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Traditional and alternative methods of tourist event evaluation: case study of the Czech Republic

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ABSTRACT

This contribution presents and discusses selected methods and techniques applied in the area of tourist event assessment with a main focus on their economic effects evaluation. Besides the traditional evaluation models, such as the Input-output analysis or the CGE model, one newer and less common methodology – the local multiplier LM3 is introduced. This evaluation method has not been applied yet (in its full version) on any particular event, but it seems to have a potential to become more widespread, especially for evaluating events of local character and impact. This paper also observes the current research stages in terms of event tourism in the Czech Republic, where event industry increased its importance in the last decades. It offers an exhaustive listing of all the studies observing primarily event economic impacts in the Czech regions. The results of this study present a classification of the Czech events′ economic impact studies according to the applied methodology and also some recommendations for selection particular methodology according to a specific type of an event.

Introduction

Event tourism ranks among the recent trends in tourism supply, and has increased in importance during recent years. Contemporary consensus often presents it as having a positive economic effect on both local and national economies (Dwyer, Forsyth & Spurr, 2006). Events are unique, temporary, specially planned, organised and secured activities and actions that have an impact on tourism (Kotíková & Schwartzhoffová, 2008). They attract new visitors, open up opportunities for business activities, help to increase income and create jobs. Besides, they may help to build a destination′s image, and usually generate a positive economic impact on the destination and broader region. These are the most oft-cited arguments in

favour of event organisation and promotion. On the other hand, events may also be associated with some negative effects, especially in the environmental and social realm (Dwyer & Forsyth, 2009). However, these negative impacts are rarely mentioned or studied, typically because they tend to be 'forgotten' in all the excitement around the event (Crompton, 1995). Nevertheless, national and local governments generally tend to defend and support (financially or institutionally) such activities, often pointing to their positive economic effects resulting from expenditures by an influx of tourists who would not have visited the region otherwise (Burgan & Mules, 2001).

The last century saw sharply increasing interest in the development of both simple and complex methods of impact assessment. Together with the development of the event industry, and especially with incipient public support of events, some general methods of economic evaluation were transferred to the field of event assessment. The debate surrounding the optimal method of observing and evaluating different aspects of events is still topical. Finding a universal evaluation model for acquiring a full and precise results about a particular event's outputs and effects is impossible. Wood (2009) states that despite their popularity, statistical methods of working with objective data are not very suitable in case of events with many social, cultural and other intangible effects.

Following global trends, also the Czech Republic has recorded rapid growth in event tourism throughout recent decades. Year on year, the number of different kinds of events increases, as the market expands and diversifies. As this number rises, so does the importance of accurate evaluation. However, significant gaps still exist in research and conceptual approaches towards systematic event assessment, especially in the Czech Republic. Obstacles such as a lack of data on other than at the national level, difficulties in obtaining precise data, an unwillingness of different stakeholders to provide information etc. are being often reported.

Limited number of existing studies on event assessment in the Czech Republic is often justified by the complexity of different methods, especially comprehensive models such as the CGE model etc. One possible way forward is the utilisation of alternative and less common methodologies such as the method of local multiplier LM3. This could be perceived as an opportunity, especially for local stakeholders who need simple tools in order to capture and measure some aspects of tourist events and their impacts on local economies. This method, developed in 2002, has been applied in the area of event assessment within the Czech Republic only in one case and has not been replicated elsewhere.

This article has a primarily theoretical-methodological character. The overall aim of this contribution is to summarise and discuss the most common, preferential and also certain alternative and less known approaches, currently used for event economic impact assessment, such as the Input-output or Computable General Equilibrium models or the local multiplier LM3. The goals is also to offer some basic recommendation what methodologies are better applicable for different types of events. A partial aim of this paper is to assess the current situation in the Czech Republic concerning the economic impact assessment of events, with a particular focus on methods and techniques employed.

Basic classification of events

This part of contribution aims to briefly classify events according to their size and main purpose as the type of event is fundamental for selection of the evaluation method.

The typology of events can reflect many different factors. Getz (2008) offers a division of events based on their form depending on their purpose and program. He differentiates between cultural (festivals, carnivals etc.), political and state (summits, political events etc.), arts and entertainment (e.g., concerts), business and trade (fairs, shows, business meetings etc.), educational and scientific (conferences, seminars etc.), sport competition and recreational (games etc.) types of events. Apart of these basic categories he recognises purely private events such as parties, weddings etc. (Getz, 2008).

Another important division provided by Getz (2008) reflects the importance of events for different economic strata. Mega-events have a mostly international, global importance and impact, whereas periodic 'hallmark' events are usually related to a specific place, repeat periodically and have national, sometimes international significance. Regional and local events can be periodic or one-time and affect mostly inhabitants and economic subjects within a specific region or locality. Their attendance is also drawn primarily from the local population.

The size (number of event's visitors) is certainly an important determining factor for an event's potential effects. Kotíková and Schwartzhoffová (2008) divide events according to their size to mega-events (over 500 000 visitors), large events (100 000–500 000 visitors), mid-size events (10 000–100 000 visitors) and small events (less than 10 000 visitors). This division is nevertheless very relative as the real significance depends also on other factors and specifics of the locality that welcomes the event.

Different types of events will logically produce different impacts. However, a complete detailed listing of all possible effects derived from events is probably unfeasible. The traditional approach to effect division and grouping reflects the area that event's outcomes affect – economic, social-cultural or political and environmental (Getz, 2008).

As many different kinds (types) of events and effects exist, it is problematic to select one general and universal methodology for their evaluation. This is important to bear in mind when considering the application of available approaches. In addition, because events take place at a particular locality, the selected methodology of their evaluation and the interpretation of results should therefore reflect local idiosyncrasies.

Event evaluation

Evaluation and assessment become something of buzzwords in the area of strategic regional planning. (Brown, Getz, Pettersson & Wallstam, 2015). However, there are good reasons for proceeding with the evaluation of the overall or at least selected impacts of different activities, projects and strategies. The background of events' objectives differs also according to whether the event is organised mainly by private

sector for commercial reason, or by the public sector where many events are financially supported from public sources. These events require even more robust evaluation as a means of their justification (Brown et al., 2015). Davies, Coleman and Ramchandani (2013) also observe the significant growth in studies focusing on event impact assessment (especially economic) resulting from the requirement of various stakeholders (including local or national governments, event managers, sponsors etc.) to contextualise the meaningfulness of both public and private investments.

Generally, it is possible to state that the need for event impact assessment is now widely accepted among both practitioners and researchers.

The majority of studies relating to events´ impacts are devoted to their economic effects, and, to a lesser extent, to other effects from the socio-cultural or environmental spheres (Mair & Whitford, 2013). These areas of interest can be hardly evaluated with economic evaluation models and often rely on other research approaches. These include literature reviews, qualitative analysis and opinion papers (e.g., Minnaert, 2012), or different kinds of surveys among selected respondents representing important stakeholders and event participants using different ways of data collection such as telephone or interviews (e.g., Robertson, Rogers & Leask, 2009) or standardised questionnaires (Getz, Andersson & Carlsen, 2010). The environmentally oriented studies tend to emphasise the concept and principles of sustainability (Jones, 2010; Quinn, 2010; Raj & Musgrave, 2009 etc.).

Models (methods) of event evaluation

Estimation and evaluation of the economic impacts of tourism has already quite a long and rich history. Former studies often included the application of simple multiplier analysis into the economic impact assessment (e.g., Stynes, 1999). Archer and Owen (1971) were one of the first authors who defined and applied new concept of tourist regional multiplier.

Stynes (1999) presented three evaluation models based on a multiplier concept frequently used in the USA during the last decade of the last century to assess the economic impact of tourism – the **Money Generation Model, RIMS II and the MI-REC Implan model** (discussed also in Rickman & Schwer, 1995). Since a key piece of information used within these different methods and techniques are visitors´ expenditures, the total economic impact of those expenses is calculated through the number of visitors multiplied by average spending per visitor and the value of the multiplier (Stynes, 1999).

These older multiplier models have been used mostly to analyse the vertical economic relationships to assess the economic impacts of projects and other activities (Lynch, 2000). They could also potentially be applied in the area of event economic assessment. The multiplier approach in the economic impact analysis of tourism activities is still prominent in many recent and current studies both as separate economic indicators or part of comprehensive evaluation models (e.g., Chang, 2001; Lee, Taylor, Lee et al, 2005; Herrero, Sanz, Devesa, Bedate & del Barrio, 2007 etc.).

Another well developed, and highly comprehensive evaluation method is the **REMI model** which uses hundreds of equations and thousands of variables (Černá

Silovská & Kolaříková, 2016). This extremely data intensive model is not widespread in Europe (Čadil, 2010).

Currently, the most commonly used and discussed methods that have been applied in the area of event economic impact assessment are three main assessment models: **the Input-output model, CGE model and CBA analysis**.

Input-output (I-O) model

The input-output model is already an older evaluation static method that is based on the multiplication of direct effects of different economic activities. It is probably the most commonly used methodology for observing and assessing economic impacts. It has been used in many particular cases of event economic assessment (e.g., Jones & Munday, 2004; Lee & Taylor, 2005; Bracalente et al., 2011; Nosková, 2016 etc.).

Despite its widespread application, the I-O model can be criticised from several angles. Among the most common objections to its usage is the fact that it ignores possible negative effects such as the crowding-out effect (Matheson & Baade, 2005), so there is a danger of overestimating the total final impact (Blake, 2005; Crompton, 2006 etc.). It also tends to exaggerate important factors entering the calculation of final impact such as visitor numbers or their expenditure (Dwyer & Forsyth, 2009).

At the macroeconomic level, input-output analysis is usually used for national accounting evaluation. But at the regional level some barriers remain especially due to lack of regional and local data. This fact is, unfortunately, pertinent for the Czech Republic.

Computable general equilibrium (CGE) model

The CGE model is based on similar principles as the I-O analysis, but it eliminates some of the I-O model's shortcomings. The CGE model also takes into account with some of the negative effects of events, such as the crowding-out effect (Šauer & Repík, 2013).

Dwyer, Forsyth, and Spurr (2005) criticise the use of I-O model to assess economic impact of events due to its incapability to capture and measure the negative impacts of such activities. Ignoring these negative economic impacts can in some cases significantly distort the computed overall economic impact of an observed event. The same authors in their later article promote CGE model as more appropriate for estimating the economic impact (Dwyer, Forsyth & Spurr, 2006).

This model has been used to assess the effects of several multi-size events such as the Sydney 2000 Olympic Games (Madden, 2006), ex ante evaluation of the London 2012 Olympic Games (Blake, 2005) or the 2008 Olympic Games in Beijing (Li, Blake & Cooper, 2011).

Criticisms of the CGE model often cite its costly and too complex character compared to others such as the I-O model. So this model seems to be more suitable for large national and international events and mega-events, rather than events of mostly local character and impact.

Cost-benefit analysis (CBA)

CBA is a very comprehensive and data-demanding evaluation method. Its key advantage in terms of event assessment results from the fact that CBA analysis reflects not only economic but also other social or environmental effects of events. This method also pays close attention to the principles of sustainability, and considers all the various spheres of development.

The problem with more frequent applications of CBA is high level of data demand and also the quantification process of certain effects (both positive and negative) that are difficult to quantify (e.g., health impact assessment or impacts on education etc.). This is, actually, a very uncongenial consequence, because the basic principle of CBA is to select and support such project or activity where the overall benefits exceed overall costs, so the particular and overall effects can be expressed as precisely as possible.

Theoretically, CBA would be a perfect assessment model for event evaluation because it studies wider socioeconomic effects, but the barriers mentioned above still remain. Dwyer and Forsyth (2009) also promote CBA as 'an ideal approach to event assessment', but they also point out its disadvantages, especially its enormous data demands. Authors also comment that because of the hard process of precise CBA calculation, not many studies on event impact assessment have been produced.

Apart from these most frequents methods, there exist other partial approaches of event assessment.

Local multiplier LM3

One possible method of observing some aspects of local economic development (therefore potentially also the impacts of local events) could be the 'local multiplier 3' (LM3) which was first introduced by the British non-profit organisation (NGO) New Economics Foundation (NEF) in 2002. NEF used this methodology in 10 pilot projects. Within those, the LM was used e.g., as a supportive criterium for ex-post evaluation of the contractors´ selection in public procurement in building industry (Sacks, 2002). In 2007 a software application called LM3 Online was developed. This product is able to count the values of different types of local multipliers within the UK territory, based on data provided by the clients, together with data from their own database (Impact Measurement Ltd, 2015).

Local multiplier LM3 observes in what quantity, and for how long, the expenses of local stakeholders (private and public institutions, companies, households and inhabitants) stay in circulation within the geographically delimited local economy. It can be expressed as a certain value for a selected organisation (municipality, local enterprise, non-profit organisation, or association etc.) or for a group of inhabitants (they can be also event´s visitors whose expenses are then observed). In a figurative sense, it stands for the so-called 'retention ability' of a locality and offers evidence about the money flow and, also indirectly, non-financial relations within a given space. At the same time, it reveals other important effects that are related to the financial sources flow of an observed subject and his economic relations, and it enables the quantifying of its contribution to the economic development of an area (Černá Silovská & Kolaříková,
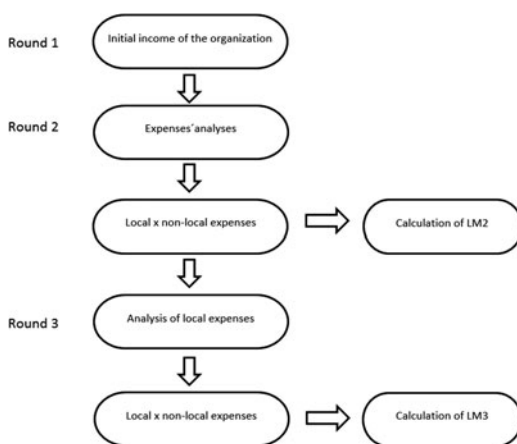
Figure 1: Process of data gathering for LM3.

2016). However, a close connection with all the areas of development (social, environmental, etc.) indicates the complex use of the LM3 indicator in connection to sustainable development (Macháček, Silovská, Říhová, & Jílek, 2013).

The calculation of final LM3 value (potentially, LM2) is not difficult. But, the process of data collection includes field research that may become financially and time demanding. In the very beginning, a particular local organisation (municipality, private or public company or group of inhabitants) is selected to be an object of LM3 calculation. Then, the area has to be geographically delimited and all the organisations localised within its border are then considered as local.

The following process consists of several rounds of data gathering and analysis (graphically expressed in Figure 1).

The principal information from the round 1 that enters the formula is the initial income of the observed subject – an organisation (which, usually, means annual net income). In the round 2 the portion of local expenses has to be analysed to separate local expenditures from non-local expenses. Only the local expenditures (payments to local employees and local suppliers) enter the calculation. Based on the data collected from the first two rounds, the LM2 indicator can be already gained:

$$LM\ 2 = \frac{round\ 1 + round\ 2}{round\ 1(initial\ income)}$$

To obtain the LM3 value, other data need to be added into the formula. This additional round includes the portion of local expenses. Local expenditures in this phase represent those expenses of local employees and suppliers that are paid to other companies and individuals which are located in the delimited area.

$$LM\ 3 = \frac{round\ 1 + round\ 2 + round\ 3}{round\ 1(initial\ income)}$$

The result of the calculation is a non-dimensional value (e.g., LM3 = 1,7). This means that each Czech crown that the organisation has invested in the year XY,

it created an additional income 0,7 CZK and 1,7 CZK of the total income for the local economy. This simple interpretation needs to be completed with a qualitative evaluation in order to explain deeper circumstances and to understand the local reality.

Collecting precise data and information brings several challenges (such as low rate of return of responses from local suppliers), especially in the third round. That is why the LM2 indicator tends to be more exact and closer to reality than LM3. However, this LM2 indicator has no multiplier effect included, so, the title 'local multiplier LM2' is bit confusing. In fact, LM2 reflects only the geographical demand distribution of an observed object (Macháček, Silovská, Říhová & Jílek, 2013).

In case of event economic evaluation, this method has not been applied yet on a large scale. There are some remarks about its possible use to assess event impact abroad such as in country Slovakia in Džupka and Šebová (2012) or in case of Serbian EXIT festival (Vonnegut and Bozinovic, 2011), but the authors did not apply LM on particular event yet. Only one case with the application of LM3 on selected event was found within Czech impact studies (Šebestová, 2013).

The LM methodology it is not so far used so commonly as other evaluation models such as CBA, I-O model or CGE model, but it does has some advantages compared to these sophisticated methods. The whole process of LM3 is directed at observing the broader economic benefits of particular local subjects, and it also reveals some facts about the power of a local economy and about economic relations within a community (Černá Silovská & Kolaříková, 2016). It is based on field research and direct contact with local subjects, so it brings more precise data that are closer to reality than any estimations used frequently in other methods such as the I-O model. Furthermore, the final calculation of the LM3 (and potentially of its simpler version called LM2) value is very simple.

All of the benefits associated with LM3 make this method very convenient for particular local stakeholders in local administration as they often lack a quantifiable and simple tool that would help them to express some economic consequences within their community that might be helpful – for instance as a political argument. The LM3 methodology seems to be more beneficial for smaller local subjects and organisations with simple proprietary relationships. This type of organisation, usually, has a tighter interaction with the local community (Černá Silovská & Kolaříková, 2016). Other authors, such as Feagan (2008) or Lahlou and Emmert (2007) also consider the LM3 method as a suitable tool for measuring economic effectiveness at the local level from the micro perspective compared to the common mostly macroeconomic evaluation approach.

As in the cases of other methods, also the LM3 methodology is characterised by some drawbacks that result from its setting. Černá Silovská and Kolaříková (2016) or Thatcher and Sharp (2008) argue that LM3 is not such a 'quick and easy' indicator as claimed by its creators (Sacks, 2002) because of the potentially time consuming field research during data collection. The original method also implies several process simplifications that are discussed and partially improved in Černá Silovská and Kolaříková (2016).

Table 1. Division of the case studies on event impact assessment in the Czech Republic and Slovakia according to the used methodology.

Methodology	Studies
I-O model	Jurajda et al (2006), Nosková (2016), Raabová (2010), Raabová (2012b)
CGE model	–
CBA analysis	–
LM3 methodology	Šebestová (2013)
Other methods (simple statistical data, direct economic effects, simple multipliers, SWOT analysis, PEST analysis)	Džupka and Šebová (2012 and 2016), Šauer and Repík (2014), Rehák and Štofko (2016), Hermann (2012), Ježek et al (2016), KPMG (2012), KPMG (2014), KPMG (2016), Šlehoferová and Ježek (2015), Raabová (2011a, 2011b)
Qualitative evaluation, general discussion, description (based on literature review, opinions or empirical surveys and questionnaires)	Škarabelová (2008), Štěpánková (2009), Šebová et al (2014), Šauer and Repík (2013), Gelná and Fialová (2010), Šmídová (2013), Černý (2013), Kaliba (2015), Vrabec (2011), Blatná (2013), Strunová (2015), Odložil (2014)

Source: Own processing.

Event assessment in the Czech Republic

There have not been, to date, many case studies conducted in the Czech Republic that aimed to assess different impacts of events organised in the Czech regions. The methodological discussion is also not very frequent and systematic.

However, it is obvious, that the importance of event tourism rises continuously. The number of events organised within a year is increasing. Mega-events (more than 500 000 visitors) are very rare in the Czech Republic, more typical are events of local character and impact.

As previously mentioned, systematic observation and evaluation of events′ impact is not well established in the Czech Republic (and it is not conceptually captured in national or regional development strategies). Nonetheless, some *ad hoc* studies have been conducted within recent decades. The following summary (in the text and in table 1) is probably an exhaustive listing of all the studies dealing with the topic of socio-economic or environmental impacts of events in the Czech Republic.

The largest collections of research outputs for events in the Czech regions can be found in association with the agency named Economic impacT. This organisation produced the highest number of evaluation studies in the area of event economic assessment, mostly in the field of cultural events, such as the international festival of state design and theatre architecture Prague Quandriennale 2011 (Raabová, 2011a), international music festival Prague Spring 2011 (Raabová, 2011b), Prague Fringe festival 2010 (small festival of creative theatre art) (Raabová, 2010) or study of the economic impacts of 10 musical festival in the year 2011 united under the Association of musical festivals of the Czech Republic (Raabová, 2012a). This Agency uses own certified model of economic assessment (Raabová, 2014) including both simple data analysis and advanced and more accurate input-output model (the customer can choose one of these procedures depending on the size of the event, level of desired outputs, and his financial and time capacities).

Apart from the outputs of Economic impacT agency, it is possible to find several more ad hoc evaluation studies. In 2015, the fourth largest city in Czech Republic

Plzeň (Pilsen) was awarded the status of European Capital of Culture (ECC) along with city of Mons in Belgium. This event garnered greater attention and several evaluation studies were initiated. Ježek, Janeček, Ircingerová and Nosková (2016) collected important information about the events visitors and estimated their expenditures. Then, total investments by the city of Pilsen into the cultural and recreational infrastructure were identified and a questionnaire survey among Pilsens inhabitants was conducted. Based mostly on increased number of visitors to Pilsen region due to activities within the ECC project, Ježek et al. (2016) concluded that it was very beneficial. The last example of research work on economic impact assessment related to the project of Pilsen – The European Capital of Culture can be found in Nosková (2016). The author applied a standard input-output model to express the value and importance of culture for the region and nation generally. Using data from the year 2010 (due to the unavailability of more current data) the study could not reflect the effects resulting from the project itself yet.

Cultural events and culture in general are the most frequent areas of interest in terms of economic evaluation related to event tourism in the Czech Republic. Sports events represent another important subject of study in terms of their economic impact on regional and national economies. In the case of the Czech Republic, several such events have been observed. Štěpánková (2009) tried to emphasise some important facts about the impacts of the FIS Nordic World Ski Championship in Liberec in 2009 which later generated controversy amongst the general public due a lack of transparent financing and the level of debts incurred. No particular econometric model has been applied in this case; the author tried only to differ and explain the 'obvious' and 'hidden' costs and impacts of this large sport event.

A special case of ex-ante event evaluation was that of the ill-fated bid for the 2016 Olympic by the city of Prague. Although Prague did not become the host of this mega-event (and probably will not apply again), some costs had already been invested during the preparation phase. The study by Jurajda et al (2006) is a good example of this kind of ex-ante evaluation of the economic impact of Olympic Games in Prague using the input-output analysis. These ex-ante studies are, however, very rare in the Czech Republic. More typically the events are assessed afterwards.

Economic impact assessment of selected events (both cultural and sport) in the Czech Republic is sometimes a subject of choice for undergraduate students final theses such as Vrabec (2011), Šebestová (2013), Blatná (2013), Černý (2013), Šmídová (2014), Odložil (2014), Kaliba (2015) or Strunová (2015). These students works usually apply simple methods and techniques such as SWOT analysis or simple questionnaire surveys in order to capture some elements of events impacts. Nevertheless, they represent a significant portion of research work done on the topic of event impact assessment in the Czech Republic.

There are also several studies in the area of event economic impact assessment in the neighbouring country of the Czech Republic – Slovakia whose economy and culture have many similar characteristics. Examples of those studies can be found e.g., in Džupka and Šebová (2016) and their valuable work to assess the effects of the White Night Festival in Košice (second largest city in Slovakia) using the multiplier concept in I-O model in order to quantify the economic impact of this event, or in Džupka

and Šebová (2012) describing the difficulties when planning to evaluate the economic and financial impact of 2011 Men's World Ice Hockey Championship, also in Košice. The same event and its economic impact, but only for another city – Bratislava (the Capital of Slovakia), was observed by Rehák and Štofko (2016).

If we try to sort all known studies on event impact assessment in the Czech Republic and Slovakia according to the methodology which was applied on particular event evaluation, we can see the result in the following Table 1.

Table 1 offers an exhaustive list of all studies that have been conducted in the Czech Republic observing different impacts of selected events such as 2011 Prague Spring (Raabová, 2011b) or series of international running competitions called RunCzech.com 2011 (Raabová, 2012b). The absolute majority of them deals only with economic effects, social or environmental aspects are not considered at all or are only marginally mentioned. Although most of the studies discuss comprehensive evaluation models (I-O analysis, CBA analysis and CGE model) as the most convenient tools to capture the economic consequences of events, only a small number of those actually applies them using real data. Cost-benefit analysis and the CGE model have not been used in any of the evaluation cases yet, and the I-O model can be found mostly associated to the work of T. Raabová and of the agency Economic impacT. Most of the studies use largely descriptive in character analysing only secondary (and often incomplete or estimated) data and provide general basic economic information about the event. The LM3 methodology that was proposed as another alternative approach has been used only in one case (Šebestová, 2013) and in simplified form. In this study, LM3 method was applied in order to calculate the local economic impact of the 23rd international festival of universities of art called ENCOUNTER 2013. This event was visited by 196 visitors from 18 countries. Their expenses together with festival management́s expenses have been analysed. However, only the LM2 was calculated with precise data, the LM3 value was estimated.

The limited number of assessment studies in the Czech Republic and their methodological simplifications are often justified by difficulties in obtaining precise data, especially on regional or local levels. Tourism satellite account, which is governed by the Czech Statistical Office and it is supposed to be the largest data source in tourism statistics, collects data only at national level.

Selection of method for event assessment

The last part of this contribution offers brief classification about a suitability of selected methods for different types of events (summarised in Table 2). These recommendations can be used within Czech regions, but also elsewhere.

The evaluation methodology needs to be selected carefully with respect to the specifics of an observed event. Not only the basic type of event (according to size and purpose) affects the process of data collection and processing, but also other factors (such as specifics of local environment, means of financing etc.) play their role.

Very important are also financial and time perspectives. This means that the ratio of time and money costs of the usage of particular methodology and the significance of benefits of potential results needs to be considered.

Table 2. Evaluation methods and their suitability for event assessment.

Methodology	Suitable for	Example of event
I-O model	events without many intangible, hardly quantifiable effects, with mostly financial effects, events with significant potential economic impact	large events, hallmark events with international or national importance, e.g., running festivals (city marathons or semi-marathons) or large movie or theatre festivals
CGE model	big-size events without many intangible effects and also events with potential significant negative effects, events with significant potential economic impact	mega events, hallmark events with many visitors (over 100 000) with international or national importance, similar examples as for the I-O model
CBA analysis	events with many different effects (both tangible and intangible from all the spheres of development – economic, social, environmental) where evaluation is highly demanded (especially from the public sector's side)	mega events, hallmark events with significant international and national impact, affecting all the spheres of development, also financed from public sources, e.g., mega-sport events such as the Olympic games
LM 3 methodology	ideal for small or mid-size local events with not many suppliers with anticipated strong local impact	local cultural or sport events, local festivals etc.
Other methods (descriptions, simple statistical data, SWOT analysis, PEST analysis)	for any kind of event, as an overview and basis for further analyses	any event
Qualitative evaluation, general discussion (based on literature review, opinions or empirical surveys)	events with many intangible, hardly quantifiable effects where all the comprehensive models would not be efficient	e.g., free entrance educational events or outside exhibitions where visitors' monitoring become difficult and where benefits have mostly non-financial character

Source: Own processing.

Conclusion

This paper serves mostly as a review of currently existing and applied approaches of event economic assessment with a focus on the specific situation of the Czech Republic. The need for further research into this topic is caused by an increasing number of different kinds of events that take place every year throughout the country, and also by an increasing public support for the event tourism industry. Other actors from the private sector or local administrations also require an overview of their investments that may have many different forms.

Unequivocally, economic effects of events represent globally the most observed group of impacts - social, cultural or environmental impacts of event tourism are practically ignored in existing studies. Another major disadvantage and research gap in the Czech studies was also observed. The absolute majority of them are presented in Czech language only, so they can hardly attract broader international interest.

From the most commonly applied complex methods in the Czech studies, usually the I-O model has been used, the CBA method or CGE model have been so far only mentioned in methodological discussions, but they are often perceived to be more suitable for getting a large overview of event impacts. Other methods, such as the LM 3, are waiting for wider usage.

However, most of these models and methods mentioned above are hardly applicable at a local level (for smaller local events), because of their high data demands and high costs of obtaining the required information for calculating precise economic

effects (Černá Silovská & Kolaříková, 2016). These are the most frequently quoted reasons that prevent broader utilisation of methods such as the I-O model or CBA analysis, despite the fact that they receive admiration from many researchers. On the other hand, for most of the practitioners, these robust models are irrelevant on a practical level due to their complexity.

The LM3 method appears to be more convenient for assessing the level of economic impact at local level. It is based and conditioned with the field research that has the potential to deliver quite precise and complete data. Anyway, this is valid only for smaller sized events with a strong local impact, where this kind of research is time and cost efficient. In any case, this reflects well the situation in the Czech Republic where mega and large events are quite rare and small and mid-size events are more common. In the most optimal situation, these are the event's organisers work alongside involved local stakeholders who have an interest in expressing the value of their event and its impact on the local economy. In such situations, they need to have well arranged material with applicable methods and techniques at their disposal, including a description of their benefits and obstacles. This fact also makes the local multiplier LM3 a very acceptable method.

Above all, it is obvious that it is necessary to differentiate the use of various methods and techniques according to the size, localisation, and importance of particular events in order to select the most convenient in terms of benefit/cost, when taking into account the financial, time and other perspectives.

Funding

References

Archer, B. H., & Owen, C. B. (1971). Towards to a tourist regional multiplier. *Regional Studies*, *5*, (4), 289–294. doi:10.1080/09595237100185331

Blake, A. (2005). *The Economic Impact of the London 2012 Olympics*, TTRI Discussion Paper 5/2005, Nottingham, United Kingdom: Christel DeHaan Tourism and Travel Research Institute Nottingham University Business School.

Blatná, M. (2013). *Ekonomické přínosy vybrané akce cestovního ruchu (Festival otevřených sklepů). [The economic benefits of selected tourism event (on the example: The Open wine cellar festival)] (Unpublished bachelor thesis)*. Masaryk University, Brno, Czech Republic.

Bracalente, B., Chirieleison, C., Cossignani, L. F., Gigliotti, M., Ferrucci, L. R., & Analli, M. (2011). The economic impact of cultural events: The Umbria Jazz music festival. *Tourism Economics*, *17*(6), 1235–1255. doi:10.5367/te.2011.0096

Brown, S., Getz, D., Pettersson, R., & Wallstam, M. (2015). Event evaluation: Definitions, concepts and a state of the art review. *International Journal of Event and Festival Management*, *6*(2), 135–157. doi:10.1108/IJEFM-03-2015-0014

Burgan, B., & Mules, T. (2001). Reconciling cost-benefit and economic impact assessment for event tourism. *Tourism Economics*, *7*, (4), 321–330. Retrieved from http://journals.sagepub.com/doi/abs/10.5367/000000001101297892. doi:10.5367/000000001101297892

Chang, W. (2001). *Variations in Multipliers and Related Economic Ratios for Recreation and Tourism Impact Analysis*. Michigan State University, Department of Park, USA, Michigan

Crompton, J. L. (1995). Economic Impact Analysis of Sports Facilities and Events: Eleven Sources of Misapplication. *Journal of Sports Management*, *9*(1), 14–35. DOI: doi:10.1123/jsm.9.1.14

Crompton, J. L. (2006). Economic Impact Studies: Instruments for Political Shenanigans?. *Journal of Travel Research*, *45*(1), 67–82. Retrieved from http://agrilife.org/cromptonrpts/files/2011/06/3_9_3.pdf. doi:10.1177/0047287506288870

Čadil, J. (2010). *Regionální ekonomie. Teorie a aplikace [Regional economics. Theory and applications]*. C. H. Becks, Prague, Czech Republic.

Černá Silovská, H., & Kolaříková, J. (2016). Observation and assessment of local economic development with regard to the application of the local multiplier. *European Planning Studies*, *24*(11), 1978–1994. Retrieved from http://www.tandfonline.com/doi/full/10.1080/09654313.2016.1233941. doi:10.1080/09654313.2016.1233941

Černý, P. (2013). *Studie přínosů pořádání světového poháru v alspských disciplínách pro město Špindlerův Mlýn. [Alpine Skiing World Cup Organization Benefits in Relation to Špindlerův Mlýn Municipality] (Unpublished master thesis)*. Charles University, Prague, Czech Republic.

Davies, L., Coleman, R., & Ramchandani, G. (2013). Evaluating event economic impact: Rigour versus reality?. *International Journal of Event and Festival Management*, *4*, (1), 31–42. doi:10.1108/17582951311307494

Dwyer, L., & Forsyth, P. (2009). Public Sector Support for Special Events. *Eastern Economic Journal*, *35*(4), 481–499. doi:10.1057/eej.2009.31

Dwyer, L., Forsyth, P., & Spurr, R. (2006). Assessing the Economic Impacts of Events: A Computable General Equilibrium Approach. *Journal of Travel Research*, *45*(1), 59–66. doi:10.1177/0047287506288907

Dwyer, L., Forsyth, P., & Spurr, R. (2005). Estimating the Impacts of Special Events on the Economy. *Journal of Travel Research*, *43*(4), 351–359. Retrieved from https://pdfs.semanticscholar.org/6440/02152ccd1df0772407457cd7f3637f4dfe5e.pdf. doi:10.1177/0047287505274648

Džupka, P., & Šebová, M. (2012). Hosting big sports and cultural events: Could it change a city? Retrieved from http://www.academia.edu/7655823/Hosting_big_sports_and_cultural_events_Could_it_change_the_city.

Džupka, P., & Šebová, M. (2016). Local economic impact of the White night festival in Košice. *E&M Economics and Management*, *2*, 132–141. doi:10.15240/tul/001/2016-2-009

Feagan, R. (2008). Direct Marketing: Towards sustainable local food systems?. *Local Environment: The International Journal of Justice and Sustainability*, *13*(3), 161–167. doi:10.1080/13549830802169772

Gelná, T., & Fialová, D. (2010). Ekonomické dopady zábavních komplexů na regiony [On the Impacts of Amusement Parks in Regional Economies]. *Czech Regional Studies*, *1*, 17–23. Retrieved from https://www.vse.cz/polek/download.php?jnl=rst&pdf=20.pdf.

Getz, D. (2008). Event Tourism: Definition, evolution, research. *Tourism Management*, *29*(3), 403–428. doi:10.1016/j.tourman.2007.07.017

Getz, D., Andersson, T., & Carlsen, J. (2010). Developing a framework and priorities for comparative and cross-cultural research. *International Journal of Event and Festival Management*, *1*, 29–59. DOI 10.1108/17852951011029298. doi:10.1108/17852951011029298

Hermann, M. (2012). Impact of International Running Events on the Economy and the Society. Retrieved from http://aims-worldrunning.org/documents/2012_congress/2012.5_markus-hermann_economic-impact.pdf

Herrero, L. C., Sanz, J. A., Devesa, M., Bedate, M., & del Barrio, M. J. (2007). Economic Impact and Social Performance of Cultural Macrofestivals. In Richards, G. (Ed.). *Cultural Tourism: Global and Local Perspectives* (pp. 303–323). The Haworth Press, Philadelphia.

Impact Measurement Ltd (2015). LM3 Online. Retrieved from https://www.lm3online.com/.

Jones, M. (2010). *Sustainable Event Management: A Practical Guide*. Earthscan, London.

Jones, C., & Munday, M. (2004). Evaluating the Economic Benefits from Tourism Spending through Input-output Frameworks: Issues and Cases. *Local Economy: The Journal of the Local Economy Policy Unit*, *19*(2), 117–133. doi:10.1080/0269094042000203063

Ježek, J., Janeček, P., Ircingerová, J., & Nosková, M. (2016). Ekonomické aspekty projektu Plzeň – Evropské hlavní město kultury 2015 [Economic effects of the project Pilsen - European capital of culture 2015]. *Politická ekonomie*, *4*(1), 490–507. Retrieved from http://zam.uur.cz/rozmanova/Novinky/Ekonomicke-efekty-projektu-Plzen.pdf.

Jurajda, Š., Lízal, L., Munich, D., & Zemčík, P. (2006). Hlavní ekonomické důsledky pořádání letních olympijských her v Praze v roce 2016 [Prague Summer Olympic Games 2016: Economic impact Study]. *Politická Ekonomie*, *4*, 490–507. DOI: doi:10.18267/j.polek.570

Kaliba, T. (2015). *Ekonomický dopad Jizerské 50 na ČR a Liberecký kraj. [Economic Impact of Jizerska 50 on the Czech Republic and Liberec District] (Unpublished master thesis)*. Charles University, Prague, Czech Republic.

Kotíková, H., & Schwartzhoffová, E. (2008). *Nové trendy v pořádání akcí a událostí (events) v cestovním ruchu [New trends in event organization]*. Prague, Czech Republic: Ministry of Regional Development.

KPMG (2012). Koncepce financování sportu v České republice. [Conception of sport financing in the Czech Republic]. Retrieved from: http://www.olympic.cz/financovani/docs/koncepce_financovani_sportu_prezentace_v9a.pdf

KPMG (2014). Sportovní infrastruktura v České republice. [Sport infrastructure in the Czech Republic]. Retrieved from: http://docplayer.cz/33616260-Sportovni-infrastruktura-v-ceske-republice.html

KPMG (2016). Analýza přínosů Prague Metronome Festivalu. [Analysis of benefits of Prague Metronome Festival]. Retrieved from: https://www.pragueeventscalendar.cz/src/upload/5/9/p1aleoj69k1p0f1hr71p7j1u915889.pdf

Lahlou, S., & Emmert, S. (2007). June). *SCP Cases in the Field of Food, Mobility and Housing*. Workshop of the Sustainable Consumption research Exchange Network, 4 – 5 June 2007, Paris, France. Retrieved from www.score-network.org.

Lee, C., & Taylor, T. (2005). Critical reflections on the economic impact assessment of a mega-event: The case of 2002. *FIFA World Cup. Tourism Management*, *26*(4), 595–603. doi:10.1016/j.tourman.2004.03.002

Lee, C., Taylor, T., Lee, Y., et al. (2005). The Impact of a Sport Mega-Event on Destination Image. *International Journal of Hospitality & Tourism Administration*, *6*, 27–45. doi:10.1300/J149v06n03_03

Li, S., Blake, A., & Cooper, C. (2011). Modelling the economic impact of international tourism on the Chinese economy: A CGE analysis of the Beijing 2008 Olympics. *Tourism Economics*, *17*(2), 279–303. doi:10.5367/te.2011.0025

Lynch, T. (2000). *Analyzing the Economic Impact of Transportation Projects Using RIMS II, IMPLAN and REMI*. Tallahassee, FL, United States: Institute for Science and Public Affairs, Florida State University.

Macháček, J., Silovská, H., Říhová, G., & Jílek, P. (2013). Regionální multiplikační efekt jako indikátor lokálního rozvoje [Regional multiplier effect as an indicator of local development]. *E&M Economics and Management*, *16*, 20–33. Retrieved from http://www.ekonomie-management.cz/archiv/detail/1056-regionalni-multiplikacni-efekt-jako-indikator-lokalniho-rozvoje/.

Madden, J. R. (2006). Economic and Fiscal Impacts of Mega Sporting Events: A General Equilibrium Assessment. *Public Finance and Management*, *6*, 346–394. Retrieved from http://search.proquest.com/openview/3e8fa1317dd55636cd0a8e5dc8998749/1?pq-origsite=gscholar&cbl=44221.

Mair, J., & Whitford, M. (2013). An exploration of events research: Event topics, themes and emerging trends. *International Journal of Event and Festival Management*, *4*, (1), 6–30. Doi 10.1108/17582951311307485. doi:10.1108/17582951311307485

Matheson, V. A., & Baade, R. A. (2005). Mega-Sporting Events in Developing Nations: Playing the Way to Prosperity?. *South African Journal of Economics*, *72*(5), 1085–1096. doi:10.1111/j.1813-6982.2004.tb00147.x

Minnaert, L. (2012). An Olympic legacy for all? The non-infrastructural outcomes of the Olympic Games for socially excluded groups. *Tourism Management*, *33*(2), 361–370. http://dx.doi.org/10.1080/03434002000213888. doi:10.1016/j.tourman.2011.04.005

Nosková, M. (2016). Regional Economic Effects of the European Capital of Culture Project: The Use of Input-output Analysis. *E&M Economics and Management*, *19*, 58–74. doi:10.15240/tul/001/2016-3-005

Odložil, J. (2014). *Ekonomický přínos realizace sportovních akcí pro rozvoj cestovního ruchu na příkladech měst Ústí nad Labem a Olomouc.* [*Economic benefits of sport events for tourism development: Case studies of cities of Ústí nad Labem and Olomouc*] Unpublished bachelor thesis. University of Economics, Prague, Czech Republic.

Quinn, B. (2010). Problematising festival tourism: Arts festivals and sustainable development in Ireland. *Journal of Sustainable Tourism*, *14*(3), 288–306. doi:10.1080/09669580608669060

Raabová, T. (2010). *Prague Fringe Festival 2010: Studie ekonomického dopadu.* [*Prague Fringe Festival 2010: Analysis of economic impact*]. Prague: Economic impact.

Raabová, T. (2011a). *Analýza ekonomického dopadu Pražského Quadriannale* [*Economic impact analysis of Prague Quadriannele*]. Prague: Economic impact.

Raabová, T. (2011b). *Analýza ekonomického dopadu festivalu Pražské jaro 2011* [*Economic impact analysis of Prague Spring festival 2011*]. Prague: Economic impact.

Raabová, T. (2012a). *Analýza ekonomického dopadu Asociace hudebních festivalů ČR 2011* [*Economic impact analysis of the Association of music festivals in the Czech Republic 2011*]. Prague: Economic impacT.

Raabová, T. (2012b). *Ekonomický dopad mezinárodních běžeckých závodů RunCzech.com 2011* [*Economic impact of international running events RunCzech.com 2011*]. Prague: Economic impact.

Raabová, T. (2014). *Jak spočítat ekonomické dopady a získat více peněz pro váš projekt* [*How to calculate economic impact and get more finances for your project*]. Prague: Institut umění.

Raj, R., & Musgrave, J. (2009). Introduction to a conceptual framework for sustainable events. In Raj, R. & Musgrave, J. (Ed.), *Event Management and Sustainability*, pp 1–12 Oxfordshire: CABI.

Rehák, Š., & Štofko, M. (2016). Lokálne ekonomické vplyvy veľkých športových udalostí: Prípadová štúdia MS 2011 v ladovom hokeji v Bratislave. [Local economic impact of large sport event: Case study of 2011 Bratislava Ice Hockey World Cup]. *Geografie*, *121*pp, 591–611. Retrieved from http://geography.cz/sbornik/wp-content/uploads/downloads/2017/01/gcgs042016_rehak.pdf.

Rickman, S. D., & Schwer, R. K. (1995). A comparison of the multipliers of IMPLAN, REMI and RIMS II: Benchmarking ready-made models for comparison. *The Annals of Regional Science*, *29*, (4), 363– 374. Retrieved from https://ideas.repec.org/a/spr/anresc/v29y1995i4p363-374.html. doi:10.1007/BF01581882

Robertson, M., Rogers, P., & Leask, A. (2009). Progressing socio-cultural impact evaluation for festivals. *Journal of Policy Research in Tourism, Leisure and Events*, *1*, (2), 156–169. doi:10.1080/19407960902992233

Sacks, J. (2002). *The Money Trail. Measuring your impact on the local economy using LM3.* New Economics Foundation and the Countryside Agency, London.

Strunová, S. (2015). *Zhodnocení dopadů konání Signal festivalu v Praze na socioekonomický rozvoj regionu.* [*Evaluation of impacts of Signal festival in Prague on socioeconomic regional development*] (*Unpublished bachelor thesis*). University of Economics, Prague, Czech Republic.

Stynes, D. J. (1999). Approaches to Estimating the Economic Impacts of Tourism; Some Examples. *Economic impact approaches.* Retrieved from: https://www.researchgate.net/publication/254057208_Approaches_to_Estimating_the_Economic_Impacts_of_Tourism_Some_Examples

Šauer, M., & Repík, O. (2013). Ekonomické aspekty událostí cestovního ruchu – teoretické přístupy k měření dopadů [Economic aspects of tourism events – theoretical approaches to impact assessment]. In Klímová, V. & Žítek, V. (eds.), *16th international colloquium about regional sciences* (pp. 593–602). Brno, Czech Republic: Masaryk University.

Šauer, M., & Repík, O. (2014). Ekonomické dopady vinařského cestovního ruchu v turistické oblasti Lednicko-Valtický areál [Economic Impacts of Wine Tourism in the Tourist Area of

Lednice-Valtice Area]. In Klímová, V. & Žítek, V. (eds.), *17th international colloquium about regional sciences (*pp. 824–834). Brno, Czech Republic: Masaryk University.

Šebestová, M. (2013). *Ekonomické dopady a multiplikační efekty v kultuře. [The economic impact and multiplication effects in culture] (Unpublished bachelor thesis).* Brno, Czech Republic: Janáčkova akademie múzických umění.

Šebová, M., et al. (2014). Promoting and financing cultural tourism in Europe through European Capitals of culture: A case study of Košice, European Capital of Culture 2013. *Economic Interferences*, *16*, 655–670. Retrieved from http://www.amfiteatrueconomic.ro/temp/Article_1298.pdf.

Škarabelová, S. (2008). Multiplikační efekty dotací do vybraných divadel - příspěvkových organizací města Brna. *[Multiplier Effects of Subsidies for Selected Theatres – Contributory Organizations of City of Brno] ACTA AERARII PUBLICI*, *4*, 36–52.

Šlehoferová, M., & Ježek, J. (2015). Návrh metodického postupu hodnocení ekonomických dopadů kulturních událostí na příkladu projektu Plzeň – Evropské hlavní město kultury 2015 [Methodological Process Proposal to Evaluate the Impact of Cultural Events: The Case Study of Pilsen - European Capital of Culture 2015]. In Klímová, V. & Žítek, V. (eds.). *18th international colloquium about regional sciences (*pp. 626–632). Brno, Czech Republic: Masaryk University.

Šmídová, T. (2013). *Analýza vybrané kulturní akce a její dopad na město Strakonice [Analysis of specific cultural event and its impact on the city of Strakonice] (Unpublished bachelor thesis).* University of West Bohemia, Pilsen, Czech Republic.

Štěpánková, K. (2009). Mistrovství světa v klasickém lyžování Liberec 2009: Co bylo a nebylo vidět [FIS Nordic World Ski Championships 2009: What was hidden]. In Eger, L. & Tlučhoř, J. (eds.). *Management and marketing of sport and tourism (*pp. 177–185). Plzeň, Czech Republic: Západočeská univerzita v Plzni.

Thatcher, J., & Sharp, L. (2008). Measuring the local economic impact of National Health Service procurement in the UK: An evaluation of the Cornwall Food Programme and LM3. *Local Environment: Journal of Justice and Sustainability*, *13*(3), 253–270. doi:10.1080/13549830701669005

Vonnegut, A., & Bozinovic, K. (2011). *Some Notes on Measuring Festival Impact in an Emerging Market.* Liberec, Czech Republic: The Case of the Serbian EXIT Festival. Retrieved from SSRN: https://ssrn.com/abstract=2500621 or http://dx.doi.org/10.2139/ssrn.2500621

Vrabec, J. (2011). *Posouzení přínosů pořádání velkých sportovních akcí v České republice. [Assessment of advantages of holding large sport events in the Czech Republic] (Unpublished bachelor thesis).* Technical University, Liberec, Czech Republic.

Wood, E. (2009). An impact evaluation framework: Local government community festivals. *Event Management*, *12*(3), 171–185. doi:10.3727/152599509789659768