

Economic Analysis on the Profitability of the Olympic Games

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Abstract: The Paris 2024 Olympic Games have ended successfully, and the "Olympic Economy" has once again become the focus of social attention. The Olympic Economy is an economic phenomenon in which the host city of the Olympics takes advantage of the resources and business opportunities created by the event to carry out a series of economic activities before, during and after the Games. In this way, it stimulates the economic development of the region and brings about a phased acceleration of economic development for the host city. This paper analyses the expenditures and revenues of hosting the Olympic Games, and divides the income into direct and indirect benefits for specific analysis. It also reviews the economic impact of hosting the Olympics based on historical data, and further explores the factors affecting the profit and loss of host cities by analyzing the profitability of the Paris 2024 Olympic Games. The paper concludes that hosting the Olympic Games can enhance national image and promote economic development, and it is recommended to encourage countries to actively host the Olympics.

Keywords: Olympic Economy, costs and benefits, profitability

1. Introduction

On July 26, 2024, the 33rd Summer Olympic Games opened in Paris. The importance of the Olympics to countries around the world is self-evident. It embodies the Olympic spirit of "Faster, Higher, Stronger – Together", promotes international exchanges and cooperation, and enhances the country's image and strength [1].

Before 1984, the Games were overwhelmingly financed by the host city and the host country's government, but this tended to put a lot of financial pressure on the host city due to the huge costs faced by the Games. For example, the 1976 Montreal Olympics lost more than \$1 billion and left the government in debt for 30 years, widely known as the "Montreal Trap". It had an impact on the enthusiasm of subsequent countries to bid for the Olympic Games, and it also led to a situation that only one single city, Los Angeles, bid to host the 1984 Olympics [2]. However, the business model of the Olympics began to change, turning this situation around, transforming losses into profits. The Los Angeles Organizing Committee has innovated a new model that raises the bar for sponsorship, with increased broadcasting costs, and compressed commercial costs and other business methods. In the end, the 1984 Los Angeles Olympics ended successfully, with a profit of about \$250 million. However, in recent years, fewer and fewer countries and cities have decided to bid for the Games. In 2016, seven cities bid to host the Games, but in 2020 only three cities bid, while only two cities, Paris

and Los Angeles, bid for the 2024 Olympics. Losses in recent Olympics have been common, such as \$20 billion loss in Rio 2016 and \$6.4 billion loss in Tokyo 2020.

This article intends to analyse the secrets behind the Olympic Economy based on the profitability of recent Games. This article is organized as follows. Section 2 defines "Olympic Economy" and derives the costs and benefits of hosting the Games. Section 3 collects and analyses economic data for the Olympic Games and discusses the reasons for their profits or losses. Finally, Section 4 concludes the paper and makes some recommendations.

2. The Effects of the Olympic Economy

Since the 1984 Olympic Games in Los Angeles, the "Olympic Economy" has gradually developed into a special economic model in the world economy, and the business model has begun to take the lead in the Olympic Games operating system [3]. With so many events taking place, people have gradually put forward the conception of "Olympic Economy".

The impact of the "Olympic Economy" is transmitted through two main channels: one between industries and the other between regions. Inter-industry exchanges illustrate the process by which the Olympic Games act as a link and thus a catalyst for the development of related industries such as tourism, culture and sports. Inter-regional exchanges demonstrate the development of the "Olympic Economy" from the host city of the Games to the rest of the world [4]. The article analyses the impact of the "Olympic Economy" in the following three phases: the pre-planning phase of the Olympics, the hosting phase of the Games, and the post-Olympic phase.

2.1. The Costs of Hosting the Olympics

Hosting a sports extravaganza like the Olympic Games carries a huge investment cost in terms of various expenditures. The cost of the Olympics can be mainly divided into three parts: infrastructure construction expenses of the host city, constructive expenses related to venues and the business operation expenses.

Firstly, considering the expenses of infrastructure construction, the host city will need to complete the construction of a range of related infrastructure in advance to accommodate visitors and athletes coming to the Games. According to the International Olympic Committee (IOC), the host city of the Summer Olympics needs to prepare more than 40,000 hotel rooms in advance for tourists, as well as an Olympic Village capable of accommodating at least 15,000 athletes and associated staff. The host city will also need to be equipped with well-developed internal and external transport facilities to enable visitors to experience the Olympic Games in all corners of the city and to watch the Games in the various stadiums in the city. In this context, lack of hotel capacity can be a major issue, and host cities will address this issue by building new hotels. Rio de Janeiro, for example, had already been one of the world's most popular destinations, but it still needed to build more than 14,000 new rooms in time for the 2016 Summer Olympics. However, once the Games are over, there is a high probability that the massive spending to meet the huge demand during the Olympic cycle will result in significant overcapacity in infrastructure construction.

Secondly, the Olympics also need to spend money on the competition venues. Not all host cities have facilities to host all competitions, and host cities will need to build new dedicated facilities for some less popular sports such as indoor cycling, bicycle motocross (BMX) freestyle, and sport climbing. In addition, some of the existing football pitches could not fulfil the requirements of the Olympic track and field events, because they were not designed as standard Olympic tracks, which prevented visitors and participants from being closely associated with each other. As a result, the host city will need to build a new standard-compliant athletics stadium. For example, even though there are already four large outdoor stadiums in the Boston area, the city would need to spend an additional

\$400 million to build new stadiums in order to bid for the 2024 Summer Olympics. As a result, Boston ultimately dropped its bid due to public opposition.

Finally, the business operation expenses of the Olympic Games cannot be ignored, mainly including a series of expenses such as the opening and closing ceremonies, media services, transportation, security, and the salaries of administrative staff. Hidden costs, such as the closure of businesses and traffic restrictions during the Games to keep tourists and athletes out of traffic jams, inevitably create inconveniences for the local residents. Furthermore, the Olympic Games have been a major target for terrorists in the past, for example Munich 1972 and Atlanta 1996 Games. After the Attack of September 11 in 2001, the cost of security for the Olympic Games rose dramatically. For example, the 2000 Sydney Olympics spent about \$250 million on security, and the 2004 Athens Olympics spent a whopping \$1.6 billion on security [5].

2.2. The Benefits of Hosting the Olympics

The hosting of the Olympic Games will bring in some direct revenue, including the broadcasting rights of the events, sponsor support, ticket revenue, sales of licensed merchandise, etc. In addition, some indirect income is generated, such as boosting the consumption of services like catering and accommodation, making infrastructure investment to promote urban renewal, and the Olympic culture creates the new business card for the city.

2.2.1. Direct Benefits

The direct revenue of the Olympic Games is mainly from the broadcasting rights of the events, sponsor support, ticket revenue, and the sale of licensed merchandise, but these revenues are shared with the IOC and cannot be fully received by the host city.

Firstly, the Olympic television rights revenue is by far the largest single source of income for the Olympic Games, and it is growing. According to the data, the number of people watching the Games rose from 3.6 billion in 2000 to 4.3 billion in 2024, of which 4.0 billion people watched the Games through digital platforms. The increase in attendance has also led to more costs for the IOC's broadcasting rights, which have risen from \$287 million in 1984 to \$2.73 billion at Tokyo 2020 [6].

Secondly, sponsor support has become the second pillar of Olympic revenue. Before 1984, there was no real international marketing, and less than 10 National Olympic Committees (NOCs) produced any revenue from marketing plans [7]. The official sponsorship program for the Olympic Games, known as the "Top Olympic Partner (TOP) Program", began in 1985 and is signed every four years, including one Summer Olympic Games and one Winter Olympic Games. Enterprises that join the "TOP Program" will receive the right to use Olympic intellectual property on a global scale. Between 2017 and 2021, a total of 13 to 15 TOP brand sponsors paid a total of \$2.28 billion to the IOC, representing 30% of the organization's budget.

Thirdly, ticket revenue is also a part that cannot be ignored. According to the IOC, more than 70% of all tickets have been sold for the Summer Olympics since 1984, and Paris 2024 so far is still the highest-selling Olympic Games in history. Altogether, the Paris Olympics sold 9.7 million of the 10 million tickets. The second highest ticket sales recorded were the Atlanta 1996, when 8.3 million tickets were sold.

Fourthly, the sale of licensed goods also brings in a portion of the revenue. Licensed goods refer to the franchisee obtains the right to use the Olympic logo, emblem, mascot and other Olympic logos on its goods by signing a franchise contract with the intellectual property holder of the Olympic Games and paying royalties to it. For example, Olympic commemorative coins, Olympic-themed lotteries, Olympic stamps, etc. are loved and sought after by collectors. These revenues have played

a crucial role in the success of the Games. Among them, as the IOC indicated, the Beijing Olympics led the way with \$163 million in licensed merchandise revenue.

2.2.2. Indirect Benefits

The indirect benefits refer to various economic activities that cause in a range of economic and social indicators in the host country and city by increasing the visibility of the city throughout the Games. It contains many aspects, such as boosting the consumption of services like catering and accommodation, making infrastructure investment to promote urban renewal, and creating the new business card for the city.

Firstly, the hosting of the Olympics can boost the consumption of services and attract a large number of domestic and foreign tourists, stimulating the host city's transportation, accommodation, beverage industry, commerce, tourism and other related sectors. During the Games, Paris was expected to welcome between 2.3 million and 3.1 million visitors with tickets, about 64% of whom were French. According to the Paris Tourist Board, tourists would spend around 2.6 billion euros during the Olympic Games. These expenses include money spent on dining, shopping, entertainment, and transportation.

Secondly, the venues where the Olympics are held can invest in infrastructure and promote urban renewal. Each host country will promote the construction of infrastructure by the local government and create a positive economic effect. The build-up of the Olympic Village has been a vital part of all the Olympic Games. The Beijing Olympic Village was introduced to the market and sold to the public as a commercial housing. The London Olympic Village has been transformed into a welfare and low-rent community for low-income earners. The Paris Olympic Village will be converted into 2,800 housing units to be used as student dormitories, social housing, etc., and will eventually accommodate nearly 12,000 residents. Such investments not only improve local infrastructure, but also create favorable conditions for future community development [8].

Thirdly, the Olympic culture brought about by the Games has created a new business card for the host city. As the world's most celebrated sporting event, the Olympics provide host cities with the opportunity to showcase their image globally, and the media from all over the world will cover the Games in full detail. During this period, diverse cultures from all over the world will come together in the host city to exchange and learn from each other, which will benefit the host city in the post-Olympic era by raising the profile of its culture, tourism and sports, and attracting tourists from all over the world.

3. Analysis on the Profitability of Recent Olympic Games

In this part, this article collects and compares the cost and revenue results of recent Summer Olympics since 2000, and analyses the just-concluded Paris 2024 Olympic Games in detail, using the different aspects mentioned in Section 2 to analyse the profitability of the Paris 2024 Olympics.

According to Figure 1, since 2004, the cost of hosting the Olympic Games has exceeded 10 billion yuan per session. As of 2024, the highest cost is the 2008 Beijing Olympics, with an expenditure of more than 50 billion US dollars. The lowest is the 2000 Sydney Olympics, which cost only 8.14 billion US dollars. According to WalletHub's forecast, the cost of the 2024 Paris Olympic Games is estimated to be about 8.2 billion US dollars, which will become the cheapest Olympic Games in recent years.

Comparing Figure 1 and Figure 2, the success of the Beijing Olympics, one of the few to have produced positive profits, not only boosted China's international image, but also brought in a surplus of about \$1 billion. Beijing has invested about \$43 billion in infrastructure and event organization but has achieved financial success through multiple channels such as broadcasting rights, sponsorships,

and ticket sales. During the Beijing Olympics, Beijing's Gross Domestic Product (GDP) was growing at an average of 11.8%; in fact, 1% came from the Olympic events, which drove the development of Beijing's urban infrastructure, transport and technology sectors, pulled in nearly 100 billion yuan in spending, and provided nearly 2 million jobs for the population. The Beijing Olympics have fueled the city's rapid economic growth and the city's technological level has been greatly enhanced, all of which has helped to improve the city's range of tourist facilities. At the same time, the success of the Games and good infrastructure have enhanced China's international image as a travel destination, helping to attract investment and develop business, and contributing to the formation and development of sports production chains [9].

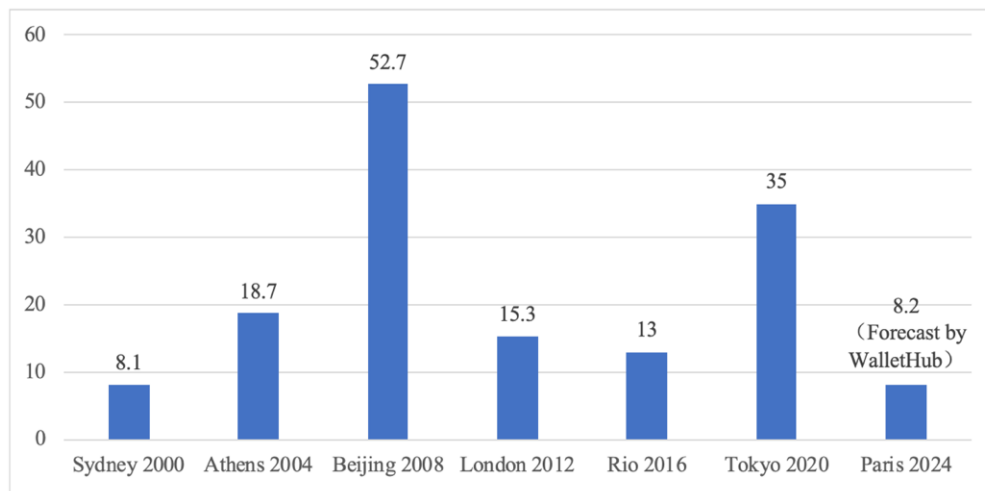


Figure 1: Cost of the Summer Olympic Games in billion dollars (Data source: IOC; Statista; WalletHub).

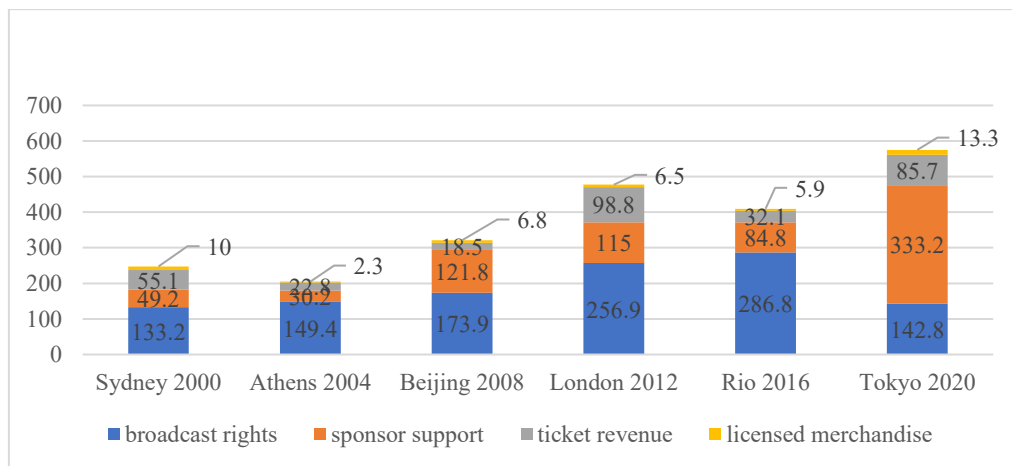


Figure 2: Revenue of the Summer Olympic Games in billion dollars (Data source: IOC; Statista).

In Table 1 below, the 2020 Tokyo Olympics postponed a year due to the COVID-19 pandemic, and they were held without visitors, which directly led to a loss of at least 2 trillion yen (about 18 billion dollars). This is the biggest loss in the history of the Olympics. However, Tokyo's experience also suggests that future Olympic Games need to be more thoughtful in the face of public health emergencies. Compared to Beijing, the 2004 Athens Olympics were an economic disaster. Although

the Greece government invested about \$15 billion, due to poor organization and subsequent underutilization, the event ended in a huge fiscal deficit, becoming one of the worst losses in history.

Table 1: Inventory of the profits and losses of the Summer Olympic Games (Data Source: Official websites of national governments)

Sydney 2000	Profit of \$367.5 million
Athens 2004	\$10 billion was invested, but only \$1.9 billion was recovered
Beijing 2008	The balance is more than \$1 billion
London 2012	Loss of £3 billion
Rio 2016	The loss is more than 10 billion BRL
Tokyo 2020	The loss was more than 2 trillion yen

Focusing on the just concluded 33rd Summer Olympics, Paris attracted 10,500 athletes from more than 200 countries and regions competing in 32 sports, 329 events and 754 competitions. The cost of hosting the Games covers everything from venue construction to infrastructure renovation, as well as operational costs such as event organization and security. In terms of infrastructure, with 95% of the venues are either pre-existing or temporary, the cost of infrastructure for the Paris Olympics is about \$4.9 billion, and WalletHub pointed out that the cost of the Paris Olympics will be about \$8.2 billion [8].

As for the benefits of this Olympic Games, in terms of direct income, the latest studies show that hosting the Olympic and Paralympic Games will have an impact of no less than \$7.3 billion on the Paris region [10]. It includes global broadcasting rights revenue, sponsor support, ticket sales, and sales of licensed merchandise. At present, the revenue of broadcasting rights has not been announced. In terms of sponsorship income, there are 79 sponsors in four tiers of the Paris Olympics this year, and the sponsorship income has reached 1.226 billion euros. In terms of ticket revenue, the Paris Olympics sold a record 9.5 million tickets. In addition, the Olympics have brought many indirect benefits, which not only promote the prosperity of local tourism, but also promote the upgrading of urban infrastructure, injecting new vigor into the city's long-lasting economic development. According to the monthly economic survey released by the Bank of France, the French economy is expected to grow by at least 0.35% in the third quarter, benefiting from a temporary boost from Olympics-related activities. France's GDP is expected to grow by 0.35% to 0.45%, compared to 0.3% in the previous two quarters, thanks to revenues from Olympic ticket sales and broadcasting rights contracts, according to a survey of 8,500 companies and institutions.

4. Conclusion

In today's globalized world, the importance of the Olympic Games has gone beyond the scope of sports competition. It has become an important platform to promote international exchanges, enhance the country's image, and promote economic development. This article analyses the costs and revenues of hosting the Olympics, reviews the profitability of past Games, and argues that the successful and self-financing of the 2024 Paris Olympic Games is a model for the Olympic Games in recent years. The success of the Paris Olympics has not only added a strong stroke to the history of world sports, but also provided new ideas and enlightenment for the economic efficiency of the Olympics.

For the modern Olympic Games, there is a great risk of incurring losses and thus operating beyond cost. However, from a macroeconomic perspective, the additional demand brought by the Olympics can drive supply and stimulate the economy. As the region itself is in a thriving and rapid development stage, these cities just need an opportunity to hand to the world and show their strength, and the Olympics served as that opportunity to achieve mutual success with those cities and countries. The

host countries do not have to worry about the loss caused by the imbalance of income and expenditure, since the profitability of the event itself fuels the long-term economic development of the host country and provides good employment opportunities for countless people. There is great hope that the future Olympic Games will continue to find a balance between the glory of sports competitions and the economic benefits.

One concern about the article was that sample size is too small and it lacks the latest data such as some revenue record in the 2024 Paris Olympics. Future research should be undertaken to explore the effects of the Games on the host country and the world includes economic, social and cultural aspects. The study proposes to further study the performance of the host country of the Games against its medal rankings. In addition, future research should consider the potential effects of sponsorships more carefully, such as what the sponsors of the Olympic Games rely on to make money, and analyse the profitability of sponsors in previous Olympic Games.

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