



Evaluating event economic impact: rigour versus reality?

Event economic impact

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Abstract

Purpose – The purpose of this paper is to focus on the methodologies used to evaluate major events. It aims to establish the most practically-relevant methodology for analysing the economic impact of routinely-held major events and to identify the key methodological issues for future consideration.

Design/methodology/approach – The paper draws on empirical research undertaken by the Sport Industry Research Centre using the direct expenditure approach (DEA).

Findings – The DEA is the most pragmatic and cost-effective method for evaluating the economic impact of medium-sized major events. However, the approach is only as robust as the quality of data utilised to derive estimates. Key emerging methodological issues are measuring attendance, consideration of direct first-round leakage and treatment of organisational spend and event surplus/deficit.

Research limitations/implications – The DEA limits the measurement of economic impact to first-round spending associated with an event. It is not suitable for measuring large-scale mega-events that require a more holistic and advanced method of event evaluation.

Originality/value – The paper considers the methods used to evaluate events in the context of balancing academic rigour with the everyday practical realities and constraints facing event organisers and researchers. It discusses existing and emerging methodological considerations and techniques for dealing with these. The paper will be of particular interest to researchers and practitioners from the event industry carrying out or commissioning economic impact studies.

Keywords Event and festival managements, Costs, Expenditure, Sporting events, Economic impact analysis, Major events, Direct expenditure approach, Methodology

Paper type Research paper

Introduction

Since the pioneering study of the 1985 Adelaide Grand Prix (Burns *et al.*, 1986), there has been a significant growth in academic and policy-related literature evaluating the economic impact of major events. In part, this growth has been due to the needs of stakeholders, including event organisers, sponsors and government to justify the investment of both private and public funds to support major events. However, the methods used to research the economic impact of major events remain contested, and there continues to be considerable debate over the most appropriate methodology to evaluate events (Abelson, 2011). Furthermore, methodological tensions exist between academics, consultants and event organisers over the need to balance academic rigour with everyday practical constraints of time and cost.

Various methods, including input-output analysis (IOA) (e.g. Lee and Taylor, 2005), computable general equilibrium (CGE) modelling (e.g. Blake, 2005), social accounting matrix (SAM) (e.g. Saayman and Saayman, 2012) and the direct expenditure approach (DEA) (e.g. Gratten *et al.*, 2006) are commonly used to evaluate the economic impact of major events. Nevertheless, many of the assessments of major events using these methods suffer weaknesses (Abelson, 2011), either because the methodology is flawed or because there are errors in the implementation of the method. This paper considers the different methods that are used for economic impact analysis and argues the case for using evaluation methods that are proportionate to the scale of an event. It presents



the case for using the DEA as a pragmatic tool for more routinely held events and suggests that it provides industry stakeholders with a method for evaluating event-related economic activity, which retains academic credibility while taking account of limited resources. The key established and emerging methodological issues within the DEA are examined using empirical research undertaken by the Sport Industry Research Centre (SIRC). Furthermore, the factors that practitioners need to consider to ensure the accuracy of data utilised to derive estimates using this method are identified.

Defining economic “impact” and “major” sports events

Definitions of economic impact and major events vary considerably within the literature. While there is not scope to review these debates fully here, it is necessary to summarise the main points to contextualise the arguments presented within this paper.

In its simplest form, economic impact is the economic contribution of a given industry or activity on a defined geographical area or community. However, this can be interpreted and measured in several ways (Taks *et al.*, 2011). In academic terms, economic impact in the context of major events is commonly referred to as the contribution of an event to total spending; output, income and employment (Tyrrell and Johnston, 2006). Some authors define economic impact in terms of net benefits derived from hosting an event (Crompton, 1995, 2006), while others equate it to net welfare gains (Abelson, 2011). In conventional economic terms, definitions of economic impact take account of the direct, indirect and induced impacts. However, in practical terms economic impact is often taken to be the total amount of additional expenditure generated within a defined host economy which is directly attributable to the staging of a particular event (UK Sport, 2004). Economic impact is rarely defined or measured as rigorously as in academia, creating a distinction between academic definitions of the term and the way it infuses policy discourses. The definition of economic impact is important as it will significantly influence the methodology used to evaluate an event.

Gratton *et al.* (2000) argue that although many events are classified as major in sporting terms, not all are important in economic terms. They suggest a four-category event typology as follows:

- Type A: irregular, one-off major international spectator events generating significant economic activity and media interest;
- Type B: major spectator events generating significant economic activity, media interest and part of an annual domestic cycle of sports events;
- Type C: irregular, one-off major international spectator/competitor events generating limited economic activity; and
- Type D: major competitor events generating limited economic activity and part of an annual cycle of events.

Gratton *et al.* (2000) suggest that Type A and B events have the potential to generate the largest benefits to the economies that host them and dominate the contribution to economic impact in any one year, but that the majority of sports events in any one year are of Type C and D. Given that the majority of economic impact studies commissioned are therefore likely to be for Type C and D events, this paper will focus primarily on the methodological issues and methods used to evaluate these types of events.

The evolution of economic impact analysis

The study of major events emerged as an important area of the tourism and leisure literature in the 1980s (Gratton *et al.*, 2006). Since this time, a broad and

multidisciplinary literature relating to the economic importance of events has evolved. A wealth of literature has emerged regarding appropriate methods to be used to measure the impact of events (e.g. Abelson, 2011; Tyrrell and Johnston, 2006) and to a lesser extent, methodological issues relating to the implementation of various techniques (e.g. Davies *et al.*, 2010; Raybould and Fredline, 2012). An ongoing debate within this literature relates to how assessments typically exaggerate the benefits of events and are misused to support public subsidy of these (e.g. Baade and Dye, 1990; Rosentraub *et al.*, 1994; Noll and Zimbalist, 1997; Késenne, 1999; Preuss, 2004; Coalter, 2008).

Multiplier analysis has for many years been the source of much debate within the field of economic impact analysis and major events. Multiplier analysis explains the process of how a spending stimulus (direct impact) is circulated through an economy through indirect impacts (spending due to inter-business transactions flowing from the initial spending stimulus) and induced impacts (increased consumer spending due to increased income), with the total impact on the economy equating to the sum of the direct, indirect and induced impacts (Saayman and Saayman, 2012). While multiplier analysis is a valid and widely used tool for evaluating the economic impact of events, it has been subject to much criticism for producing inaccurate results. Common criticisms include using sales instead of household multipliers; misrepresenting employment multipliers; using incremental instead of normal multiplier coefficients; using “borrowed” multiplier coefficients and confusing turnover and multiplier (Crompton, 1995, 2006).

Historically multiplier analysis, largely based on IOA has been favoured as the most credible method for measuring the economic impact of major events (Saayman and Saayman, 2012). IOA is a traditional method of economic impact assessment, based on a tabular summary of the flows of goods and services between industries and the final demand of an economy with the output of each sector being the input of other sectors (Rutherford, 1995). However, IOA has come under criticism for having several further limitations. For example, IOA assumes erroneously that in response to any external injection of expenditure because of an event, there are no resource constraints (Briassoulis, 1991; Fletcher, 1994; Dwyer and Forsyth, 2009); inputs are provided freely to the event and do not reduce economic activity anywhere else (Noll and Zimbalist, 1997). Thus, it ignores the negative impacts, which are likely to be of a comparable order of magnitude to positive impacts brought about by changes such as special events (Dwyer *et al.*, 2005, 2006).

CGE modelling has emerged as an alternative method for estimating the multiplier, to overcome some of the limitations associated with IOA, albeit to date its use has not been extensive (Ramchandani and Coleman, 2012; Saayman and Saayman, 2012). CGE models combine a national income accounting framework with an industry-level input-output model (Abelson, 2011). While Dwyer *et al.* (2005) concluded that the widespread use of IOA should be replaced wherever possible by a more comprehensive technique such as the use of CGE modelling, critics argue that the method has limitations for evaluating one-off events, and it is more suited to evaluating less frequent Type A mega sports events, which are likely to have a longer term impact on national economies (e.g. Blake, 2005; Giesecke and Madden, 2007). According to Abelson (2011), typical CGE models need significant adaptation to assess small and temporary demand shocks such as major event-type impacts. Even proponents of CGE accept that the negative impacts of small events are not so obvious, compared with mega events such as the Olympics (Dwyer *et al.*, 2005).

Similarly the use SAM for determining multipliers and measuring the economic contribution of festivals and events has been developed in response to the criticisms of IOA (Bond, 2008; Daniels *et al.*, 2004; Mabugu and Mohamed, 2008; Saayman and Saayman, 2012; Wagner, 1997). The SAM is essentially a method related to national income accounting, which represents flows of all economic transactions that take place within an economy (Rutherford, 1995; Sen, 1996). Like CGE, SAM models are more complex than IOA and have more extensive data requirements, therefore “they have been seen as more appropriate for the study of national economies or larger regions, rather than estimating the local effects of events” (Bond, 2008, p. 9).

From a practitioner perspective, rarely are the resources available to create complex multipliers from IOA, CGE or SAM models for local economies to evaluate “smaller” Type C and D events, increasing the likelihood of consultants using borrowed coefficients. An alternative method for evaluating economic impact, which provides a pragmatic approach to measuring economic activity linked to major events, is the DEA. The DEA is increasingly used as a more basic method for evaluating events. There is evidence to indicate that some government agencies around the world are interested primarily in the direct expenditure impact as a measure of the return on their investment in major sports events. In the UK for example, UK Sport, Event Scotland, Visit Britain amongst others continue to endorse the use of the DEA for evaluating events. Furthermore, Abelson (2011) provides evidence that this is also the case to some extent in Australia (e.g. Events NSW). The DEA involves measuring the first-round “direct” economic expenditures associated with an event, which are injected into the host economy from external sources. In addition to being adopted as an evaluation method within its own right, it also provides the “first stage” for modelling the effects on economic variables such as GDP and employment using either IOA or CGE techniques. Therefore any errors in forecasting the direct expenditure of an event will be compounded during the subsequent modelling process of more advanced methods. Without appropriate measures of the direct expenditures related to events, even the most detailed, theoretically appropriate model will provide misleading results (Tyrrell and Johnston, 2001).

The DEA circumvents the issues raised by critics relating to the multiplier, by limiting the measurement of economic activity to first-round spending associated with an event, although the method omits opportunity costs (as does IOA and CGE modelling), and depending on its application, is culpable of measuring all the benefits but only some costs. Abelson (2011) argues there are major problems with the DEA method, suggesting that ignoring opportunity costs is a fundamental error. Alternatively he outlines a strong case for the use of cost benefit analysis (CBA), as this method takes a holistic account of benefits and costs. However, CBA is arguably too data intensive from a practitioner perspective, especially for medium-sized Type C and D events, and given increasing constraints with public sector funding across many countries, is unlikely to be adopted by event organisers and local governments as a regular tool for evaluation. Furthermore as Crompton (1995, p. 33) notes:

[...] incorporating costs into a study changes it from economic impact analysis to a benefit-cost analysis [...] an economic impact analysis is designed to study the economic effect of additional expenditure attributable to a sports event and should be compared with equivalent investments designed to create economic stimulus in other sectors of the economy.

CBA, while arguably a more comprehensive and superior method, is a different type of event evaluation (Burgan and Mules, 2001; Coatler, 2008; Saayman and Saayman, 2012; Taks *et al.*, 2011).

The DEA provides an accessible, cost-effective and practical alternative to multiplier analysis, which can also be used, if desired, to directly compare different events across different host economies (Gratton *et al.*, 2006). It can be used as a measure of economic impact in its own right or as the first step for more advanced economic modelling. However, as Raybould and Fredline (2012) note, poor quality data will yield poor quality results, regardless of the modelling techniques used. Thus the DEA is only as robust as the data utilised to inform such estimates. The paper now proceeds to examine some of the key methodological issues that are worthy of consideration in attempting to measure the direct expenditure attributable to a specific event.

Methodological considerations: existing and emerging challenges

John Crompton wrote a seminal paper almost 20 years ago, summarising common sources of misapplication or misinterpretation that are regularly observed in economic impact analysis (Crompton, 1995). Several of the inaccuracies were related to methodologies used to evaluate economic impact, in particular misuse or misunderstandings of the multiplier; while the remaining issues identified were linked to broader methodological issues. Three such issues: failure to accurately define the impacted area; including expenditure by local residents; and failure to exclude spending by “time switchers” and “casuals” remain important to contemporary studies when utilising the DEA. However, research undertaken by SIRC across more than 50 sport and cultural events reveals that there are other methodological issues, not identified by Crompton and seldom discussed in the wider literature, which merit further consideration in economic impact studies. Some of these issues influence the calculation of visitor expenditure, some relate to organisational spend and others apply to both of these components which contribute to an event’s economic impact. These are categorised under the broad headings of measuring attendance; consideration of direct first-round leakages; and organisational spend and event surplus/deficit.

Measuring attendance

Accurate and robust measurement of attendance has emerged as a critical factor to ensuring the reliability of event monitoring and evaluation. However, Davies *et al.* (2010) argue that there is a genuine gap in knowledge about the processes involved in estimating attendance figures, especially at free-to-view sports events, which is critical for accurate aggregation of direct expenditure. Crowds at open access, free-to-view events are fluid. For events that take place over an extended distance, such as long-distance running, road cycling and triathlon events, it is common practice for people to move around the course. Indeed many courses are designed to maximise viewing in this way. Techniques employed by SIRC to measure aggregate attendance at events include: taking manual head counts at small events using clickers/counters; studying video footage, aerial and still photography; monitoring crowd densities along crash barriers or within pre-defined areas; and consultations with organisers, local authorities and the police. At the 2010 London Marathon, for example, the baseline estimate was derived by recording crowd densities along the route, using the assumption that five spectators could stand side by side along a 2.5 metre crash barrier. Hence if the crowd was five deep on both sides of the road at a given point, this represents 50 spectators (i.e. $5 \times 5 \times 2$). The analysis of the television coverage,

still photography and measurements of the crowd densities at given points along the route (recorded by researchers) resulted in an estimated baseline attendance figure of 750,000.

Differentiating between attendance and attendees. A key methodological consideration for estimating spectator attendance is repeat viewing. This issue is addressed by SIRC research through primary data collection amongst spectators, which is used to develop a repeat viewing factor. This can then be applied to derive an estimate of the number of different people in attendance. Primary data collection amongst spectators at the London Marathon revealed that people were watching from an average of two vantage points and therefore the 750,000 baseline figure was down-weighted by a factor of two to arrive at the number of unique spectators. Further adjustments were made to exclude local residents and those for whom the event was not the main motivation for being in the area. However, without the application of the repeat viewing factor the direct expenditure attributable to spectators in Greater London could have been overstated by as much as £14 million.

Even at ticketed events across multiple days it is important to analyse attendance figures to avoid double counting. For example at the World Snooker Championship (in Sheffield) some 33,000 tickets are sold to the public across the 17 days; however, this does not mean 33,000 different people when aggregating expenditure to the spectator group as a whole. Rather, down-weighting was applied according to an average attendance of 3.6 sessions per person which when combined with people residing in the host economy resulted in almost 25,000 “eligible” admissions by 7,000 visitors to Sheffield specifically for the event. Moreover, some events have ticket reuse policies which can mean that attendance capacities could be exceeded as the tickets are recycled late in the day. The All England Club at Wimbledon operates such a policy in order to open up the tennis to as many people as possible and to maintain large crowds into the evening.

Triangulation. A sensible approach to verifying the reliability of attendance estimates at free-to-view sports events is to utilise “tests of reasonableness”, which might involve compiling information from alternative sources. SIRC has employed the capture-recapture technique at both ticketed and non-ticketed events to estimate audience size. Revisiting the London Marathon research, an online survey of more than 2,000 runners revealed the proportion being supported on the day by family and friends and the average number of supporters per runner. The data from the sample were then aggregated to the population of runners to calculate the total number of “supporters” attending the event. This was cross-referenced with the findings from the spectator survey, which revealed the proportion of spectators who were “supporters” and those who were not, to calculate the total number of unique spectators. Allowing for repeat viewing, the aggregate attendance figure derived using this approach was found to be within 10 per cent of the original estimate of 750,000 based on crowd densities along the race route. Similar approaches have been used at international motorsport and golf events using programme sales as the basis of estimation (see Davies *et al.*, 2010).

Consideration of direct first-round leakages

The issue of leakage – the proportion of direct expenditure which is not retained within the host economy – is normally accounted for during multiplier analysis. However, leakage is also relevant to the DEA approach. Tyrrell and Johnston (2001) argue that estimates of direct economic impacts must account for the sources, destinations and

causes of expenditures; otherwise the resulting impact estimates may at least partly confuse the true net economic impact of an event.

In estimating an event's direct expenditure on a host economy, researchers need to consider immediate (direct) leakages according to the ultimate location of expenditures connected with an event. Some monies although spent within a host economy may not actually impact upon that economy at events that have, for example, temporary retail villages. At equestrian events the attraction for spectators apart from the competition is the retail tents and stands that offer a wide range of equine-related apparel, equipment and souvenirs. Investigations by SIRC amongst retailers in the tented village at the 2005 European Eventing Championships at Blenheim Palace established that the majority (87 per cent) of traders were based outside the host economy (Oxfordshire) and consequently it would be erroneous to include such spending in the direct expenditure estimate despite the money changing hands in, and originating from people mainly outside, the host economy. The questionnaire survey with spectators at the same event asked them how much they had spent within the tented village and accordingly only 13 per cent of this was included within the direct expenditure estimate. Moreover, spending by local people within the village was treated as a leakage from the host economy and offset against the overall expenditure figure attributable to spectators.

In another example from the wider events industry, a similar approach was utilised by SIRC at the 2008 Isle of Wight Festival when consultations with the organisers revealed that buses and taxis were imported from the UK mainland to support the increased demand for public transport during the event. In this instance the direct expenditure on local travel (on the island) was discounted to account for the import of buses and taxis from elsewhere in the UK; whilst two-thirds of on-site direct expenditure was excluded from the calculations in line with the proportion of non-local concessions working at the festival. Collectively these two adjustments reduced direct event-related expenditure on the island by £2.4 million. An element of leakage may also occur in the spending by event organisers – this is discussed below.

Organisational spend and event surplus/deficit

The main focus of event economic impact literature has been the expenditure generated in the host economy by event-specific visitors. A further source of direct expenditure is the spending by event organisers with “local” suppliers and contractors. Previous research conducted by SIRC across 22 major sports events (of Type B and C) in the UK has demonstrated that, on average organisational spending accounts for 17 per cent of the total direct expenditure impact attributable to an event (UK Sport, 2004, 2006). There are two reasons why the majority of events in the above study had relatively low levels of organisational expenditure. First, they were all events that took place within existing facilities and existing infrastructure. There was no need to build or upgrade existing facilities and therefore virtually all expenditure incurred by organisers was on revenue items necessary for the operational running of the event. This contrasts with “mega” or Type A events where often facilities have to be built or upgraded specifically for a given event and organisational expenditure can be millions or indeed billions of pounds. Generally for Type B, C and D events it is unlikely that there will be major infrastructural improvements and therefore on balance the majority of any economic impact will be generated by visitors (UK Sport, 2004). Second, and more importantly from a methodological perspective, the organisational expenditure estimates in these event studies were calculated net of event revenue (e.g. ticket sales,

entry fees, sponsorship, etc.) that originated from within the host economies concerned. As with visitor expenditure, when both the source and destination of funds is “local”, the result is a redistribution effect rather than an injection of new money into the host economy. Thus, not all expenditure (economic activity) by organisers in a given host economy necessarily translates to direct expenditure impact.

The risk of double counting exists at different stages of economic impact analysis. This issue was raised previously in relation to attendance measurement at major sports events. With respect to organisational spending, there is a danger that any income (from outside the host economy) accruing to organisers (based in the host economy) may be treated as direct expenditure. This is erroneous because the income raised by an event will seldom, if at all, benefit the host economy entirely.

Table I illustrates a hypothetical event budget with income sources and items of expenditure. It can be seen that the total revenue generated by the event is £0.85 million, of which £0.55 million originates from within the host economy and the remainder from elsewhere. However, the expenditure made by organisers locally amounts to £0.60 million, which indicates a surplus of £50,000 for the host economy. In practice, it is entirely possible that the transactions of event organisers could have a negative impact on the host economy (leakage), particularly where support services and expertise are imported from elsewhere.

Treatment of event surplus/deficit. Event surplus for commercially successful events is another methodological issue to consider. Many Type C events, which because of their one-off nature are unpredictable in demand terms, are subsidised by government agencies in order to break even. However, should an event achieve an operating profit, then an important methodological question is how this surplus is treated within economic impact calculations. For example, the surplus generated by the London Marathon is routinely used by the London Marathon Charitable Trust to support local projects specific to London and as a result there is a legitimate case to include the surplus in the direct expenditure estimate for London. Contrastingly the majority of the financial surplus generated by The All England Lawn Tennis Championships at Wimbledon (£35 million in 2011) is distributed to the Lawn Tennis Association (LTA) to develop tennis in Britain. Whilst the LTA has its base in London, this does not necessarily mean that all of this funding will impact upon the London economy.

	Host economy	Elsewhere	Overall
<i>Income</i>			
Ticket sales	£300,000	£200,000	£500,000
Merchandise	£25,000	£25,000	£50,000
Sponsorship	£200,000	£50,000	£250,000
Other	£25,000	£25,000	£50,000
Total	£550,000	£300,000	£850,000
<i>Expenditure</i>			
Rights fees	£–	£100,000	£100,000
Suppliers and staff	£500,000	£100,000	£600,000
Prize money	£50,000	£50,000	£100,000
Other	£50,000	£–	£50,000
Total	£600,000	£250,000	£850,000
<i>Surplus (deficit)</i>	£50,000	£50,000	£–

Table I.
Hypothetical
event budget

The inclusion or exclusion of event surplus as direct expenditure is also dependent on the location of the event. For example the surplus made by The Open is a major source of funding for The R&A (the event organisers and administrators of the rules of golf) and its operations based in Scotland. Consequently, when the event is staged in Scotland there is a strong argument to recognise the activities and operations of The R&A (funded by the surplus derived from The Open) within the direct expenditure estimate at Scottish level. However, this is arguably not the case when the event is held elsewhere in the UK (i.e. the host economy is not Scotland), such as 2012 when The Open was held in the North West of England, since the profits are expatriated back to Scotland and do not directly impact upon other parts of the UK.

Another important consideration, particularly for Type C and D events, is the approach adopted in instances where an event makes a financial deficit. This issue is addressed with the help of the following real-world example of an amateur golf competition held in the UK in 2012. Preliminary analysis of the event's income and expenditure accounts revealed that organisers' net spend in the defined host economy (local spend less local income) amounted to £51,000. However, operational costs exceed revenues by £0.29 million. Further investigations revealed that this shortfall was met by the event organisers, funded entirely through its subscriptions and commercial operations, of which some 43 per cent (£126,000) was generated from within the defined host economy and the remaining 57 per cent (£164,000) was from elsewhere. As a result of this additional detail, the amount of the shortfall funded by local sources was deducted from the organisers' net spend figure to produce a revised estimate of -£75,000 (i.e. £51,000 minus £126,000).

Critical reflections and key considerations for future event impact analysis

This paper has made the case for the DEA as a cost-effective, pragmatic approach to economic impact analysis and whilst some would argue that it does not reveal the "true" economic impact of an event, it is a method that can be used to deliver a cost-effective credible and tangible measure of additional economic activity in a timely manner following the conclusion of a particular event, providing the limitations of the method and results are clearly acknowledged. Appropriate multipliers can be subsequently applied to DEA estimates to derive the indirect and induced effects to calculate the overall economic impact of an event. However, should there be insufficient resources or expertise to calculate these empirically, providing sound methodological principles are adhered to, it presents a fairly rigorous framework for evaluating the economic contribution of a medium-sized Type C or D events.

Regardless of the method eventually adopted, accurate estimates of direct expenditure attributed to an event, remain critical to the process of estimating economic impact. Without this, even the most properly conducted economic impact study will create misleading findings. As discussed previously, SIRC research demonstrates that the majority of total direct expenditure is from the visitors to the host economy (> 80 per cent). The visitor expenditure survey therefore remains a key tool for evaluating direct expenditure impacts and aggregation of this through accurate estimates of attendance is a critical methodological issue that needs addressing further. In the absence of reliable attendance data, researchers should provide alternative scenarios of direct impact based on best, middle and worst case scenario estimates of attendance, allowing interested parties to model a range of likely impacts (Ramchandani and Coleman, 2012). Other contemporary methodological issues previously overlooked in the literature that need to be addressed in future

studies include the treatment of organisational spend, event surplus/deficit and direct leakages. Consideration of these factors by researchers carrying out economic impact analysis is important to ensure that the estimates calculated are accurate. Moreover, knowledge of these issues amongst industry stakeholders such as event organisers, sponsors and host cities commissioning economic impact assessments is imperative to understand, first, what information is required to obtain realistic estimates of economic activity; second, what issues are likely to produce inflated or misleading findings; and finally, to make informed judgements in relation to expenditure on primary data collection (e.g. visitor survey) to improve the accuracy of event economic impact studies.

Although there are strong academic, policy and management arguments for more rigorous and robust approaches to evaluation, as Coatler (2008, p. 41) suggests:

[...] there are also important questions relating to the degree of rigour and evidence required – what is the relationship between an academic desire for methodological rigour and theoretically informed interventions and the more pragmatic, and political, world of policy?

No doubt the debates between pragmatic proponents of methods such as the DEA and academic sceptics in favour of more robust economic modelling will continue. In the meantime, within the practical constraints of cost and time, data generated from an economic impact study using the DEA does provide practitioners with a tangible, real and rigorous measure of event-related economic activity that can be used alongside other measures to inform evidence-based policy.

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