse, use of illegal drugs and youth offending. However, they also identified studies that found evidence of sport contributing to negative outcomes, including higher levels of delinquency (Begg et al., 1996; Fauth et al., 2007). Davies and Foxall (2011) found evidence of sport being associated with increased violence and alcohol consumption. As with research on education, research in this area is often cross sectional and thus the degree of causality and attribution to sport remain less certain.

Robust research evidence on community cohesion and development, including social capital is also varied although recent evidence suggests there is a positive association. There is evidence that sport can act as a 'social glue', by increasing the connectedness of communities (Taylor et al, 2015) and that sport can bring together people from diverse backgrounds (Sported, 2012; Coalter, 2013). A recent study on the economic value of community-based club sport in Australia (Gratton et al, 2018 unpublished), carried out for the Australian Sports Commission, demonstrates a positive effect for community sport on various social capital measures including community engagement; personalised trust; community identification; and reciprocity. With the exception of this particular study, which uses sophisticated statistical techniques to identify casual relationships, a familiar criticism of evidence in this field is a reliance on cross-sectional analysis and a lack of robust and longitudinal evaluation (Coalter, 2007).

2.2 Quantifying the social impact of sport

There is clearly a substantial body of research evidence on the social impact of sport and a consensus across the literature that sport contributes considerable value to society. This extends beyond the direct economic impacts discussed earlier in the paper, albeit with

varying levels of evidence quality across different social outcomes. While sport has arguably turned a corner in terms of being able to provide evidence of the link between participation and the generation of social outcomes, research that quantifies these social impacts in monetary terms is much less developed, particularly at the population level.

Notable studies that have quantified the social impacts of sport participation at the population level include Fujiwara et al (2014a, 2014b). Fujiwara et al (2014a) used the Wellbeing Valuation approach to examine the association between sports participation and subjective wellbeing in England. This approach looks at the impact of a range of factors on subjective wellbeing. It also looks at the effect on subjective wellbeing of a change in income alongside the effect of a policy intervention (e.g. sport). In doing so it is then possible to estimate the amount of income needed to bring about the same impact on subjective wellbeing as the policy intervention, and therefore place a monetary value on this. The Wellbeing Valuation approach uses a statistical approach which controls for many of the different factors that may otherwise explain variations in subjective wellbeing. Fujiwara et al (2014a) found that sports participation was associated with higher subjective wellbeing and valued this increase at £1,127 per person per annum, or £94 per person per month.

Williams and Jacques (2015) quantified the impact of sport volunteering on subjective wellbeing using values derived by Trotter et al (2014), which were similarly generated using the Wellbeing Valuation approach. They estimated the wellbeing value of regular volunteering as £2,357 per volunteer, per annum. Williams and Jacques (2015) also estimated the value of increase wellbeing from improved mental health for volunteers (£331 per volunteer, per annum), and reduction in NHS costs as a result of volunteering (£106 per volunteer, per annum). This research advances methods previously used to capture the value of volunteering, which have traditionally focused on the cost replacement model (i.e. the cost of replacing volunteers with paid employment). The cost replacement model is widely acknowledged to under value the voluntary sector as it often uses a labour cost for valuing volunteers based on the national minimum wage, when in reality, many volunteers are highly skilled undertaking roles that would otherwise require higher levels of payment if they were to be performed by paid employees.

Fujiwara et al (2014b) also investigated the association between sport participation and a range of other social outcomes in England (health, education, and civic participation) and quantified these in terms of public sector costs savings. After controlling for various factors (income, education, gender), the study found that sports participants were 14.1% more likely to report good health than non-participants, equating to a cost saving of £97.71 per person per annum¹⁰. They also found that people who participate in sport gave £25 more per person in charitable donations over the last year. Other research by Fujiwara et al

¹⁰ Fujiwara et al (2014a) attached a value for the financial impact of this outcome by looking at the association between self-reported good health and medical service usage. For further details of the method, see pp. 18.

(2015) using national level data on participation rates in England estimated the total annual NHS cost savings due to reductions in GP visits (predicted as a result of engaging in sport) to be £384.9m. They also found the estimated annual NHS cost saving due to reductions in the use of mental health services (predicted as a result of engaging in sport) to be £518.8m. It should be noted that these estimates do not take account of sport-related costs to the NHS such as sports injuries, for which there is little recent evidence or data available. Nicholl et al (1994) remains the most comprehensive study in the UK.

In 2015, SIRC developed a model for measuring and valuing the social impact of sport participation and volunteering using a Social Return on Investment (SROI) framework (Davies et al, 2016). It is the first model to holistically value the social impact of sport participation at the population level. The research estimates the impact of sports participation and volunteering on 11 social outcomes (six health-related; two education-related; crime; social capital and subjective wellbeing). These are reduced risk of CHD and stroke, type 2 diabetes, breast cancer, colon cancer, dementia and improved (self-reported) good health; improved educational attainment and enhanced human capital from higher education (increased earnings from graduates who participate in sport at university); reduced criminal incidences (males aged 10-24); social capital and subjective wellbeing (life satisfaction).

Davies et al (2016) found that the social value of sport in England in 2013/14 was £44.8 billion, and for every £1 invested in sport, £1.91 worth of benefit generated. This research is significant to policy makers in two ways. First, it demonstrates that it is possible to put a monetary value on the non-market benefits of sport holistically at the population level. Second, it demonstrates that the return on sport is positive. These findings are relevant to policy makers in England and in other countries using sport to create wider societal outcomes. The research acknowledges that SROI analysis in sport is in its early stages and in this study several social outcomes have been excluded, including sports injuries, primary school sport and targeted programmes for specific sub-populations, through either a lack of evidence, data or both. However, the authors argue that the estimates are still likely to be conservative, and that the potential contribution of sport to society may be even greater.

2.3 Quantifying the social value of sport in Scotland

Research on quantifying the social impact of sport in Scotland at the population level is very limited. There is some research on the potential cost savings to the NHS from people who participate in sport and physical activity. Research conducted by the Scottish Parliament Information Centre (Scottish Government, 2011) suggests that there are cost saving to the NHS from health improvement by people who are more active (Research Scotland, 2017). They note that a 1% increase in sport and physical activity would yield a £3.5m saving each year from coronary heart disease, stroke and colon cancer alone. The research also suggests that it will lead to improvements in people's wellbeing, although this is not

quantified. However, the research does not distinguish between sport and other physical activities, and as with evidence discussed earlier, does not take account of sports injuries.

There is more research on the social impact of sport in Scotland at the intervention level, although much of this is based on case studies, small scale surveys or anecdotal evidence. In most cases there is little consideration of causality and as much of the research acknowledges, it is often difficult to quantify the specific contribution of sport to social change. Research Scotland (2017) recently published a study on how the ‘sport for change’ approach could be developed and supported within Scotland. They define sport for change as ‘using physical activity and sport intentionally to bring about positive benefits for individuals and communities, to address specific needs’. Research Scotland identified evidence from practice in Scotland around various social impacts, including physical and mental health; education learning and employability; reducing crime and antisocial behaviour and community development. They found that many organisations provide evidence of levels of participation in sport and physical activity, but that few report on social outcomes. Those that did provided descriptive analysis, for example reduction in substance misuse or percentage increases confidence, and it was not clear whether this reduction was due to sport or other factors. Research Scotland found just one organisation, Scottish Sports Futures, provided clear evidence of intentionally using sport and physical activity to bring about positive change (Taylor, 2015). None of the studies discussed put a value on the social outcomes.

In summary, although there is now a substantial body of literature on the social impacts of sport, and there is a growing consensus that sport participation generates net positive benefits to health, subjective wellbeing, education, crime and social capital, there remains limited research on the monetary value of these impacts. Specifically, in Scotland, there is very little research quantifying the social impact of community sport, with only physical health outcomes being partially measured and valued. Table 3 summarises the outcome areas that are currently measured and valued, generally and within Scotland.

Table 3. Summary of social impacts of sport demonstrated through evaluation research

Outcome	Measured in the literature	Valued (monetary) in the literature	Measured and valued (Scotland)
Physical health	✓	✓	(partially)
Mental health	✓	✓	✗
Subjective wellbeing	✓	✓	✗
Education (attainment)	✓	✓	✗
Crime (rehabilitation)	✓	✗	✗
Crime (diversion)	✓	✓	✗
Social capital	✓	✓	✗

Section 3: Measuring the social impact of sport in Scotland

Recent research for Sport Wales (SIRC, 2018a, 2018b), which for the first time measured the economic and social impact of sport in the same year, found that the social value of sport participation and volunteering was three times higher than the overall economic importance of sport in Wales, as measured in terms of GVA (SIRC, 2018). It is clear from the previous two sections that there is limited research on the social value of sport participation in Scotland, therefore current research, which only quantifies the economic benefits, is likely to underestimate the true value of sport to the nation. This has implications for sports organisations in terms of evidencing impact and justifying continued investment in community sport. In the final section of this paper, we examine the feasibility of carrying out a Social Return on Investment (SROI) for sport in Scotland and explore the data requirements for modelling current trends and future scenarios.

3.1 Social Return on Investment in sport

Social Return on Investment is a framework for understanding, measuring and valuing net outcomes of an activity or organisation. It originates from social accounting and cost-benefit analysis (Social Return on Investment Network, 2012). SROI is increasingly being used across a range of policy areas to measure social value and to justify public investment. However, to date, the application of SROI to sport as an activity has been limited. There are some examples of SROI being applied to specific sport interventions but the application of this technique at the population level is still in its infancy. In 2015, SIRC developed a population level model for measuring sport in England using a SROI framework (Davies et al, 2016). The research was funded by the Higher Education Innovation Fund (HEIF), together with the DCMS and Sport England. To date, it is the only model that holistically puts a value on the social impact of sport at the population level.

The population-level SROI sport model measures and values the non-market financial benefits of sport participation and volunteering. It measures five broad areas of social impact including health, education, social capital, subjective wellbeing and crime. The SROI model therefore measures both fiscal savings (e.g. reduced NHS costs) and personal benefits gained (e.g. subjective wellbeing). The model quantifies the value of these social outcomes and expresses them in relation to the initial investment in sport, giving a rate of return for every pound invested. The scope of the model is based on current empirical evidence and the outcomes included reflect those for which there is credible research measuring the link between the outcome and sport participation or volunteering at the population level. This enables a level of standardisation in the outcomes measured, which is not always possible for an intervention level SROI. A limitation of the population-level SROI model is that several outcomes are excluded, based on insufficient evidence. This includes negative outcomes such as sports injuries. However, the SROI sport model is evolving, and as new research becomes available it can be modified to include additional outcomes. This was demonstrated recently in the Wales SROI sport model (SIRC, 2018a), which additionally

measured the value of reduced depression and improved social capital resulting from sport participation, due to the publication of new empirical evidence.

3.2 Feasibility and data requirements for a SROI of sport in Scotland

This section explores the feasibility of carrying out a SROI for community sport in Scotland and the data requirements for modelling current trends and future scenarios.

There are six stages to a SROI analysis, as shown in Figure 2 below.

Figure 2: The stages of a Social Return on Investment analysis



Stakeholders are defined as people or organisations that experience change or affect the activity (positive or negative). In Scotland there are four categories of stakeholders:

- Government sector (includes sportscotland; Scottish Government; NHS Scotland, Scottish local authorities, higher education institutions and schools)
- Commercial sector (includes commercial sports providers in Scotland)
- Charities / third sector (includes Scottish voluntary sports clubs, sport and leisure trusts, National Governing Bodies, charities that host and deliver sport in Scotland)
- Consumer sector (includes Scottish sports participants and volunteers).

A SROI for community sport in Scotland would require input data to be collected from all relevant stakeholders, namely those things they contribute to make sports activities possible. In a SROI model the inputs from stakeholders are primarily money (financial) and time (non-financial). Key financial data sources for Scotland include the financial accounts of relevant organisations (for example those stated above) to identify the cost of providing sport opportunities in Scotland. Another financial input is consumer spending on sport participation, which is available from the most recent study on the economic importance of sport in Scotland (SIRC, 2016). The main non-financial input for sport in a SROI is the time contribution of sports volunteers. Volunteering participation is measured through the Scottish Household Survey (SHS).

To measure and value the change in social outcomes resulting from participation in sport, frequency of participation in the general population of Scotland is required for all outcomes. Intensity is also required for the health outcomes. The main source of participations data is also the SHS. Based on the evidence used to derive the SROI sport model, the relevant indicator would be any sport participation in the last 4 weeks (excluding walking) and the related question on overall frequency of activities.

In addition to levels of participation, to measure and value the health outcomes, data on the prevalence of health conditions in Scotland and the average costs of treating each condition is required. The Scottish Health Survey (SHeS) identifies prevalence rates of health conditions on Scotland and differences across sub-populations. In addition, there are other disease specific resources for Scotland such as those published by the Information Services Division (ISD) for cancer (ISD, 2017) and for heart disease (ISD, 2018). Data on the average costs of treating each condition is more difficult to identify. However, as with previous studies in England and Wales, in the absence of country specific data, the usual practice is to use UK cost data, so this should not be a barrier for using the method.

The Scottish Government (2018) collate and publish data relating to recorded crime in Scotland, and the Scottish Crime and Justice Survey provides information about people's experience and perceptions of crime, which gives a picture of unreported crime in Scotland. Both sources are potentially useful for measuring the crime and antisocial behaviour outcome in a Scotland SROI model. The Scottish Government also produce statistics for educational attainment, which is required for measuring educational performance.

In summary, based on the review of available data, it is clearly feasible to carry out a SROI for community sport in Scotland. From the data sources identified, it is possible to estimate the current social value and SROI of sport in Scotland up to the financial year 2016/17. It is also possible to forecast the social value of community sport in Scotland if participation rates were to increase or decrease in the future based on different scenarios.

Concluding comments

This paper has summarised current evidence on the economic and social impact of sport and reviewed research that measures and values community sport in Scotland. It has presented clear evidence to demonstrate that sport creates a wide range of economic and social impacts on society. While not all impacts are positive, and there is difficulty in establishing causality for some social outcomes beyond health and subjective wellbeing, the consensus in the literature is that sport is positive for society. The paper has argued that research evidence on the economic importance of sport only quantifies part of the overall value of sport to society and in Scotland it is therefore likely that the value of sport is currently underestimated.

A review of available data in Scotland has confirmed it is feasible to use a SROI framework to capture the social impacts of community sport. It is recommended that policy makers in Scotland now consider using this approach to quantify the wider benefits of sport to society. This will enable a stronger case to be made for investment in sport, to a broader range of audiences outside sport (including public and commercial funding bodies), in addition to justifying current investment to stakeholders such as the Scottish Government. It will also enable Scotland to benchmark the broader social value of sport against England and Wales.

The paper has demonstrated that research on the economic contribution of sport in Scotland is well established and repeated at regular intervals. The current NIA framework used to measure sport is fit for purpose. However, the nation of Scotland has input-output tables, which means that the economic importance of sport could be estimated using a Satellite Account approach. This is the gold standard in terms of economic evaluation in sport, so it is also recommended that Scotland consider using this methodology going forwards, providing that previous estimates can be calibrated to ensure the continuation of time series data.

Ultimately, the quantification of sport in monetary terms enables policy makers to evidence the contribution of sport and this provides a means to demonstrate that sport does good in society. However, the real merit in quantifying the value of sport is arguably in using this evidence to do more good. In simple terms, social and economic value in sport is driven by participation and so using evidence on the social and economic impact of sport in Scotland to support policies and interventions that encourage more participation is likely to further enhance the value of sport in the future.

References

- Begg, D.J., Langley, J.D., Moffitt, T. and Marshall, S.W. (1996). Sport and delinquency: an examination of the deterrence hypothesis in a longitudinal study. *British Journal of Sports Medicine*, 30 (4): 35-341.
- Coalter, F. (2005). *The social benefits of sport: An overview to inform the community planning process*. sportscotland Research Report no. 98.
- Coalter, F. (2007). *A wider social role for sport: who's keeping the score?* London and New York: Routledge.
- Coalter, F. (2013) *The social benefits of sport*
https://sportscotland.org.uk/documents/publications/social_benefits_of_sport_final.pdf
- Coalter, F., Long, J. & Duffield, B. (1986). *Rationale for public sector investment in leisure*. London: Sports Council.
- Cox, S. (2012). *Game of Life: How sport and recreation can help make us healthier, happier and richer*. The Sport and Recreation Alliance.
- Davies, F.M. and Foxall, G.R. (2011). Involvement in sport and intention to consume alcohol: An exploratory study of UK adolescents, *Journal of Applied Social Psychology* 41(9): 2284–2311.
- Davies, L., Taylor, P., Ramchandani, G. and Christy, E. (2016). *Social return on investment in sport: A participation-wide model for England*, Sport Industry Research Centre.
<http://www4.shu.ac.uk/assets/pdf/research/sirc/Final-SIRC-SROI-England-Web-report.pdf>
- Davies, L.; Taylor, P. Ramchandani, G. and Christy, E. (2015) *Social Return on Investment in Sport*. Final report submitted to the DCMS and Sport England.
- Davies, L. E. (2010). Sport and economic regeneration: a winning combination? *Sport in Society*, 13 (10): 1438-1457.
- DCMS (2011). *2004-2006 Sport Satellite Account for the UK*.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/78336/2004-06_Sport_Satellite_Account_for_the_UK.pdf
- DCMS (2018) *UK Sport Satellite Account, 2016 (Provisional)*
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/676504/Sport_Satellite_Account_2016.pdf
- Downward, P. and Rasciute, S. (2011). Does sport make you happy? An analysis of the wellbeing derived from sports participation. *International Review of Applied Economics*, 25 (3): 331-348.
- Eitle, T.M. and Eitle, D. (2002). Race, Cultural Capital, and the Educational Effects of Participation in Sports. *Sociology of Education*, 75 (2): 123-146.

Fauth, R.C., Roth, J.L. and Brooks-Gunn, J. (2007). Does the neighborhood context alter the link between youth's after-school time activities and developmental outcomes? A multilevel analysis. *Developmental Psychology*, Volume 43, Issue 3, Pages 760-777.

Fujiwara, D., Kudrna, L. and Dolan, P. (2014a). *Quantifying and valuing the wellbeing impacts of culture and sport*. [online]. Department for Culture, Media and Sport. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/304899/Quantifying_and_valuing_the_wellbeing_impacts_of_sport_and_culture.pdf

Fujiwara, D., Kudrna, L. and Dolan, P. (2014b). *Quantifying the social impacts of culture and sport*. [online]. Department for Culture, Media and Sport. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/304896/Quantifying_the_Social_Impacts_of_Culture_and_Sport.pdf

Fujiwara, D., Kudrna, L., Cornwall, T., Laffan, K., Dolan, P. (2015). *Further analysis to value the health and educational benefits of sport and culture*. DCMS.

Gratton, C., Cuskelly, G., Toohey, K., Skinner, J., Lock, D., Kokolakakis, T. and Lu, X. (2018 unpublished). *Economic value of community club-based sport in Australia*. Australian Sports Commission and Griffith University, Queensland.

HMSO (1977a). *Leisure and the Quality of Life: The Report of a Central Steering Group of Officials on Four Local Experiments*, vol. 1. HMSO, London.

HMSO (1977b). *Leisure and the Quality of Life: The Report of a Central Steering Group of Officials on Four Local Experiments*, vol. 2 (research papers). HMSO, London.

Huang, H. and Humphreys, B.R. (2012). Sports participation and happiness: Evidence from US microdata. *Journal of Economic Psychology*, 33 (4): 776-793.

ISD (2017). *Cancer Incidence in Scotland (2015)* www.isdscotland.org/Health-Topics/Cancer/Publications/2017-04-25/2017-04-25-Cancer-Incidence-Report.pdf

ISD (2018). *Scottish Heart Disease Statistics Year ending 31 March 2017* <https://www.isdscotland.org/Health-Topics/Heart-Disease/Publications/2018-01-30/2018-01-30-Heart-Disease-Report.pdf>

Janssen, I and LeBlanc, A. (2010). Systematic review of the health benefits of physical activity and fitness in school-aged children and youth. *International Journal of Behavioural Nutrition and Physical Activity*. 7:40.

Jones, H (1989). *The economic impact and importance of sport: A European study*, Council of Europe, Strasbourg.

Kavetsos, G. (2011). Physical activity and subjective wellbeing: an empirical analysis in Rodriguez, P., Kesenne, S. and Humphreys B.R. *The Economics of Sport, Health and Happiness: The promotion of wellbeing through sporting activities*. Edward Elgar Publishing Limited. Pages 213-222.

- Kokolakakis, T. (2015). *UK Sport Satellite Account, 2011 and 2012*. DCMS.
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/450258/UK Sport Satellite Account 2011 and 2012.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/450258/UK_Sport_Satellite_Account_2011_and_2012.pdf).
- LIRC (1997). *The economic importance of sport in Scotland 1995*. sportscotland, Edinburgh.
- LIRC (2001). *The economic importance of sport in Scotland 1998* (Research Digest no. 60). sportscotland, Edinburgh.
- LIRC (2004). *The economic importance of sport in Scotland 2001* (Research Digest no. 95). sportscotland, Edinburgh.
<https://sportscotland.org.uk/documents/resources/econimpactdigest2001.pdf>
- Maffulli, N., Longo, U.G., Gougoulis, N., Caine, D. and Denaro, V. (2011). Sport injuries: A review of outcomes. *British Medical Bulletin*, 97 (1): 47-80.
- Nichols, G. (2007). *Sport and crime reduction: The role of sports in tackling youth crime*, Routledge, London.
- Nicholl, J. P., Coleman, P. and Brazier, J.E. (1994). Health and healthcare costs and benefits of exercise, *Pharmacoeconomics*, 5 (2): 109-122.
- O'Donovan, G., Blazevich, A.J., Boreham, C. (2010). The ABC of physical activity for health: A consensus statement from the British Association of Sport and Exercise Sciences. *Journal of Sports Sciences*, 28 (6): 573-591.
- Pieda (1991). *Sport and the economy of Scotland* (SSC research report no. 18). Scottish Sports Council, Edinburgh.
- Research Scotland (2017). *Sport for change research*, Robertson Trust, Scottish Government, sportscotland and the Sport for Change Network.
<https://www.therobertsontrust.org.uk/innovation-and-learning/publications/sport-for-change-research>
- Ruseski, J. E., Humphreys B. R., Hallman, K., Wicker, P., and Breuer C. (2014). Sport participation and subjective well-being: Instrumental variable results from German survey data. *Journal of Physical Activity and Health*, 11(2): 396-403.
- Scottish Executive (2007). *Reaching Higher: Building on the success of sport 21*.
<http://www.gov.scot/Resource/Doc/169113/0047106.pdf>
- Scottish Government (2011). *Renewing Scotland: The Government's programme for Scotland 2011-2012*. Edinburgh <http://www.gov.scot/Publications/2011/09/08102006/0>
- Scottish Government (2018). *Statistics*. <http://www.gov.scot/Topics/Statistics/Browse>
- Scottish Government (2018). *Active Scotland Outcomes Framework*.
<http://www.gov.scot/About/Performance/scotPerforms/partnerstories/Outcomes-Framework>

Sheu, Y., Chen, L and Hedegaard, H. (2016). Sports and recreation-related injury episodes in the United States, 2011-2014. National Health Statistics Reports. US Department of Health and Human Services.

SIRC (2007). *The economic importance of sport in Scotland 2004* (Research Digest no. 101). sportscotland, Edinburgh.
<https://sportscotland.org.uk/documents/resources/theeconomicimportanceofsportinscotland2004.pdf>

SIRC (2011). *The economic importance of sport in Scotland 1998-2008*
https://sportscotland.org.uk/documents/research_reports/economicimportanceofsportinscotland1998to2008.pdf

SIRC (2012a). *Economic importance of sport in Scotland 1998-2010*
https://sportscotland.org.uk/documents/economic_impact/economic_importance_of_sport_in_scotland_1998_to_2010_-_summary.pdf

SIRC (2012b). *The economic importance of sport in Wales 1998-2010*. Report submitted to Sport Wales.

SIRC (2013). *Economic importance of sport in Northern Ireland*. Sport Northern Ireland.
<http://www.sportni.net/sportni/wp-content/uploads/2013/03/EconomicImpactofSport.pdf>

SIRC (2014) *The economic importance of sport in Scotland 1998-2012*. sportscotland, Edinburgh. <https://sportscotland.org.uk/media-imported/1267313/economic-importance-of-sport-1998-2012-final-report.pdf>

SIRC (2016) *The economic importance of sport in Scotland 1998-2014*. sportscotland, Edinburgh. <https://sportscotland.org.uk/media-imported/2479775/economic-importance-of-sport-in-scotland-1998-2014.pdf>

SIRC (2018a) *Measuring the social and economic value of sport in Wales. Report 1: Social Return on Investment of Sport in Wales 2016/17*. Confidential report submitted to Sport Wales. April 2018.

SIRC (2018b) *Measuring the social and economic value of sport in Wales. Report 2: The economic importance of sport in Wales 2016/17*. Confidential report submitted to Sport Wales. April 2018.

Singh, L. Uijtendwilligen, J.W.R. Twisk. (2012) Physical activity and performance at school: A systematic review of the literature including a methodological quality assessment. *Archives of Paediatrics and Adolescent Medicine*, 166 (1): 49-55.

Social Return on Investment Network (2012). *A guide to social return on investment*.
<http://www.socialvalueuk.org/resources/sroi-guide/>

Southall, R.M., Nagel, M., Exton, C.S., Eckard, W. and Blake, C. (2013). *Adjusted Graduation Gap: NCAA Division 1 Men's and Women's Basketball*. College Sport Research Institute.

SpEA and SIRC (2012). *Study on the contribution of sport to economic growth and employment in the EU*. <http://ec.europa.eu/assets/eac/sport/library/studies/study-contribution-spors-economic-growth-final-rpt.pdf>

Sport England (2013). *Economic value of sport in England*.
<https://www.sportengland.org/media/3465/economic-value-of-sport.pdf>

Sport England (2017). *Review of evidence on the outcomes of sport and physical activity a rapid evidence review*. <https://www.sportengland.org/media/11719/sport-outcomes-evidence-review-report.pdf>

Sported (2012) *Sportworks summary report*.
<http://sported.org.uk/inc/uploads/2016/07/Sportworks-Summary-low-res.pdf>

Taylor, J. (2015). *Evaluation of the Active East project final report*. A report to the Robertson Trust and Scottish Sports Futures <https://www.therobertsontrust.org.uk/innovation-and-learning/publications/active-east-evaluation>

Taylor, P., Davies, L., Wells, P., Gilbertson, J. and Tayleur, W. (2015). *A review of the social impacts of culture and sport*. [online]. DCMS.
<https://www.gov.uk/government/publications/a-review-of-the-social-impacts-of-culture-and-sport>

The SROI Network. (2012). *A guide to social return on investment*.
http://www.thesroinetwork.org/publications/doc_details/241-a-guide-to-social-return-on-investment-2012

U.S. Department of Health and Human Services (2010). *The association between school-based physical activity, including physical education, and academic performance*
https://www.cdc.gov/healthyyouth/health_and_academics/pdf/pa-pe_paper.pdf

Warburton, D.E.R., Nicol, C.W. and Bredin S.S.D. (2006). Health benefits of physical activity: the evidence. *Canadian Medical Association Journal*, 174 (6): 801-809.

Wheatley, D. and Bickerson, C. (2016). Subjective well-being and engagement in arts, culture and sport. *Journal of Cultural Economics*, 41 (23) <https://doi.org/10.1007/s10824-016-9270-0>.

Williams, G., Jacques, K. (2015) *Hidden diamonds: discovering the true value of sports volunteers*. Join In.

Witt, P.A. and Caldwell, L. (2010). The scientific evidence relating to the impact of recreation on youth development. In *The rationale for recreation services for youth: an evidenced based approach*.

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