

# PREDICTING THE COSTS AND BENEFITS OF MEGA-SPORTING EVENTS: MISJUDGEMENT OF OLYMPIC PROPORTIONS?

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*The economic benefits of hosting mega-sporting events are often exaggerated. Ex-ante impact studies typically overestimate the gains and underestimate the costs involved. It is therefore difficult to explain in economic terms the intense competition among cities to hold such events.*

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## Introduction

In recent years cities have competed vigorously for the right to host what can be labelled as ‘mega-events’, namely the quadrennial Olympic Games and FIFA Football World Cup. One can afford such a description when one considers the scale of these sporting extravaganzas, with in-person attendance in the millions and television audiences in the billions.<sup>1</sup>

There are a variety of reasons why cities may wish to host these events, the most compelling being the promise of a vast economic windfall forecasted by economic impact studies. Given these forecasts, an increasing number of developing economies have joined the bidding frenzy, insisting on their right to receive a share of the monetary spoils and hopefully kick-start their development. It is also evident that cities that host these events must commit a significant investment into sports stadia and other miscellaneous infrastructure. Therefore, the question is whether the economic benefit compensates for and outweighs the vast costs and substantial risks incurred. Are the games ‘fool’s gold’ (Baade and Matheson, 2002) or a lottery jackpot (Preuss, 2006, p. 183)?

## Olympic-sized costs

The Olympic Games are becoming an increasingly expensive affair, especially for

host cities that see it not only as an opportunity to construct new sports stadia, but also to improve other infrastructure such as communication systems, housing facilities and traffic networks. Given these extensive costs, it is not surprising that the majority of host cities for the summer Olympics have come from developed nations. Out of the 25 summer Olympics between 1896 and 2004, 14 were held in Western Europe and seven in the United States, Canada and Australia combined. The Games hosted by Mexico City and Seoul (1968 and 1988, respectively) were the only ones held in developing nations.

Indeed, in addition to investing large sums in the construction of sports arenas, Barcelona (1992) and Seoul (1988) used the Games to upgrade their entire urban infrastructure (ibid.). This displays organisers’ maxim of creating long-run benefits that subsume short-run costs. Even Atlanta (1996), which built relatively few sports arenas to complement existing infrastructure for its Olympic Games, cost an estimated \$600 million (Baade and Matheson, 2004).

The FIFA World Cup presents a similar situation. FIFA requires that a host nation have at least eight, but preferably ten, modern stadia with seating capacities in the range of 40,000 to 60,000. For the 2002 World Cup, South Korea spent in the region of \$2 billion constructing ten new stadia and Japan \$4 billion in building seven new stadia and refurbishing three existing ones. Moreover, it

is clear that other costs are also growing, with Salt Lake City, host of the 2002 Winter Olympics, spending more than \$300 million on security alone, and Greece, host of the 2004 Summer Games, more than \$1 billion (Baade, 2006, p. 177). This is in addition to the \$1 billion estimated operating cost of running a mega-event (Baade and Matheson, 2004).

### Sports 'boosters' predictions

Irrespective of these costs, sports 'boosters' have predicted large economic windfalls for cities hosting these 'mega-events', envisioning multitudes of sports fans frequenting the city's restaurants, hotels and other businesses, spending vast amounts of money. Olympic boosters have shown great optimism. The Atlanta Olympic Organizing Committee predicted a \$5.1 billion boost and an increase in employment of 77,000. The Sydney Olympic Games was predicted to have a \$6.3 billion impact as well as create 100,000 new jobs. For the World Cup in the USA in 1994 Goodman and Stern predicted a boost of \$4 billion to the US economy, and in 2002, Dentsu Institute for Human Studies estimated a \$24.8 billion windfall for Japan and \$8.9 billion for South Korea, amounting to 0.2% and 2.2% of their respective GDPs (Baade and Matheson, 2002). The academic premise behind these reports is that these expenditures on mega-event infrastructure should be considered investments that trigger positive economic returns (*ibid.*). This has been sharply criticised by many scholars, firstly on the basis that many of these studies are commissioned by those who have a vested interest in holding such events (for example, standing to benefit directly from the provision of public subsidies that these reports may influence or justify).

### Methodological errors associated with *ex ante* studies

It should be noted that these 'impact' studies (which provide the rationale for funding) are themselves predictive or *ex ante*. They derive the economic 'impact' in two main ways: from the effect of the construction of infrastructure such as sporting facilities, and from the total commercial activity that takes place during the event, which takes into account an estimate of the number of visitors, the number of days a visitor is expected to spend and how much on average he or she will spend (Matheson, 2006a). In the latter case, these figures are combined to estimate a 'direct economic impact'. However, the method of estimating this 'direct impact' has been rejected by many scholars as fundamentally flawed. One explanation for this is that the attributable increase in direct spending may be deduced using a 'gross' measure instead of a 'net' one. Since most consumers have relatively inflexible leisure budgets, spending on an event such as purchasing tickets substitutes for other expenditures on other activities in the local economy such as theatres, amusement parks or concert halls. This provides one of the main reasons why impact studies are so grossly exaggerated (Owen, 2005). The local consumer's expenditure is not a new economic activity but a reallocation of spending that would have occurred if the event were not held. Hence, in net terms, the effect on the local community is likely to be zero. This effect has been demonstrated

empirically in relation to local sports teams and stadia (Coates and Humphreys, 1999). To make studies more reliable for mega-events such as the Olympics one might suggest surveys carried out on those attending the event with questions relating to place of residence thus enabling analysts to eliminate those who hail from the local area (Baade and Matheson, 2004).

### Problems with analysing external visitors

But the inclusion of only external visitors may also result in exaggerated figures if those attending an event at the Games or the World Cup are also in the host city for alternative reasons other than the event itself. These outsiders may be hosted by their families or put up by their own companies, meaning that spending on a sports event may just represent a reallocation of leisure spending. Had the visitor not gone to the event, money would have been spent on other attractions in the city in the event's absence. For example, if a man went to Beijing on business for a few days and on one night went to watch a sporting event, his net expenditure would be the cost of the ticket only, as he would have made his other expenditures (such as staying at a hotel and frequenting a restaurant) regardless of his attendance of the event. It is clear that impact studies may report the direct net economic impact to be far greater given the businessman's spending on hotels, meals and such like (Siegfried and Zimbalist, 2002). In addition, another phenomenon not adjusted for is the engaging of 'time-switching', which occurs when a visitor wishes to visit the city in question, but arranges the trip to coincide with the sporting event. By virtue of the fact that the event did not influence the visitor's choice of location, one cannot attribute a net increase in spending as a result of the sporting event (Crompton, 1995). However, it is evident that for large events such as the Olympic Games, a high proportion of visitors are likely to come from overseas on a special trip, resulting in a greater convergence between net and gross spending.

### Problems with accounting for those locals who are non-attendees

Although amendments to the problems listed above may be useful for those running the events, these impact studies will continue to neglect the effect of these events on those residents who do not attend but live in their vicinity. Indeed, many residents may dramatically alter their spending patterns to avoid either the inflated prices charged during the event or congestion caused by its visitors. Baade and Matheson (2004) thus state that a significant problem with economic impact studies is not information relating to direct expenditures but the lack of it with regard to the pattern of economic activity of those who do not attend the event.

### 'Crowding out'

Moreover, as a large proportion of mega events such as the Olympics are held in popular tourist areas, the negative externalities caused by an event, such as congestion, may dissuade regular non-interested tourists from visiting the city during the event. If local restaurants and hotels are near full

capacity, sporting visitors may actually displace and 'crowd out' regular tourists, resulting in a smaller than predicted net impact. One prime example is the effect of the FIFA World Cup on tourism in South Korea, where it was estimated that the total number of foreign visitors during that time was identical to that in the same period in the previous year. Also in terms of consumer expenditure, *USA Today* in 2002 did report that although 'Consumer goods such as sporting goods sold well . . . some casinos and hotels had drop-offs as regular customers and travellers avoided World Cup hassles' (Baade and Matheson, 2004). From data and anecdotal evidence, it was evident that the Olympics had significant crowding out effects on Atlanta. According to French and Disher (1997), in parts of town not near the Olympic Park 'many hotels and restaurants reported significantly lower than normal sales volume during the Games. Even shops and resorts in areas up to 150 miles away reported slower than normal business in the summer of 1996'.

### Misuse of multipliers

One of the more difficult problems for economic forecasters lies in the misuse of multipliers. 'Direct' expenditures estimated to be a result of the event are used to deduce 'indirect' effects, which are more often than not prone to exaggeration. The economic multipliers that are generally used by economic forecasters are based on complex formulae which model the relationships between industries within the region. But Matheson has suggested that during a mega-sporting event such relationships are unlikely to hold, thus rendering the multiplier inaccurate. There is also great difficulty accounting for the various leakages that might occur. Evidently, one has to differentiate between whether visitors spend their money within the local economy or on hotel rooms and restaurants, which themselves belong to national chains (Matheson, 2006b). In the latter case, profits earned during an event do not flow to the local economy but to shareholders throughout the world.

### Supply-side leakages

These leakages are further increased by the temporary entry of external firms selling products during the Games. Indeed, these may mean local residents do not actually benefit from the supposed growth in tourism during the event. To some extent the Olympics are self-contained, as many sponsors and corporations are allowed to have access to prime venues within the Olympic Park which local businesses do not (Owen, 2005). This makes the Olympics an economy unto itself, meaning that much income would flow to firms that are not permanent elements of the local economy. Substantial leakages also accrue from those involved in staging the Games and businesses that provide goods and services during the event. One example is that if the local economy is running at close to full employment, hotels and restaurants that require extra labour to deal with greater than normal levels of tourists will hire from external communities where there is a surplus. Evidently, a substantially lower proportion of the wages that are paid out in these cases will be recirculated in the local economy. Such theoretical problems arise because, instead of a

balance of payments method, forecasters tend to use input-output models, such as the US Department of Commerce's Regional Input-Output System (RIMS II), which do not account for subtleties such as full employment (Baade and Matheson, 2002, p. 11).

### Construction: more a cost than a benefit?

The example above is also true in the construction process for the Games, which itself provides another dubious area in economic impact studies (for example, Siegfried and Zimbalist noted that workers are more likely to live outside the local area). Moreover, the writings of many academics (Coates and Humphreys, 1999; Noll and Zimbalist, 1997) have found no correlation between sports stadia construction and economic development. Yet many studies consider the construction of stadia a benefit as opposed to a cost. Although new construction may increase economic activity, it is also necessary to consider the vast opportunity costs, as public expenditure on such projects would mean a reduction in other public services, greater government borrowing or higher levels of taxation. Would the return on a sports stadium exceed that of an alternative use of resources?

If the host city has high unemployment, the building of stadia might be considered an efficient way to get idle people into work. However, this cannot be a net benefit given the fact that it represents only a transfer of workers from one job to another. Noll and Zimbalist describe this as just as beneficial as if the government 'employ half the workers to dig a hole and the other half to fill it up'. One can also consider construction employment as temporary, and although many in South Africa expect employment to rise and attract migrants from rural areas for the 2010 World Cup, urban unemployment is expected to rise after the tournament (Pillay and Bass, 2008). Thus, according to Hiller, mega-events can become a bastion of 'job creation . . . even if it . . . [is] unproven and perhaps wishful thinking'. In an *ex post* study of the Atlanta Games of 1996, Baade and Matheson found that employment only increased between by 3,500 and 42,000, only a fraction of the organising committee's estimate of 77,000 new jobs. For the 1984 Games in Los Angeles, the increase in employment, found to be 5,043, was concluded to be transitory, with the same researchers' model failing to find any net employment gains as a result of the Games (Baade and Matheson, 2002, p. 31). However, this result may be due to the fact that Los Angeles made no significant investment in sporting infrastructure for the Games, maximising use of existing facilities.

### Legacy and white elephants

Such employment outcomes suggest dubious *legacy* values of both recent US Games. The extent to which the facilities are used in the future is extremely important, especially the newly constructed sports stadia. Evidently, sports are essentially a luxury good, and thus demand is likely to decrease substantially after a mega-event. There is therefore a great risk, especially for developing countries, that infrastructure for mega-events can become white elephants. For the 2003 All Africa Games, the Nigerian government spent around

\$300 million on a new 60,000-seater stadium amongst other venues, yet the country remains blighted by shortages of fuel, frequent blackouts, bad roads and a high crime rate. Moreover, there is a limited amount that one can do with an empty football stadium. After the 2002 World Cup, only five out of the ten new stadia in South Korea had regular tenants. In addition, professional football attendances there average only 3,000, a tiny fraction of a 40,000–60,000-seater stadium. Even in Japan, with a more developed football league, J-League crowds average only 16,000. Baade and Matheson, from their own empirical evidence, claim that the economic impact of such events is thus ‘transitory’ and ‘one-time’ rather than ‘a steady state change’. Hence it seems that the only way that an event can have a positive lasting effect is if its infrastructure is able to exist symbiotically with that in the surrounding economy, neither competing for nor displacing existing capital and labour.

### Hidden costs

In addition, countries are faced with other hidden costs that may not have been accounted for in impact studies. These may include the continual upkeep and maintenance costs of large stadia. Whitson and Horne (2006) have concluded that social goals from the 2002 World Cup in Japan ‘that might follow from high-quality public infrastructure for sport . . . are still far from being accomplished’.

Other sectors, such as the hotel industry, are also likely to be hit by long-term costs. In order to accommodate the multitude of visitors during an event, hotels may have a construction boom to increase their inventories. However, when the event is over, demand for high-end accommodation will fall, leaving too-much surplus capacity and putting downward pressure on room-rates (Humphreys and Prokopowicz, 2007). This could have disastrous effects such as those displayed in Lillehammer after the 1994 Winter Olympics, where it was reported that within five years of the event, 40% of full-service hotels in the region had gone bankrupt (Teigland, 1999).

### Housing and urban regeneration

Although there may be significant long-term benefits from schemes to improve city infrastructure (Barcelona created new districts, new trunk roads, renovated old districts and reduced overcrowding in the city (Barget and Gouguet, 2007, p. 168)),<sup>2</sup> these may have limited effects on less affluent people. In terms of housing, as flagged up by Pillay and Bass in their assessment of South Africa’s 2010 FIFA World Cup development proposals, the positive effect on property prices in an Olympic area will have a negative effect on the poor who live there; rents may increase until they become unaffordable. Although the area benefits from the investment in terms of a growing property market and the improved infrastructure associated with a stadium (transport links, for example), the people it was intended to benefit might be pushed elsewhere. Moreover, this may mean that the intended regeneration of the host city may amount only to a redistribution of people, as those who originally resided in the Olympic area move elsewhere, bringing poverty and social problems with them.

This redistribution will therefore be zero-sum or actually negative-sum, once one factors in the cost to the taxpayer in terms of public subsidies for the new housing or transport links. Indeed, there is strong evidence that this process has operated in the lead up to several mega-events, often as a result of direct state coercion. It has been estimated that 700,000 people were forcibly evicted in the lead up to the 1988 Seoul Olympics, and a staggering 1,500,000 for the Beijing Olympics.<sup>3</sup> Indeed, the Centre on Housing Rights and Evictions has estimated that in the past 20 years, the Olympics have displaced over 2,000,000 people.<sup>4</sup>

### Intangible factors?

If the economic benefits for hosting mega-events are doubtful, there must be other intangible reasons that explain why countries wish to host them, even with the difficulties they pose. One line of argument is the perceived status benefit where a city can rise in the hierarchy of ‘world cities’, making a claim to high global standing. This seems appealing amidst the growing perception of competition for footloose capital flows and tourism in the current phase of globalisation. It is clear that in hosting the 2008 Olympics, Beijing hoped to join the top tier of cities in the world and surpass its Asian competitors: Tokyo, Singapore and Hong Kong. Moreover, benefits are described in such ways as ‘a restoration of self-confidence’, ‘civic pride’ and ‘dynamism’. Therefore, major sporting events become part of what was labelled as the ‘Big Kahuna approach’, that, with the hope of large-scale construction, ‘cash and prestige’ will be brought to the area (Greene, 2003, p. 165). Other intangible ‘benefits’ include objectives such as ‘nation building’, for example the lasting image of Nelson Mandela presenting the Rugby World Cup Trophy to François Pienaar in 1995, an event held in South Africa. International politics play an extremely important role as well. To the Chinese, the Olympics in 2008 were less of a sporting spectacle and more of a ‘coming out’ party, which showcased the economic and political development of China. Indeed, Wen Jiabao stated in April 2008 that the Beijing Olympics present an opportunity for China to show the world how ‘democratic, open, civilised, friendly, and harmonious’ it is.<sup>5</sup> However, cynics may make comparisons with the ‘political theatre’ of the 1936 Olympics in Berlin and the 1938 FIFA World Cup in Italy.

Mega-sporting events may also be used as a favourable excuse to legitimise additional public spending that would not otherwise pass through the political process. No example is more pertinent than the looming London Olympic Games in 2012. Former London Mayor Ken Livingstone has even brazenly admitted that he ‘didn’t bid for the Olympics because [he] wanted three weeks of sport’, he bid ‘for the Olympics because it’s the only way to get the billions of pounds out of the Government to develop the East End – to clean the soil, put in the infrastructure and build the housing’, succeeding in his plot to ‘ensnare the Government to put money into an area it has neglected for 30 years’.<sup>6</sup> Given today’s economic climate, the cost of hosting the Olympic Games in London has come under increasing pressure from all spheres. It was only recently that news broke that the government chose to ignore a 250-page strategy document, signed off in December 2002

by Tony Blair as Prime Minister, that found little support for the contention that the Games would produce significant economic returns.<sup>7</sup> Couple this with the embarrassing admission by Olympics Minister Tessa Jowell who stated that 'had we known what we know now', London would not have bid for the Olympics at all.<sup>8</sup> The cost of hosting the 2012 extravaganza has increased from the anticipated £2.4 billion to £9.35 billion.<sup>9</sup> Indeed the government has already confirmed they will be dipping into its contingency fund to make up for the lack of private money for the building of the Olympic village.<sup>10</sup> Many are thus wondering at what cost the government are pursuing what has been labelled by Stefan Szymanski, Professor at the Cass Business School, as 'a party, which would be hugely expensive'.<sup>11</sup>

## Conclusion

It is clear that mega-sporting events are extremely liable to less-than-accurate sporting impact studies. These analyses may overstate benefits, understate costs and misuse multipliers. Opportunity cost remains a vital problem, but this has not stopped events such as the Olympics becoming a new panacea for economic and urban development. And while certain benefits can be had from hosting sporting events, they are accompanied by large caveats. New infrastructure must be integrated into the host city's economy and it must have a clear legacy value. It is interesting to note that growth in the number of impact studies conducted has coincided with a surge in competition in the bidding process for these events. The studies provide the backdrop for overzealous campaigning and the acquisition of public money. Indeed, it is probably no coincidence that most of the studies have been completed after the 1984 Los Angeles Olympics, which was the first to make a substantial profit.

1. Eric Barget considers a minimum threshold of a total audience of at least one billion viewers, and/or 30 countries broadcasting the event.
2. Roads increased by 15% from those in 1986, new sewerage systems by 17% and new beaches and green areas by 78% (Brunet i Cid, 2002).
3. See <http://www.reuters.com/article/worldNews/idUSPEK12263220070605>.
4. See <http://www.cohre.org>.
5. See <http://www.chinabusinessreview.com/public/0807/sands.html>.
6. See <http://www.telegraph.co.uk/sport/othersports/olympics/2298374/Mayor-tricked-Govt.-into-2012-Olympics-bid.html> (25 April 2008).
7. See <http://www.timesonline.co.uk/tol/sport/olympics/article5270391.ece> (2 December 2008).
8. See <http://www.telegraph.co.uk/sport/othersports/olympics/london2012/3448188/Tessa-Jowell-Britain-would-not-have-bid-for-2012-Olympics-if-we-knew-about-recession.html> (12 November 2008).
9. Ibid.
10. See [http://www.bbc.co.uk/blogs/thereporters/mihirbose/2009/01/update\\_2012\\_budget\\_already\\_usi.html](http://www.bbc.co.uk/blogs/thereporters/mihirbose/2009/01/update_2012_budget_already_usi.html) (22 January 2009).
11. See [http://www.cass.ac.uk/masters/mscnewsletter/8\\_Lead\\_Article.html](http://www.cass.ac.uk/masters/mscnewsletter/8_Lead_Article.html).

## References

Baade, R. (2006) 'The Economic Impact of Mega-sporting Events', in W. Andreff and S. Szymanski (eds.) *Handbook on the Economics of Sport*, Cheltenham: Edward Elgar.

- Baade, R. and V. Matheson (2002) 'Bidding for the Olympics: Fool's Gold?' in C. P. Barros, M. Ibrahim and S. Szymanski (eds.) *Transatlantic Sport: The Comparative Economics of North American and European Sports*, Cheltenham: Edward Elgar.
- Baade, R. and V. Matheson (2004) 'Mega-sporting Events in Developing Nations: Playing the Way to Prosperity?', *South African Journal of Economics*, 72, 5, 1084–1095.
- Barget, E. and J. J. Gouquet (2007) 'The Total Economic Value of Sporting Events Theory and Practice', *Journal of Sports Economics*, 8, 2, 165–182.
- Brunet i Cid, F. (2002) *The Economic Impact of the Barcelona Olympic Games, 1996–2004*, Barcelona: Centre d'Estudis Olímpics UAB.
- Coates, D. and B. Humphreys (1999) 'The Growth Effects of Sport Franchises, Stadia and Arenas', *Journal of Policy Analysis and Management*, 18, 4, 601–624.
- Crompton, J. L. (1995) 'Economic Impact Analysis of Sports Facilities and Events: Eleven Sources of Misapplication', *Journal of Sport Management*, 9, 1, 14–35.
- French, S. and M. Disher (1997) 'Atlanta and the Olympics: A One-year Retrospective', *Journal of the American Planning Association*, 63, 3, 379–392.
- Greene, S. J. (2003) 'Staged Cities: Mega-events, Slum Clearance, and Global Capital', *Yale Human Rights and Development Law Journal*, 6, January, 161–187.
- Humphreys, B. and S. Prokopowicz (2007) 'Assessing the Impact of Sports Mega-events in Transition Economies: EURO 2012 in Poland and Ukraine', *International Journal of Sport Management and Marketing*, 2, 5/6, 496–509.
- Matheson, V. (2006a) 'Economic Impact Analysis', in W. Andreff and S. Szymanski (eds.) *Handbook on the Economics of Sport*, Cheltenham: Edward Elgar.
- Matheson, V. (2006b) 'Mega Events: The Effect of the World's Biggest Sporting Events on Local, Regional and National Economies', Working Paper No. 0622, International Association of Sports Economists. Available at <http://ideas.repec.org/p/spe/wpaper/0622.html>.
- Noll, R. and A. Zimbalist (1997) 'The Economic Impact of Sports Teams and Facilities', in R. Noll and A. Zimbalist (eds.) *Sports, Jobs & Taxes: The Economic Impact of Sports Teams and Stadiums*, Washington, DC: Brookings Institution Press.
- Owen, J. (2005) 'Estimating the Cost and Benefit of Hosting Olympic Games: What can Beijing Expect from its 2008 Games?', *The Industrial Geographer*, 3, 1, 1–18.
- Pillay, U. and O. Bass (2008) 'Mega-events as a Response to Poverty Reduction: The 2010 FIFA World Cup and its Urban Development Implications', *Urban Forum*, 19, 3, 329–346.
- Preuss, H. (2006) 'The Olympics', in W. Andreff and S. Szymanski (eds.) *Handbook on the Economics of Sport*, Cheltenham: Edward Elgar.
- Siegfried, J. and A. Zimbalist (2002) 'A Note on the Local Economic Impact of Sports Expenditures', *Journal of Sports Economics*, 3, 4, 361–366.
- Teigland, J. (1999) 'Mega-events and Impacts of Tourism: The Predictions and Realities of the Lillehammer Olympics', *Impact Assessment and Project Appraisal*, 17, 4, 305–317.
- Whitson, D. and J. Horne (2006) 'Underestimated Costs and Overestimated Benefits? Comparing the Outcomes of Sports Mega-Events in Canada and Japan', in J. Horne and W. Manzenreiter (eds.) *Sports Mega-Events: Social Scientific Analyses of a Global Phenomenon*, Oxford: Blackwell, 73–89.

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