Major Sport Events and Long-Term Tourism Impacts

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Hosting major sport events can cause positive shifts in tourism demand on a long-term basis, but the additional revenues might not counterbalance the investment costs that are required of the host destination. Whether positive shifts have actually occurred cannot be measured solely by counting the additional number of tourists. Increases might also come from positive shifts in supply. Megaevents require expensive investments in sport facilities, as well as in nonsport city-related infrastructure. These investments must fit into the city’s long-term plan to make the event economically successful. The demand from tourists can subsidize the production of goods and services that are characterized by the advantages of economies of scale. This provides local residents with goods and services that they otherwise could have only consumed outside the region. Many of the benefits from sport events fall into the category of public goods. This represents a rationale for governmental funding if those who benefit are driven by free-rider incentives. The prospect of governmental funding, however, provides motives to exaggerate the socioeconomic value of the events. This complicates the job of deciding which events to support and by how much.

Applicant cities often take for granted that hosting a major sport event generates substantial regional revenue on a short- and a long-term basis, despite the fact that research has documented the connection to be more complicated than some applicants realize (cf. Baade & Matheson, 2004; Chalip, Green, & Hill, 2003; Crompton, 1995; Horne & Manzenreiter, 2004; Porter, 1999; Spilling, 2000). Although such events can generate revenue, the distribution of money does not automatically favor the host city because a substantial proportion often falls on international sport-governing bodies (Késenne, 2005). Furthermore, expenditure on infrastructure sometimes exceeds regional economic benefits and the long-term demand for the infrastructure.

This article analyzes the tourism impact of hosting major sport events, paying special attention to the long-term economic impact. First, we focus on structural...
requirements of host cities and then discuss whether the efforts are worth the money expended. Although we present some empirical results and evidence of long-term effects, it is not our purpose to provide a complete list of results and experiences from a large selection of events. Instead, the results presented in this article are to illustrate how specific factors can influence long-term impacts. Thus, the empirical results provided throughout the article are to illustrate concepts and processes that the events can initiate rather than for the results themselves.

The research questions are

- What infrastructure do cities need to host major sport events?
- What are the potential welfare-economic benefits and costs of the changes in infrastructure?
- How can event infrastructure be used to maximize benefits for future tourism to the region?
- Who should pay the costs of hosting the events—the private or the public sector?

The next section clarifies the difference between short- and long-term impacts, with special attention to tourism-related impacts. We then describe infrastructure that is required of the host destination. This is followed by a discussion of the economic impacts that shifts in demand from tourists can create for both local producers and local consumers. The final section discusses who should fund the events—the public or private sector.

Background and Definitions

According to Hall (1994), internationally recognized hallmark tourism events such as the Olympic Games or the FIFA World Cup have the potential to create substantial enduring impacts on the growth of international travel to the host region, even though the empirical evidence only gives mixed support to this proposition. Many factors influence the costs and revenues from hosting such events. Local conditions vary and, thus, so does the ability to benefit economically. Hence, there is no guarantee that events that have been successfully hosted in one city will have the same positive economic impact if hosted in another city.

In recent years a number of studies have investigated various potential long-term impacts of major sport events. These include empirical studies (Andranovich, Burbank, & Heying, 2001; Brunet, 1995; Cashman, 2006; Chalip, 2002; Kang & Perdue, 1994; Kirchner, 1980; Spilling, 2000; Teigland, 1996). Some have focused on promotion effects (Bamossy & Stephens, 2003; Chalip, Green, & Hill, 2003; Mossberg & Hallberg, 1999; Oldenboom, 2006; Ritchie & Smith, 1991), whereas others have analyzed what is required of host cities to take advantage of any promotion effects (Kartakoullis, Papanikos, & Karlis, 2003; Leibold & van Zyl, 1996).

Short-term refers to the period immediately before, during, and after the event. Kang and Perdue (1994) define the long-term period as the one that begins with the bidding for the event and ends at some point in the future yet to be determined. The preevent period is often overlooked in discussions of long-term impacts, because the focus is on the legacy of an event, which by definition occurs during the postevent
period. Nevertheless, preparations can also generate considerable activity, which can include tourism effects.

Note that in this context long-term is different from long-run in the macroeconomic literature, which is defined as “the period that is long enough for making a full adjustment to a price change” (Dornbusch, Fischer, & Startz, 2004).

Figure 1 illustrates the time pattern for the Olympics Games—from the very early idea stage to years after the Games. This can cover many years, even decades. The International Olympic Committee elects the host city 7 years before the Games occur. Before that, however, the city is one of several candidate cities. During a city’s candidacy, the bid committee spends resources on promotion but without knowing whether these efforts will pay off. A bid city is not allowed to do any international promotion of its destination during this period unless the International Olympic Committee accepts it. Therefore, the possibility to promote a city through an Olympic bid is limited.

The process in Figure 1 is not identical for every event, but all hallmark events go through a long period of preparation. The duration of the postevent period is uncertain because it depends on whether the event creates a legacy. If the event requires new infrastructure and creates a positive image that stimulates inbound tourism, then the postevent period can last for many years.

The Supply Side: Structural Requirements

Hard-Infrastructure Changes

The infrastructure can vary substantially from one city to another. Occasionally, changes in the environment (industrialization, immigration, wars, etc.) or festivals (world exhibitions, royal events, sport events, etc.) can have large impacts on urban development. Major sport events affect different areas, which can include urban

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**Figure 1** — Stages of the long-term period.
development (see Figure 2). Urban functionalism demands cities to fulfill four functions: housing, labor, recreation, and transportation (Siebel, 1994). Major sport events have the potential to develop the urban structure in all these areas.

Some cities have infrastructures that enable them to stage major sport events with a very low level of investment, whereas other cities have to invest substantially in their infrastructure. Consequently, the demand generated by sport events can create different developmental pressures. Therefore, it is important that politicians compare their long-term development plan with the necessary event-related structural requirements before they launch a bid. A city has to consider three areas of its development plan when organizing a major sport event: (a) the city development that is planned irrespective of the sport event, (b) the infrastructure required for the sport event that is already planned for development by the city, and (c) the infrastructure needed for the sport event that is not yet included in the city’s long-term development plan.

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**Figure 2** — Structural demands of sport events on cities.

<table>
<thead>
<tr>
<th>Primary Structure</th>
<th>- Sport &amp; Leisure -</th>
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<tbody>
<tr>
<td>1. Stadium</td>
<td></td>
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<tr>
<td>2. Indoor Arena</td>
<td></td>
</tr>
<tr>
<td>3. Special Facilities: swimming pool, shooting range, rowing course, equestrian facilities, etc.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Secondary Structure</th>
<th>- Housing &amp; Recreation -</th>
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<tbody>
<tr>
<td>1. Athletic Village &amp; Media Village</td>
<td></td>
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<tr>
<td>2. Media and Press Center</td>
<td></td>
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<tr>
<td>3. Training Facilities</td>
<td></td>
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<tr>
<td>4. Parklands</td>
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<thead>
<tr>
<th>Tertiary Structure</th>
<th>- Work &amp; Traffic -</th>
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<tbody>
<tr>
<td>1. Traffic: airport, mass transportation, roads</td>
<td></td>
</tr>
<tr>
<td>2. Tourism: hotels, attractions</td>
<td></td>
</tr>
<tr>
<td>3. Sewage, telecommunication, fiberoptic cabling, etc.</td>
<td></td>
</tr>
</tbody>
</table>
There is a possibility that this third aspect can be so expensive that further development of the first (planned development that is not related to the event) is negatively affected or slows down. One must take into consideration whether event-specific development exceeds the long-term demand from locals and visitors. A city of 150,000 residents, for example, does not need a stadium with capacity for 80,000 spectators. Cities that regard major sport events as instruments to improve their attractiveness as tourist destinations should consider all three areas of their city-development plans before bidding for or creating events.

Many large sport events generate revenue that covers the operational costs but not the investment costs (Preuss, 2004). In addition, there is the risk that short-term revenue is not sufficient to cover operational costs, with the consequence of additional public money being necessary to fund the deficit. If so, this can in itself create negative long-term impacts by reducing other activities that require tax funding. The 1976 Montreal Summer Olympics, which left the city with an enormous financial debt, is a well-known example of this phenomenon (Preuss).

In general, public and private entities often share the burden of financing the investments, sometimes in a public–private partnership. If a sport event is able to expedite municipal development in a desired direction, however, a bid can be justified.

Figure 2 provides an overview of the structure required to host large sport events. Often, the primary structure is built for the sole purpose of hosting the sport event. Therefore, it is important to plan its postevent use. Modern stadium constructions commenced at the beginning of the 20th century, which is why many big cities today have a stadium. Many of the stadiums built in the 1950s, however, are in deplorable condition compared with modern arenas. This can apply to seating capacity, as well as to atmosphere, service, and hospitality facilities. Modern sport arenas are no longer only functional buildings but create urban stages for extravaganzas. Many cities do not have special sport facilities that satisfy the capacity and standard for large-scale events such as the Olympics (e.g., swimming, shooting, rowing, or biking). Today, technology enables the construction of temporary facilities such as a movable velodrome or a temporary plastic pool on a parking lot. The demand for primary structures, however, is an important requirement for the development of cities. Modern facilities create an urban living memorial that preserves symbols that are visible memories of the festival for citizens and tourists for decades.

Multisport events also affect the development of the secondary structure, particularly housing. It is quite common that whole villages are constructed for athletes, referees, and media representatives in connection with major multisport events. Such villages can result in gentrification of their part of the city, which is often a distinct contrast with the previous character of the neighborhood. Examples can be found in the upgrades of neighborhoods in Barcelona, Seoul, and Atlanta for the Olympics or the train-station area in Manchester for the Commonwealth Games in 2002. In addition, the arrangement of several sport facilities in a city is often accomplished by sport parks. These parks not only offer diverse high-quality sport and cultural programs for prosperous spectators but are also spaces for recreational sport and serve as leisure areas through park-land and -service infrastructure around the facilities.
The tertiary structure covers all other elements that are necessary to stage large sport events, including the tourism structure. Many tourists arrive at the airport or train station, stay in hotels, use public transportation, and enjoy the city by night. To create that structure, labor is needed and traffic will be affected. Many cities have the tertiary structure necessary to stage single-sport events of a normal size. Megaevents (e.g., the Olympic Games, the Pan American Games, the America’s Cup), however, often require a renewal of urban strategies. The peak demand during such events exceeds the capacity in almost every host city (Essex & Chalkley, 1999).

**Soft-Infrastructure Changes**

For the tourism sector, the staging of a major sport event can enhance knowledge and skills of the citizens. A survey of volunteers at the Commonwealth Games 2002 in Manchester showed that almost 50% of 10,000 volunteers felt that they had acquired new skills and capabilities through their experience, 18% believed that being a volunteer had improved their chances of employment, and 46% agreed that being a volunteer had enhanced their personal development (Faber Maunsell, 2004). There are at least three important ways that improvements in human capital are obtained through event hosting: (a) Skills and knowledge can be upgraded in the service industry through hospitality training for volunteers. At the Olympic Games in Sydney 2000 people gained new skills, for example, as cooks (Price-waterhouseCoopers, 2002). The organizing committees usually launch programs to upgrade skills in the service industry. One such example was English courses for taxi drivers for the Olympics in Seoul 1988 and Athens 2004 and the FIFA World Cup in Germany 2006. (b) The knowledge and skill necessary to win more bid competitions to attract congresses, fairs, and cultural and sport events can be improved. (c) The skills required to secure a safer environment can be enhanced. Volunteers, for example, improve their skills to detect insecure situations by their training for the major sport event. The local police receive better equipment, and the security network works better by setting up links with national and international antiterrorist forces.

Each of these soft factors increases the quality of tourism products and services, whereas new hard infrastructure is necessary to establish new tourist product.

The left side of Figure 3 shows how a tourist destination can be positioned through major sport events. Destinations aiming to attract more tourists should have a policy for how to strengthen their profile (brand) as an interesting tourist destination (Chalip & Costa, 2006). The right side shows the development of hard location factors. Tourism infrastructure such as parks, pedestrian zones, sport facilities, public transportation, highways or freeways, tourist attractions, and the airport often improve through the preparation for a major sport event. In addition, soft location factors such as a better service industry increase the quality of the tourism industry. Long-term successes might also require the destination to establish new products or upgrade its current tourism infrastructure. If a destination stops promoting itself it risks a decrease in tourism. That explains why cities such as New York, London, and Paris still try to attract events such as the Olympic Games. The events provide an opportunity to invest not only in the infrastructure that is required for the event but also in other facilities and attractions. These investments can have a decisive
influence on the ability to generate long-term benefits such as attracting tourists. Because they are not necessary for the event itself, however, the importance of their long-term impacts can be overlooked during a busy pre-event period.

The fact that the production of destination marketing involves public-goods elements is a risk for a suboptimal production level. Those who benefit from destination marketing can be driven by free-rider motives and let others take the responsibility for funding such marketing, but the production of destination marketing will be suboptimal if all those who benefit from inbound tourism adopt such a strategy. This explains why the tourism industry often is unable to invest sufficiently in activities that promote the destination, and tourism-marketing organizations are forced to take that role.

The destination can also be promoted by hosting additional sport or cultural events, fairs or exhibitions, cultural festivals, or concerts staged in the new multi-purpose facilities and congress centers initially constructed for a mega-event. These are represented in strengthened image, increased awareness, new and upgraded infrastructure, and additional tourist products such as those seen in Barcelona and Sydney after their Olympic Games (Boyle, 2001). When combined with soft factors of better service quality, they have significant potential to increase tourism on a long-term basis.

Figure 3 — Potential tourism legacy for a host city or region. Source: Modified from Keller (2001, p. 30).
Many event organizers take for granted that events will promote their destination in a way that will stimulate inbound tourism. Studies have documented increased awareness of the host city or nation (Oldenboom, 2006; Ritchie & Smith, 1991) and the awareness of the region’s facilities (Bamossy & Stephens, 2003). Other studies have documented mixed or no results concerning changes in image (Chalip, Green, & Hill, 2003; Mossberg & Hallberg, 1999; Rivenburgh, Louw, Loo, & Mersham, 2003).

A megaevent is a flash in history, so the duration of any increased-awareness effects will be limited. This was illustrated by research on the impacts of the European football cup, Euro 2000, in Belgium and the Netherlands (Oldenboom, 2006). Although the event increased awareness of the host cities, as many as 55% of survey respondents did not even remember the names of the host nations 1 year after the tournament. Only 10% of the respondents in France, Italy, and Spain remembered where Euro 1996 had been hosted 5 years prior. These percentages are striking because they demonstrate that the value of events for host-destination recognition is ephemeral.

Organizers of sport events have only limited control over the factors that influence long-term tourism. Production of tourism products and services, as well as the image of the destination, is more strongly influenced by the city’s broader environment, including place-marketing efforts that are not associated with the event (see Figure 4).

![Figure 4 — Factors influencing the outcome of tourism-related city development.](image-url)
Preparing a city for a major sport event takes several years and usually requires substantial expenditure. Some of the investment in event-related infrastructure serves tourism, but not all (as noted previously). Cities hoping to reap long-term revenues from postevent tourism should also consider investments in general infrastructure that are not necessary for the event but are necessary to attract and serve tourists. These include such facilities as museums, shopping malls, and special tourist attractions, among others.

The sociopolitical environment is the most unpredictable factor. Wars, economic crises, pandemics, terrorist attacks, and other incidents can have considerable effect on the image of a destination. Even if a megaevent improves the image of the host city, phenomena like these can worsen it. Terrorism and crime can result in tourists’ avoiding a destination or reducing traveling in general. Effects of this kind were evident after the terrorist attacks on the World Trade Center and the SARS epidemic at the beginning of this century. There is also a risk that unpopular political decisions or organizational problems can damage the image of the host destination in the media. Other examples are natural disasters such as the tsunami that affected several Asian nations at the end of 2004.

Welfare-Economic Impacts From Inbound Tourism

This section analyzes the welfare-economic impact from increased tourism. We present two simplified models that illustrate the consequences of potential shifts in demand and supply. Figure 5 shows a long-term market scenario for tourism-related goods and services. In this example we imagine the tourism product to be a single product that aggregates all tourism products, which of course is a simplification. $D_0$ represents the initial demand curve, and $S_0$ is the initial supply curve. As another (strict) simplification, we assume the $D_0$ curve only includes local residents. The reason for these simplifications is to illustrate how shifts in demand can influence local consumers as a group. We assume that the supply side only consists of local producers.

$(P_0, Q_0)$ represents the market equilibrium at the initial stage. This gives a producer surplus equal to $acP_0$, whereas the consumer surplus is equal to $P_0eh$. We now imagine that the event causes a positive shift in demand (only from tourists) from $D_0$ to $D_1$. This brings about a new equilibrium, $(P_1, Q_1)$. The producer surplus increases with an area equal to $P_0egP_1$.

The price increase, however, will reduce the consumer surplus with an area of $P_0efP_1$. This only applies to local residents in our model. In reality, however, it will also affect tourists who used to visit the destination before the shift in demand. Normally, the $D_0$ curve will include domestic, as well as foreign, tourists. In our model, however, any increase in the producer surplus at the cost of the existing consumer surplus is only a redistribution of resources already in the region. Hence, such transfers do not represent any welfare-economic gains for the host destination.

It is the position and slope of the demand and supply curves that determine price and quantity solutions and, thereby, the crowding-out effects. The more price elastic the supply curve is, the less the price level will increase from a shift in demand. The circumstances that influence the elasticity of the supply curve, however, can vary considerably from one destination to another, as well as between periods.
Price increases are more likely the closer the activity is to full capacity, as Figure 5 illustrates. Price increases can also affect other sectors of the economy, such as entrepreneurial activities. Smaller destinations that only have a few facilities available when event preparations commence might have to invest substantially. This in turn can increase prices of scarce resources.

Given an upward supply curve, the producer surplus will not increase unless the event attracts additional tourists with a higher willingness to pay than those being displaced. The destination might attract more business travelers such as convention delegates, who generally spend considerably more than leisure travelers, both per day and per stay (Chalip, 2002; Solberg, Andersson, & Shibli, 2001). In reality, those being crowded out are not necessarily those who are closest to $Q_0$ along the $D_0$ curve. Remember that the number of conference and congress delegates is not the result of individual decisions by the delegates, but by the organizer. Because the demand during major sport events tends to exceed the local capacity, potential convention organizers might decide to move such activities to other locations. The fact that sport events can crowd out visitors who would spend more than sport tourists has been documented by Baade and Matheson (2004), Laventhol and Horwarth (1984), and Porter (1999).

The next stage in the process is a positive shift in the supply curve from $S_0$ to $S_1$. We can imagine producers in the tourism industry becoming more optimistic and, therefore, investing (Swann, 2001), for example, in new hotels and restaurants.
This lowers the price level to $P_2$, with $(P_2, Q_2)$ as the new equilibrium. We have let the supply curve shift so that the new price, $P_2$, is equal to the initial price, $P_0$, to avoid overloading the figure. This new shift compensates for the crowding-out effect at the previous stage. Because we have assumed that the $D_0$ curve only represents local residents, the growth in demand from the initial solution, for example the interval between $Q_2$ and $Q_0$, only consists of local consumers. In reality, this will not be the case because the $D_0$ curve also contains tourists, and so the growth in quantity is likely to include both groups. The aggregate consumer surplus will return to its pre-event level because the positive shift in the supply curve has reduced the price level. The price reduction increases the quantity but reduces the revenue per item. The net effect, however, is uncertain because it depends on which of the two effects is stronger. The producer surplus in Figure 5 increases if $bde > P_0egP_1$.

The next and final stage of this stepwise process is a negative shift in demand. We can assume that the promotion effect is fading out. To avoid overloading the figure, we let the demand curve shift back to its starting position so that $D_0 = D_2$. This is a conservative estimate because we imply no event legacy. As seen, the destination now attracts more tourists than before the event. It is important to note, however, that this is because of the positive shift in supply and not any shift in demand. In this model, it is the price reduction that attracts additional tourists compared with the pre-event situation, not any shift in demand.

Of course, the hosting of major sport events can generate positive shifts in demand from inbound tourists. The event can leave a legacy that stimulates demand from tourists, for example, by improving the infrastructure, creating new facilities, and promoting the host destination. The discussion of Figure 5, however, illustrated that the number of tourists or room nights are not accurate measurements of whether positive demand shifts have really occurred, nor do they tell us whether enhancements in capacity have been profitable.

The reason for the price reduction is the investments at the supply side, which in turn have caused fiercer competition between the producers. Thus, investments in capacity are not necessarily profitable for the producers as a group. A price reduction lowers revenues per tourist, whereas an increase in the number of tourists has the opposite effect. Compared with the initial situation, the producer surplus will increase if $acP_3 > aeP_0$. Whether revenues increase depends on price elasticity. The more elastic the demand is, the more revenues will increase when the price is reduced. Indeed, the logic is obvious. It would not be profitable to increase capacity if the demand curve was very steep because this would cause a considerable decrease in price and only a moderate increase in demand.

The price development for major tourism products can help us identify whether the impacts that have been discussed here have actually occurred. Although tourists’ consumption consists of several products, hotel accommodation generally accounts for the largest single expenditure at the host destination. Therefore, the average revenue per guest night in the accommodation sector is an indicator of price effects on the tourism product as a whole. Any price reduction will be because of a positive shift in supply, a negative shift in demand, or a combination of the two.

Australian tourism authorities regarded the 2000 Olympics as an excellent opportunity to promote Australia to foreign markets and used a number of instruments to stimulate inbound tourism (see Chalip, 2002). There were many indications of positive shifts in demand during the post-Games years (Chalip; Jones
Table 1 reveals that Australia enjoyed stronger growth than its neighboring countries from 1994 (the first year after the award of the 2000 Olympic Games) until 2000. One of its main targets was the convention market. Although it only constitutes a fraction of the total tourism market, the expenditures of convention delegates tend to be significantly higher than for any other tourists. Sydney’s win rate of acquiring conventions increased by 34% from 1993 to 2000 and brought in more than 200 conferences and conventions. By 1999, industry analysts were ranking Sydney as the number one conference and convention destination in the world. Those bids attracted more than 250,000 delegates, which generated over 1.3 million room nights and an estimated economic value to Sydney of A$920 million (Jones Lang Lasalle).

Table 1 also indicates, however, stagnation in inbound tourism to Australia during the post-Olympic years, also compared with its neighboring nations (with the exception of Indonesia). Some might refer to the September 11 effect (in 2001), the bombings in Bali (2002), and the SARS epidemic (2003) as explanations for this. It seems unlikely, however, that the first and latter of these impacts should affect Australia more than its neighboring countries. Although the September 11 effect reduced international travel activity, it primarily affected outbound tourism from the United States. Nevertheless, because American travelers only accounted for 10% of the inbound tourism to Australia in 2000, this cannot entirely explain the stagnation. Furthermore, the SARS epidemic mainly affected outbound tourism from China, and Chinese only accounted for 2.5% of the inbound tourists to Australia in 2000 (Bureau of Tourism Research, 2003).

Figure 6 shows the revenue per guest night for all commercial accommodations in the state of New South Wales (not only Sydney) from 1998 to 2004. The figures are adjusted in accordance with the consumer price index, with the year 2000’s revenue being set to 100. Revenue was considerably reduced for the first 2 years after the Games, although there was a slight increase in 2003 and 2004. The revenue was considerably higher than for any other year before or after the Games. It is also worth noting that the revenue per guest night was higher in 1998 and 1999 (the period of preparation and increasing supply) than from 2002 to 2004 (following tourism crises and an oversupply).

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<tbody>
<tr>
<td>Australia</td>
<td>48%</td>
<td>–2.2%</td>
<td>–0.5%</td>
<td>–1.6%</td>
<td>9.3%</td>
<td>55%</td>
</tr>
<tr>
<td>New Zealand</td>
<td>36%</td>
<td>6.7%</td>
<td>7.3%</td>
<td>2.4%</td>
<td>11.9%</td>
<td>77%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>n.a.</td>
<td>1.8%</td>
<td>–2.2%</td>
<td>–11.1%</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Malaysia</td>
<td>n.a.</td>
<td>25%</td>
<td>4.0%</td>
<td>–21.4%</td>
<td>48.4%</td>
<td>n.a.</td>
</tr>
<tr>
<td>Thailand</td>
<td>37%</td>
<td>5.8%</td>
<td>–0.6%</td>
<td>20.0%</td>
<td>11.2%</td>
<td>93%</td>
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</table>

To summarize, these figures indicate a positive shift in tourism demand during the years leading up to the 2000 Games. As seen in Table 2, the number of hotel rooms in Sydney increased by 40% before the Games (1994–2000). Since then, however, there has been a significant decline in the number of visitor accommodation rooms, in part because of the conversion of former hotel or serviced apartment rooms for residential purposes (City of Sydney, 2002).

Hence, the data presented here indicate that demand has been too low to meet the enhancement in capacity before the Games. Figure 7 shows that employment in the accommodation industry for New South Wales has declined every year since 2000. It is also worth noting that employment was higher in 1998 and 1999 than from 2002 to 2004.

![Figure 6](image)


<table>
<thead>
<tr>
<th>Hotel-Industry Changes in Olympic Host Cities</th>
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<tbody>
<tr>
<td><strong>Munich</strong> 1972</td>
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<tr>
<td>Games-related increase in hotel rooms</td>
</tr>
<tr>
<td>Hotel occupancy rate during Olympic year</td>
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<tr>
<td>Change in occupancy rate 1 year after the games</td>
</tr>
</tbody>
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*Note.* For Munich 1972, the Games-related increase in hotel rooms is from the year preceding the Games. The change in occupancy rate is from the Olympic year. For Sydney 2000, the change in occupancy rate is 3 years after the Games. Source: Preuss (2004).
Sydney (and Australia) is a long-distance destination for most international tourists. A visit during the Olympic Games in 2000 might have been a matter of time switching—a postponement or a forwarding of a once-in-a-lifetime trip to Australia (Preuss, 2005). This is different from destinations in Europe, which have several hundred millions of potential tourists only a few hours away.

The major question for Sydney, as well as for any other host destination, is what the effects would have been without the event. Despite some periods of turbulence, inbound tourism to Australia is significantly higher than before 1994. The fact that this pattern also applies to other neighboring countries, however, makes it difficult to isolate the Olympic effects.

Barcelona, Seoul, and Atlanta experienced growth in the number of hotel rooms before the Olympic Games, but also a decline in the average occupancy rate during the Olympic year, as well as the first years after the Games. Barcelona saw revenue per available room tumble by almost 60% in the 2 years after the Games (Jones Lang LaSalle, 2001). Thus, the tourism industry went through a period of reduced profitability in the first years after the 1992 Games. Although the number of tourists continued to grow, it was not enough to balance the growth in hotel rooms (Brunet, 1995). This problem was balanced, however, by positive long-term effects throughout the 1990s. Barcelona’s strategy was to use the Olympic Games to build up its image as a cultural city. Therefore, tourism products (Figure 3) such as museums and pedestrian zones were developed. Lillehammer, on the other hand, is one example where unrealistic optimism caused overinvestments in the local hotel sector. Although tourism increased after the Games, it was not sufficient to outbalance the increase in supply. As a consequence, there were several bankruptcies in the tourism industry (Teigland, 1996).

These experiences illustrate how overoptimistic expectations can initiate too many investments in the local tourism industry. It is extremely important that
those involved in the planning and preparations process adopt realistic expectations—on both a short- and a long-term basis. If not, the result can be too many permanent establishments, which in turn can lead to bankruptcies, particularly in the accommodation industry. The risk is exacerbated when supporters of events hire consultants to produce analyses that highlight potential benefits in order to sell an event to politicians or the public. The result can be overoptimistic expectations regarding the ability to leverage tourism in the long term. This applies to ordinary tourism, as well as event tourism. In general, international sport-governing bodies elect the hosts of sport events. In recent years the competition to host major sport events has become fierce because the number of host applicants has increased. Thus, establishing stadiums and other sport facilities does not guarantee that the destination will be elected as the host of major sport events in the future. As an example, since it hosted the Winter Olympic Games in 1994, Lillehammer has three times applied unsuccessfully for FIS’s Alpine-Skiing World Championship. The problem is nicely described by Ackerlof (1976) as the “rat race.” Ever more cities are able and willing to use their sport facilities to stage sport events. With few exceptions, however, only one city can host an event. International federations have a fixed number of attractive events to offer. This is another reason why the demand curve might return to its pre-event position, as Figure 5 illustrates.

Event organizers and others who are involved in event preparations should coordinate their efforts to meet extraordinary demand during an event. This covers the establishment of temporary facilities such as dormitories, tents, or transformed bureau buildings. Cities that are seaports can hire cruise ships to take up some of the exceptional demand for accommodation (an alternative several recent host cities have used to good effect). Even if this will generate import leakages that reduce the benefits for the local economy, it nevertheless is a more clever strategy than investing in hotel capacity that exceeds probable long-term demand.

Establishing Facilities With Economies of Scale in Production

The model shown in Figure 8 illustrates how tourist demand can influence the production of goods and services that have the advantage of economies of scale. Such a pattern applies to investments that require large fixed costs, and the variable costs are relatively low. In contrast to Figure 5, where the demand curve refers to the aggregated demand for several products, the curve in Figure 8 can refer to a single product. Hosting a megaevent will require several facilities with such characteristics. This includes event-related infrastructure such as sport facilities. In addition, it can include investments in general city development, such as an upgrade of local transportation systems. Beijing, Athens, Sydney, Atlanta, Barcelona, Seoul, Montreal, and Munich, as well as many Olympic Winter Games Cities such as Albertville, Lillehammer, Nagano, Salt Lake City, and Turin, all spent a substantial amount of money on infrastructure measures for preparation of the Olympic Games (Preuss, 2004).

As in the previous example, the demand side in Figure 8 is split into two parts: local residents \( (D_L) \) and tourists \( (D_T = D_{L+T} - D_L) \). The marginal costs are constant so that the average costs decrease over the entire interval. The local demand is located
below the average costs at any level. Thus, the production cannot be economically viable entirely on the basis of demand from local residents. This, however, is altered by the additional demand from tourists because the aggregate demand \((D_{L+T})\) now exceeds the average-cost curve in the interval between \(Q_1\) and \(Q_2\). Hence, as a result of the tourist demand, local residents now can purchase goods and services that they otherwise only could have consumed outside the region unless the products were subsidized. If price discrimination is prohibited so that local residents and tourists have to pay identical prices, then the highest possible break-even quantity is at \(Q_2\). Of this, local residents consume \(Q_{2L}\), which gives them a consumer surplus of \(P_{2ab}\). This solution will not require any subsidies, but the producer will not make any profit because the revenues just cover the costs.

In reality, there will be plenty of opportunities to conduct price discrimination that can reduce the prices paid by local consumers. Because local residents can consume the goods throughout the whole year, they can benefit from discounts being offered to regular users—in other words, second-degree price discrimination. Another possibility is offering discounted prices to groups of local consumers, for example, schools or other local organizations.

Maximizing the regional welfare-economic gains requires a price policy for local residents that maximizes their consumer surplus and the producer surplus. The

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**Figure 8** — Economies-of-scale production.
price policy for tourists, however, should aim at maximizing the producer surplus from selling to this group. This, however, assumes that neither the production nor the consumption of the goods and services in question causes any externalities (cf. Clarke & Ng, 1993).

Production of goods and services for which there are economies of scale will generate welfare-economic gains if consumers’ aggregate willingness to pay exceeds the total costs. In the welfare-economics literature, this is known as the investment criterion for economies-of-scale production (Bohm, 1987). Maximizing the gains requires a price policy wherein the price is identical to the marginal costs. The result of such a price policy, however, is a deficit because the marginal costs are lower than the average costs at any level, as seen in Figure 8. This necessitates some form of government intervention such as subsidizing production. Governments, however, might be unable to afford subsidies. The previous discussion illustrates how tourist demand can reduce this problem, with the result that local residents can purchase goods and services they otherwise only could have consumed outside the region. Indeed, such effects can also make the region more attractive to potential residents and to companies looking for a new business location. One cannot take for granted, however, that the shifts in demand will be permanent, at least not at the level that is necessary to cover costs. As the discussion of Figure 5 illustrates, the demand curve can return toward its initial position if the promotion effect fades out. Hence, government subsidies might be necessary on a long-term basis.

Which Sector Should Finance the Hosting of Major Sport Events?

The previous sections illustrate that the hosting of major sport events can generate positive welfare-economic impacts given the right circumstances. The logical follow-up question is who should finance them—the private sector or the public sector? Different patterns have been applied around the world. Figure 9 shows the distribution of costs between the private sector and the public sector for the Olympic Games from 1972 to 2000. As shown, the public sector has borne a higher share in Europe, Asia, and Australia than in the United States.

The structural requirements for an event can be costly. This, however, is not a rationale for the government to fund the investments. According to welfare-economic theory, governments should only become involved in the hosting of sport events to prevent market failure. In this case, market failure occurs if those who would have benefited from the welfare-economic gains are unable to coordinate their actions, resulting in a lack of funding that prevents the events from being staged (cf. Mules, 1998). Market failure typically results from the presence of public goods, externalities, or merit goods. The first two, in particular, are often associated with the long-term effects of sport events.

Public goods are characterized as nonrival or nonexcludable (Head, 1974). Sport events can promote the host city as a tourist destination, which, in principle, will benefit all hotels in the region, not only one or some. Hence, they will not be excluded from an event’s promotion effect. This, however, can tempt hotels and other firms that sell their products to tourists to adopt free-rider strategies, which let others bear the burden of financing the event. If many local bodies adopt this
strategy, however, the production of events will be suboptimal. The free-rider motives related to the production and funding of public goods is well-understood (Olson, 1971).

Externalities are the result of an activity that causes incidental benefits or damages to others with no corresponding compensation provided or paid by those responsible for the activity. This includes pecuniary externalities, which are externalities that operate through prices, as well as nonmonetary impact such as pollution. Sport events can create pecuniary externalities for the tourism industry and other industries. Those who benefit from them might not be involved in the organization of an event, nor in its funding. This exacerbates the free-rider problem.

Such phenomena are well-known in the tourism industry. Indeed, it is tourist consumption that ties producers together into an industry. The tourism product is not a single product but consists of a bundle of separate products offered by different suppliers. This means that any single producer that attracts customers (tourists) will also generate additional demand for other producers. When there are such impacts, the aggregate profit for all producers will not be maximized unless actions at the supply side are coordinated (Chalip & Leyns, 2002).

This, however, includes not only the producers in the tourism industry but also others who are involved in activities that attract tourists, such as event organizers. Event organizers operate many of the event facilities and attractions that serve tourists. A large proportion of the revenues that events generate, however, will accrue to bodies other than the event organizers, in particular, to the tourism industry.

Figure 9 — Financing models of the Olympic Games from Munich 1972 to Sydney 2000. Source: Preuss (2004).
In principle, neither profit-maximizing producers nor potential-event organizers will undertake activities designed to generate revenue for other producers. As a consequence, events that could have been beneficial for the destination as a unit will not be hosted.

Avoiding such market failures represents a rationale for governmental intervention, for example, to fund events. This, however, can motivate those who expect to benefit from an event to provide the government with prognoses that exaggerate the positive impacts in order to garner support. Governments endeavor to stimulate the economy across the entire city, region, or nation and are, therefore, willing to support activities that cause positive economic effects. If funding from the national government is sought, it is easier to justify events that are staged all over the country, such as the FIFA World Cup, and more difficult if the entire event is hosted in one city (Olympic Games). In an ideal (rational) world, however, any government would be willing to support an activity as long as the welfare-economic gains exceed the economic costs. The destination (as a unit), however, wants more of the activity as long as the returns exceed the costs funded by the destination, excluding costs that are funded by the government. Most of the economic benefits occur in the region, and, therefore, local decision makers have high interest in attracting events. Furthermore, those representing the host destination often have more precise information about the regional impacts than external actors do. This illustrates a situation of asymmetric information wherein the (potential) host destination can take advantage of giving the government the impression that the events will create more positive impacts than they actually expect.

These elements explain why the idea of hosting a major sport event often receives overwhelming support from bodies in the applicant destinations that expect to benefit from them, particularly the local tourism industry. As Crompton (1995) and Preuss (2005) demonstrate, many pitfalls can give the false impression that events are more beneficial for the host region than they really are.

Thus, governments face a difficult job when deciding whether to support events and by how much. By being too restrictive they will run the risk of preventing events that could have been profitable for the region or even the entire country. On the other hand, if boosters’ and organizers’ incentives to exaggerate potential positive impacts are not taken into account, governments could support events that do not render sufficient positive impact to warrant government support.

**Concluding Observations**

Many cities spend substantial amounts of money upgrading their infrastructure to host major sport events. Although the events can create welfare-economic gains, such as through long-term tourism impacts, this does not guarantee that the benefits exceed the costs. Megaevents like the Olympics and the FIFA World Cup require costly investments in sport facilities and supporting infrastructure. There is obviously a risk that the investments become so large that investment in other city needs might decrease or be suspended altogether. This is particularly true for smaller cities, which often find it difficult to meet the extraordinary demand during the event without investing in permanent facilities. It is vital that applicant cities compare their long-term development plan with the necessary event-related structural
requirements before bidding on major events. Large events can generate revenues that cover the operational costs but not the investment in infrastructure.

When the circumstances allow, events can stimulate inbound tourism. There is also a risk, however, that too much optimism can initiate investments that exceed the long-term demand. A growth in the number of tourists does not indicate whether the growth has been caused by a positive shift in demand, supply, or both. Indeed, a positive shift in supply with no corresponding shift in demand can make sport events unprofitable for the host destination, particularly the tourism industry. Indirectly, however, tourism demand can improve the host destination’s ability to capitalize on economies of scale. As a result, local residents will obtain goods and services they might otherwise only be able to consume outside the region.

A number of factors can inhibit long-term tourism demand, and some are influenced by decisions made by bodies that are involved in the event. It is important to remember that the promotion effect created by the event will not last forever. Attracting more tourists in the postevent period might require considerable investment, for example, upgrades of the local infrastructure to provide a sufficient array and quality of tourism products and services.

Nevertheless, exogenous events can detrimentally affect inbound tourism, as in the case of the September 11 attack on the World Trade Center and the SARS epidemic. International terrorism has increased the risk of such events. There is an obvious flow-on risk for major sport events. Events might provide the potential to promote the destination to a worldwide audience, but the duration of the promotion period is short. Unforeseen incidents can take place during, shortly before, or shortly after the event, thereby diluting or purging the expected effect.

Although sport events can prove beneficial for the host destination as a unit, the bodies that benefit from them can be driven by free-rider motives and, therefore, might be unwilling to provide private resources. Furthermore, events can create externalities, including goods and services with public-goods characteristics. Such circumstances represent a risk for market failures, which in turn call for government intervention, possibly even funding the event. The prospect of government funding, however, is also an incentive for locals to exaggerate the benefits, with the result that too many resources might be invested in too many events.

Events can be both costly and risky economic-development investments. They also offer the promise of substantial returns, however, particularly if they are fully leveraged. The challenge for policy makers is to evaluate the true costs, benefits, risks, and leveraging strategies that each event offers.

References


