

# ECONOMIC IMPACT OF EVENTS AND FESTIVALS ON HOST REGIONS – METHODS IN PRACTICE AND POTENTIAL SOURCES OF BIAS

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## Abstract

**Introduction.** The topic of the economic significance of sport events attracts substantial attention in the fields of sport event management and economics. The main objective of this article is to review the international literature on the economic impact of sport events, and, in particular, to examine the key features of primary economic impact studies and potential sources of bias. **Material and methods.** The paper builds upon an extensive international literature survey. **Results.** This paper provides an overview of studies on the economic impact of events as well as serving as a reference guide for further studies including empirical ones. The latter outcome is of particularly great value for local decision makers and students who attempt to calculate the direct economic impact of various sport events but are at the same time facing a lack of up-to-date and comprehensive reference material which would give them an overview of several approaches and their criticism. **Conclusions.** The review concludes that (a) assessing the economic impact of an event is a non-trivial task and (b) there is still much to be learnt about how to conduct economic impact assessment in a reliable manner.

**Key words:** events, sport, economic impact assessment, potential sources of bias

## Introduction

While tourism has a long history of being used as a tool for regional development, events and festivals are a more recent policy option [1]. Indeed, today events, especially sport events, are considered to be very important, and they have grown tremendously during recent years [2-5]. That is precisely why nowadays events play a vital part in economic planning and tourism development in many regions and cities [6, 7]. Since the very first groundbreaking study by Burns and Mules [8] assessing the 1985 Adelaide Grand Prix, the number of studies about the economic impacts of sport events has also been growing significantly [9, 10].

According to a widespread belief, hosting a major sport event is still promoted as being extremely positive, as it is said to create new jobs, provide the community with substantial financial benefit, and strengthen the economy of the host region. It is generally believed that events may also have the potential to generate benefits that are not directly measurable in money terms, such as creating a certain sense of civic pride among the residents of the host region or 'putting a city on the map'. Nevertheless, the main argument for justifying allocating public funding to such events are the economic benefits that the event is expected to create [11].

However, the question of how to determine whether the corresponding massive investments that undoubtedly have to be made are justified has yet to be answered. Although there have been many attempts in event-related literature during the past twenty years to shed some light on this particular issue [12],

the results of research remain controversial and researchers are engaged in an extended debate about the most appropriate methodology for evaluating different types of events, since a substantial number of research findings are said to be biased [9, 13].

Economic impact studies are one of the most frequent tools used to evaluate major and minor sporting events with the aim of assessing direct and indirect economic outcomes for the respective host countries and their regions [14]. Nevertheless, some hurdles and inconsistencies with regard to the methodology and calculation of the economic impact need to be overcome [15]. Some scholars have stated that such inconsistencies are frequently due to political pressure [2, 16, 17]. For instance, Késenne [18] suspects a hidden intention behind some economic impact studies by stating that "although some of these studies have been carried out to satisfy the intellectual curiosity of the scientific researcher, many economic impact studies have been made in the interest of politicians and administrators who want to realise a (too expensive) sports project". A similar situation was depicted by Mondello and Rishe [19], who claim that "economic impact studies are undertaken not necessarily to provide an accurate assessment of the impact but rather to legitimise positions". In the same way, Getz [20] notes that economic impact studies are "biased towards exaggeration of the economic benefits in order to gain credibility and support for organisers".

Against this background, this paper aims to review economic impact literature on special events and festivals in an effort to provide a concise summary of the available methodological approaches and their critical discussion. Particular attention is

given to: (a) the key features of economic impact studies, (b) the state of the art regarding current research practices, and (c) potential sources of bias. This paper is aimed at providing an overview of some available methods of assessing the economic impact of events and serving as a reference guide for further studies including empirical ones. The latter outcome of the study is of particularly great value for local event and destination managers, decision makers, and students who need to calculate the direct economic impact of an event but are lacking a solid point of reference.

The remainder of this article is organised as follows: Section 2 briefly reviews the definition and key features of economic impact analysis. Section 3 presents commonly applied methods of economic impact analysis, and Section 4 discusses the potential sources of bias. Finally, Section 5 presents the conclusions drawn from the review.

### Key features of economic impact analyses

Research on the economic impact of events covers an immensely diversified range of approaches and perspectives. It varies from investigating the economic impacts of events or facilities on housing values [21, 22], stock markets [23, 24], employment and wages [25], tourism [26], civic pride [27], as well as the general economic impact on the host region [28] – to name but a few (see Porter and Chin [14] for a comprehensive review). However, both Walpole and Goodwin [29] as well as Frechtling [30] provide arguments demonstrating the importance of primary data retrieved from visitor spending. Walpole and Goodwin argue that, especially when considering local impacts such as effects on employment and tourism in relatively small communities, input-output analysis is rather misplaced due to the lack of pertinent data. In this case, direct estimation by using primary data is more likely to help identify those impacts [29]. Frechtling [28] states that visitor expenditures are crucial for estimating economic benefits for host regions. For that reason and in order to focus on current work, the following literature review will place the main emphasis on research papers about topics concerning economic impact derived from additional expenditures that are directly attributable to an event.

Recently, a number of scientists have been examining different methods in order to determine an appropriate methodology for calculating the economic impact of different events, such as National Leagues, World Championships, or even the Olympic Games, which are either compared worldwide or analysed on a regional level. A number of researchers concentrate on so-called ‘primary economic effects’ only, whereas others additionally analyse the direct, indirect, and induced effects of the event itself.

The term ‘economic impact’ used in isolation can have several meanings and can be interpreted from different angles. In the context of events, definitions still vary considerably within the literature. While there is no scope to describe in detail all of the debates concerning this issue in this paper, it is nonetheless necessary to outline the main features of the term. A very commonly quoted definition in sport literature comes from Turco and Kelsey [31] who define economic impact as “the net economic change in a host community that results from spending attributed to a sport event or facility”. Referring to the purpose of economic impact studies in the context of events, Crompton [13] additionally states the following: “An economic impact analysis is designed to study the economic effect of additional expenditure attributable to a sports event and should be com-

pared with equivalent investments designed to create economic stimulus in other sectors of the economy”.

To summarise, the main point the presented definitions have in common is the emphasis on the fact that economic impact is derived from additional expenditure which is directly attributable to an event. Generally speaking, economic impact analyses are primarily needed to convince stakeholders, sponsors, governments, and event organisers that investing public and private money into major events is necessary [9]. In addition to that, Saayman et al. [33] accentuate components such as the extent of tourist expenditures, tourist figures of the respective country, region, or town, and length of stay that affect economic impact. According to Crompton et al. [17], the underlying scenario of creating economic impact by investing public money in events and/or facilities with economic intent can be described by a sequence of actions that are illustrated in figure 1.

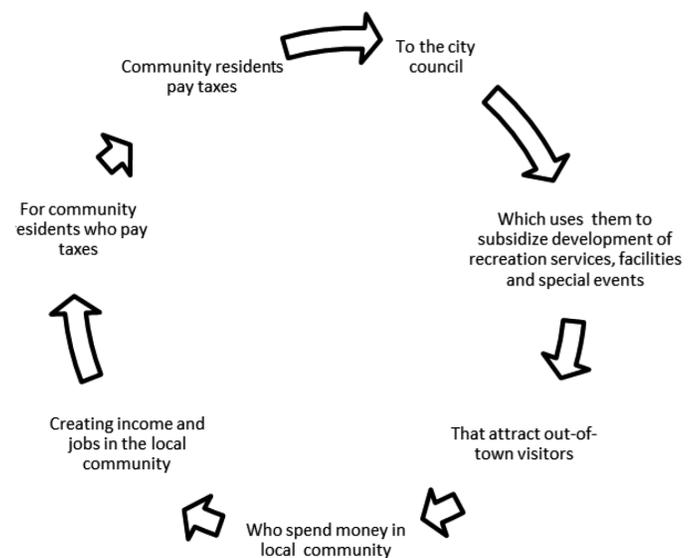


Figure 1. Basic principle for undertaking economic impact studies according to Crompton et al. [17]

In the first instance, local inhabitants actively ‘fund’ the city council of their hometown by paying taxes. The city council then uses some percentage of these financial resources to support the construction of a facility or organisation of an event. The facility or event draws visitors and spectators from abroad or other cities to the city. Subsequently, the visitors spend money in the host city either during the event or inside the facility as well as before and after the event or outside the facility. This so called ‘fresh’ money, in turn, generates income and jobs for the residents of the host community, which completes the cycle. Residents give funds to the community and are rewarded with additional jobs and higher household income as a return on their initial investment [17].

### Methods in use

Economic impact analyses have been deployed since the mid-1980s [34]. However, as previously mentioned, researchers find themselves in a continuous debate about the most appropriate method of assessing events.

Among the methods for quantifying the economic impact applicable to an event, multiplier analysis, made popular by Brian Archer in 1984, is still predominantly applied. The multiplier concept was initially established to indicate public spending but is today rather applied to determine the effect of events or industries on the economy: it “recognises that changes in the level of economic activity created by visitors to a sport facility or event bring changes in the level of economic activity in other sectors and, therefore, create a multiple effect throughout the economy” [11].

According to Gratton et al. [6], the most commonly used multiplier is the so-called proportional multiplier which is described as follows. After measuring initial expenditures made by visitors to an event, the respective economic impact in the form of additional income to the local economy can be estimated by multiplying initial visitor spending with a local multiplier. The resulting effect is the so called ‘direct effect’, which refers to the first ‘round’ of spending the amount initially contributed by the visitors. This includes all supplementary salaries and wages as well as the profits of residents working in businesses in the local community that hosted the event which received the additional visitor spending directly. Secondary effects refer to the changes in economic activity resulting from ripple effects due to the recirculation of money. Two different types of effects are distinguished in this respect, namely indirect and induced effects. ‘Indirect impact’ comprises the income that reaches other businesses and individuals in the host economy in the second ‘round’, due to the re-spending of the money through its allocation to businesses that were *not* direct receivers of the initial expenditures, such as the local suppliers of the shops, hotels, or restaurants which benefitted in the first round. ‘Induced impact’, in turn, refers to the boost in local inhabitants’ consumption due to increased income, meaning that, for instance, employees re-spend their additional income received in the first round on products and services in their local community, thereby creating another ripple effect [6].

Apart from multipliers and the related input-output analysis (I-O analysis), several other different methodologies such as computable general equilibrium modelling (CGE), the social accounting matrix (SAM), the direct expenditure approach (DEA), and cost benefit analysis (CBA) [34], to name but a few, are regularly applied to evaluate the impacts of major events. Since the (mis-)use of multipliers in particular is regularly criticised in the literature, researchers are determined to design alternative methodologies. However, there is an ongoing debate concerning which of the approaches currently in use has the largest potential to assess economic impact as accurately as possible.

The most wide-spread approach has been input-output modelling. It is based on a mathematical model that predicts money flows between different industries of a region’s economy. By using the production functions of each industry, the proportions of sales going to salaries and proprietors’ income as well as taxes are determined [35]. Input-output models are based on a number of assumptions that do not mirror real-world economies, which makes them a target for criticism. The assumptions under criticism are that (1) all inputs and resources are freely supplied and there are no resource constraints, (2) proportions between, for example, inputs and outputs and labour and output are constant, (3) price effects are treated as being neutral, and (4) behaviour in regard to the government budget sector is also seen as neutral [11]. According to Dwyer et al. [11], this leads to tremendous overestimates of economic impacts on real output. The authors furthermore argue that I-O model analysis produces biases and at the same time fails to consider infor-

mation about industries that are affected by increased tourism demand. Therefore, they urge for a replacement of I-O analyses [11]. Abelson also [36] expresses his resentment towards I-O models, which is due to the fact that they are prone to always produce positive results, even if financial outcomes turn out to be ‘disastrous’. Moreover, in his opinion, these models fall short in capturing significant welfare impacts by measuring changes in output only [36].

Whereas Dwyer et al. [11] promote the use of CGE modelling, Abelson [36] rather recommends cost-benefit analysis (CBA). CGE modelling can be seen as a derivative of the I-O model due to the fact that it historically originates from the I-O model, but it was developed to account for its shortcomings among others by including both indirect and induced effects [37]. CGE models are a combination of a national income accounting framework with an industry-level I-O model and therefore allow for price changes as well as supply side constraints and production and consumption substitution between industries. However, CGE models are perceived to be of limited use for evaluating events which are only held once due to the fact that they were developed to assess long-term impacts. For that reason, according to Abelson, CGE models need to be seriously amended in order to account for ‘demand shocks’ generated by mega events that are only of temporary nature [36].

CBA differs considerably from the two above mentioned methods by additionally accounting for opportunity costs and net *welfare* or net social benefits instead of gross output only. It was designed to determine all costs and benefits that accrue to a distinctive community in connection with an event. Here, costs are equal to the opportunity costs which arise for the inhabitants, that is the value of goods and benefits that individuals have to forgo when society commits workers and financial resources to a certain project rather than another one. The benefit, on the other hand, is the maximum amount the individual is willing to pay for the project [36]. Davies et al. counter these arguments by pointing out that although CBA is a very comprehensive and holistic approach, it is nevertheless too data- and cost-intensive in practice, especially when it comes to evaluating medium-sized events [34].

DEA is seen as an alternative method compared to the ones described above due to the fact that from a practitioner’s perspective it also proves difficult to make all necessary data and resources available that are needed for complex methods such as CGE and SAM models. This quite often results in ‘borrowing’ secondary data and coefficients, which has a serious effect on the results. For that reason, DEA aims at determining *direct* economic impacts, impacts which can be directly associated to an event [34]. It is perceived as an accessible, cost-effective tool that acts as an alternative to multiplier-based approaches. Furthermore, it allows for a comparison of different events across several host cities [6]. Abelson [36] again challenges this opinion due to the fact that DEA also ignores opportunity costs, which he generally considers a mistake. In turn, Davies et al. [34] oppose this argument by quoting Crompton, arguing that CBA is a different approach to event evaluation due to the fact that “incorporating costs into a study changes it from economic impact analysis to a benefit-cost analysis”, whereas “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” [13].

### Potential sources of bias

The question whether large-scale and mega events produce only positive impacts on a given economy was considered already in the early 1980s. Back then, increased expenditures and new employment were the expected gains of events, while price increases during the event, real estate speculation, and the fact that event-related facilities were not used after the event were among the expected negative influences [38]. Today, the positive effects seem to have outnumbered the possible downsides, at least in the minds of event organisers and government officials. This is due to the overwhelmingly positive reports of 'experts' which fail to mention the various and often occurring negative effects of organising sports events, such as congestion, noise, vandalism, and environmental degradation [39]. For that reason, several academics query the accuracy of the approaches applied and the obtained results, pointing out that many of them are inaccurate either due to intended misuse of the approach or lack of expertise. The following section summarises common biases and misapplications that still regularly emerge in the context of economic impact analyses.

The main problem of economic impact studies resides in the fact that analyses are only as good as the experts conducting them. The process of assessing the economic impact of events is unfortunately very controversial and has negative connotations due to the biases that frequently occur when the process is driven by subjective and naïve approaches or political pressure. Economic impact analyses are usually commissioned by local communities that intend to attract new visitor flows with the help of an event and, consequently, need to justify their public investments in hosting this event. Since local companies are very dependent on good image and follow-up orders, it is hardly surprising that agencies and consultants primarily present positive and promising results [16]. It is researchers that repeatedly reveal, with the help of ex-post studies, which of the promised and proposed effects have actually occurred.

Already in 1995, Crompton [13] expressed his criticism in this respect by discussing eleven main factors that contribute to the inaccuracy of economic impact analyses. Regarding the use of multipliers, Crompton denounces the usage of sales multipliers instead of household income multipliers, since the former do not reflect the additional income that the inhabitants of the local economy receive for paying taxes. Furthermore, he criticises the common misinterpretation of employment multipliers as well as the usage of incremental instead of normal multiplier coefficients. Likewise, Crompton believes that borrowing multipliers from similar impact studies (fudged multipliers) is not desirable, as each event and community is unique. Moreover, Crompton blames the common confusion of the concepts of 'turnover' and 'multiplier' as well as the tendency to claim total instead of marginal economic benefits for producing misleading results. In addition to that, according to Crompton [11], Preuss [38], and Kwiatkowski [2, 4], a major source of error is the inclusion of economic impacts that are attributable to casuals, local residents, and time switchers [2, 4, 13, 40]. If the above mentioned groups are included into impact calculations, the results are biased due to the effects of substitution. Additionally crowding out and leakage effects are very likely to occur but are most commonly ignored, which is emphasised among others by Matheson [39], Preuss [41, 42], and Kwiatkowski [2]. Substitution effects occur when spectators or residents visiting a sport event spend their money at this particular event instead of spending it at other sites or doing other activities in the host community. This plainly results in a reallocation of money in

the host community rather than in 'new money' that has been brought to the region because of the event [39]. Crompton [43] argues as follows in this regard: "Expenditures by those who reside in the community do not contribute to an event's economic impact because these expenditures represent a recycling of money that already existed. There is no new economic growth, only a transfer of resources between sectors of the local economy". Furthermore, he points out that expenditures made by locals are likely merely to be switched spending, and thus they do not offer net economic stimulus to the community. Given that, such expenditures should be excluded when estimating economic impact.

Crowding out effects refer to the scarcity of overnight accommodation available at the time of the event and the resulting displacement of regular tourists. These situations occur when cities that are usually already popular tourist destinations, host (major) events in order to draw additional visitors, which dislodges regular tourists. Again, no additional financial gains can be retrieved. Besides that, leakages are likely to occur during and after the event due to the fact that a substantial amount of profit generated by an event immediately leaves the host community. Out-of-town visitors in particular might stay at well-known hotel chains not owned by local entrepreneurs or make use of rental cars. Additionally, some vendors at the event are usually from out of town and ticket revenues are often paid to leagues or sport governance bodies rather than to event organisers. In all these cases, revenues immediately leak out of the host region, which means they cannot be re-spent in the local community and increase the welfare of local residents [39]. Moreover, leakages also occur in cases where, for instance, hotels increase prices during the event period but do not hire more staff or increase the wages accordingly. The additionally earned money does not accrue to local residents or workers and the multiplier effect is negatively affected [44].

Misleading results can also be due to a deficiency in accurately defining the area of the region the economic impact is expected to occur in and the omission of opportunity costs that occur when residents are forced to give money in the form of taxes to the government instead of being able to spend it in the community on items according to their own decision-making [13].

Porter's [45] critique additionally elucidates these issues connected to impact analyses and is partly congruent with Crompton's point of view. Porter also stresses the fact that, in general, event organisers have no reason to conduct impact analyses except in cases where public money is involved. In such situations, event organisers have to convince tax payers and governments that public subsidies are justified. The reports delivered in such cases are rarely double-checked by researchers. Porter additionally mentions other sources for potential biases, which include erroneously defined impact areas and wrongly chosen multipliers [45].

Another issue which can potentially cause errors refers to the method of study. In practice researchers have the choice between two approaches to measuring economic quantities. Ex-ante studies are performed in advance of an event and tend to estimate expected gains that might occur in the future. This is connected to several flaws due to the uncertainty of figures caused by the fact that the numbers are usually generated by *estimating* attendance figures as well as average visitor expenditures. These numbers are subsequently multiplied to provide an estimate of the direct economic impact. This naturally results in impressive outcomes [46]. Furthermore, Baade et al. [46] argue that even if ex-ante studies are performed very accurately,

they are in their nature afflicted by theoretical limitations which result in ignoring the above mentioned effects of substitution, crowding-out, and leakages. Consequently, ex-post analyses are favoured among researchers due to the fact that they assess economic impacts retrospectively and, in the majority of cases, relativise the results of ex-ante research [47]. However, as Bauman and Matheson [46] show, even ex-post analyses have several disadvantages and are not void of errors.

Closely linked to the above discussion is the issue of the usage of top-down and bottom-up approaches. Top-down approaches make use of secondary data, partly base their outcomes on assumptions, and can be employed prior to (ex-ante) or after (ex-post) the event. In contrast, in bottom-up approaches, primary data that are usually gathered from surveys are used, which, if done correctly, enhances the probability of analysing data close to reality [48].

According to Davies et al. [34], three of the eleven fallacies designated by Crompton in 1995 remain important – namely the issue of defining the valid impact area, the common mistake of excluding expenditures of casuals and time switchers, as well as the mistake of including local inhabitants' expenditures. However, Davies et al. mention three more components that negatively influence the correct outcome of impact analyses. Firstly, researchers need to call attention to accurate and especially robust attendance measurement methods which ensure a reliable evaluation of event effects. The available methods and knowledge need to be honed in particular when it comes to open access events or events which involve crowds moving (e.g. marathons, cycling events, or triathlons). Secondly, visitor numbers and ticket sales should be reconsidered according to repeat viewing or reuse policies which might result in double-counting. The number of vantage points per spectator should be accounted for, especially at events that take place over a certain distance. Thirdly, triangulation should be investigated, meaning that attendants of events should be divided into groups of real spectators and groups of people that simply act as supporters of athletes. Moreover, in cases where direct economic impacts are estimated and multipliers are not applied, impact calculations must nevertheless consider the sources, destinations, as well as causes for spending. In addition to that, the amounts of organisational spending and the way potential surpluses are treated in the calculations must be addressed with caution [34].

### Conclusions

This paper aimed to provide a concise summary of event-related literature on economic impact assessments of events and festivals. This goal has been achieved by providing the reader with (a) the key features of economic impact studies, (b) the state of the art regarding current research practices, and (c) potential sources of bias. With regard to the above discussion, it can be concluded that, in general, economic impact analyses are a useful tool in assessing the possible impacts of events for several involved parties; nevertheless, the list of potential failures is long and the analyses are prone to sabotage and overstatement. Moreover, the outcome is very dependent on the commissioner, the ambitions and expertise of the executor, as well as the political and financial background. In order to diminish biases, economic impact studies should be conducted and used with caution and, in the best-case scenario, thoroughly reviewed.

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