

An Olympic Mosaic

Multidisciplinary Research and Dissemination of Olympic Studies
CEO-UAB: 20 Years

Editors

Emilio Fernández Peña
Berta Cerezuela
Miquel Gómez Benosa
Chris Kennett
Miquel de Moragas Spà



Centre d'Estudis Olímpics
Universitat Autònoma de Barcelona



Ajuntament de Barcelona

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Analysis of the Economic Impact of the Olympic Games

Ferran Brunet

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Introduction

The benefits of ‘mega-events’ are twofold: their organisation increases economic activity, particularly investment in infrastructure, and their celebration gives greater international visibility to the place hosting the event.

Major events mobilise a great number of people, managers and workers, attract participants and visitors, and generate major media (particularly from television) and public interest. Sports events are the biggest of all mega-events: an Olympic Summer Games attracts the largest television audience over a two-week period, with the opening and closing ceremonies drawing the largest share.

Therefore, mega-events are a source of business and have become an industry in their own right. The resources required for holding a mega-event can be self-funded with the income received from the sale of broadcast rights, advertising, sponsorship and merchandising, and they can attract numerous other sources of investment. Consequently, mega-events can produce significant tangible and intangible assets that, with better management, are greater and more durable.

In today’s world of free movement of capital, goods and people, which is driven by technological developments and where services are essential, particularly those related to a knowledge-based economy, the ability to organise and stage a global mega-event increases the productivity, competitiveness and standard of living of the local population in the host city.

From Barcelona to Beijing, from the World Cup in South Africa to the European Capital of Culture, from Expo 2010 Shanghai to the Rio 2016 Olympic Games, mega-events have the ability to attract, to make an impact and to promote cities, regions and countries, in some cases for decades after the event.

The analysis of mega-events developed considerably after the Barcelona 1992 Olympic Games (Brunet 1994, Moragas and Botella 1995 and 2002) and subsequent Games (Preuss 2004, Brunet and Xinwen 2009, IOC 2010). We shall examine the resources and legacy of the Barcelona Olympic Games, focusing particularly on their economic impact.

1. Preparing for the Games: Resources for Barcelona (1986-1992)

In pursuit of Barcelona’s dream of hosting an Olympic Games that would be a celebration of excellence in terms of both the human spirit and sporting achievements, the city underwent an impressive urban transformation. Three aspects of

this process can be highlighted:

1. The Barcelona 1992 Olympic Games were excellent in terms of their organisation and sporting achievements.
2. The urban transformation that resulted from investment in the Games had a major economic and social impact.
3. The ability of Barcelona's economy to capitalise on the impetus provided by the Games and their capital legacy has resulted in Barcelona being ranked in fourth place as the most attractive European city in 2010, compared to eleventh and sixth in 1990 and 2000, respectively.

As a result, the organisation and impact of the Barcelona 1992 Olympic Games have become a model, from a sports, organisational, economic, social and urban perspective. The following aspects will be analysed:

- The organisation of the Barcelona 1992 Olympic Games from the viewpoint of its model and resources for the period 1986-1992.
- The impact of Olympic investments on economic activity, employment, income, construction, tourism and transport, with a focus on the period 1992-2004.
- Barcelona's ability to capitalise on the impetus provided by the Olympic Games in order to improve its ranking over the period 2004-2020.

1.1. The Barcelona model of organising the Olympic Games

Barcelona's desire to host the Olympic Games was based on offering excellent sports competitions, in keeping with the Olympic spirit, and to carry out a large-scale urban transformation project that would improve the quality of life and attractiveness of the city. Without doubt, the key to the success (Samaranch 1992) of the 1992 Olympic Games lay in the strength of its objectives (organisational excellence and urban impact), inter-institutional consensus, the use of special management bodies, mixed funding, and also the ability of the city's economy to respond to the impetus of the Olympics and to attract investment.

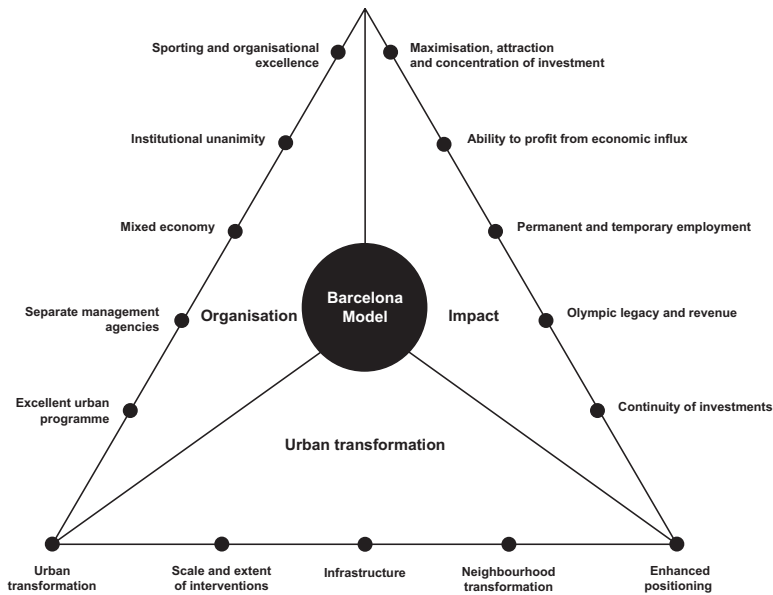
This approach and the excellent results obtained (Ajuntament de Barcelona, several years) comprise the Barcelona model for urban transformation and the organisation of major events. Figure 1 shows the various elements of the Barcelona model of organisation and urban redevelopment.

1.2. Cost of the Olympic Games and funding of investments

With regard to the economic resources for the Olympics, a distinction should be made between organisational costs (not usable after the Games) and investment in building works (usable). The organisational costs are the real 'costs', since they disappear as soon as the event has finished. For this reason, it is considered advantageous to keep them to a minimum. However, investment is the legacy, the benefits of which will remain. It is therefore, advantageous to maximise the level of investment.

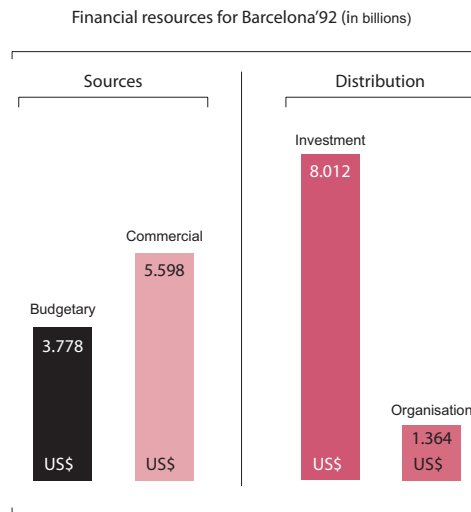
The resources allocated to organisational costs and investment, and also their impact, are set out in Figure 2. There is a considerable difference between organisational costs (US\$1.36 billion, largely self-funded by the Organising Committee) and investment in building work (US\$8.01 billion). As a result, investment represented 85.5% of total spending on the Olympics (see Table 1).

Figure 1. The Barcelona model: organisation, impact and urban transformation



Source: Brunet 1994 and 2009.

Figure 2. Financial resources for Barcelona'92: budgetary and commercial sources, distribution in investment and organisation



Source: Brunet 1994.

Table 1a. Financial resources for the Barcelona'92 Olympic Games: source, allocation and impact

Accumulated value over the period 1986-1993 (in millions)	Pesetas (current)	US\$ (current)	US\$ constant at 2000 rates	Euros constant at 2000 rates	Distribution (%)	
A. SOURCE OR FINANCING OF RESOURCES (= B)	1,119,510	9,376	11,532	12,474	100.0	
1. Resources from commercial sources (commercial income)	668,387	5,598	6,886	7,448	59.7	100.0
Investment from domestic private companies	204,697	1,714	2,108	2,280	18.3	30.6
Investment from foreign private companies	108,320	907	1,116	1,207	9.7	16.2
Investment from Spanish state companies	130,416	1,092	1,343	1,453	11.6	19.5
HOLSA: income from its companies	42,306	354	435	471	3.8	6.3
COOB'92	182,648	1,530	1,882	2,036	16.3	27.3
• Television rights	54,164	454	558	604	4.8	8.1
• Sponsors: monetary contributions	58,152	487	599	648	5.2	8.7
• Sponsors: payments in kind	42,448	356	438	474	3.8	6.4
• Lotteries	20,143	169	208	225	1.8	3.0
• Others	7,741	65	80	87	0.7	1.2
2. Budgetary resources (fiscal income)	451,123	3,778	4,647	5,026	40.3	100.0
Transfers from state to COOB'92	12,947	108	133	144	1.2	2.9
HOLSA: loan to be repaid by MEH and AB	112,590	943	1,160	1,255	10.1	25.0
Investment from public budget	325,586	2,727	3,354	3,628	29.1	72.2
• Barcelona City Council (municipality)	22,789	191	235	254	2.0	5.1
• Government of Catalonia (regional government)	142,726	1,195	1,470	1,590	12.7	25.7
• Government of Spain (central government)	116,124	973	1,197	1,295	10.4	31.6
• European Union	8,100	68	84	91	0.7	1.8
• Other public administrations	35,848	300	369	399	3.2	7.9

Table 1b. Financial resources for the Barcelona'92 Olympic Games: source, allocation and impact

Accumulated value over the period 1986-1993 (in millions)	Pesetas (current)	US\$ (current)	US\$ constant at 2000 rates	Euros constant at 2000 rates	Distribution (%)	
B. ALLOCATION OR USE OF THE RESOURCES (= A)	1,119,510	9,376	11,532	12,474	100.0	
1. Resources allocated to organisation (Organisational costs of COOB'92 programme)	162,880	1,364	1,678	1,815	14.5	100.0
Competitions	14,045	118	145	157	1.3	8.6
Ceremonies & cultural activities	9,053	76	93	101	0.8	5.6
Press, radio & television	18,254	153	188	203	1.6	11.2
Preparation of facilities (not including investment in building work)	13,510	113	139	150	1.2	8.3
Technology	24,791	208	256	277	2.2	15.2
Services for the Olympic Family	37,023	310	381	412	3.3	22.7
Security	4,671	39	48	52	0.4	2.9
Management & corporate image	18,618	155	191	207	1.7	11.5
Support structures	22,915	192	236	255	2.0	14.1
2. Resources allocated to building work (Public & private investment related to Olympic Games = Olympic legacy)	956,630	8,012	9,855	10,660	85.5	100.0
Roads & transport	404,514	3,388	4,167	4,507	36.1	42.3
Telecommunications & services	123,313	1,033	1,271	1,375	11.1	2.9
Coasts, recovery & parks	60,438	506	622	673	5.4	6.3
Housing, offices and business premises	139,741	1,170	1,439	1,556	12.5	14.6
Hotels	119,884	1,004	1,235	1,336	10.7	12.5
Sports facilities	87,511	733	902	976	7.8	9.1
Cultural and health facilities, and others	21,229	178	219	237	1.9	2.2
C. TOTAL ECONOMIC IMPACT	3,107,788	26,028	32,014	34,628	100.0	
1. Direct impact	1,165,600	9,762	12,007	12,987	37.5	
Resources allocated to organisation and building works (A = B)	1,119,510	9,376	11,532	12,474	36.0	
Spending by non-resident visitors	46,090	386	475	514	1.5	
2. Indirect impact	1,942,188	16,266	20,007	21,641	62.5	

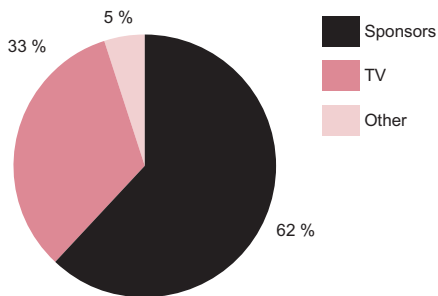
Source: Brunet 1994.

With regard to the organisation, the Organising Committee (COOB'92) closed its accounts in July 1993: spending had totalled 195.59 billion Pesetas⁴⁵, that is to say, US\$1.63 billion (equivalent to US\$1.67 billion constant at 2000 rates), with a surplus of US\$3 million. As the Olympic project advanced, the investment made by the different public and private entities far exceeded expectations: US\$1.98 billion in April 1985, US\$6.43 billion in March 1991 and US\$9.37 billion in July 1993. The real costs, the organisational costs, were maintained in constant Pesetas, whereas the investment stimulated by the Games expanded extraordinarily.

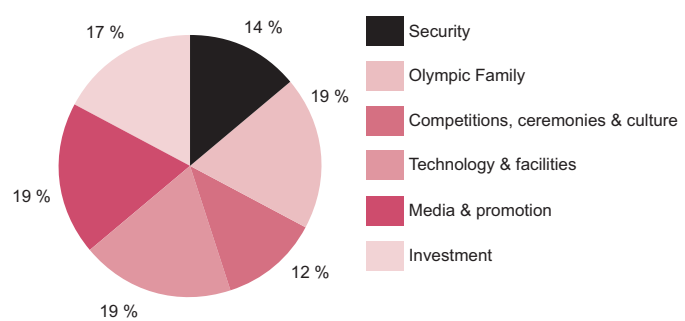
Figure 3. Income and cost structure for the organisation and building work for Barcelona'92

Organisation

COOB'92 Income

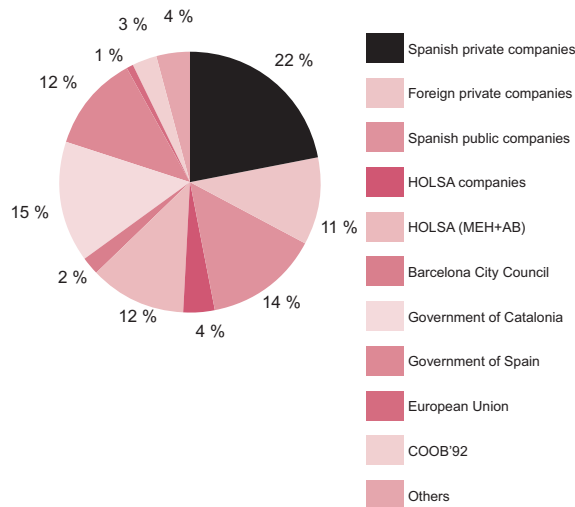


COOB'92 Expenditure

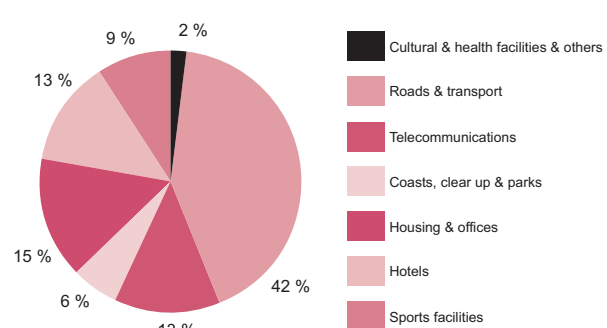


Investment

Financing Olympic investments



Allocation of Olympic investments



Source: Brunet 1994 and Table 1.

45. When Spain joined the European Monetary Union on 1 January 1999, the Peseta was replaced by the Euro at an exchange rate of 166.386 Pesetas to one Euro. This is the rate applied when expressing figures in Euros. Over the period 1986-1993, the average exchange rate was 119.4 pesetas to one US Dollar. This is the rate applied when expressing figures in US Dollars (FedStats 2007).

Of all COOB'92 revenue streams, the growth in self-funded revenue was remarkable, accounting for 75.2% of total revenue. Therefore, sponsorship and television broadcast rights were the main sources of income for the Organising Committee. With regard to organisational costs, the main outgoings were for television and press facilities (an international centre and technology), and the competitions and services for the Olympic Family (see distribution in Table 1 and Figure 3). The main costs for COOB'92 were service acquisition (49.9% of the total), and second, investments (33.8%) (Barcelona Holding Olímpico 1990; COOB'92 1993).

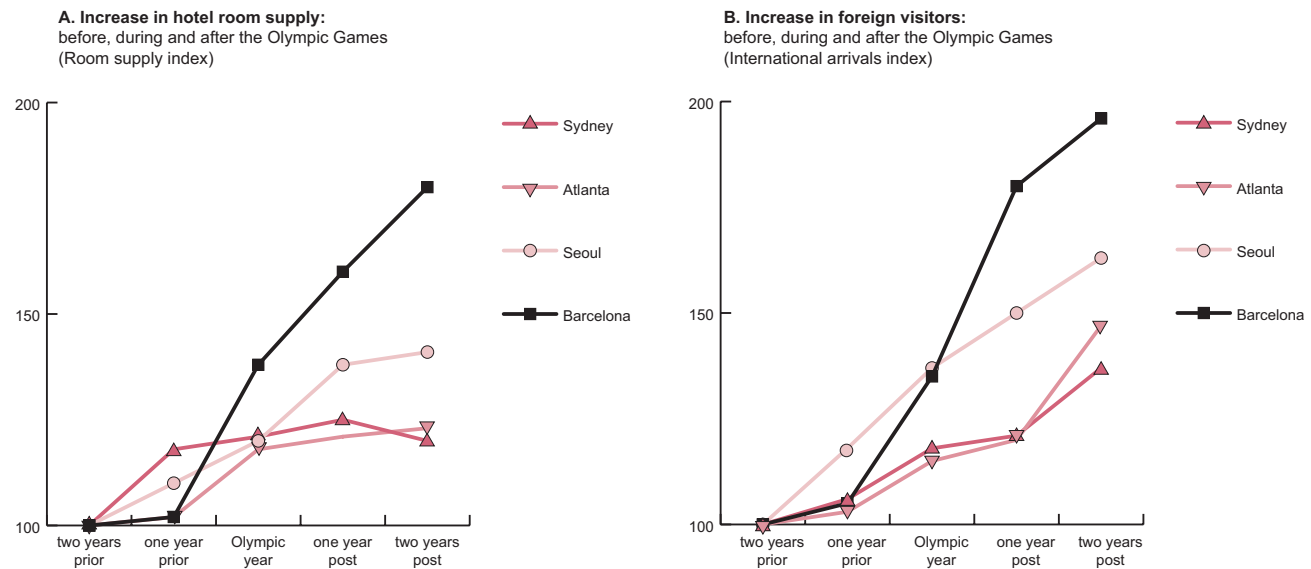
1.3. Revenue of Organising Committees for the Olympic Games

In comparison to other Olympic Games, the Barcelona Games were remarkable for the high level of revenue for Olympic organisation and investment, and for their impact (Figures 4, 5 and 6) (IOC 2002 and 2010). In fact, the Barcelona Olympic Games are notable for the following reasons:

- On a global level, as an organisational model – the memory of the excellence of the organisation and of sporting results lives on (Marshall 2004; Blake 2005) – and as a model for urban transformation.
- On a local level, for the ongoing effects of the high levels of investment, for the scale of the Olympic legacy and the far-reaching impact on improving the world ranking of Barcelona.

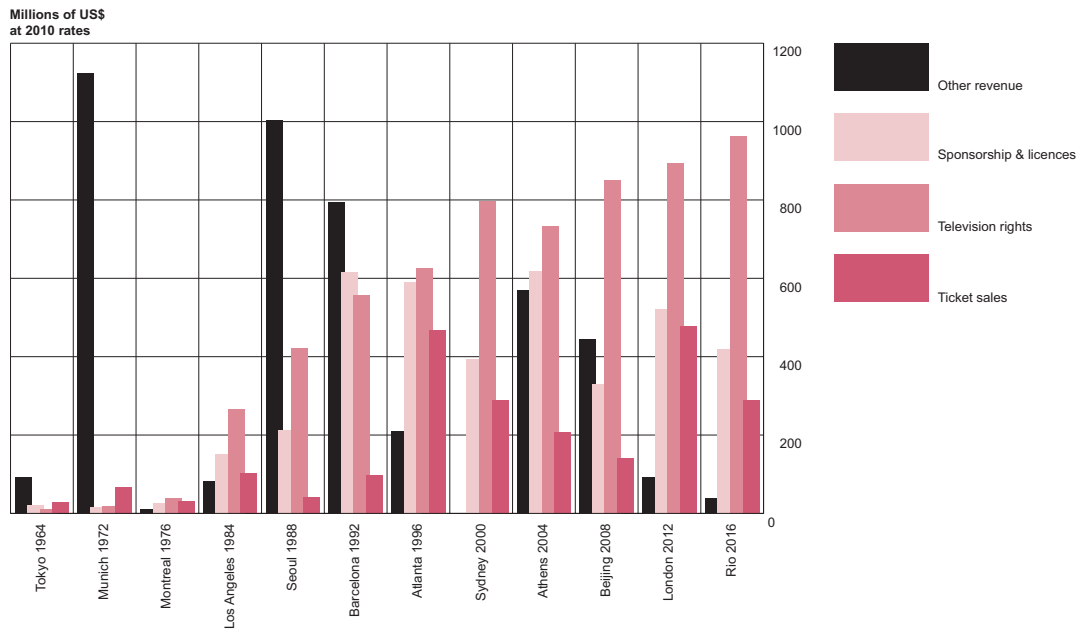
For these reasons, an analysis of the investment generated by Barcelona'92, the capitalisation of the Olympic legacy and the ongoing (or lack of) investment and urban transformation is of interest (Brunet 1996 and 2009).

Figure 4. Response of Olympic cities: capitalisation on new capacity



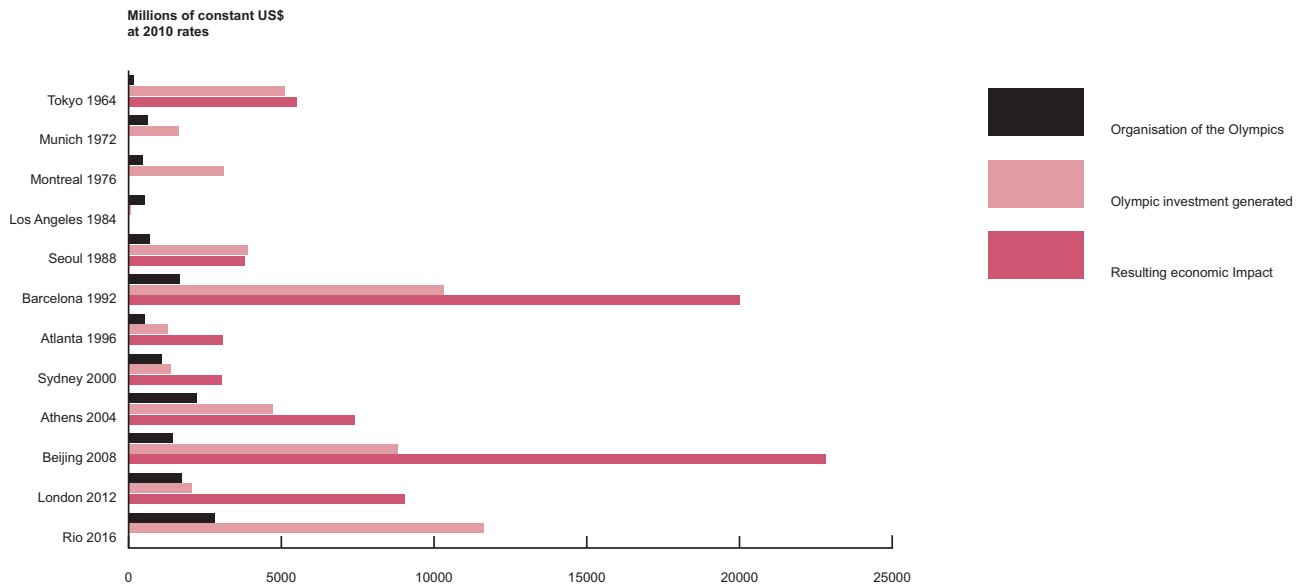
Source: Jones Lang LaSalle IP 2002.

Figure 5: Revenue of Organising Committees for the Olympic Games: structure and dynamics 1964-2016



Source: Brunet 1994 and 2009 and IOC 2010.

Figure 6: Financial resources generated for the Olympic Games: organisation, investments and impact 1964-2016



Source: Brunet 1994 and 2002 and IOC 2002 and 2010.

1.4. Building work for the Olympic Games

In order to facilitate the investment process, the Government of Spain and Barcelona City Council combined their assets and Olympic building projects in a joint venture company, Barcelona Holding Olímpico, S.A. (HOLSA). Providing the perfect example of mixed funding, HOLSA built the main Olympic facilities, the majority of the network of 78km of new roads and the Olympic Village.

To fulfil the aims of Barcelona'92, a vast amount of construction work was required, and much more than was strictly necessary for the Olympic Games was generated. This is precisely one of the aims of candidate host Olympic cities: to obtain as much investment as possible for projects that are usable after the Games have ended. Investment related to the Barcelona Games over the period 1986-1993 totalled US\$8.01 billion (see Table 1 for details).

The main Olympic building works were:

1. Road and transport infrastructure
2. Housing, offices and business premises
3. Telecommunications and services
4. Hotels
5. Sports facilities
6. Environmental infrastructure

A total of 61.5% of the Olympic investment was allocated to infrastructure projects, which indicates a key aspect of Barcelona'92: their ability to restructure the city.⁴⁶ For this reason, the greatest and most far-reaching impact of investment in infrastructure is long term.

The construction of various ring roads or bypasses, the re-opening of the seafront with the building of the Olympic Village, the creation of various new areas and Olympic venues in Montjuïc, Diagonal and Vall d'Hebron were the main actions taken in Barcelona (Barcelona Holding Olímpico 1990).

The scale of the urban transformation that took place in Barcelona as a result of the Olympic Games is demonstrated by the following facts: in comparison to 1986, the road system was increased by 15%, the sewerage system by 17%, and parks and beaches by 78%. However, an added feature of Barcelona'92 was the decentralisation of some competitions to several other sub-host cities. As a result, only 38.5% of total investment was allocated to the city of Barcelona, meaning that the immediate impact was felt all over the region.

Another aspect of Barcelona'92 investments will clearly illustrate the economics of these Olympic Games. The construction of sports facilities only accounted for 9.1% of total investment in the Olympic Games. This low percentage reflected the huge volume of additional indirect investment that was attracted as a consequence of the Olympic Games.

A total of 36.8% of construction work for the Olympics was carried out by the private sector, a third of which was foreign capital. Private investment was directed towards housing, hotels and business centres. Large investments by the private sector in building work for Barcelona'92 were the result of the high expectations created by improvements in the city's attractiveness (Roldán 1992).

46. On the subject of urban planning, see Bohigas 1986, Busquets 1992, Esteban 1999, Ajuntament de Barcelona 1999, Marshall 2004 and Pareja et al. 2007.

1.5. Olympic Games fiscal balance

The Olympic Games require public resources which, in turn, generate other public revenue. Thus, the Olympic Games are promoted by the public sector, but the returns will match or possibly exceed the original expenditure. The aim is, therefore, to keep public funding of organisational costs to a minimum, and allocate funds largely to investment in infrastructure and facilities.

Public funding may increase and exceed original budget limits set by politicians. However, the higher the level of public funding, the higher the level of private funding that will be drawn in. Similarly, the capital legacy, such as new business and employment created, will also increase proportionately. As a result, the return on public funding of investments and activities for the Olympic Games will also be greater.

The fiscal balance analyses total public sector expenditure for the Olympic Games and total public sector revenue obtained directly from the Olympic Games and indirectly from activities generated by the Olympic Games.

In the Barcelona'92 fiscal balance, two periods are under consideration: the preparatory period (1986-1992), and the post-Games period. Up to 1992, expenditure on public infrastructure was high, but so was public sector revenue from Olympic activities that did not qualify for tax benefits. From 1992 onwards Games-related public sector expenditure was limited to the maintenance of the public capital legacy. Additionally, revenue derived from greater private capital, additional economic activity resulting from the Games and Olympic investment was high. As a result, both periods show a positive fiscal balance.

By 2004, the public sector was receiving good returns on its investment in the Olympic Games as shown in Figure 7. The fiscal balance shown in this research has a margin of error of more or less 15% (Brunet 2002). These figures do not include revenue derived from social security payments. When included, the fiscal balance surpluses are US\$6.83 billion current for the period 1986-1992, US\$2.60 billion for the period 1993-2001 and US\$3.87 billion for the period 2002-2010.

2. After the Olympic Games: impact on Barcelona (1992-2004)

2.1. Ability to capitalise on the impetus of the Olympic Games and generate investment and economic activity

The impact of the city's nomination as an Olympic host city was immediate: unemployment fell dramatically and there was a boom in the housing market and, of course, in the construction industry (Brunet 1995; see Figure 7).

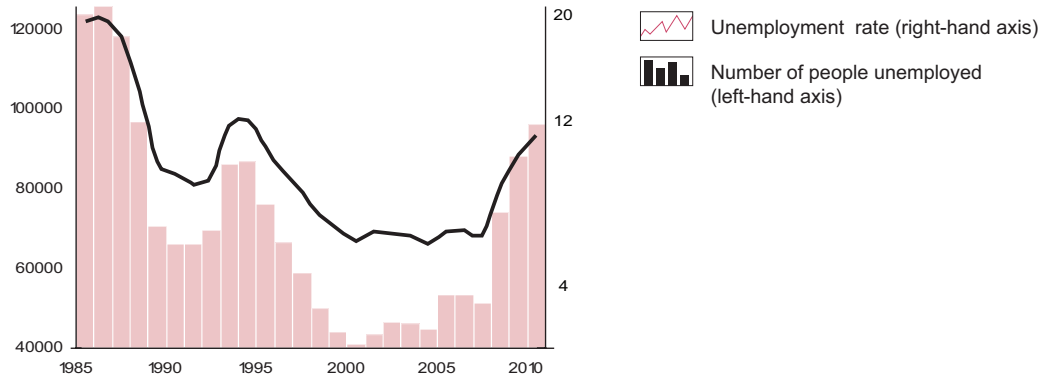
However, what is surprising is the continuity of such an expansive trend. Even though 1993 was not as good as 1992 (as was the case all over the region, Spain, and across Europe), every year since then Barcelona has beaten previous records for economic growth according to all the indicators: employment, investment, income, attractiveness, etc. Not only did Barcelona react particularly well to the Olympic Games, but it has also managed to maintain the growth on an unprecedented scale.

2.2. Economic dynamics and the impact of the Olympic Games

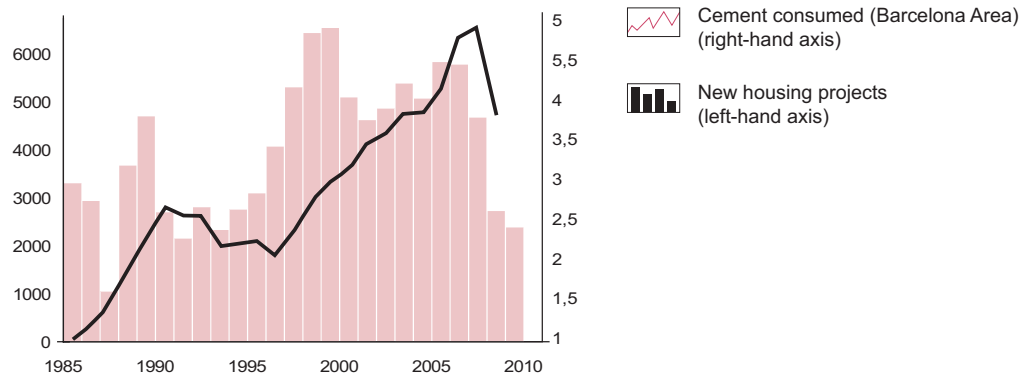
The labour market in Barcelona and the surrounding area improved substantially in the preparatory period. The number of unemployed fell from an all-time high of 127,774 in November 1986, to an all-time low of 60,885 in July 1992 during the Games (see Figure 7). The unemployment rate in Barcelona fell from 18.4% in October 1986 to 9.6% in August 1992, when the unemployment rate in Spain was 20.9% and 15.5%, respectively. In the preparatory period, the Olympic Games generated employment for an average of 35,309 people per year.

Figure 7: Impact of preparation for, and legacy of Barcelona'92

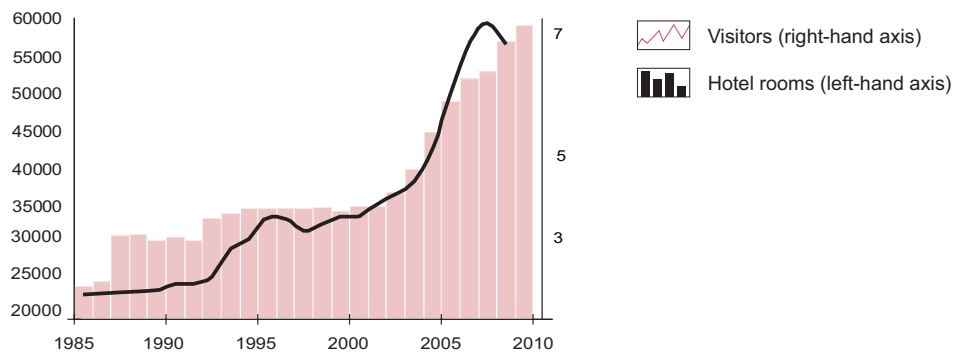
A. Employment in Barcelona



B. Cement sales & houses built in Barcelona



C. Hotel rooms supply and foreign visitors to Barcelona



Source: Brunet 1994 and 2006 and Ajuntament de Barcelona (several years).

Furthermore, permanent employment for an estimated 20,019 people was provided by activities related to the Olympic Games. In short, Barcelona'92 was providing an average of 59,328 people with jobs over the period 1987-1993. Therefore, the 66,889 fall in registered unemployed in Barcelona between November 1986 and July 1992 is largely accounted for (88.7%), by the celebration of the Olympic Games in 1992.

Once the Olympic Games had ended, unemployment in Barcelona increased by 21,000, a figure similar to the annual employment provided by COOB'92. Over the following years, unemployment fell significantly (see Figure 7). The investment generated by the Olympic Games acted as a cushion against a widespread economic depression. Barcelona's economy proved to be more resilient against the economic crisis, and from 1994 onwards, new jobs were being created. By 1993, 41,450 new jobs had been created, which halved the unemployment rate. In 1993 and 1994, the number of unemployed increased by 18,000, but from 1995 onwards, this proceeded to fall, partly thanks to the 20,230 permanent jobs created as a result of investment in the Olympics (a legacy of 956 billion Pesetas in equity; see Figure 8).

The rest of the economic indicators demonstrate the progress made by Barcelona in the years following the Olympic Games. This is particularly so in the case of the construction industry. Sales of cement soared (see panel B of Figure 7), increasing by two and a half times between 1986 and 1992, and continued to grow, increasing by three and a half times in 2001. There was also an increase in the construction of housing, even in a city such as Barcelona where potential sites for building had already been extensively exploited.

Barcelona's hotel capacity escalated and the number of visitors grew accordingly (see panel C of Figure 7). When we compare four Olympic cities, Barcelona's results are consistently the best, and often far ahead of the others, especially in the case of hotel capacity and number of visitors from abroad (see Figure 4).

Barcelona's response to the impetus of the Olympic Games has been far more intense and sustained than that of other host cities. For this reason, Barcelona has become a model for the impact of an Olympic Games. Barcelona is an exception because of its extraordinary and sustained ability to capitalise on the impulse provided by the Olympic Games.

2.3. The Barcelona model of economic impact of the Olympic Games

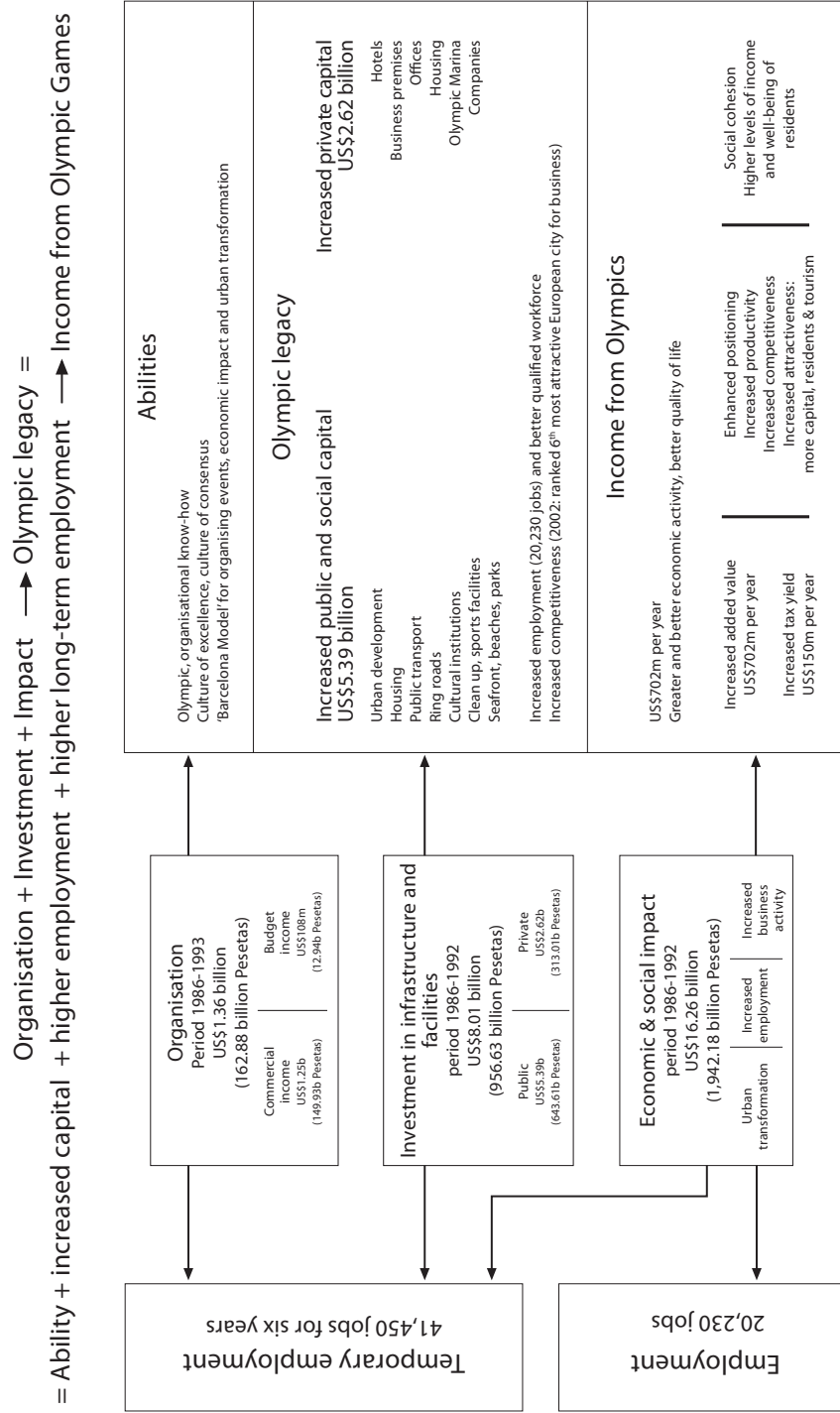
Organising the Olympic Games and the related investment had an immediate and considerable impact on Barcelona. However, more surprising than that was the scale of continued impact of the Olympic legacy and the continued impetus of Barcelona'92 in the post-Olympic period 1992-2004. The Barcelona model of the impact of the Olympic Games and the main results are shown in Figure 9 and Table 2.

The key factor of the Barcelona model of economic impact of the Olympic Games has been the quantity and quality of investments. However, the impact model presupposes a model of organisation which implies a model of urban transformation.

The model of economic impact is based on attracting and maximising investments, over a specific period of time. Given the extent of the urban transformation programme, continued investment is essential, as has been the case in Barcelona.

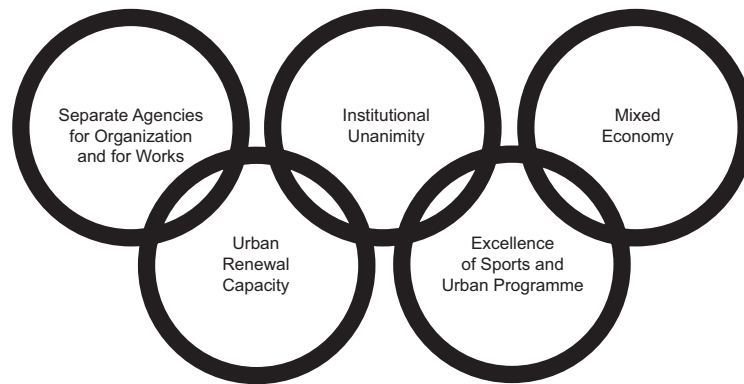
Barcelona has demonstrated great success in capitalising on the impetus provided by the Olympic Games and the impact of investment; these are ideal circumstances for implementing change. The resources allocated to infrastructure and facilities provided temporary employment in construction works and later, permanent employment in the operation of this infrastructure. Both cases resulted in increased economic activity, which, by the way, was not restricted to the city. Increased capital and economic activity has produced better levels of income, well-being and social cohesion, as well as a more attractive city.

Figure 8. Impact, legacy and revenue for the city from staging Barcelona'92



Source: Brunet 2002.

Figure 9: Keys to the success of Barcelona'92



Source: Brunet 2002.

Table 2: Olympic Decalogue. A strategy for success in the organisation of mega-events

1. Institutional agreement
2. Mixed economy: public direction and private management
3. Separate bodies: one to organise the Games (sports) and one to manage the construction work and investments (stone)
4. The Concentric Circles Principle: Olympic resources are not costs but investments
5. Maximise investments and minimise costs
6. The Excellence Principle: over two weeks of excellence, you must match all previous organisational efforts and anticipate all future ones
7. The first beneficiary of the Games is the state: in the medium term, there is always a fiscal surplus
8. From a strategic perspective, the most important period begins after the Games!
9. Olympic investments are the legacy
10. Continued investment is needed to maintain and to benefit from the new strategic position of the city and the country

Source: Brunet 2006.

2.4. Comparison of the impact of the Olympic Games

A database has been set up to compare the impact of various Olympic Games in terms of organisation, investment in infrastructure and facilities and the resulting economic impact (see Table 2 and Figure 6).⁴⁷

47. On the subject of the impact of the Olympic Games, in addition to IOC 2002 and 2010, see Jong-Gie et al. 1989 and Pyun 1999 for Seoul; Humphreys and Plummer 2002 for Atlanta; Centre for Regional Economic Analysis - Arthur Andersen 1999 and Preuss 2004 for Sydney; ATHOC 2002 for Athens; BOCOG 2007 and Brunet and Xinwen 2009 for Beijing; Thornton et al. 2006 for London; and Rio 2016 Bid 2009 for Rio de Janeiro.

Clearly, the case of Barcelona is exceptional. The level of investment in the Olympic Games and their economic impact are unparalleled by any other Olympic host city. Tokyo was only able to reach half the level of investment made in Barcelona. In Seoul, the level of investment was considerable, but in Atlanta and Sydney it was very limited. Athens made an attempt, and Beijing did indeed follow the Barcelona model of major urban and economic impact (Brunet and Xinwen 2009), as will Rio. London 2012 is making strides to improve its strategic positioning among the creative regions of Europe (Poynter and Macrury 2009).

3. Evaluating the Olympic legacy

3.1. Continued investment: a driving force in Barcelona's new strategic positioning

In the case of Barcelona'92, investment in infrastructure and facilities was the key factor in the financial resources, economic impact, urban transformation and subsequent rise in economic activity, incomes and well-being.

The quality of the infrastructures in which investment was made, and the level of investment made (€10.66 billion), goes a long way to explaining the enormous success of Barcelona'92. Investment was important for providing the Olympic impetus, and has since been important for further developing not only the impact, but also urban transformation and Barcelona's positioning. Investment in urban transformation in the post-Olympic period has centred on two areas: projects related to the 2004 Universal Forum of Cultures and the Poblenou 22@BCN plan.

The first of these was concerned with transforming the Barcelona coastline, thereby completing the Olympic Village seafront (Brunet 2009). Like the Olympic Games, the Forum was a catalyst for carrying out ambitious urban projects, some of which would be difficult to carry out under normal circumstances. This project was primarily funded by the public sector. The second project is concerned with the transformation of the Poblenou neighbourhood (Brunet 1995) next to the Forum. This project was primarily funded by the private sector. Other noteworthy urban transformation projects carried out up until 2004 are the inland districts of Barcelona: Ciutat Vella, Eixample, Gràcia and Nou Barris. These investments constitute, therefore, the Olympic legacy, and go a long way to explaining Barcelona's economic and social prosperity since the Olympic Games were held.

3.2. Olympic legacy and strategic perspectives

New public and private capital and new permanent employment as a consequence of investments in the Olympic Games constitute the city's Olympic legacy. Evidence of this legacy can be seen in Barcelona's urban transformation, its new economic structure and its increased capitalisation, services sector, international role, attractiveness, centrality, productivity and competitiveness. Barcelona's exceptional ability to capitalise on and maintain the impetus provided by the Olympic Games and to improve economic activity, incomes, quality of life, social cohesion and strategic positioning is well documented.

Confidence in Barcelona as a business centre, as expressed by international companies willing to set up in the city, increased considerably following the Games, clearly indicating its new-found attractiveness, availability of services, workforce, market and competitiveness (Healey and Baker 2010) (see Table 4).

Barcelona's ability to capitalise on the impetus of the Olympic Games has acted to counteract limitations, such as disputes between government bodies, and to limit the negative impact of delays in the construction of certain infrastructure projects, such as the high-speed train (AVE), and to overcome the uncertainty surrounding the programmes for urban transformation and the seafront. Despite a number of significant factors that do not favour Barcelona (it is not the capital of Spain, many multinational companies do not have their headquarters in Barcelona, gaps in the public transport system, limited language training, workforce mobility and building ground available etc.), the city still manages to attract investment and business.

3.3. Barcelona, the model and the reality

When referring to the Barcelona model, we are referring to three particular aspects:

- Model of organisation of the Olympic Games (Figure 1).
- Model of economic impact of the organisation and hosting the Olympic Games, in particular investment in infrastructure that was not directly related to the Olympics (Figure 2 and Table 1).
- Model of urban transformation and the city's increased attractiveness and strategic positioning (Figures 8 and 10).

In Barcelona'92, the aims were very clear (sporting and organisational excellence and urban transformation of Barcelona), as were the procedures (unanimity between the institutions, mixed funding, etc.). As the results from the Barcelona model proved to be so positive, it has now been adopted as a model for other cities organising major events. Barcelona, therefore, has become a model for other mega-events and for other cities.

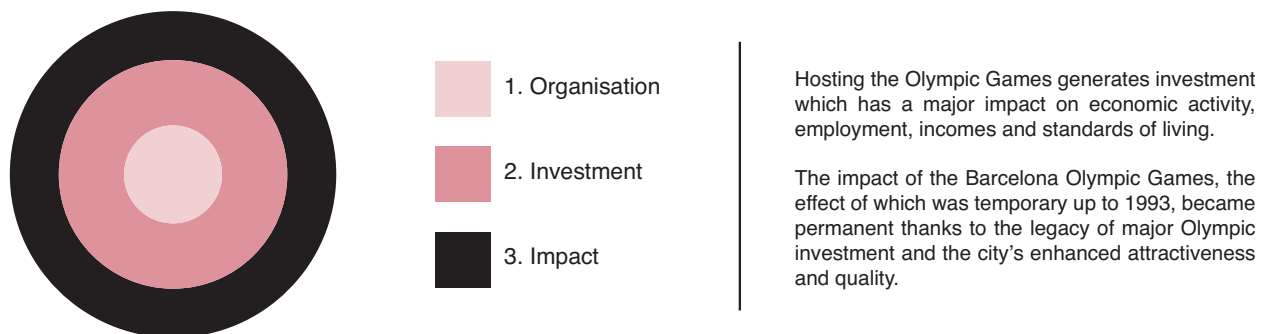
Barcelona has been transformed thanks to the Olympic Games. The organisation was exemplary, massive investment was generated and, thanks to careful management of the Olympic legacy, to increased capital and to the city's enhanced attractiveness, the process of urban transformation has continued beyond 1992.

The objectives were based on quality and their execution was excellent, both in the preparatory phase and afterwards. When compared with other host Olympic cities (1964-2008), we can see that Barcelona has responded better to the impetus provided by the Olympic Games and the deep-rooted scale of their impact (see Figures 4 and 7, and Tables 3 and 4).

Continued investment generated by projects such as Forum 2004 and the transformation of the Poblenou area into a cutting edge business and technology district has been key in improving Barcelona's positioning among European cities.

The city's achievements from 1986 to 1992 and beyond have been enormous. And, to live up to its past successes, the current challenges faced by Barcelona are high and demanding. Investment in urban transformation must continue. European integration and globalisation are factors that favour Barcelona's new position, so long as it maintains the Olympic spirit of the Barcelona model.

Figure 10: Concentric circles of Olympic Games' resources



Source: Brunet 2002.

Table 3: Olympic Games economy: organisation, investment and impact 1964-2016

Figures expressed in millions of US\$ constant at 2010 rate	Direct organisation of the Games	Investments allocated to the Games and attracted by them	Economic impact of organisation and 'Olympic' investments
Tokyo 1964	169	5,106	5,550
Munich 1972	617	1,652	..
Montreal 1976	451	3,123	..
Los Angeles 1984	528	88	..
Seoul 1988	698	3,908	3,796
Barcelona 1992	1,678	10,330	20,007
Atlanta 1996	543	1,301	3,082
Sydney 2000	1,099	1,387	3,050
Athens 2004	2,230	4,736	7,420
Beijing 2008	1,435	8,817	22,816
London 2012	1,742	2,078	9,035
Rio de Janeiro 2016	2,815	11,617	..

Source: Brunet 1994 and 2009 and IOC 2002 and 2010.

4. Conclusion: from Games to mega-events, from sport to competitiveness, from investment to quality of life

The Olympic Games are the ultimate mega-event; they are the focus of the eyes of the world over a two-week period and they generate investment, raise the profile of cities, regions and countries, sometimes relatively unknown, and make them more attractive.

An analysis of mega-events highlights their most relevant features, which are then often referred to collectively as a model. It has been established that the paradigm known as the 'Barcelona model' refers to the following aspects:

- Model of organisation: inter-institutional consensus, excellence of events, separate bodies for organisation and investment, self-funding.
- Model of economics: mixed economy, minimum organisational costs, maximum investment, continuity of investment after the event.
- Model of urban transformation: extent of the transformation, multipolarity, decentralisation and sustainability of actions.

The impact of mega-events such as the Olympic Games can be viewed as three concentric circles: the inner one, like a stone thrown into a pond is the organisation. The second circle, the immediate impact, represents investment, a major component of the funding generated for a major event. The third, outer circle is the economic impact, all the economic activity generated by the Olympic Games.

Table 4: Competitiveness and ranking of European cities as attractive business locations

City	2010	2005	2000	1990
London	1	1	1	1
Paris	2	2	2	2
Frankfurt	3	3	3	3
Barcelona	4	4	6	11
Brussels	5	5	4	4
Madrid	6	7	8	17
Munich	7	9	10	12
Amsterdam	8	6	5	5
Berlin	9	8	9	15
Milan	10	12	11	9
Geneva	11	20	12	8
Hamburg	12	16	18	14
Zurich	13	10	7	7
Birmingham	14	19	-	-
Düsseldorf	15	14	17	6
Manchester	16	21	14	13
Lisbon	17	15	16	16
Dublin	18	11	13	-
Lyon	19	24	20	18
Stockholm	20	17	15	19
Prague	21	13	21	23
Rome	22	26	25	-
Warsaw	23	18	27	25
Leeds	24	28	-	-
Copenhague	25	27	24	-
Budapest	26	22	22	21
Istanbul	27	29	-	-
Vienna	28	23	23	20
Glasgow	29	25	19	10
Bucharest	30	29	-	-
Helsinki	31	30	26	-
Moscow	32	31	30	24
Oslo	33	33	28	-
Athens	34	32	29	22

Source: Brunet 1997 and Healey and Baker 2010.

As can be seen in Figures 6 and 10, which show a breakdown of funding for the Olympic Games, the first concentric circle relating to organisational costs is the most stable between successive events. Organisational costs have been kept to a minimum, which is an important factor in the management of an event.

The second circle relating to investment varies greatly between editions of the Olympic Games. In fact, the aim should be to maximise levels of investment, since most of it is made up of self-funding private investment, much of which comes from abroad; it is attracted by the investment and business opportunities generated by a mega-event.

The third circle relating to the economic impact comprises all the past, current and future tangible and intangible costs and investments. Maximising the impact depends upon the ability of the host city to make the most of all available business opportunities provided by the Olympic Games and on excellent management of the event.

The second and third circles, relating to investment and impact, are central to a mega-event's legacy. In today's global economy where innovation and knowledge are key factors to productivity, hosting such a complex event in the media spotlight brings greater competitiveness. For these reasons, organising and staging a mega-event is hugely beneficial to a creative economy and society.

References

- Ajuntament de Barcelona. *Barcelona economia: indicadors econòmics de Barcelona i de la regió metropolitana*. Barcelona: Ajuntament de Barcelona, http://www.bcn.es/publicacions/b_economia/index.htm.
- Ajuntament de Barcelona. 1999. *Barcelona, 1979-2004: del desenvolupament a la ciutat de qualitat*. Barcelona: Ajuntament de Barcelona. <http://www.bcn.es/expo1979al2004>.
- Artur Andersen. 1999. *Economic Impact Study of the Sydney 2000 Olympic Games*. Sydney: University of Tasmania, Centre for Regional Economic Analysis.
- Athens Organising Committee for the Olympic Games, ATHOC. 2002. *Annual Report 2000-2001*. Athens: ATHOC 2004.
- Barcelona Holding Olímpico. 1990. *Barcelona, la ciutat i el 92*. Barcelona: HOLSA.
- Beijing Organising Committee for the Olympic Games, BOCOG. 2007. *Finance Department*, <http://en.beijing2008.cn/bocog/organization/n214071835.shtml#cw>.
- Blake, Adam. 2005. *The Economic Impact of the London 2012 Olympics*. Nottingham: Christel DeHaan Tourism and Travel Research Institut. TTRI Discussion Paper 2005/5. http://www.nottingham.ac.uk/ttri/discussion/2005_5.pdf.
- Bohigas, Oriol. 1986. *Reconstrucció de Barcelona*. Madrid: MOPU.
- Brunet, Ferran. 1994. *Economy of the 1992 Barcelona Olympic Games*. Lausanne: International Olympic Committee.
- Brunet, Ferran. 1995. *Dimensió econòmica i posició estratègica del Poblenou*. Barcelona: Institut Municipal d'Urbanisme.
- Brunet, Ferran. 1996. *Anàlisi econòmica de les actuacions urbanístiques a Ciutat Vella*. Barcelona: Procivesa.
- Brunet, Ferran. 1997. "The Economic Impacts of the Olympic Games". In *The Centennial President*, dirs. Ferran Brunet, François Carrard and Jean-Albert Corrand, 1-10. Lausanne: International Olympic Committee.
- Brunet, Ferran. 2002. "Anàlisi de l'impacte econòmic dels Jocs Olímpics de Barcelona, 1986-2004". In *Barcelona: l'herència dels Jocs (1992-2002)*, eds. Miquel de Moragas and Miquel Botella, 209-243. Barcelona: Editorial Planeta.
- Brunet, Ferran. 2006. *An Economic Analysis of the Barcelona '92 Olympic Games: Resources, Financing and Impact*. Bellaterra: Centre d'Estudis Olímpics (CEO-UAB). http://ceo.uab.cat/2010/docs/wp028_spa.pdf.
- Brunet, Ferran. 2009. "The Economy of the Barcelona Olympic Games". In *Olympic Cities: 2012 and the Remaking of London*, eds. Gavin Poynter and Iain Macrury, 97-119. Hants: Ashgate.
- Brunet, Ferran and Zuo Xinwen. 2009. "The Economy of the Beijing Olympic Games: An Analysis of Prospects and First Impacts". In *Olympic Cities: 2012 and the Remaking of London*, eds. Gavin Poynter and Iain Macrury, 163-180. Hants: Ashgate.
- Busquets, Joan. 1992. *Barcelona: evolució urbanística de una ciudad compacta*. Madrid: Mapfre-América.
- Centre for Regional Economic Analysis - Arthur Andersen. 1999. *Economic Impact Study of the Sydney 2000 Olympic Games. Full Report*. [Sydney?]: Arthur Andersen ; [Hobart]: Centre for Regional Economic Analysis, University of Tasmania.
- COOB'92. 1993. *Official Report of the Games of the XXV Olympiad Barcelona 1992*. Vols. 2 and 3. Barcelona: Enciclopèdia Catalana. http://www.la84foundation.org/5va/reports_frmst.htm.
- Esteban, Juli. 1999. *El projecte urbanístic: valorar la perifèria i recuperar el centre*. Barcelona: Fundació Bosch i Gimpera. Aula Barcelona.

FedStats. 2007. <http://www.fedstats.gov>.

Healey and Baker. 2010. *European Cities Monitor*, <http://www.europeancitiesmonitor.eu/>.

Horne, John and Wolfram Manzenreiter, eds. 2006. *Sport Mega-Events: Social Scientific Analyses of a Global Phenomenon*. Hoboken: Wiley-Blackwell.

Humphreys, Jeffrey M. and Michael K. Plummer. 2002. *The Economic Impact of Hosting the 1996 Summer Olympics*. Georgia: Selig Center for Economic Growth, Terry College of Business, University of Georgia - IRE Advisors. <http://www.selig.uga.edu/forecast/olympics>

International Olympic Committee, IOC. 2002. *100 Years of Olympic Marketing Evolution of Olympic Marketing During the 20th Century*, <http://www.olympic.org/en/content/The-IOC/Commissions/Marketing/Evolution-of-Marketing/>.

International Olympic Committee, IOC. 2010. *Marketing Fact File*. Lausanne: IOC. http://multimedia.olympic.org/pdf/en_report_344.pdf (Consulta 10 octubre 2010).

International Monetary Fund. 2010. *When Sports Help Economies Score*. Finance and Development, Monograph (March).

Jong-Gie, Kim et al. 1989. *Impact of the Seoul Olympic Games on National Development*. Seoul: Korea Development Institute.

Marshall, Tim, ed. 2004. *Transforming Barcelona*. London: Routledge.

Moragas, Miquel de and Miquel Botella, eds. 1995. *The Keys to Success: the Social, Sporting, Economic and Communications Impacts of Barcelona '92*. Bellaterra: Centre d'Estudis Olímpics, Universitat Autònoma de Barcelona.

Moragas, Miquel de and Miquel Botella, eds. 2002. *Barcelona: l'herència dels Jocs (1992-2002)*. Barcelona: Centre d'Estudis Olímpics (UAB), Ajuntament de Barcelona, Editorial Planeta.

Pareja Eastaway, Montserrat et al. 2007. *The City of Marvels? Multiple Endeavours Towards Competitiveness in Barcelona: Pathways to Creative and Knowledge-based Regions*. Amsterdam: University of Amsterdam, Institute for Metropolitan and International Development Studies, ACRE Report 2.2.

Poynter, Gavin and Iain Macrury eds. 2009. *Olympic Cities: 2012 and the Remaking of London*. Hants, UK: Ashgate

Preuss, Holger. 2004. *The Economics of Staging the Olympics: A Comparison of the Games 1972-2008*. London: Edward Elgar.

Pyun, D. Y. 1999. "The Economic Impact of the Seoul Olympic Games". In *Proceedings of the 7th Annual International Olympic Academic Post Graduate Seminar*. Olympia: International Olympic Academy.

Rio 2016 Bid. 2009. *Rio 2016 Candidate City: dossier de candidature de Rio de Janeiro à l'accueil des Jeux olympiques et paralympiques du 2016*. Rio de Janeiro: Rio 2016 BID.

Roldán, Santiago. 1992. *Barcelona olímpica: la ciutat renovada*. Barcelona: HOLSA.

Samaranch, Juan Antonio. 1992. "Discours d'ouverture par le président du CIO et Pasqual Maragall, Maire de Barcelone, président du COOB'92". *Revue olympique* 300: 473.

Thornton, Grant, Torkildsen Barclay and Christel DeHaan Tourism.Travel Research Institute. 2006. *Economic Impact Study of the London 2012 Olympic Games and Paralympic Games. Final Report*. London: East of England Development Agency.