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The Economics of Hosting the Olympic Games

The costs of hosting the Olympics have skyrocketed, while the economic benefits are far from clear. This has led to fewer states interested in playing host and a search for options to lighten the burdens of staging the big event.

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Summary

The massive costs and dubious benefits associated with hosting the Olympic Games has led to criticisms about the process for selecting a host city.

Many have called for reforms to the process, including reducing the cost of bidding and encouraging cities to develop more sustainable development strategies.

The 2020 Tokyo Olympics faced unprecedented challenges due to the COVID-19 pandemic, increasing the games' already record-setting price tag.

Introduction

The Olympics have evolved dramatically since the first modern games were held in 1896. In the second half of the twentieth century, both the costs of hosting and the revenue produced by the spectacle grew rapidly, sparking controversy over the burdens host countries shouldered. A growing number of economists argue that the benefits of

hosting the games are at best exaggerated and at worst nonexistent, leaving many host countries with large debts and maintenance liabilities. Instead, many argue, Olympic committees should reform the bidding and selection process to incentivize realistic budget planning, increase transparency, and promote sustainable investments that serve the public interest.

The 2020 Summer Olympics in Tokyo highlighted the ongoing debate over the costs and benefits of hosting such a mega-event, especially after the ongoing COVID-19 pandemic forced a year's delay and sparked public opposition over going ahead with the festivities during a major outbreak. The multibillion-dollar bill Tokyo faces in the aftermath of the games is not unique: other former host cities still struggle with the debts they incurred, leading some candidate cities for future games to withdraw their bids or scale down their plans.

When did the costs of hosting the games become a concern?

For much of the twentieth century, the staging of the Olympic Games was a manageable burden for the host cities. The events were held in developed countries, either in Europe or the United States, and in the era before television broadcasting, hosts didn't expect to make a profit. Instead, the games were publicly funded, with these advanced countries better positioned to bear the costs due to their larger economies and more advanced infrastructure.

The 1970s marked a turning point, writes Andrew Zimbalist, author of *Circus Maximus: The Economic Gamble Behind Hosting the Olympics and the World Cup*. The games were growing rapidly, with the number of Summer Olympics participants almost doubling and the number of events increasing by a third during the 1960s. A 2012 University of Oxford study estimated an average cost overrun of 252 percent for each Summer Olympics since 1976, after adjusting for inflation. The killing of protesters in the days before the 1968 Mexico City Games and the fatal assault on Israeli athletes at the 1972 Munich Games tarnished the image of the Olympics, and public skepticism of taking on

debt to host the games grew. In 1972, Denver became the first and only chosen host city to reject its Olympics after voters passed a referendum refusing additional public spending for the games.

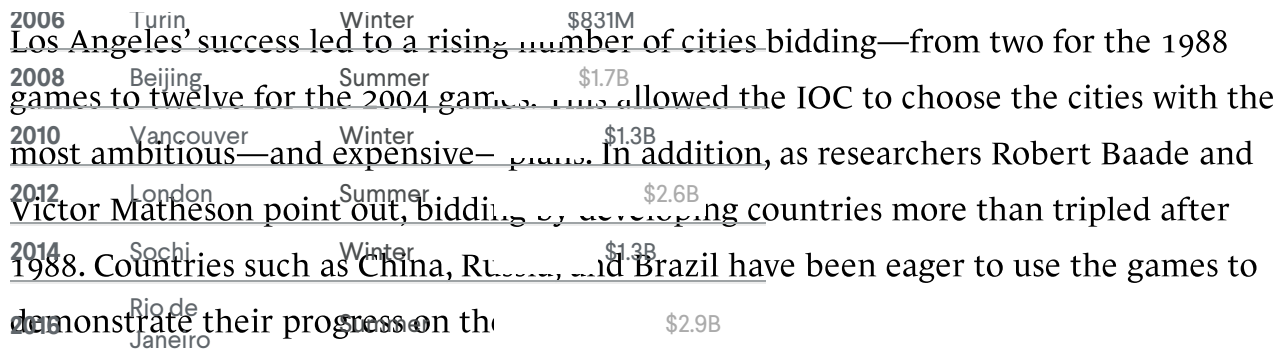
The 1976 Summer Olympics in Montreal came to symbolize the fiscal risks of hosting. The projected cost of \$124 million was billions below the actual cost, largely due to construction delays and cost overruns for a new stadium, saddling the city's taxpayers with some \$1.5 billion in debt that took nearly three decades to pay off.

As a result, in 1979 Los Angeles was the only city to bid for the 1984 Summer Olympics, allowing it to negotiate exceptionally favorable terms with the International Olympic Committee (IOC). Most importantly, Los Angeles was able to rely almost entirely on existing stadiums and other infrastructure rather than promise lavish new facilities to entice the IOC selection committee. That, combined with a sharp jump in television broadcast revenue made Los Angeles the only city to turn a profit hosting the Olympics, finishing with a \$215 million operating surplus.

The Olympics' Broadcast Revenue Is Now in the Billions

Broadcast revenue from Olympic television rights fees

1960	Palisades Tahoe (formerly Squaw Valley)	Winter	\$100K
	Rome	Summer	\$1.2M
1964	Innsbruck	Winter	\$900K
	Tokyo	Summer	\$1.6M
1968	Grenoble	Winter	\$2.6M
	Mexico City	Summer	\$9.8M
1972	Sapporo	Winter	\$8.5M
	Munich	Summer	\$17.8M
1976	Innsbruck	Winter	\$11.6M
	Montreal	Summer	\$34.9M
1980	Lake Placid	Winter	\$20.7M
	Moscow	Summer	\$88M
1984	Sarajevo	Winter	\$102.7M
	Los Angeles	Summer	\$286.9M
1988	Calgary	Winter	\$324.9M
	Seoul	Summer	\$402.6M
1992	Albertville	Winter	\$291.9M
	Barcelona	Summer	\$636.1M
1994	Lillehammer	Winter	\$352.9M
1996	Atlanta	Summer	\$898.3M
1998	Nagano	Winter	\$513.5M
2000	Sydney	Summer	\$1.3B
2002	Salt Lake City	Winter	\$738M
2004	Athens	Summer	\$1.5B
2006	Torino	Winter	\$800M
2008	Beijing	Summer	\$5.1B
2010	Vancouver	Winter	\$1.1B
2012	London	Summer	\$6.9B
2014	Sovchi	Winter	\$1.1B
2016	Rio de Janeiro	Summer	\$6.8B
2018	Pyeongchang	Winter	\$9.2B
2020	Tokyo	Summer	\$7.1B
2022	Beijing	Winter	\$9.1B



However, these countries invested massive sums to create the necessary infrastructure. Costs spiraled to over \$50 billion for the 2014 Winter Games in Sochi, \$20 billion for 2016 Summer Games in Rio de Janeiro, and \$13 billion for the 2018 Winter Games in Pyeongchang.

These costs have led to renewed skepticism, and several cities withdrew their bids for the 2022, 2024, and 2028 games over cost concerns. Beijing had little competition for its 2022 bid, with both Oslo, Norway, and Stockholm, Sweden, backing out upon realizing that costs would be higher than estimated. Boston withdrew from consideration for the 2024 games, with its mayor saying that he “refuse[d] to mortgage the future of the city away.” The 2024 finalists, Budapest, Hungary, Hamburg, Germany, and Rome, also withdrew, leaving only Los Angeles and Paris. In an unprecedented move, the IOC chose the 2024 and 2028 venues simultaneously in 2017, with Paris and Los Angeles, respectively, taking turns hosting due to the lack of candidates.

What costs do cities incur for hosting the games?

Cities invest millions of dollars in evaluating, preparing, and submitting a bid to the IOC. The cost of planning, hiring consultants, organizing events, and the necessary travel consistently falls between \$50 million and \$100 million. Tokyo spent as much as \$150 million on its failed 2016 bid, and about half that much for its successful 2020 bid, while Toronto decided it could not afford the \$60 million it would have needed for a 2024 bid.

Once a city is chosen to host, it has nearly a decade to prepare for the influx of athletes and tourists. The Summer Games are far larger, attracting hundreds of thousands of foreign tourists to watch over ten thousand athletes compete in about three hundred

events, compared with under three thousand athletes competing in about one hundred events during the Winter Games. The most immediate need is the creation or upgrading of highly specialized sports facilities such as cycling tracks and ski-jumping arenas, the Olympic Village, and a venue large enough to host the opening and closing ceremonies.

There is also usually the need for more general infrastructure, especially housing and transportation. The IOC requires cities hosting the summer games to have a minimum of forty thousand available hotel rooms, which in Rio's case necessitated the construction of fifteen thousand new hotel rooms. Roads, train lines, and airports need to be upgraded or constructed.

Altogether, these infrastructure costs range from \$5 billion to over \$50 billion. Many countries justify such expenditures in the hopes that the spending will outlive the Olympic Games. For instance, some 85 percent [PDF] of the Sochi 2014 Games' more than \$50 billion budget went to building non-sports infrastructure from scratch. More than half of the Beijing 2008 budget of \$45 billion went to rail, roads, and airports, while nearly a fourth went to environmental clean-up efforts.

Hosting the Olympics Has Grown More Expensive, but the Cost Varies by City

Estimated cost of hosting the Olympics, constant 2021 dollars

1996	Atlanta	Summer	\$4.2B
1998	Nagano	Winter	\$17.9B
2000	Sydney	Summer	\$8.1B
2002	Salt Lake City	Winter	\$2.9B
2004	Athens	Summer	\$18.7B
2006	Turin	Winter	\$5.3B
2008	Beijing	Summer	\$52.7B
2010	Vancouver	Winter	\$8.9B
2012	London	Summer	\$13.3B
2014	Sochi	Winter	\$59.7B
2016	Rio de Janeiro	Summer	\$13B
2018	Pyeongchang	Winter	\$15.4B
2020	Tokyo	Summer	\$35B

Note: Estimates include infrastructure and other indirect spending, as well as sports-related costs.

Sources: Robert Baade and Victor Matheson, “Going for the Gold: The Economics of the Olympics,” *Academy of Economic Studies*; COUNCIL ON FOREIGN RELATIONS

Operational costs make up a smaller but still significant chunk of hosts’ Olympics budget. Security costs have escalated quickly since the 9/11 attacks—Sydney spent \$250 million in 2000 while Athens spent over \$1.5 billion in 2004, and costs have remained between \$1 billion and \$2 billion since.

Also problematic are so-called white elephants, or expensive facilities that, because of their size or specialized nature, have limited post-Olympics use. These often impose costs for years to come. Sydney’s Olympic stadium costs the city \$30 million a year to

maintain. Beijing's famous "Bird's Nest" stadium cost \$460 million to build, requires \$10 million a year to maintain, and has sat mostly unused since the 2008 games. Almost all of the facilities built for the 2004 Athens Olympics, whose costs contributed to the Greek debt crisis, are now derelict. Gangwon, the South Korean regional government responsible for most of the 2018 games' infrastructure, is expected to incur an \$8.5 million annual deficit due to upkeep of unused facilities.

Economists say the games' so-called implicit costs must also be considered. These include the opportunity costs of public spending that could have been spent on other priorities. Servicing the debt that is left over after hosting the games can burden public budgets for decades. It took Montreal until 2006 to pay off the last of its debt from the 1976 Games, while Greece's billions in Olympics debt helped bankrupt the country.

The debt and maintenance costs of the Sochi 2014 Winter Games will cost Russian taxpayers nearly \$1 billion per year for the foreseeable future, experts estimate. But while some in Sochi see the unused stadiums and overbuilt facilities as a waste, other residents argue that the games spurred spending on roads, water systems, and other public goods that wouldn't have otherwise happened.

How do the benefits compare to the costs?

As the costs of hosting have skyrocketed, revenues cover only a fraction of expenditures. Beijing's 2008 Summer Olympics generated \$3.6 billion in revenue, compared with over \$40 billion in costs, and London's Summer Games in 2012 generated \$5.2 billion compared with \$18 billion in costs. What's more, much of the revenue doesn't go to the host—the IOC keeps more than half of all television revenue, typically the single largest chunk of money generated by the games.

Impact studies carried out or commissioned by host governments before the games often argue that hosting the event will provide a major economic lift by creating jobs, drawing tourists, and boosting overall economic output. However, research carried out after the games shows that these purported benefits are dubious.

In a study of the 2002 Salt Lake City Games, for example, Matheson, along with economists Robert Baumann and Bryan Engelhardt of Massachusetts's College of the Holy Cross, found a short-term boost [PDF] of seven thousand additional jobs—about one-tenth the number promised by officials—and no long-term increase in employment. As a study by the European Bank for Reconstruction and Development explains, the jobs created by Olympics construction are often temporary, and unless the host region is suffering from high unemployment, the jobs mostly go to workers who are already employed, blunting the impact on the broader economy. (Only 10 percent of the forty-eight thousand temporary jobs created during the 2012 London Olympics went to previously unemployed people, according to the study.)

Economists have also found that the impact on tourism is mixed, as the security, crowding, and higher prices that the Olympics bring dissuade many visitors. Barcelona, which hosted in 1992, is cited as a tourism success story, rising from the eleventh to the sixth most popular destination in Europe after the Summer Games there, and Sydney and Vancouver both saw slight increases in tourism after they hosted. But London, Beijing, and Salt Lake City all saw decreases in tourism the years of their Olympics.

In Brazil, the first South American country to host the Olympics, the cost of the 2016 games exceeded \$20 billion, with the city of Rio alone shouldering at least \$13 billion. Challenged by the country's deep recession, Rio required a \$900 million bailout from the federal government to cover the cost of policing the Olympics and was unable to pay all of its public employees. The city also had to invest heavily in a broad range of infrastructure, which was meant to reinvigorate some of its struggling neighborhoods, yet in the aftermath most venues have been abandoned or barely used.

Ultimately, there is little evidence for an overall positive economic impact. Boston's National Bureau of Economic Research has published findings that hosting has a positive impact on a country's international trade. But economists Stephen Billings of the University of North Carolina and Scott Holladay of the University of Tennessee-Knoxville found no long-term impact of hosting on a country's gross domestic product (GDP).

How much did the 2020 Tokyo Olympics cost?

According to organizers, the budget for the Tokyo Olympics exceeded \$15 billion, up from the \$7 billion originally projected. According to a University of Oxford study, based on those operating costs alone, the 2020 Tokyo Games were “among the costliest on record.” However, the true total costs are almost certainly much higher. A pre-pandemic Japanese government audit put them at about \$28 billion; Zimbalist now estimates that they will exceed \$35 billion. That is in part because the city had to invest heavily in infrastructure, much of which had dubious long-term utility. Building new venues cost an estimated \$3 billion. The most expensive venue was the sixty-eight-thousand-seat National Stadium, which cost Tokyo \$1.4 billion, sat empty for the duration of the games and will incur a reported \$22 million in annual maintenance fees.

The COVID-19 pandemic further exacerbated cost overruns: The games’ yearlong postponement ran Tokyo an estimated \$2.8 billion. When the city declared a state of emergency due to a surge in coronavirus cases, the decision to bar fans from the events eliminated an estimated \$800 million in income from ticket sales and triggered hundreds of thousands of hotel cancellations. Meanwhile, public discontent over hosting the games amid the pandemic soared, with protesters criticizing the government for prioritizing the games rather than health-care efforts such as ramping up the nation’s slow vaccine rollout. (Japan had fully vaccinated just 8 percent of its population by the end of June 2021.)

How could the Olympics be made more manageable?

A consensus has grown among economists that the Olympic Games need reforms to make them more affordable. Many have pointed out that the IOC bidding process encourages wasteful spending, by favoring potential hosts who present the most ambitious plans. This so-called winner’s curse means that over-inflated bids—often pushed by local construction and hospitality interests—consistently overshoot the actual value of hosting. Observers have also criticized the IOC for not sharing more of the fast-growing revenue generated by the games.

Corruption has also dogged the IOC selection process. Bribery scandals marred the 1998 Nagano and 2002 Salt Lake City games. In 2017, the head of Rio's Olympic committee was charged with corruption for allegedly making payments to secure the Brazil games, and allegations of illegal payments surfaced in the 2020 Tokyo selection.

In response, the IOC under President Thomas Bach has promoted reforms to the process, known as the Olympic Agenda 2020. These recommendations include reducing the cost of bidding, allowing hosts more flexibility in using already-existing sports facilities, encouraging bidders to develop a sustainability strategy, and increasing outside auditing and other transparency measures.

Some think more drastic measures are necessary. Economists Baumann and Matheson argue that developing countries should be spared the burden of hosting altogether and the IOC should instead “award the games to rich countries that are better able to absorb more of the costs.” For author Andrew Zimbalist, one city should be made the permanent host, allowing for the reuse of expensive infrastructure. Barring that, many economists argue, any city planning to host should ensure that the games fit into a broader strategy to promote development that will outlive the Olympic festivities.

In the meantime, China is gearing up for the Winter Games in February 2022. Some fourteen years after Beijing hosted the \$45 billion 2008 Summer Olympics, the official 2022 budget is just \$3.9 billion. However, as in previous games, the true costs are expected to soar. The skiing events will require fake snow, for example, and necessitate the construction of complex water-delivery systems—which experts say could add billions to the bill as well as prove environmentally damaging.

Recommended Resources

The idea that the Olympics should generate economic growth is a relatively new phenomenon, writes Binyamin Appelbaum in the *New York Times*.

The *Atlantic's* Yasmeen Serhan argues that the Olympics have lost their appeal due to the financial consequences for host countries.

Fidelity Investments' Robert von Rekowsky explores the history [PDF] of the economic outcomes of the Olympic Games.

The *New York Times* highlights Andrew Zimbalist's argument for why staging the Olympics is a bad deal for host nations.

ESPN's Wayne Drehs and Mariana Lajolo investigate the state of Rio's Olympic infrastructure a year later.

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