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A Theoretical Comparison of the Economic Impact of Large and Small Events

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Abstract

In response to the increasing debate on the relative worth of small events compared to large events, we create a theoretical model to determine whether smaller events are more likely to create positive economic impact. First, event size and city size are redefined as continuums of resources. The concepts of event resource demand (ERD) and city resource supply (CRS) are introduced, allowing for a joint analysis of supply and demand. When local economic conditions are brought into the analysis, the framework determines how a city resource deficiency or surplus affects the economic impact of an event. This resource-based approach assists public officials and event organizers in making more rational decisions for hosting events when they pursue positive economic impacts. Specifically, we find small events have a higher potential for positive economic impact and hosting multiple smaller-sized events is a better strategy than hosting a big event.

Keywords: economic impact, cost benefit analysis, demand, event typology, large event, small event

Introduction

Much of the economic impact research to date has focused on mega-event impact such as the Olympic Games or the FIFA World Cup (e.g., Baade & Matheson, 2004; Matheson, 2006a; 2009; Maennig & Zimbalist, 2012; Porter & Fletcher, 2008; Preuss, 2004; 2007; Tien, Lo, & Lin, 2011). Recently, the focus has shifted to smaller events (e.g., Agha & Rascher, in press; Coates & Depken, 2011; Daniels & Norman, 2003; Matheson, 2006b; Mondello & Riche, 2004; Taks, Green, Chalip, Késenne, & Martyn, 2013; Taks, Késenne, Chalip, Green, & Martyn, 2011; Veltri, Miller, & Harris, 2009;

Wilson, 2006). While smaller events may generate limited economic activity, their outcomes and net benefits for the local community might actually be more positive (Matheson, 2006b; Seaman, 2004). As such, the purpose of this paper is to use a theoretical framework to determine whether large or small events have more beneficial economic impacts.

However, a comparison of economic impact using only event size is insufficient. Characteristics of the host destination are equally important in assessing impact. As articulated by Getz (2012), "even small music festivals can have 'mega' impacts on a small town in terms of tourists, economic benefits or disruption" (p. 45). Thus, to determine if large or small events have higher positive economic outcomes or net benefits for host communities, we create a framework that takes both event and city characteristics into consideration.

The structure of the paper is as follows. Given the complexity of the political decision making process for hosting events, we first provide the context why it is important to introduce a resource-based framework and focus on the value of smaller-sized events in general, and their economic value in particular. In order to do so, we redefine events as continuums of required resources instead of using existing event typologies. Similarly, cities are redefined as continuums of supplied resources. Once events and cities are defined in the same terms, we use well-known drivers of economic impact to create a theoretical framework and a visual presentation of economic impact based on an interaction of event resource demand and city resource supply. To generate an applied perspective, we include local economic conditions that shift the supply of available city resources, create a city resource deficiency, and create a realistic view of the economic impact of an event on a city. It is only this applied framework that can determine the economic impact of different sized events in different sized cities which then allows us to draw conclusions.

The Value of Smaller-Sized Events in Host Communities

Events of various sizes can generate a variety of impacts and outcomes for host communities. Two themes have dominated the research agenda in the past, namely a focus on economic impact and large-scale events (e.g., Maennig & Zimbalist, 2012). Recently, researchers have started to shift their attention towards more intangible assets or returns of events (e.g., Preuss, 2007), such as social (e.g., Heere et al., 2013), urban regeneration (e.g., Smith, 2012), physical activity and sport participation (e.g., Craig & Bauman, 2014; Weed et al. 2009), and environmental impacts (e.g., Chappelet, 2008). While the underlying reasons from political officials to host events may be unclear and serve (their) hidden (political) agendas, they like to rave about the positive impacts events can generate for the host community. However, they most often rely on economic justifications (including tourism). This is particularly true when taxpayers' dollars are used to stage the (often too expensive) event. In most cases, policymakers rely on standard economic impact analysis (EIA) to make their claims. These studies are not without controversy and more researchers point towards the necessity to perform more accurate cost-benefit analyses (CBA; e.g., Kesenne, 2012). The framework proposed in this paper builds on this idea, and specifically allows politicians, policymakers, and event organizers to make more rational economic decisions.

The focus on large-scale events also warrants a shift, as more research starts to reveal valuable outcomes of hosting smaller-scale events, be it from an economic (e.g., Mondello & Rishe, 2004; Matheson, 2006b; Taks et al., 2011), tourism (e.g., Gibson, Kaplanidou, & Kang, 2012), social (Djaballah, Hautbois, & Desbordes, 2015), or sport participation perspective (e.g., Taks, et al., 2014). The added value of smaller-scale events is partially based on the potential for social capital through tighter social networks, a sense of ownership, and connectedness of the local population with the event as opposed to large or mega-events (Taks, 2013). More research on smaller-scale events is needed to substantiate these claims. The current paper contributes to this endeavor in the realm of economic impact. The proposed resource-based framework demonstrates that smaller-sized events can generate more optimal economic outcomes for host communities, and can assist public officials and elected leaders to understand the opportunities and real economic value of smaller-scale events.

Operational Definition of Events as Continuums of Resources

There are no universal definitions of different types of events. However, events are often defined as a function of their assumed economic impact. For example, Gratton and Taylor (2000) define "Type A" events as "irregular, one-off, major international spectator events generating significant economic activity and media interest;" "Type B" events as "major spectator events generating significant economic activity, media interest and part of an annual cycle of sport events;" "Type C" events as "irregular, one-off major international spectator/competitor events, generating limited economic activity;" and "Type D" event as "major competitor events generating limited economic activity and part of an annual cycle of sport events" (p. 190). While Type C and D events may possibly generate limited economic activity, their outcome and net benefit for the local community might actually be more positive (or negative) compared to Type A and B events (e.g., Mondello & Riche, 2004; Matheson, 2006b). Moreover, economic impact is a function of both an event and the city where it occurs, thus we offer an alternative to categorizing events on assumed impact.

Instead of defining events categorically, we argue that the size of the event is a function of the resources needed to stage the event and the resources needed to host all of the event-related attendees (participants, spectators, officials, media, etc.). In other words, we direct focus on the required local resources rather than the event outcomes (e.g., economic impact).

Events require investments of human, financial, and physical resources from communities that stage them. Human resources include the employees and volunteers required to stage the event. Financial resources include private and government investments. Physical resources comprise aspects such as venues, accommodation, private and public transportation, and food services. Generally, large events tend to attract more visitors and higher levels of business and government support because of their high profile and often global reach, and thus require more resources (e.g., Horne & Manzenreiter, 2006; Preuss, 2009). In contrast, smaller events generally attract fewer visitors and lower levels of business and government support, and thus require fewer resources (e.g., Gibson, Kaplanidou, & Kang, 2012). We recognize that events have all of these characteristics but we emphasize the importance of the resource requirements.

We introduce the concept of event resource demand (ERD) as a multivariate measure of the total resources needed to stage an event. Events are bundles of human, financial, and physical resources that differ in the types of resources needed and the quantity of each of those resources depending on the nature of the event. For example, a multi-sport participatory event may require few paid staff, many volunteers, multiple venues, few hotel rooms, and no public funding; in comparison, a single-sport international championship may need the involvement of paid staff, fewer volunteers, the usage (or possibly construction) of one large venue, many hotel rooms, and public funding.

Thus, instead of using existing categorical typologies of events, we define large events as those with high ERD and small events with low ERD and acknowledge that there are an infinite number of events that fall on the ERD continuum. In the remainder of this paper, the term *large event* does not apply to previous event typologies or event outcomes, but instead to an event with a high ERD. Similarly, the term *small event* refers to one with a low ERD.

Operational Definition of Cities as Continuums of Resources

Cities[1] can be defined on a spectrum of demographic, economic, geographic, and financial terms. These measures can provide a description of a city's population, GDP, land area, or per capita income. While these measures are informative, they are insufficient to predict economic impact. The city characteristics that affect the economic impact of an event are instead the available resources: the supply of labor (human resources), government and private investment (financial resources), and the capital infrastructure in terms of airports, roads, hospitality, and event venues (physical resources). Similar to events, cities offer bundles of resources in which the type and quantity of each resource differs.

Instead of defining cities categorically, we introduce the concept of city resource supply (CRS) as a multivariate measure of the total resources a city supplies to stage the event (venues, volunteers, staff, etc.) and to host the event attendees (participants, spectators, officials, media, etc.). For example, a city with a small population that is a highly sought after tourism destination will have a well-developed hospitality industry including a specialized labor force, and may have state-of-the-art venues. On the other hand, a city with a larger population that is not a tourism destination will have fewer hospitality accommodations and a less developed labor force, and may have fewer and older venues. In this case the city with the lower population may have a higher CRS to stage a sport event compared to the city with the higher population. Thus, in the context of CRS, large cities are those that have more local resources to stage and host events compared to small cities that have fewer local resources. Similar to events, we view city size along this continuum of resource supply.

It is important to note that the definition of CRS captures many city-related features that affect economic impact. For example, a smaller, geographically isolated city will have fewer inherent resources, placing them lower on the continuum of CRS, but will have more money coming from the outside, generating new visitor spending until its resources are fully utilized. On the other hand, geographically isolated cities will incur considerable leakages to obtain any resources the event demands that are not locally available. In this way, CRS captures city-related features to predict economic impact.

In order to compare the economic impact of large and small events using an analysis of resources, we next introduce 10 well-known drivers of economic impact that allow us to interact ERD and CRS.

Economic Impact Drivers

Hundreds, or perhaps thousands, of event- and city-related variables must be taken into consideration when quantifying economic impact. These variables range from time switchers to the source of funding for a new venue. As such, it is nearly impossible to compare any two events, especially when these events are held in different cities. To solve this problem we note that, fundamentally, these variables measure every event expenditure that either increases or decreases economic impact. In order to compare events of different sizes on the same terms in a way that does not involve the analysis of hundreds of variables that differ from event to event, we categorize decades of academic research on economic impact (e.g., Baade, Baumann, & Matheson, 2008; Campbell & Brown, 2003; Coates, 2007; Cobb & Olberding, 2007; Crompton, 1999; Crompton & Howard, 2013; Downward, Dawson, & Dejonghe, 2009; Dwyer, Forsyth, & Spurr, 2006; Johnson & Whitehead, 2000; Késenne, 2012; Preuss, 2005; Rosentraub & Swindell, 1991; Taks, Girginov, & Boucher, 2006; Taks et al., 2013) into 10 activities we call economic impact drivers (EID). The 10 drivers presented in Figure 1 were motivated by previous attempts to classify EID (Agha & Rascher, in press) and provide a framework for determining the costs and benefits of events in the most basic terms. It is imperative to understand that every feature that relates to economic impact is captured by five benefit drivers that increase economic impact and five cost drivers that decrease economic impact. Henceforth, we use an analysis of resources (ERD and CRS) to illustrate the economic impact of various events using a cost benefit analysis (CBA) approach (e.g., Taks et al., 2011).

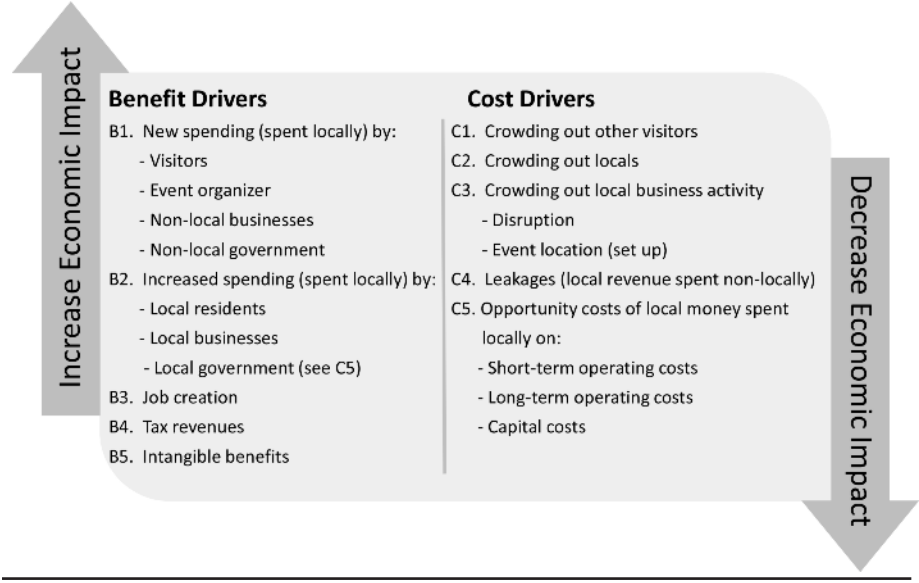

Figure 1. Economic impact drivers

Theoretical Perspective on the Interaction of Event Size and City Size

If we continue to view cities as bundles of supplied resources and events as bundles of demanded resources, then we can match supply and demand (see Figure 2). First, there are the cases where every resource that an event demands (ERD) is locally available. In the case of Event 1 (E_1), City 1 (C_1) can exactly supply the resources demanded by Event 1 (CRS=ERD). Similarly, in the case of Event 2 (E_2), the city has more than enough resources (CRS) to meet the needs of the event (CRS>ERD). In the case of E_1 and E_2, there will be new spending, job creation, increased tax revenues, and very little, if any, crowding out, leakages, or opportunity costs.

There are also cases where every resource that an event demands (ERD) is not entirely locally available. In the case of Event 3 (E_3), City 1 does not have all necessary resources demanded by the event (CRS<ERD) which means the city will not benefit from some of the new spending, job creation, and tax revenues. Other visitors are crowded out, more leakages occur beyond normal economic flows, and opportunity costs increase due to necessary capital investments.

Cost Benefit Analysis of Large and Small Events in Large and Small Cities

In what follows, we continue the discussion of matching ERD and CRS by contrasting large events and small events in small and large cities. We use the 10 drivers to determine the benefits, costs, and net economic impact of each event-city combination. For the sake of simplicity, we illustrate the extreme points of the continuums: (a) a large event not exceeding the CRS in a large city; (b) a large event exceeding the CRS in a small city; (c) a small event not exceeding CRS in a large city; and, (d) a small event not exceeding the CRS in a small city. For clarity, we reiterate that the terms large and small events refer to the resources demanded to stage them. Similarly, the terms large and small city refer to the resources available to stage events.

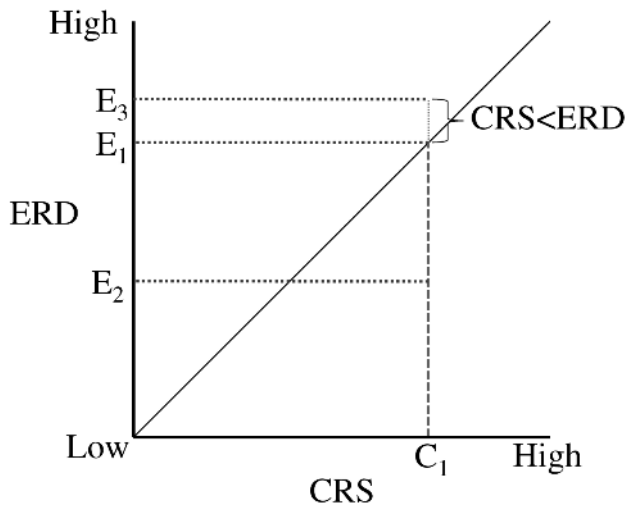

Figure 2. Event Resource Demand (ERD) and City Resource Supply (CRS) continuums

Large events organized in large and small cities

Absolute benefits. In absolute numbers, the new money spent locally is higher when a large event is organized in a large city (Point A in Figure 3, CRS=ERD) because large cities, by definition, have more resources available (B1, see column 2 in Table 1). When large events are being organized in small cities (Point B in Figure 3, CRS<ERD), small cities lose out on some new local spending because of fewer local resources. For example, visitors may have to stay overnight elsewhere because there is no availability in the small city. Large events may trigger residents and businesses to tap into their savings to participate in the event, in which case the economic benefits are slightly larger in large cities than in small cities due to the available resources (B2). In absolute numbers, a large event would need the same number of new jobs in a large and a small city but a large city has more human resources to provide these jobs than a small city (B3). Having higher levels of spending in large cities generates higher tax revenues and thus a higher economic benefit for large cities than for small cities (B4).

Public good value will always be higher in cities with a higher population size (e.g., Johnson & Whitehead, 2000; Taks et al., 2011); however, in our definition of city size, high CRS cities do not always have higher populations. Consumer surplus of a large event in a large city is less than in a small city because there are fewer alternatives available in smaller cities. Community pride may be lower in a large city than a small city because the profile of a large event is unique enough to define a small city's identity for generations (e.g., Jago, Chalip, Brown, Mules, & Ali, 2003; Ritchie & Lyons, 1990). Thus, the net effect of the intangible benefits of large events in large versus small cities remains unknown at this time (B5).

Thus, using ERD, CRS, and the five benefit drivers we show that from a benefit perspective, there are larger absolute economic benefits of large events in larger cities compared to smaller cities.

Absolute costs. In terms of costs, a large event in a small city crowds out more absolute visitors simply because the small city does not have the physical resources to

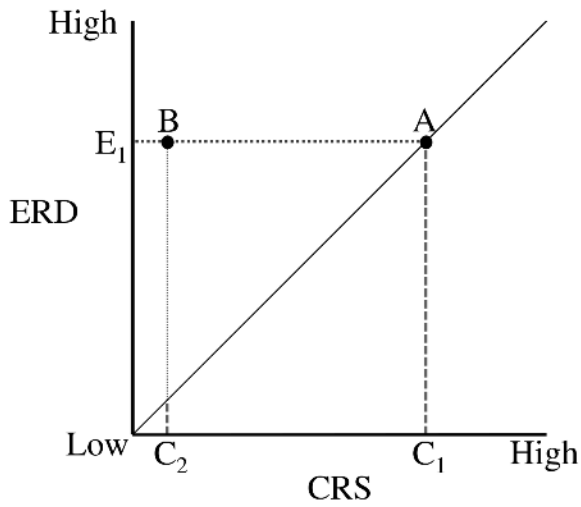

Figure 3. Interaction of event size and city size for a large event

Table 1. Comparison of Economic Impacts between Different Sized Events, Interacted with Different Sized Cities

	(2) Large Events		(3) Small Events	
	Large City	Small City	Large City	Small City
Benefit Drivers				
B1. New spending (spent locally) by non-locals	>		=	
B2. Increased spending (spent locally) by residents and businesses	>		=	
B3. Job creation	>		=	
B4. Tax revenues	>		=	
B5. Intangible benefits	—		—	
Cost Drivers				
C1. Crowding out other visitors	<		=	
C2. Crowding out residents	>		=	
C3. Crowding out local business activity	>		≤	
C4. Leakages (local revenue spent non-locally)	<		<	
C5. Opportunity costs of local money spent locally	=		=	

Note. A large event in a large city aligns with Point A in Figure 3. Similarly, a large event in a small city aligns with Point B in Figure 3. A small event in a large city is Point C and a small event in a small city is Point D in Figure 4.
Legend. — means outcome unknown.

accommodate all crowds (C1). The behavior of residents in large and small cities in the context of large events may be similar, but can take two forms with opposite effects. For example, fewer residents may be inclined to flee because of the uniqueness of a large event. On the other hand, because of congestion residents may want to leave regardless of the size of the city. Without knowing the net effect of these behaviors, the potential for crowding out residents in large cities is greater in absolute numbers compared to small cities (C2).

Large events are more likely than small events to disrupt host communities regardless of CRS but this disruption is higher in small cities. However, in absolute numbers, more local businesses in larger cities are negatively impacted by a large event (C3). Similarly, with regard to the location of a large event organized outside the central business district, in absolute numbers a larger amount of local business activity will be crowded out in larger cities because there are fewer opportunities for that to happen in small cities (C3).

Large events create an excessive amount of leakages in small cities by the mere fact that not all necessary resources are locally available. Much of the initial new spending from visitors, the event organizer, non-local businesses, and even non-local governments will be leaked from the local economy (C4). In absolute terms, the opportunity cost of large events is the same for large and small cities (C5).

Overall, crowding out visitors (C1) and leakages (C4) are larger in absolute terms than any crowding out of residents (C2) or local business activity (C3) (e.g., Dwyer et al., 2006), making these drivers the dominant determinants of cost. Therefore, from a cost perspective, there are larger absolute economic costs of large events in small cities that do not meet the ERD compared to large cities that meet the ERD.

Net effect. Overall, we see higher benefits and smaller costs for large events in large cities (Point A, Figure 3). The opposite holds true for large events in small cities where we find lower benefits and higher costs (Point B, Figure 3). Thus, the overall net economic impact of large events is higher in large cities where CRS matches ERD.

Small events organized in large and small cities

Absolute benefits. Column 3 in Table 1 illustrates the interaction effect of small events in large and small cities. In absolute numbers, the new money spent locally (B1) is the same when a small event is organized in a large city (Point C in Figure 4, CRS>ERD) as when organized in a small city (Point D in Figure 4, CRS=ERD).

In the rare occurrence that small events trigger residents and businesses to tap into their savings to participate in the event the effect would be higher in absolute terms in large cities (B2). Given the unlikelihood of this occurring, the effect is expected to be equivalent. Job creation is unlikely in the context of small events in both large and small cities (B3). Similarly, if it were to happen the effect would be equivalent in absolute terms. Tax revenues will be similar (B4).

The overall intangible benefits remain unknown (B5). For example, consumer surplus of small events in small cities may be higher than in large cities because of very few alternatives in small cities. Public good values may have higher per capita values in small cities and smaller values in large cities, but the effect will be larger in cities with higher populations (note that in our definition of city size, high CRS cities do not always have higher populations). In the extreme case, a small event could have no value in a large city, which illustrates why the overall intangible effect is unknown.

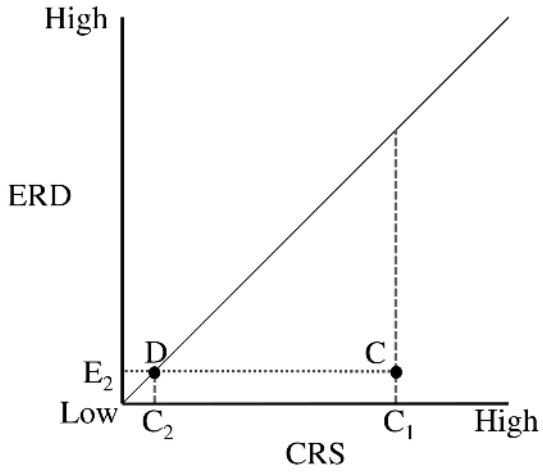

Figure 4. Interaction of event size and city size for a small event

Using ERD, CRS, and the five benefit drivers we show that from a benefit perspective, and in absolute terms, there is no difference in benefits of small events in larger cities compared to smaller cities.

Absolute costs. In terms of costs, both large and small cities have the physical resources to accommodate all crowds in the case of a small event (Points C and D in Figure 4), thus there is no crowding out of visitors (C1). A small event will not crowd out residents in large cities nor will it happen in the context of small cities (C2). Small events will not disrupt host communities when ERD is less than CRS but disruption will be more conspicuous where ERD nears CRS at Point D compared to Point C (C3). With regard to the location of a small event organized outside the central business district, in absolute numbers an equivalent amount of local business activity will be crowded out in large or small cities (C3). By definition, leakages for small events are higher in small cities (C4). In absolute terms, the opportunity cost of small events is the same for large and small cities (C5).

From a cost perspective, there are slightly higher costs for smaller events in small cities because of leakages and the greater potential for disruptions.

Net effect. Overall, we see an equal level of benefits for small events in small and large cities, but slightly higher costs for small events in small cities (Point D). The opposite holds true for small events in large cities, where we find slightly lower costs (Point C). Thus, the overall net economic impact of small events is higher in large cities where CRS exceeds ERD.

Local Economic Conditions That Change the Capacity of CRS

So far, we defined CRS in terms of the existence of resources, assuming that every possible local resource is available (C_{1max} in Figure 5). Obviously this is a theoretical case at one end of the continuum. However, realistically there are local economic conditions (e.g., a tourism destination at peak tourism season or level of employment) that may reduce the available capacity of those resources (C_{1s} in Figure 5). On the other end of the continuum is the extreme case when the city is at full capacity and has no resources left to host an event (C_{1fc} in Figure 5) ,which becomes a small city in the context of defining city size in terms of CRS.

The local economic conditions of the host community that shift the CRS affect each of the 10 economic impact drivers and hence the direction and the degree of the economic impact of the event. In a city where the capacity of resources is reduced, the economic impacts of the benefits remain positive although this may to be a lesser degree. For example, new money that would normally be spent locally (B1) may have to be spent elsewhere (e.g., a visitor having to stay at a hotel outside the host community). Similarly, increased spending by residents may be reduced because of overcrowding (B2). This reduction in overall spending will lower local tax revenues (B3). In the case of full employment, job creation is reversed into a negative impact; new jobs cannot be created and new hires will need to come from elsewhere (B4). While the event may still generate intangible benefits, they too may be experienced at a lower degree (B5).

From a cost perspective, the economic impacts of the costs remain negative although this may to be a greater degree. For example, an event during peak tourism season will crowd out more visitors (C1), more residents (C2), be more disruptive

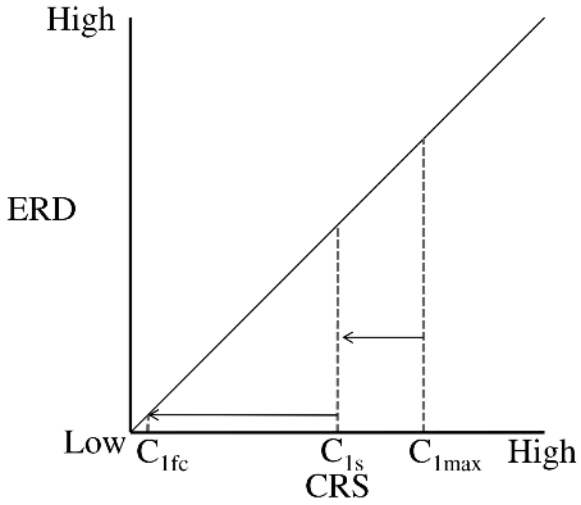

Figure 5. Effect of local economic conditions on City Resource Supply (CRS)

(C3), and generate greater leakages (C4) (e.g., Porter, 1999). Opportunity costs will also increase because resources have to be taken away from other projects (C5).

Overall, the 10 drivers indicate that with decreased benefits and increased costs, the net economic impact under capacity constraints of the resources is lower than when all of a city's resources are available regardless of the size of the event.

Applied Perspective on the Interaction of Event Size and City Size

In what follows, we now apply the concept of capacity constraints of CRS by taking the local economic conditions into consideration. We draw a more realistic picture of the economic impact of different sized events in different sized cities and then derive important conclusions.

City Resource Deficiency

The effect of the local economic conditions described above are graphically illustrated in Figure 6 in the context of hypothetical Event 1 (E_1). The shift from the theoretical C_{1max} to a more realistic C_{1s} changes the CRS=ERD equilibrium at Point A to Point x_1 where CRS<ERD. This shift results in a deficiency of available resources to host E1 in City 1 which we define as city resource supply deficiency (CRS-De). If C_{1s} hosts E_1, CRS-De is a measure of the resources that the event needs and the city does not yet have. Because CRS-De is a multivariate measure, the CRS-De could be, for example, an insufficient number of venues or an insufficient number of rooms to accommodate athletes and visitors. In either case, the acquisition of these resources generates costs (C5). Even in the extreme case where the resources are provided through funding from an external source (e.g., from the federal or state government or private investors to construct a venue) this could only be a benefit (B1) if the labor and raw materials were

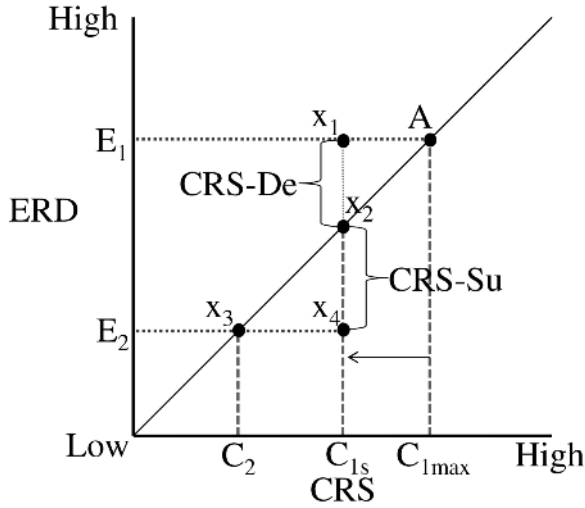

Figure 6. City Resource Supply Deficiency (CRS-De) and City Resource Supply Surplus (CRS-Su)

sourced locally. Considerable research suggests this is rarely, if ever, the case (e.g., Miller, 2002).

Effect of City Resource Deficiency on Economic Impact

Economic impact is generated through the use of available resources. When City 2 (C_2) hosts Event 2 (E_2) in Figure 6, the event uses all of the available city resources (Point x_3). If C_{1s} hosts E_2, it generates a similar economic impact by utilizing city resources up to Point x_4 but also has an excess supply of resources between x_4 and x_2, which we define as city resource supply surplus (CRS-Su).

If C_{1s} hosts E_1, the use of the resources available up to x_2 results in positive economic impact. However, C_{1s} must also provide the resources between x_2 and x_1 and can only do so by incurring additional costs, therefore lowering the economic impact generated up to point x_2.

As CRS and ERD are multivariate measures, the costs incurred to obtain missing resources can be large or small depending on the resource deficiency. Venue construction may costs millions of dollars while a city lacking 50 hotel rooms will commonly provide accommodations outside the area of impact in a nearby city. Although accommodation spending occurs outside of the area it is possible that other expenditures on food, merchandise, or other items do occur within the area of impact. In either case, the result is that the full potential benefit derived from the consumption of local resources is not captured. Thus, we refer to point x_2 as the optimal impact. It is the point where the consumption of all local resources provides an economic benefit and acquisition of external resources has not yet incurred costs. To be clear, it is still possible for the actual economic impact to increase in a state of resource deficiency (as local spending on food or merchandise in the example of the 50 hotel rooms) although the actual values will depend on the specific nature of the deficient resources.

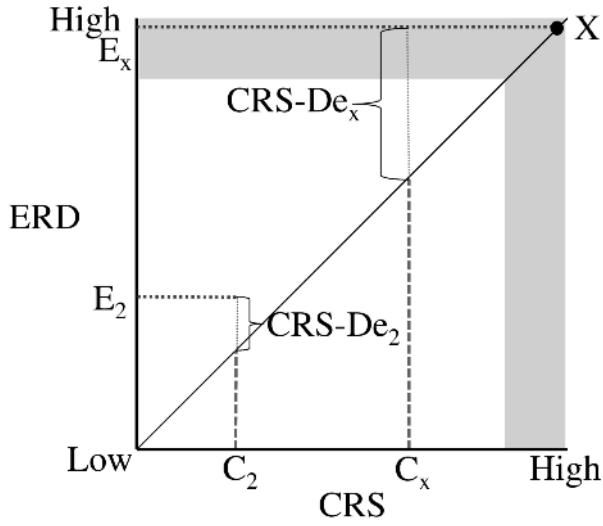

Figure 7. Comparison of resource deficiencies in large and small cities

Key Findings

In this section, we now include this new notion of CRS-De in the context of the interaction of large events in large cities and small events in small cities. This analysis discloses three important key points.

First, no city has ever had the required resources to stage events with the largest ERD (e.g., mega-events such as the Summer Olympic Games, FIFA World Cup), thus making Point X in Figure 7 entirely theoretical. The gray areas in Figure 7 illustrate that there are a range of mega-events that exceed the maximum CRS of any city so that in the case of these mega-events CRS is always less than ERD and these cities will always incur costs to provide resources that are not locally available. These costs will reduce the economic impact. The larger the resource deficiency, the larger the reduction in economic impact.

Second, the hosting of a large event (E_x) in a large city (C_x) is represented in Figure 7, illustrating the resource deficiency (CRS-De_x) for this scenario. Similarly, we look at a case where the ERD of a smaller-sized event (E_2) surpasses the available resources of a smaller-sized city (C_2) with the deficiency illustrated by CRS-De_2. A smaller CRS-De brings a city closer to the optimal economic impact than does a larger CRS-De. At this point it is clear the CRS-De_x of the large event exceeds the CRS-De_2 of the smaller event, indicating that smaller events with a lower resource demand have a higher potential for optimal economic impact compared to larger events with higher resource demands.

Third, the ERD of smaller-sized events (E_2) can meet the CRS of more cities (as illustrated by the bold arrow in Figure 8) than can large events (illustrated by the dashed arrow). In fact, E_2 generates the same amount of economic impact in all cities to the right of C_2; however, C_2 would have the optimal economic benefit while the other cities have a CRS-Su on which they do not capitalize.

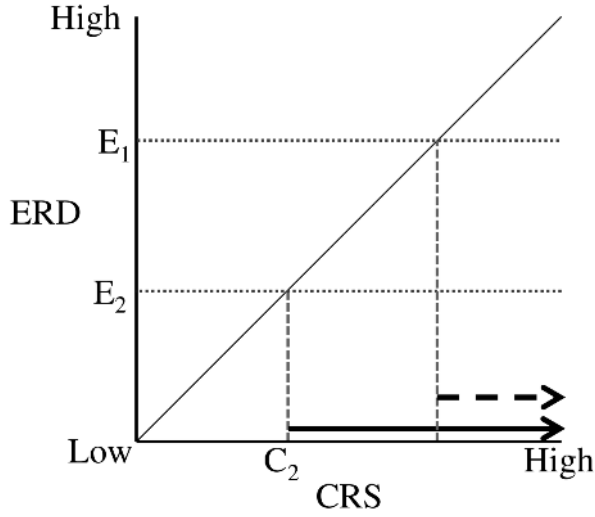

Figure 8. Optimum economic impact and City Resource Supply Surplus (CRS-Su)

In sum, smaller events are more likely to operate in the context where there is a surplus of local resources. Even in the case of small events where CRS is less than ERD, these events are closer to reaching the optimal economic impact than large events.

Limitations

ERD and CRS are important concepts in reconceptualizing the economic impact of events of any size in cities of any size, yet the framework has limitations. It does not account for sustained economic impact that would occur if there is an increase in future tourism, generating future revenue streams (e.g., Preuss, 2007). However, the occurrence of additional revenues generated from increased future tourism through events is highly doubtful (e.g., Solberg & Preuss, 2007). The proposed framework also does not account for other event goals beyond economic impact that a city may pursue, for example, city branding (e.g., Jago et al., 2003) or urban regeneration (e.g., Hiller, 2000; Taks, 2013).

The discussion thus far has centered on absolute impacts while many of the existing arguments for small events are based on relative size (e.g., Matheson, 2006b). For example, small events can have positive impacts, which in the context of a small city may be relatively more important than their positive impact in a big city. Similarly, it could be argued that the relative cost of hosting a large event in a small city will be more devastating in economic terms than hosting a small event in a small city.

Finally, in the discussion of local economic conditions when a city is at full capacity the prices of commodities and labor increase (e.g., Dwyer et al., 2006; Porter, 1999). Whether these increased prices generate a net benefit for the local economy remains unclear (and is not included in the model), but price increases may be a burden for the residents, and thus negatively perceived, thereby lowering the intangible benefit (e.g., the public good value).

Practical Application

The resource requirements for hosting a single event do not vary and different cities offer different bundles of resources. Thus, if the goal of hosting an event is to generate positive economic impact, city planners and event managers can do so by carefully selecting an event that requires resources that are available locally. If the goal is to maximize economic impact, they can do so by selecting events that perfectly match the available city resources and demanded event resources. Hence, the first step in making an informed decision for hosting an event is a thorough analysis of event resource requirements, available city resources, and local economic conditions. For example, if the city has the option to choose between an event occurring during peak tourism season that needs a new pool and an event not occurring during peak tourism season that does not require building new venues, the later event will generate a higher economic impact, all else being equal.

Furthermore, the same event held in different cities will experience different levels of participant and spectator demand. For example, a well-known tourism destination, easily accessible through transportation networks, or a regional interest in a particular sport will increase demand. This illustrates how practitioners must take into consideration the local conditions. This variation in demand is captured in the framework not only through increased benefits from new visitor spending but also through costs as an event with more demand will require more resources.

In the framework of an event portfolio (e.g., Chalip, 2004; Ziakas & Costa, 2011), multiple smaller events that do not exceed a city's available resources will be cumulatively more beneficial than a large event that exceeds a city's resources and requires significant expenditures to obtain the missing resources.

Finally, in deciding which events to host, a city can use the economic impact drivers to select events that have features that lend themselves to higher benefits. For example, an event that draws more visitors will have a larger impact than one with predominately local attendees. Similarly, an event with lots of features associated with cost drivers will have a smaller impact.

Conclusion

We began this paper with the objective to determine whether smaller events generate more positive net benefits for local communities compared to large events. In order to support this assertion, we developed a three-way interaction between the drivers of economic impact, city size, and event size. To do this required several steps.

First, we defined events as continuums of demanded resources. Next, we redefined cities, similar to events, on a continuum of available resources. The idea of city resource supply and event resource demand allowed for the comparison of events of any size and cities of any size. By recategorizing existing determinants of economic impact into five benefit and five cost drivers we were able to interact city size and event size and determine economic impact from a theoretical perspective.

Subsequently, local economic conditions were added to the analysis because any situation that reduces the capacity of resources is crucial in the final determination of economic impact. These adjustments to resource availability allowed for a realistic perspective of the interaction of event size and city size. The concept of city resource

supply deficiency was developed to illustrate its importance in the determination of the actual economic impact of different sized events in different sized cities.

Optimal economic impact of any event occurs when locally supplied resources are equal to demanded event resources. Very few cities have the local resources to host and stage an event with a large resource demand, which creates a large resource deficiency. The costs of supplying the deficient resources reduces the economic impact of large events in large cities. In other words, an event that makes a city exceed capacity will generate costs that lower the economic impact.

In contrast, by definition, small events require fewer resources and are therefore more likely to operate with a smaller resource deficiency or even at an optimum level where demanded and supplied resources are well matched. In addition, there are more cases where supplied resources are greater than demanded resources for a small event than for a large event, suggesting that small events benefit more cities than large events. Ultimately, many more small events can be hosted by many more cities, thereby generating more benefits to more host communities, which at the aggregate level could surpass any benefits of a one-off, large-scale event.

In order to capture economic impact more accurately, future research should apply this theoretical framework by analyzing and quantifying the resource requirements of sport events and the resources available in the cities in which the events are hosted. If resource deficiencies occur, the costs associated with obtaining those resources must be accurately examined, acknowledged, and integrated in current and future event planning. Future research can also test the application of this framework by city managers in the event selection process. The definitions ERD and CRS offer a transparent framework to assist public officials and elected leaders in making more rational economic decisions when it comes to hosting events.

References

Agha, N., & Rascher, D. A. (in press). An explanation of economic impact: Why positive impacts can exist for smaller sports. *Sport, Business and Management: An International Journal.*

Baade, R. A., Baumann, R., & Matheson, V. A. (2008). Selling the game: Estimating the economic impact of professional sports through taxable sales. *Southern Economic Journal, 74*, 794–810.

Baade, R. A., & Matheson, V. A. (2004). The quest for the cup: Assessing the economic impact of the World Cup. *Regional Studies, 38,* 343–354.

Campbell, H. F., & Brown, P. C. (2003). *Benefit-cost analysis: Financial and economic appraisal using spreadsheets.* New York, NY: Cambridge University Press.

Chalip, L. (2004). Beyond impact: A general model for sport event leverage. In B. W. Ritchie & D. Adair (Eds.), *Sport tourism: Interrelationships, impacts and issues* (pp. 226–252). Clevendon, UK: Channel View.

Chappelet, J. L. (2008). Olympic environmental concerns as a legacy of the Winter Games. The *International Journal of the History of Sport, 25*, 1884-1902.

Coates, D. (2007). Stadiums and arenas: Economic development or economic redistribution? *Contemporary Economic Policy, 25*, 565–577.

Coates, D., & Depken, C. (2011). Mega-events: Is Baylor football to Waco what the Super Bowl is to Houston? *Journal of Sports Economics, 12*, 599–620.

Cobb, S., & Olberding, D. (2007). The importance of import substitution in marathon economic impact analysis. *International Journal of Sport Finance, 2*, 108–118.

Craig, C. L., & Bauman, A. E. (2014). The impact of the Vancouver Winter Olympics on population level physical activity and sport participation among Canadian children and adoles-

cents: Population based study. *International Journal of Behavioral Nutrition and Physical Activity*, *11*(107).

Crompton, J. L. (1999). *Measuring the economic impact of visitors to sport tournaments and special events*. Ashburn, VA: National Recreation and Park Association.

Crompton, L. J., & Howard, D. R. (2013). Costs: The rest of the economic impact story. *Journal of Sport Management, 27*, 379–392.

Daniels, M. J., & Norman, W. C. (2003). Estimating the economic impacts of seven regular sport tourism events. *Journal of Sport Tourism, 8*, 214–222.

Djaballah, M., Hautbois, C., & Desbordes, M. (2015). Non-mega sport events' social impacts: A sensemaking approach of local governments' perceptions and strategies. *European Sport Management Quarterly*, *15*, 48–76.

Downward, P., Dawson, A., & Dejonghe, T. (2009). *Sports economics: Theory, evidence and policy*. London, UK: BH Elsevier.

Dwyer, L., Forsyth, P., & Spurr, R. (2006). Assessing the economic impacts of events: A computable general equilibrium approach. *Journal of Travel Research, 45*, 59–66.

Getz, D. (2012). *Event studies: Theory, research and policy for planned events*. London, UK: Routledge.

Gibson, H. J., Kaplanidou, K., & Kang, S. J. (2012). Small-scale event sport tourism: A case study in sustainable tourism. *Sport Management Review, 15*, 160–170.

Gratton, C., & Taylor, P. (2000). *Economics of sport & recreation*. London, UK: E & FN SPON.

Heere, B., Walker, M., Gibson, H., Thapa, B., Geldenhuys, S., & Coetzee, W. (2013). The power to unite a nation: The social value of the 2010 FIFA World Cup in South Africa. *European Sport Management Quarterly, 13*, 450–471.

Hiller, H. H. (2000). Mega-events, urban boosterism and growth strategies: An analysis of the objectives and legitimations of the Cape Town 2004 Olympic bid. *International Journal of Urban and Regional Research, 24*, 439–458.

Horne, J., & Manzenreiter W. (2006). Sports mega-events: Social scientific analyses of a global phenomenon. Oxford, UK: Blackwell Publishing.

Jago, L., Chalip, L., Brown, G., Mules, T., & Ali, S. (2003). Building events into destination branding: Insights from experts. *Event Management, 8*, 3–14.

Johnson, B., & Whitehead, J. (2000). Value of public goods from sports stadiums: The CVM approach. *Contemporary Economic Policy, 18*, 48–58.

Késenne, S. (2012). The economic impact, costs and benefits of the FIFA World Cup and the Olympic Games: Who wins, who loses? In W. Maennig & A. Zimbalist (Eds.), *International handbook on the economics of mega sporting events* (pp. 270–278). Cheltenham, UK: Edward Elgar.

Maennig, W., & Zimbalist, A. (Eds.) (2012). *International handbook on the economics of mega sporting events*. Cheltenham, UK: Edward Elgar.

Matheson, V. A. (2006a). Mega-events: The effect of the world's biggest sporting events on local, regional, and national economies. *Holy Cross Working Paper Series*. Retrieved from http://casgroup.fiu.edu/pages/docs/2744/1277904942_matheson_events.pdf

Matheson, V. A. (2006b). Is smaller better? A comment on "Comparative Economic Impact Analyses" by Michael Mondello and Patrick Rishe. *Economic Development Quarterly, 20*, 192–195.

Matheson, V. A. (2009). Economic multipliers and mega-event analysis. *International Journal of Sport Finance, 4*, 63–70.

Miller, P. A. (2002). The economic impact of sports stadium construction: The case of the construction industry in St. Louis, MO. *Journal of Urban Affairs*, *24*, 159–173.

Mondello, M., & Rishe, P. (2004). Comparative economic impact analyses: Differences across cities, events, and demographics. *Economic Development Quarterly, 18*, 331–342.

Porter, P. (1999). Mega-sports events as municipal investments: A critique of impact analysis. In J. Fizel, E. Gustafson, & L. Hadley (Eds.), *Sports economics: Current research* (pp. 61–73). Westport, CT: Praeger.

Porter, P. K., & Fletcher, D. (2008). The economic impact of the Olympic Games: Ex ante predictions and ex post reality. *Journal of Sport Management, 22*, 470–486.

Preuss, H. (2004). *The economics of staging the Olympics.* Cheltenham, UK: Edward Elgar.

Preuss, H. (2005). The economic impact of visitors at major multi-sport events. *European Sport Management Quarterly, 5*, 281–301.

Preuss, H. (2007). The conceptualisation and measurement of mega sport event legacies. *Journal of Sport & Tourism, 12*, 207–228.

Preuss, H. (2009). Opportunity costs and efficiency of investments in mega sport events. *Journal of Policy Research in Tourism, Leisure and Events, 12*, 131–140.

Ritchie, J. B., & Lyons, M. (1990). Olympulse VI: A post-event assessment of resident reaction to the XV Olympic Winter Games. *Journal of Travel Research*, *28*(3), 14–23.

Rosentraub, M. S., & Swindell, D. (1991). "Just say no?" The economic and political realities of a small city's investment in minor league baseball. *Economic Development Quarterly, 5*, 152–167.

Seaman, B. (2004). *The supply constraint problem in economic impact analysis: An arts/sports disparity*. Paper presented at Lasting Effects: Assessing the Future of Economic Impact Analysis of the Arts Conference, Tarrytown, NY.

Solberg, H., & Preuss, H. (2007). Major sport events and long-term tourism impacts. *Journal of Sport Management, 21*, 213–234.

Taks, M. (2013). Social sustainability of non-mega sport events in a global world. *European Journal for Sport and Society, 10*, 121–141.

Taks, M., Girginov, V., & Boucher, B. (2006). The outcomes of coattail-marketing: The case of Windsor, Ontario and Super Bowl XL. *Sport Marketing Quarterly, 15*, 232–242.

Taks, M., Késenne, S., Chalip, L., Green, B. C., & Martyn, S. (2011). Economic impact study versus cost-benefit analysis: An empirical example of a medium sized international sporting event. *International Journal of Sport Finance, 6*, 187–203.

Taks, M., Green, B. C., Chalip, L., Késenne, S., & Martyn, S. (2013). Visitor composition and event-related spending. *The International Journal of Event and Festival Management, 7*, 132–147.

Taks, M., Green, B.C., Misener, L., & Chalip, L. (2014). Evaluating sport development outcomes: The case of a medium sized international sport event. *European Sport Management Quarterly, 14*, 213–237.

Tien, C., Lo, H., & Lin, H. (2011). The economic benefits of mega events: A myth or a reality? A longitudinal study on the Olympic Games. *Journal of Sport Management*, *25*, 11–23.

Veltri, F. R., Miller, J. J., & Harris, A. (2009). Club sport national tournament: Economic impact of a small event on a mid-size community. *Recreational Sports Journal, 33*, 119–128.

Weed, M., Coren, E., & Fiore, J. (2009). *A systematic review of the evidence base for developing a physical activity and health legacy from the London 2012 Olympic and Paralympic Games.* Canterbury, UK: Canterbury Christ Church University.

Wilson, R. (2006). The economic impact of local sport events: Significant, limited or otherwise? A case study of four swimming events. *Managing Leisure, 11*, 57–70.

Ziakas, V., & Costa, C. A. (2011). The use of an event portfolio in regional community and tourism development: Creating synergy between sport and cultural Events. *Journal of Sport & Tourism, 16*, 149–175.

Endnote

[1] Events can be hosted by a variety of geographic entities such as cities, counties, regions, provinces, states, or nations. We refer generically here to the city as the host entity.