Assessing the Contribution of Sport to the Economy

by

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Abstract

Sport has always been an important part of society but it is now becoming an increasingly important part of the economy. Consequently, the measurement of the economic impact of sporting events has become a focus of some interest to a number of groups including policy makers and sporting officials. In this paper the established procedures for measuring economic impacts are evaluated from the perspective of the nature of the information required by decision makers. It is found that the traditional approach to the measurement of the economic impacts of sporting events is conceptually flawed and potentially misleading. An alternative series of measures are suggested. These measures are more focused on information requirements and better grounded in the principles of welfare economics than those that are now widely used.

Keywords: sport, cost benefit analysis, economic impact

JEL: H23, L83, O22, R53

1 Introduction

Sport and entertainment have always been an important part of Australian society but they are also becoming an increasingly important aspect of the Australian economy. This trend reflects the growing affluence of the community, the increasing availability of leisure time and the diverse tastes of the Australian community. As a result of this trend there has been a marked increase in the commitment of financial resources to sporting activities by both the public and private sectors. The financial involvement of the public sector has taken various forms including the subsidisation or underwriting of events and competitions. With this public sector involvement has become an increased concern with monitoring the uses to which the funds are put. Not surprisingly, evaluations of the economic return from public expenditures have become an important part of this monitoring process.

Information about the extent of public subsidies for some sporting events and competitions are not always readily available (Banks 2002). However, for the largest sporting event held in Australia, the Sydney Olympics in 2000, the Commonwealth Government outlaid around $72 million and the New South Wales Government expended just over $380 million (ABS 2002). The Melbourne Grand

Prix motor race is reported to have been subsidised to the extent of $19 million in 2003 by the Victorian Government (Dabkowski 2003) while the much smaller V8 Super car event staged in Canberra received an ACT Government subsidy of around $5million in 2001 (Banks 2002). In a more general sense, total outlays by all levels of government in Australia on sport and recreation in the 2001 financial year were around $2.1 billion (ABS 2002).

The major sporting organisations in Australia undertake significant economic activity in their own right. For example, Cricket Australia reported total revenue of $87 million in 2003 (Cricket Australia 2003), the Australian Rugby Union had net revenues of more than $60 million (Australian Rugby Union Limited 2003) and the Australian Football League reported a net operating surplus of around $115 million for the same period (Evans 2004).

The increasing importance placed on the economic evaluation of sporting events has been associated with a burgeoning literature on sport economics and specifically on the principles surrounding economic evaluations of sporting events. This literature covers the reporting of evaluations of particular competitions or events (for example, Burns, Hatch and Mules 1986) as well as the analysis of how evaluations should be undertaken. Notable amongst this latter group is Heffner (1990), Burgan and Mules (1992), Crompton (1995) and Noll and Zimbalist (1997). The consensus among these studies is that the evaluation should assess the net economic impact that the event has on the target economy. In this context, net economic impact is usually taken to mean the expansion in the total level of goods and services produced in the target economy as measured by increases in total expenditure. As such, economic impact is an indicator of the extent to which the event expands the financial base of the economy. It is usually derived by estimating the expenditure induced by an event, and then applying a multiplier to derive the event's total economic impact.

This approach to evaluating sport has its basis in national income accounting. The economic contribution or impact of sport is reflected in the extent to which it changes measured GDP. In this paper it will be shown that the change in GDP attributable to sport may provide little relevant information to either sports administrators or public policy makers. By focusing on the information requirements of public policy in the sports domain a more meaningful set a measures is derived.

The central basis for the argument in this paper is presented in the next section where the existing approach to measuring the economic impact of sport is assessed against the information requirements of policy makers. In Section 3, an alternative set of measures are developed that more closely match the information

requirements of policy makers. In the final section the results of the paper are summarised and some policy implications are discussed.

2 Information Requirements and Economic Impacts

2.1 How is the Economics of Sporting Events Assessed?

The current practice in evaluating the economics of sporting events is to assess the impact that the event has on the GDP of the region hosting the event. In assessing the economic impact of an event only expenditure that would not have existed in the absence of the event should be included. For a conventional economic impact study this means that the study focuses exclusively on "… new money injected into an economy by visitors, media, external government entities, or banks and investors from outside the community" (Crompton, 1995, p. 26). Under this framework, consumer expenditure and capital investments that are switched from another local activity into the sporting event would not be included in the impact assessment. They would be excluded because they would have had the same impact on the local economy in their alternate use as they do when applied to the particular new sporting event. For example, when local Melburnians choose to go to the international cricket they switch their expenditure away from other goods or services into cricket. The assumption is that the $20 they spend going to the cricket would have had roughly the same impact on the local economy if it had been spent on a trip to the movies or what ever its alternative use would have been.

In terms of assessing the economic impact of international cricket on the Victorian economy, this framework means that expenditure by local residents on attending the cricket should be excluded. The exception would be where it was possible to show that in the absence of international cricket in Australia, some people would have traveled overseas to see games. This would mean that staging international games in Australia effectively switched some consumer expenditure away from overseas trips into domestic services associated with cricket. Another exception would be where it was possible to show that in the absence of international cricket consumers would simply have saved their money rather than switching expenditure. Both these exceptions are probably inconsequential in most cases. All expenditure by local residents on cricket could be assumed to be switched from other local goods and services and so should be excluded from the economic impact calculation.

Expenditure multipliers are typically applied to the estimated net increase in direct expenditure due to the event to take account of flow-on and second round impacts from the original expenditure. For example, additional gate takings at the

MCG from overseas cricket visitors results in flow-on effects as the additional funds that are brought into the local economy are re-spent as they move through the economy.

The selection of the multiplier can have a very significant effect on the estimated impact of an event (Burgan and Mules 1992). The values that have been used vary markedly between studies but they are typically in the range of 1.1 to 2.5 (IC 1996) and can be substantially higher (Sandy, Sloane and Rosentraub 2004). This means that for an initial expenditure expansion of $1 million the total economic impact would lie between $1.10 million and $2.50 million. Given the sensitivity of the final economic impact values to the value of the multiplier, a range of results are sometimes reported. Moreover, multipliers can relate not only to expenditure (sales or output) but also to incomes, employment and value added. Some of the differences in the values of the multipliers can be traced back to differences in the nature of the economies concerned while others reflect differences in analytical frameworks.

There has been considerable discussion regarding the most appropriate techniques and analytical framework for undertaking economic impact studies. Crompton (1995), for example, argues that they fail to include opportunity costs, and fail to correctly derive multiplier coefficients. Noll and Zimbalist (1997, p. 496) note that these studies are "fraught with methodological difficulties", such as confusion between new spending and spending diverted from other local activities, and overstating the multiplier. Others comment on the failure of these studies to take sufficient account of 'intangible' effects (Dwyer et al 2000, Swindell and Rosentraub 1998).

In any event, as Siegfried and Zimbalist (2000, p. 103) note, "independent" economic impact work (in contrast to "promotional" studies) suggest that expenditure on sports facilities has little positive impact on regional economic development.

2.2 How is the Information Used?

A logical starting point for assessing how the economic impact of sport should be measured is to consider why this information is required. The demand for information on the economic impact of sport in the economy probably relates to one or more of the following three issues:

- Is there evidence to justify a government subsidy?
- What is the size of absolute contribution of sport to the economy?
- What is the relative share of sport in the economy?

Justification of Subsidies

The provision of government subsidies to sporting events and organisations is a controversial issue. Both proponents and opponents of these subsidies have a need for information that might justify a subsidy. Unfortunately, economic impact studies typically provide little or nothing of relevance to this issue. The case for government support of sporting events depends on the objective of the intervention. If the intervention is planned to improve the efficiency with which resources are used in the economy, the case for government assistance should rest on the presence of market failures. That is, a necessary condition for government intervention on efficiency grounds is that there are factors impeding the efficient operation of the market.

Potential impediments to the socially efficient operation of a sporting market, or market failures, include the public good characteristics of sport, externalities or spillovers of costs and benefits to other parties, divergences between private and social discount rates and information problems. The literature on sports focuses on the first two potential market failures.

One characteristic of a public good is that it can exhibit 'free rider characteristics'. Burgan and Mules (2000) note that firms may be reluctant to finance special events, such as car racing, because they are unable to capture all of the benefits of funding the event ─ individual firms can 'opt out' of the funding and still capture the benefits of business that the event generates. Other examples of public goods and/or positive externalities include local unity, fan loyalty and civic pride (Johnson, Groothuis and Whitehead 2001, Swindell and Rosentraub 1998, Fort 2003), satisfaction from living in a 'big league town' and being able to view coverage of the events in the media (Zimmerman 1997). Noll and Zimbalist (1997, p. 58) note, in relation to media coverage, that "the presence of this externality causes the direct demand for games that is experienced by sports teams to understate the total value of sports to local consumers". On the other hand, sporting events can also incur negative externalities, such as a loss of social cohesion (Gouguet 2002).

The sports literature does not discuss two other potential sources of market failure ─ divergences in discount rates and information failure. The construction of sporting facilities and programs can involve large sums of money outlaid over an extensive period of time with benefits accruing far into the future. The planning horizon that is implicit in the evaluation of these proposals can have a big impact on the perceived attractiveness of these projects. Private investors may well have a sorter planning horizon (or high discount rate) than society as a whole. This may mean that sporting programs that can make a potentially positive contribution to society will not be undertaken without some form of government intervention. These investments are also characterized by less than perfect information on both

the costs and benefits involved. This less than perfect information could lead to a level of private investment that is either too high, or to low, from a social perspective.

The impact that a sporting event has on local or national GDP, the impact it has on foreign exchange earnings, and the presence of expenditure or income multipliers from sporting activities all have nothing to do with the presence of actual or potential market failures. As such, they have nothing to do with the case for government intervention on efficiency grounds. What these measures do show is how economic activities throughout the economy are linked. Calculating these measures may be an interesting descriptive exercise but it has no basis as a justification for government intervention.

If the intervention is aimed at achieving some non-efficiency objective the argument is different. Although it is difficult to see what equity notions could justify government subsidies of sport, political considerations could and probably do prompt such actions. However, the extent of the impact of sport on GDP in no way adds weight to the case for government subsidies on equity grounds either.

Measurement of the Absolute Size of the Contribution of the Sports Industry to the Economy

The conventional approach to the measurement of the economic impact of a sporting event provides a limited, national accounting perspective on the contribution of sporting events and sporting competitions to the local economy. It measures the size of the sporting activity in terms of the level of GDP that can be directly or indirectly attributed to the activity.

This framework implies that activities that attract only local paying spectators and local investment funds make no economic contribution to the local economy. This is only true if a very narrow perspective is taken on what constitutes an impact on an economy. In general terms, the profitable production of any good or service adds to the wellbeing of the community regardless of how much is exported or consumed by overseas residents. The economic gain can come from either the production side or the consumption side of the market. On the production side the gains may come from lower production costs that free up resources for use in other activities. The gains on the consumption side come from improved consumer welfare associated with wider consumption choices and better perceived value.

Insert Figure 1 Here

The concepts involved here can be clarified from an examination of the hypothetical market for tickets to a sporting event portrayed in Figure 1. Assume that there are Q2 tickets sold in all and it is initially assumed that all tickets are purchased by local consumers ─ there are no sales to overseas visitors. Each ticket is sold at a price of P2. The traditional economic impact measure of the value of this sporting event is the extent to which expenditure by overseas visitors expands GDP times some GDP multiplier. The sale of the Q2 tickets to locals is excluded because it is assumed that locals would have switched expenditure from some other activity to this event so no net additional expenditure is undertaken.

From a welfare economics perspective, the total economic value of this event is reflected in the value consumers are willing and able to pay. From a local perspective the total gross value of the event is equivalent to the value of OQ2EP4. This can be further decomposed into three parts. The area OQ2EP1 represents the opportunity cost of the resources used in production of the event. The net surplus to the owners of these resources is P1EP2 and the surplus from the event flowing to domestic consumers is P2EP4.

The overall net contribution of the event to local welfare is given by the sum of the producer surplus (P1EP2) plus the local consumer surplus (P2EP4) and no expenditure or income multiplier is relevant. That is, the economic contribution of the event is equal to the gain that producers get over and above their returns in other enterprises plus the residual value domestic consumers derive from the event after they have paid for the tickets.

Consider the case of international cricket. It can be safely assumed that the very fact that tens of thousands of Australians choose to spend their time and money attending international cricket games each summer shows that they think they are better off by doing so. Similarly, the millions of Australians who closely follow the Australian international cricket season through the mass media are also convinced they are better off. These gains in wellbeing for the community are only linked to the number of overseas visitors in a very limited and peripheral way at best.

The more overseas visitors there are, the greater will be the gains to producers ─ at least to the extent to which greater demand for tickets drives up ticket prices. Of course, if overseas demand advantages producers through higher prices it disadvantages consumers. The net impact of overseas visitors can then be expected to be quite small even for many major events. This is illustrated in Figure 2.

Insert Figure 2 Here

Overseas consumers increase the number of tickets sold from Q2 to Q3. This has the impact of driving up ticket prices from P2 to P3 and as a result domestic sales fall to Q1. Overseas ticket sales are assumed to be Q3-Q1. The gain to producers from overseas sales is then equal to the value of the area P2EFP3. That is, they gain from a higher price on the original Q2 tickets sold plus they get some small gain on the additional Q3-Q2 tickets sold due to overseas interest. However, there is a loss to domestic consumers from reduced consumption (HEG) and higher prices on the residual consumption (P2HGP3). The net gain to Australia from overseas sales is equivalent to the value of the area GEF. Again, if the objective of the exercise is to identify the contribution of the event to the local economy, there is no justification for applying a multiplier to any of the values identified.

Measurement of the Relative Size of the Sports Industry in the Economy

If the objective of the exercise is to compare the size of the sports industry with the overall economy the situation is a different. The calculation of producer and consumer surplus values is not undertaken as part of the national accounts system so national aggregates are not available in this form. In this context, comparison of the GDP from sport with national GDP may be relevant. However, the GDP measure that would be most appropriate would be total expenditure on sports, not expenditure by non-residents. GDP is a measure of the total expenditure by all parties on goods and services produced in Australia. It includes domestic expenditure on Australian production as well as export sales. In terms of the case portrayed in Figure 2, this would be equivalent to the area OQ3FP3.

3 Alternative Measures

There are a number of different reasons why people might want to measure the economic contribution of sport to the Australian economy. How this should be done depends on the objective of the exercise. In this section three alternative measures are identified that may be of value to analysts.

3.1 Is there Evidence to Justify a Government Subsidy?

The justification for government intervention to improve the efficiency of the economy rests on the presence of market failure. This issue does not rest directly on the extent of the contribution of sport to the economy but rather on the extent to which the presence of factors that are associated with market failure reduce the

potential contribution that sport can make to the economy. In this context analysis should be directed towards:

- identifying forms of market failure present;
- measuring the net social gain coming from the event; and
- measuring the extent to which this social gain can be expanded by correcting the market failures.

The identification of economically significant actual or potential market failures requires a detailed understanding of the event or project concerned and the market in which it will take place. Clearly all cases will involve some degree of market failure, so the analysis involves the identification of those cases that have the potential to create an economically significant divergence between private project returns and social project returns. The measurement of the net social gain from the event involves the derivation of both consumer and producer surplus values. The assessment of the extent to which the correction of the market failure expands the net social gain involves an estimation of the cost of the government intervention as well as the gains involved. These costs could include the impact of distortions and disincentives created by taxes and subsidies as well as the opportunity cost of investing public funds in sport as opposed to other areas of the society.

Sandy, Sloane and Rosentraub (2004) have raised the issue of the distributional consequences of government intervention as well as its efficiency implications. They suggest that some forms of intervention may have the effect of making relatively high paid people involved in sport, such as professional athletes, administrators or those involved in the media, even more highly paid. These extra returns captured by those involved in sport may be pure rents with no positive efficiency implications. Moreover, the enjoyment of sport is not shared equally within the community. Avid sports followers will potentially gain a greater share of benefits from any contributions to sport than the wider community and as a result can be expected to be amongst those most vocal in advocating active government assistance. An appropriate analysis of the impact of government intervention in a sport related project will document these distributional implications.

3.2 What is the Size of the Absolute Contribution of Sport to the Economy?

The answering of this question involves recourse to the notions of social surplus from welfare economics. The value of sport is the sum of the gain in surplus to domestic consumers plus the gain in surplus to domestic owners of resources rewarded from the sporting event.

In practical terms producer surplus is the difference between the social value of the resources used and the returns provided in the market place. All resources should be valued at a price equal to the return they would yield in there next best occupation. For most resources this will be their market price but market prices need not always reflect true social opportunity costs (Boardman et al 2001). Where ever there are externalities involved in production the suppliers of inputs are able to exert market power in setting prices ─ hence market prices may not be equal to social opportunity costs. Similarly, where unemployed labour is taken up by a project, the project outlay and the social opportunity cost could differ.

Consumer surplus is more difficult to estimate as it relies on understanding the maximum willingness and ability to pay of consumers. One approach that can be used to elicit consumer's willingness to pay is the contingent valuation method (CVM). (See Hanley and Spash (1994) for a discussion of CVM and related techniques.) Although CVM surveys, which ask consumers directly about their willingness to pay for goods or services, are not without their weaknesses, the approach has been used extensively to value the environment, tourism and outdoor recreation (Carson,Wilks and Imber 1994; Herath and Kennedy 2004; Leon, Arana and Melian 2003). However, there are few examples of the application of CVM specifically to team sports. Johnson and Whitehead (2000) applied it to estimating the value of public goods generated by two proposed sports stadiums in the USA. They also applied CVM to measure the value of goods generated by a major league hockey team (Johnson, Groothuis and Whitehead 2001). In Europe, Gouguet (2002) discussed a study by Baget which determined the economic value of a French Davis Cup match from a survey eliciting the willingness of respondents to pay taxes for sporting events and to pay for the Davis Cup in particular.

There are no published estimates of domestic consumer surplus from major sporting events in Australia. The paucity of consumer surplus estimates for sports is not unexpected given the focus of the sports literature on the notion of economic impact analysis. While the economic impact approach tends to place all the emphasis on producer gains, Zimmerman (1997) recognizes that private consumption benefits accrue to those who view sports. Estimates for the USA suggest that consumer surpluses can be substantial. Irani (1997) calculated net consumer surpluses for baseball team franchises in the US of between $2.2 million and $54.1 million (1982 dollars) per year, having estimated a Marshallian demand curve for baseball game attendance based on ticket prices. A different technique was used by Alexander, Kern and Neill (2000) in their estimation of consumer surpluses for sporting team franchises in the USA. Their estimates were based on team gate revenues from ticket sales, with a range of price elasticities of demand for tickets. Consumer surpluses, in 1996, ranged from $5 million to $46 million depending on the sporting franchise and the elasticity.

Burgan and Mules (2000) have shown that the cost benefit analysis perspective advocated here and the traditional economic impact analysis are equivalent when there are no, or at least very few, local consumers and the resources that are used in the sporting activity would be otherwise unemployed.

The assumption of no local consumers or supporters means that in a world where governments are only concerned about the wellbeing of their constituents, governments need not take into account gains to outside consumers. This in turn means that where all consumers are outsiders, the extent of consumer surplus is irrelevant to the problem of maximizing the wellbeing of the community. The impact on society is then focused entirely on the supply side of the market. Where the resources used in producing a sporting event have no alternative other than unemployment the appropriate social opportunity cost to attach to these resources is zero. This means that total expenditure and total producer surplus would be identical and very easy to estimate.

These circumstances are of little relevance to the problems confronted in Australia. Local consumers are always an important component of the interested audience so consumer surplus should be considered. In addition, most resources used in sport have an economically significant opportunity cost, even if some of that opportunity cost might represent the value of some leisure activity.

3.3 What is the Relative Share of Sport in the Economy?

For this question the estimation of the simple aggregate expenditure from the event is called for. This would involve measuring the total expenditure on the event, including expenditure by both residents and non-residents. This can then be compared directly with the aggregate level of local GDP. However GDP equates expenditure with economic activity and economic welfare and, as such, is a notoriously unreliable indicator of national welfare, let alone local project impacts. For example, GDP only measures market exchanges and it ignores surpluses to consumers. Therefore, the share of sport related GDP in total GDP would be, at best, a very broad indicator of the relative share of sport in the real economy.

4 Concluding Comments

There is increasing interest in evaluating the economics of sporting events in Australia spurred on by rising incomes and increasing expenditure on sports and leisure activities. Although the traditional economic impact measures may be relatively easy to estimate and apparently straightforward to interpret, it has been shown in this paper that these analyses are not valid to address questions involving

the justification for government subsidies and the real size of the economic activity involved. Moreover, they can lead to obviously erroneous conclusions, such as suggestions that the national football codes and cricket make less economic contribution to the Australian economy than individual race events involving cars or horses.

Traditional economic impact studies are founded on the notions of national income accounting. They have little relevance to the essentially microeconomic questions that face the sports policy community.

A set of alternative measures of the economic contribution of sport to the economy have been suggested based on possible public policy questions. Two of these measures are based on the principles of welfare economics and the practice of cost benefit analysis. The third is based on national income accounting practices. The welfare economic measures involve the measurement of producer surplus and consumer surplus flowing from a sporting activity. These surplus measures are not straight forward to measure and their practical relevance may be limited by the cost involved. However, the fact that consumer surplus may be difficult to measure does not mean that it is not both significant and substantial. Given the importance of sport to large numbers of people in Australia and the relatively large size of venues (and consequently relatively low ticket prices), it seems reasonable to surmise that consumer surplus could be a substantial part of the total value of sport.

Where the cost is a constraining factor, recourse can be sought to techniques such as benefit transfer and meta analysis (Brouwer 2000). These techniques rely on secondary data sources and involve the measurement of willingness to pay using estimates from related events. While there is little secondary data available on Australia, it is conceptually possible to use studies of USA and European sporting events in this process.

The traditional economic impact result is not related in any consistent fashion with measures suggested in this paper. The economic impact method is specifically aimed at assessing the extent to which a sporting event will change measured GDP. Unfortunately, this measure has little or no relevance to the public and industry policy issues confronting sport in Australia and, when they are carried out correctly, they invariably show that individual events have little measurable impact on GDP.

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Figure 1
The Market for Sports

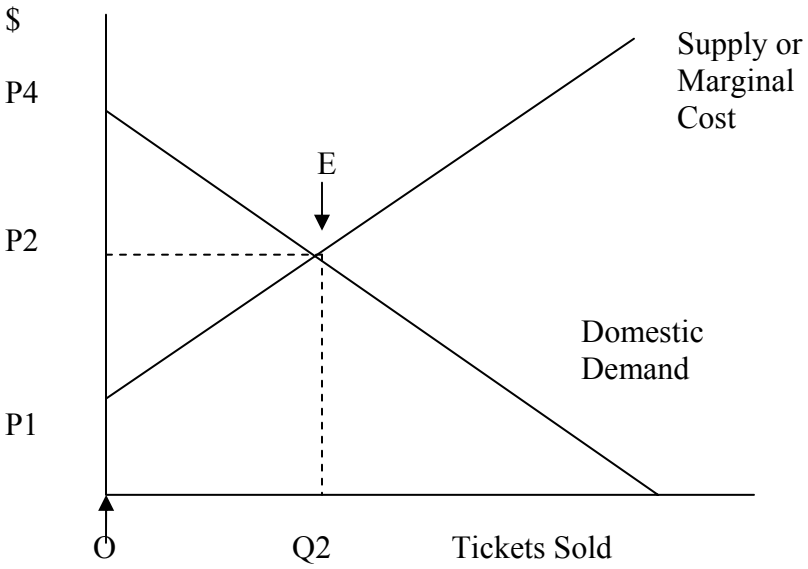

Figure 2
Gains from Sporting Events with Expansion in Overseas Sales