

The Rise and Fall (and Rise and Fall) of the Olympic Games as an Economic Driver

By

Victor Matheson

December 2018

COLLEGE OF THE HOLY CROSS, DEPARTMENT OF ECONOMICS
FACULTY RESEARCH SERIES, PAPER NO. 18-16*



Department of Economics and Accounting
College of the Holy Cross
Box 45A
Worcester, Massachusetts 01610
(508) 793-3362 (phone)
(508) 793-3708 (fax)

<https://www.holycross.edu/academics/programs/economics-and-accounting>

*All papers in the Holy Cross Working Paper Series should be considered draft versions subject to future revision. Comments and suggestions are welcome.

The Rise and Fall (and Rise and Fall) of the Olympic Games as an Economic Driver

By
Victor Matheson[†]
College of the Holy Cross

December 2018

Abstract

This paper traces the economic history of major sporting events focusing on the Olympics. Historically, the Olympic Games as well as other major sporting events have been considered costly events that place a burden on host cities. Only in relatively recent years, coinciding with the massive increases in the cost of hosting these events, have event organizers begun to claim that these events bring with them large economic benefits.

JEL Classification Codes: Z28, O18, R53

Keywords: stadiums, arenas, World Cup, sports, tourism, Olympics, economic history, mega-event

[†]Department of Economics, Box 157A, College of the Holy Cross, Worcester, MA
01610-2395, 508-793-2649 (phone), 508-793-3710 (fax), vmatheso@holycross.edu

Introduction

Sports mega-events are large and prominent sporting events, and as such they have received considerable attention from economists regarding their impact on local economies. As noted by Leeds, von Allmen and Matheson (2018), size is not the sole factor in determining what qualifies as a mega-event, but instead it is the infrequent nature of the event along with the level of national or international attention the event receives that classifies a particular sporting contest as a mega-event. In addition, it is widely acknowledged that mega-events tend to attract relatively more spectators and/or participants from outside the local area than a typical local contest.

Internationally, the most widely recognized sports mega-events are the Summer and Winter Olympics and the FIFA World Cup, but there are many other popular sporting contests that could qualify for the designation. A by no mean exhaustive list might include worldwide tournaments such as the Cricket or Rugby World Cups or FIFA's Women's World Cup, regional competitions such as the Commonwealth Games, Euro Cup, or Copa America, games or matches such as the "Majors" in tennis or golf, national or international championships such as the NFL's Super Bowl, soccer's Champions League Final, MLB's World Series, and the AFL Grand Final, and major auto or horse races such as the Daytona 500, Monaco Grand Prix, or Kentucky Derby. Outside the realm of sports, events such as World's Fairs, major music concerts, political conventions, or royal weddings could also qualify as mega-events.

In modern times, there has been a significant debate about whether mega-events represent an opportunity for mega-economic gains for host cities and countries or whether they are an expensive burden should primarily be considered an expense. The prevailing opinion among economists not affiliated with sports organizations is that mega-events are often expensive

burdens that usually do not lead to significant economic benefits to local economies. Economists cite several reasons for this somewhat surprising fact including the substitution effect, crowding out effects, and leakages (Coates and Humphreys, 2008; Baade and Matheson, 2016). To the extent that local residents spend money at sporting events, this simply reallocates where spending occurs in a local economy rather than generating new economic activity, a situation dubbed the substitution effect by sports economists. Most local teams in leagues that play repeatedly are unlikely to have a significant impact of overall local economic activity for this reason. Of course, as mentioned previously, one of the hallmarks of mega-events is that they draw competitors and spectators from outside the local area, and this visitor spending may well be new to the economy.

However, even in the case of the presence of visitor spending, the economic impact of a sporting event may be limited. The crowds and congestion associated with the sporting event may dissuade other visitors from traveling to the area. For example, while London's sporting venues were full during the 2012 Summer Olympics, several of its major theaters shut down for the duration of the event as regular tourists were crowded out by sports fans. In total, the number of international visitors to the UK actually fell during the month of the Olympic Games (Baade and Matheson, 2016). In addition, much of the spending that takes place in a city due to a mega-event may not stick in the local economy. Revenue from ticket sales often flows back to event organizers in other cities or even different countries across the world, and increased revenues at nationally or internationally owned hotel chains, airlines, rental car agencies, or restaurants serves to increase profits for shareholders across the globe rather than accruing to local business owners. There is substantial reason to believe that leakages are much higher during mega-events than during ordinary economic times (Matheson, 2009).

While this reasoning has become well-established among sports economists, the academic literature on the subject, however, is fairly recent, coming about only in the past two or three decades. The purpose of this paper is to explore how large sporting events have tended to be thought of economically, as benefits or burdens, throughout history, and what points in time signified important changes in thinking about the role of mega-events in local economies

Sporting Events in Ancient Times

Major sporting events have a long history. Among the oldest and certainly the most famous is the Olympic Games, which first took place in 776 BCE. The Olympics, however, were only one among several major athletic tournaments of ancient Greece. The so-called Panhellenic Games included the Olympics as well as three other sporting contests that likely originated sometime in the 6th century BCE: the Pythian Games held in Delphi, the Nemean Games held Nemea, Corinthia, and the Isthmian Games held at the temple to Poseidon on the Isthmus of Corinth¹. In all of these cases, the location of the Games corresponded with locations that already had a religious significance rather than being selected for other, potentially economic, reasons (Leeds, von Allmen, and Matheson, 2018). Similarly, the Panathenaic Games, dating from 566 BCE, originated as a religious ceremony with accompanying athletic and musical competitions and was located in Athens due to the presence of the Parthenon, a temple to Athena, and to the city's general political and religious prominence.

The Panathenaic Stadium, which was the site of many of the competitions for the ancient Panathenaic Games, was originally constructed in roughly 330 BCE by the Athenian statesman

¹ Among the most common athletic events held at the ancient Panhellenic Games was a footrace known as a "stadion." It is from name of this race that the modern term "stadium" is derived.

Lykourgos and later finished in marble by Herodes Atticus, a Roman senator from Athens, in 144 AD. While the stadium fell into disrepair after the Panathenaic Games (as well as the other Panhellenic Games, including the Olympics) were halted in the late 4th century AD by the Roman Emperor Theodosius I who wished to ban all pagan rituals, it was restored and rebuilt in the late 1800s, and served as a venue for the modern Olympic Games in both 1896 and 2004. It remains as one of Athens' most popular tourist destinations.

The fact that the original construction of Panathenaic Stadium required the generosity of major benefactors lends some credence to the suggestion that at least the ancient Panathenaic Games were not self-supporting and instead were a net expense for the city of Athens rather than generating positive net economic returns. In addition, all of the major ancient Greek tournaments remained in fixed locations for centuries, and no new major athletic competitions originated after the founding of the four original Panathenaic Games despite the growing might and prosperity of the Greek Empire. Had these competitions been wildly profitable for host cities, one might have expected entry into the market for sports mega-events in ancient Greece.

Ancient Rome was also the site of major sporting events. Chariot races as well as other festivals were held at the Circus Maximus, the first major stadium in ancient Rome, from at least 500 BCE. With a capacity of at least 150,000 spectators, it was the largest arena in the ancient Classical world. Built in 80 AD, the Roman Colosseum hosted gladiatorial contests and other events.²

During Rome's Republican era (509-27 BCE), events at the Circus Maximus, known as "ludi," were organized by important Roman office holders known as "aediles." The "most costly and complex of the ludi offered opportunities to assess an aedile's competence, generosity, and

² The floor of the Colosseum was traditionally covered with a deep layer of sand. It is from the Latin word for sand, "harenae," that we get the modern term "arena."

fitness for higher office” (Humphrey, 1986). It is interesting to note at least one parallel here with the modern Olympic Games. Former governor, current senator, and 2012 Republican U.S. presidential nominee Mitt Romney first came to national prominence through his competent management of the 2002 Winter Olympics in Salt Lake City after the event had become mired in a bribery scandal. Again, the fact that these major events required the aediles to assume significant financial obligations suggests that they involved more costs than could be recovered from the economic activity that they generated.

Another piece of evidence comes from the poet Juvenal from around AD 100. In his criticism of the passivity of the citizenry in the face of the autocratic rule of Imperial Rome, he famously wrote, “We sold our vote to no man, the People... now restrains itself and anxiously hopes for just two things: bread and circuses.” What Juvenal means here is that major sporting events (circuses) are provided to the people by the government in order to keep the citizenry docile and under control. This implies that major sporting events, like the public dole (bread), is being provided at a net cost to the government rather than being staged to generate positive revenues for the Roman treasury.

Major sporting events in the ancient world were not restricted to the Classical empires of Greece and Rome. Various versions of a game involving stone courts and a large rubber ball were played throughout Mesoamerica from at least 1400 BCE until the invasion of the Spanish in the 1500s. Archaeological ruins as well as stone reliefs and surviving paintings show that the game could be played as part of a major spectacle (sometimes even culminating in human sacrifice). While historians routinely attribute religious significance to matches played in the large stadiums designated for the game, few attribute major economic importance to the sporting rituals.

While this brief exploration into ancient sporting events cannot be considered complete in any way, it does appear that sporting festivals in the ancient world were primarily considered expenses to be borne by society in pursuit of another goal (entertainment, religious observance, social cohesion, etc.) rather than opportunities for material gain. This is not to say that ancient games represented a waste of resources. In fact, it is quite the opposite. The very fact that the Olympics were played in Ancient Greece for a thousand years and pitz was played by the Mayans, Aztecs, and other Mesoamerican cultures for nearly 3,000 years suggests that those organizing these games thought the benefits exceeded the costs. But the important point to be made is that the gains from ancient sporting events appeared to be primarily religious (or spiritual) or political in nature, rather than monetary.

The birth of modern sports mega-events

The era of modern sporting events is probably best described as beginning in the second half of the 19th century. While societies had long played various games, it was during the mid to late 1800s that various sports began to formally organize, and it is through this organization that matches attracting large numbers of fans began to be played. The English Football Association (FA) was the first national organization in soccer founded in 1863, and in 1872 it held the first FA Cup competition between member clubs. Later that year the FA organized the first international soccer match against Scotland (resulting in a disappointing, but perhaps not too surprising 0-0 draw). The FA Cup Final drew a reported 2,000 fans while the Scotland match attracted 4,000 spectators. While these would not be considered exactly mega-events by modern standards, they certainly represent more than just friendly games in the park.

In the United States, baseball's Cincinnati Red Stockings became the first professional sports team in the country in 1869 playing a barnstorming schedule across the nation. By 1871, a fully professionalized league had formed, and by 1876 the modern precursor to Major League Baseball was in place. Within a decade, the league was reporting individual games with attendances in excess of 10,000 fans, although the average attendance in 1890, the first year of full attendance records, was only 1,439 per game (Baseball-Reference.com, 2018).

International athletic competitions between countries often grew out of humiliation on the battlefield. For example, following his victory over Napoleon at the Battle of Waterloo, the Duke of Wellington attributed his win to superior physical conditioning that his soldiers received as part of their education in the British Public Schools (Leeds, von Allmen, and Matheson, 2018). Similarly, the German states adopted a national gymnastics program following their defeat at the hands of French troops. Most importantly in the development of international sports mega-events, however, were the attempts by a wealthy, young Frenchman by the name of Pierre de Coubertin to restore the greatness of France following its defeat in 1871 in the Franco-Prussian War through physical fitness programs directed at the nation's youth. His efforts culminated in the reintroduction of the modern Olympic Games in 1896.

By modern standards, the 1896 Athens Olympics were a small affair with only 14 competing nations and roughly 250 athletes. But they proved to be quite popular. The major events held at the previously mentioned Panathenaic Stadium filled the venue and were watched by up to 80,000 spectators, the largest crowds ever to witness a sporting event in the modern era (Leeds, von Allmen, and Matheson, 2018). Other than breaks due to war, the Olympics have been held every four years since the inaugural event in 1896, alternating among various host cities throughout the world. In 1924, the International Olympic Committee (IOC) added a Winter

Games which have similarly been hosted by various selected cities.

The only other world sporting event that can today rival the Olympics in size and popularity is the FIFA World Cup. The Fédération Internationale de Football Association (FIFA), was founded in 1904 in Paris (hence the French name) by seven European soccer associations. FIFA was soon joined by the organizing bodies from England, Scotland, Wales, and Northern Ireland, cementing FIFA as undisputed head of soccer throughout the world, and in 1908 the newly formed organization took the lead role in organizing the soccer competition in the Olympic Games. Disagreements between the IOC and FIFA regarding the status of professional players in the Olympics led FIFA to distance itself from the IOC and create its own tournament in 1930. Much like the inaugural Olympics, the first World Cup, held in Uruguay, was a minor event by today's standards. Only 13 teams participated with all but 4 of the European countries avoiding the tournament.

One major similarity to today's World Cup, however, is that the selection of Uruguay as the host country was made based on the promise of the country to expend significant sums of money hosting the tournament. Uruguay promised to pay of all the travel costs of visiting teams and built the new and grand Estadio Centenario as a stadium to host all of the matches for the tournament.³ It is clear that at least the initial World Cup was almost certainly an expense that Uruguayan officials were willing to bear for the pride of their country or to demonstrate their soccer prowess rather than an event that promised to bring in significant economic benefits.

A closer look at Olympic bids and costs

From its rather humble beginnings in 1896, the modern Olympics has grown to become

³ In another major similarity to modern sports mega-events, the construction of the stadium suffered significant delays, and therefore games in the early part of the tournament needed to be held at alternate locations.

the world's largest sporting event. In the 2016 Summer Olympics held in Rio, 11,544 athletes from 207 nations competed in 306 events. Over 5 million tickets were sold to live spectators, and a over 30 billion hours of competition were reportedly watched around the world. Of course, the cost of hosting the event has grown enormously along with the size of the Olympics, and there is clear evidence that interest in hosting the event has waxed and waned with the challenges of covering the growing costs.

For multiple reasons, it can be quite difficult to determine what the actually costs of hosting the Olympics has been. First, in many cases, particularly in the early days of the Games, no financial records exist. Occasionally, portions of the ledger sheet can be pieced together through contemporaneous media reports, but often any real accounting is lost to history. In other situations, detailed information is not available due to more nefarious reasons. For example, there is little reason to believe that the costs reported by countries such as China and Russia represent anything but rough guesses of the actual costs of hosting the Olympics. And in the case of the 1998 Winter Olympics in Nagano, Japan, the host committee's last act after the closing ceremonies was to destroy all financial records from the event.

Even in cases where reasonably detailed and trustworthy accounting records are available, there can still be wide discrepancies about what should be counted as an Olympics-related expense. Many estimates of Olympic costs include all expenditures made in preparation for the event while others exclude "wider capital costs for general infrastructure" (Flyvbjerg, Stewart, and Budzier, 2016). But even determining what should count as general infrastructure as opposed to construction related directly to the event can be difficult. Mass transit systems that are extended to new sports venues, airports enlarged to accommodate a short-lived increase in traffic during the Olympics, and hotels constructed meet the IOC's minimum room requirements are all

examples of capital projects that might straddle the line between general infrastructure and infrastructure required to host the Games (or more importantly, to win the bid to host the Games).

For this reason, estimates of the cost to host the Olympics can vary widely from source to source. Flyvbjerg, Stewart, and Budzier (2016), for example, list the 1964 Olympics Games in Tokyo as the least expensive Summer Games (in real terms) between 1960 and the present coming in at only \$282 million (in 2015 USD). At the time, however, the New York Times reported, “The cost came high. In money spent it reached the rather astronomical sum of more than 700 billion yen – about \$2 billion American...” (Daley, 1964). In comparable dollars, this would amount to over \$16 billion in today’s dollars, or over 50 times that estimated by Flyvbjerg, Stewart, and Budzier. Table 1 shows the total costs for hosting the Summer Olympics from various sources. Comparable data for the Winter Games is not readily available and its collection would be a worthy topic of future study.

From Table 1 several important trends can be seen. First of all, the scale and scope of the Olympics has steadily risen over time. With the notable exceptions of the 1976, 1980, and 1984, Games which were subjected to a series of boycotts by various nations, the number of athletes, events, and participating countries has generally risen with each tournament. As the Olympics have become more popular and as nations around the world have grown in population and wealth, it is natural to presume that the number of athletes and participating nations would rise. In addition, the increase in women’s participation in the Olympics has effectively doubled the number of athletes.

The IOC has also added sports over time to recognize the evolution of sporting activities. While many sports have very long histories, such as track and field (athletics) events which have

been contested throughout human history including at the ancient Greek Olympics, others are relatively new. Basketball and volleyball, for example were only invented around the time of the first modern Olympics, and neither sport had standardized rules or were widely played until the Olympics had been well-established. Basketball was added in 1936 and volleyball became an official sport in 1964.

In other cases, sports have been added in order to boost the popularity of the Olympics. For example, beach volleyball was only officially added as an Olympic sport in 1996 but has become one of the highlights of the Summer Games attracting over 400,000 spectators in both London in 2012 and Rio in 2016 (IOC, 2015). On an even larger scale, the Winter Olympics have added dozens of new “extreme” style events such as short track skating, freestyle skiing, and halfpipe snowboarding in order to add excitement to the event. In addition, the increasing internationalization of the Games beyond its traditional base in Western Europe and North America has also resulted in the addition of sports, such as badminton and table tennis, that would appeal to new audiences outside of western industrialized countries.

At the same time, the IOC has been reluctant to remove sports that have waned in popularity or participation. It is a striking anachronism that the athletes still compete in the so-called “modern” pentathlon, a sport combining pistol shooting, running, fencing, swimming, and horse jumping, all of the attributes a modern soldier would require... in the late 19th century. Of course, all established sports have an entrenched constituency that is hard to dislodge leading to an ever-growing tournament, and with the increase in the number of sports and athletes has come an increase in cost.

The blame for increasing costs is clearly not simply the result of a larger tournament, however. While the 2012 London Olympics had 5 times the number of athletes and 3 times the

number of events as the 1908 Olympics in the same city, the 2012 edition cost over 100 times as much even after accounting for inflation.

Several factors account for these increasing real costs. At least two factors are obvious. First, the rise of television and other media as a revenue stream for the IOC has resulted in increased costs of hosting the event although these costs are at least partially balanced out with increased revenues. In Rio, the organizers spent \$942 million on a media village to house and host media members and another \$235 million on the international broadcasting and media center (Zimbalist, 2017). Second, the security costs associated with the Olympics have risen with its prominence. The event has become a prime target for terrorists suffering deadly attacks in both 1972 in Munich and 1996 in Atlanta. Following the events of September 11, 2001, protection costs increased even further. The security budget for the 2000 Sydney Games, in a pre-9/11 world, totaled “only” \$250 million, a figure that ballooned to \$1.6 billion in Athens 4 years later (Baade and Matheson, 2016).

However, a closer look at the Table 1 also suggests other reasons for cost escalations. The first watershed moment along the road to multi-billion dollar Olympic Games appears to have occurred in 1936 in Berlin. At a cost of over half a billion dollars (in 2018 dollars), the Berlin Olympic were not only more than an order of magnitude more expensive than *any* previous event, they were more expensive than *every* previous Summer Olympics combined. Given the historical backdrop, it was clear at the time and even more clear today that the Berlin Games were never intended to satisfy a simple cost-benefit analysis but were clearly designed to highlight the power and accomplishments of Hitler’s Nazi regime regardless of cost.

Several other subsequent mega-events have broken the bank following similar reasoning. The 2008 Beijing Games, including all of the additional infrastructure projects related to the

event cost over \$45 billion, by some measures the most expensive Summer Olympics in history. The opening ceremony alone reportedly cost in excess of \$100 million, an amount that exceeded the cost of the entire event for most Olympics prior to 1960 (Zimbalist, 2015). It is undeniable that the authoritarian Chinese government, like the Nazis before them, were using the Games as a show of power and a demonstration of Chinese superiority. Similarly, Sochi's \$51 billion Winter Olympics in 2014, the most expensive Olympics on record, and Russia's 2018 FIFA World Cup, also a record at \$15 billion, were both clearly meant as testaments to Vladimir Putin's power (Ridgwell, 2018). Of course, Russia's World Cup cost record won't last for long as Qatar is poised to spend upwards of \$200 billion hosting the 2022 tournament (BBC, 2017).

Naturally, if other potential bidders think that they are competing against autocrats with unlimited budgets and no need to satisfy potentially angry voters who may be outraged at the costs of hosting an event, they will either be forced to escalate their own bids or drop out of the hosting game completely. In the wake of Berlin's extravagance, the numbers of bidders for the Olympics fell from 13 for the 1936 Games awarded to Berlin to only 2 for 1940.⁴ More recently, following Sochi's \$51 billion expenditure, Munich, Oslo, Krakow, and Stockholm all withdrew bids or plans to bid for the 2022 Winter Olympics due to a lack of popular support or failed voter referendums. (Lviv, Ukraine also withdrew its bid but due to political unrest rather than economic reasons.) The only remaining bids were from Beijing and Almaty, Kazakhstan, neither of which would qualify as shining beacons of democracy. Ultimately, Beijing was selected as the host despite a notable lack of nearby mountains and little historical affinity for winter sports.

The Summer Games have experienced two additional similar collapses in bidding interest. In his support for his city's bid to host the 1976 Summer Olympics, longtime Montreal

⁴ The 1940 Olympics were originally awarded to Tokyo and then moved to Helsinki due to Japan's invasion of Manchuria. They were subsequently cancelled completely due to the outbreak of World War II.

mayor Jean Drapeau famously stated, “The Olympics can no more lose money than a man can have a baby.” (Leeds, von Allmen, and Matheson, 2018). In reality, the 1976 Games suffered from massive cost overruns, and depending on how one classifies Tokyo’s spending in 1964, they became the most expensive Olympic Games to that date by a wide margin, leading to large financial losses for the city.

Montreal’s financial debacle coupled with Munich’s deadly terrorist attacks 4 years earlier led to a situation where only Los Angeles was willing to step forward in 1978 when bidding for the 1984 Summer Olympics took place. As the only bidder, Los Angeles was in a position to dictate the terms of the deal to the IOC rather than the other way around. As such, Los Angeles minimized costs through the use of existing competition facilities including several venues that had been used over 50 years earlier when the city hosted the 1932 Games. As a result, the 1984 Olympics cost a fraction of the budgets of Games of the previous 2 decades and roughly a tenth what the typical Summer Olympics since that time has cost. The LA Olympics also managed a rare profit.

Of course, potential host cities responded to Los Angeles’ good financial fortunes by renewing their own interest in once again entering into the bidding process to host the Olympics. In 1986, the first year of bidding following the LA Games, the number of bidders rose to 6. In addition, the 1990s witnessed a significant increase in bids from cities outside the traditional industrialized world. For Summer Olympics taking place between 1896 and 1996, 82% of bidders came from Western Europe, Canada, the US, Australia, or Japan, another 8% came from the former Soviet Bloc and only 10% came from other developing countries. For Summer Olympics taking place between 2000 and 2020, however, only 49% of bidders came from the ranks of the industrialized countries while 44% came from developing nations (Baade and

Matheson, 2016).

The large increase in the number of bidders again put the IOC back in the driver's seat and increased competition among bidding nations to submit ever more extravagant bids. Thus, a clear correlation can be seen between the number of bids and the cost of the eventual Games until once again, like following the Montreal Olympics, a tipping point occurred in the bidding for future Games in roughly 2015 following a string of pricey Summer Games and the record-setting \$51 billion Sochi Winter Olympics. By the time it came to award the 2024 Summer Olympics in the summer of 2017, numerous cities including Boston, Rome, Hamburg, and Budapest had already withdrawn their bids leaving only Paris and Los Angeles remaining. Facing the potential of having no bidders at all for the 2028 Games, the IOC took the unprecedented step of naming Paris the host of 2024 and simultaneously awarding the 2028 Games to LA.

Mega-Events as economic drivers

In the early days of the Olympics and other major sporting events, the costs were low enough that there was little reason to need to justify spending on hosting a sports event with a promise of a region-wide economic windfall. Hopefully the revenues generated would be sufficient to cover hosting costs, and if they were not then any losses could be easily covered by minimal public outlays. The extensive public expenditure on general infrastructure around the 1964 Tokyo Olympics probably represents the first time that a sports mega-event was used to justify massive public spending designed to increase long-term economic growth. Prior events were either too small to need justification, or in the case of Berlin, were justified on political rather than economic grounds.

As large increases in the cost of hosting mega-events were observed in the 1970s, there were mounting concerns of taxpayers being left with Olympic-sized bills. In fact, Denver gave back the 1976 Winter Olympics after already having been awarded them by the IOC after voters in the state rejected a referendum that would have allowed what today would seem like a laughably small \$5 million in public borrowing to assist in hosting the event. As the price tag for mega-events grew into the billions, it became clear that revenues generated during these events could not hope to cover the skyrocketing costs of hosting. For example, the 2010 Winter Olympics in Vancouver generated \$1.6 billion while the 2012 London Summer Olympics earned \$3.3 billion. Both of these figures are a fraction of \$7.6 billion and \$11.4 billion these events cost, respectively (Baade and Matheson, 2016). If the revenues earned during the Games cannot hope to cover their costs, the economic justification must lie in an economic legacy or economic spillovers into the general economy.

The now common technique of releasing an economic impact study designed not to determine the wisdom of hosting an event or building a stadium or arena with public funding but rather to justify a dubious public investment into spectator sports appears to be a relatively recent phenomenon, likely as a result of rising public discontent as witnessed by numerous failing voter referendums in the 70s and 80s, coupled with the aforementioned rising costs.

The 1980s also witnessed the genesis of the first scholarly work on the economic impact of mega-events and sports stadiums. Ritchie (1984) appears to be among the first works to systematically examine the impact that “hallmark events” have on local hosts, laying out a framework of what factors should be taken into account.⁵ Around the same time Baade and Dye

⁵ Ritchie’s use of the term “hallmark event” is interesting as this term as essentially disappeared from the discourse, replaced instead by “mega-event.” The New York Times’ first use of the term “mega-event” dates back to only 1981 (Amdur, 1981), but by the mid-90s and beyond the term was frequently used to describe sporting events with potential major economic impacts.

(1988a; 1988b) published their seminal work on the impact of stadium subsidies. Since this time the study of the economic impact of both sports infrastructure and major sporting events has been a common topic in the literature. Three decades of academic research has also led the economics profession to coalesce around the idea that sporting events and stadiums do not generally bring large economic benefits to a community and that they represent a poor economic investment (Coates and Humphreys, 2008; IMG, 2017)

Conclusion

Major sporting events have a long history throughout human society. The modern mega-event dates back to the first Olympics in 1896. As costs have risen for hosting this event, the Olympics have experienced periods of declining interest in assuming the growing costs following the 1936 Berlin Olympics, the 1976 Montreal Games, and the 2014 Sochi Winter Olympics. In prior cases, interest has rebounded although it is unclear what the future holds for the Olympics and other pricey mega-events such as the World Cup.

While major sports spectacles are nothing new, it is only recently event supporters have tried to suggest the mega-events bring mega-riches to communities that host them. This is at least partly due to the fact that hosting major events such as the Olympics has become such an expensive affair that it is nearly impossible for these events to break even without substantial public support. Of course, the high costs of hosting many mega-events is in large part due to actions by organizations like the IOC and FIFA themselves that promote runaway competition between potential hosts. Raising the possibility of a hefty financial windfall for the host is one way to get otherwise reluctant taxpayers to open up their wallets to the IOC and FIFA.

However with the rise of almost propaganda-like economic impact statements

comissioned by event supporters has come a wave of academic research on the true impact of mega-events on host communities. This line of research is decidedly less rosy in its conclusions. These many studies have served to dampen enthusiasm for cities to put their hat into the ring to host the “Rings,” and perhaps this will be the last “fall” in the cycle.

References

- Amdur, Neil (1981), "The Best and Worst of Men's Tennis Tour: News Analysis," *New York Times*, 20 January, 78.
- Baade, Robert and Richard Dye (1988a), "Sports Stadiums and Area Development: A Critical Review," *Economic Development Quarterly*, 2(3), 265-275.
- Baade, Robert and Richard Dye (1988b), "An analysis of the economic rationale for public subsidization of sports stadiums," *Annals of Regional Science*, 22(2), 37-47.
- Baade, Robert and Victor Matheson (2016), "Going for the Gold: The Economics of the Olympics," *Journal of Economic Perspectives*, 30(2), 201-218.
- Baseball Reference.com (2018), accessed 1 October at <https://www.baseball-reference.com/>.
- BBC (2017), "Qatar spending \$500m a week on World Cup infrastructure projects," posted 8 February at <http://www.bbc.com/news/world-middle-east-38905510>,
- Coates, Dennis and Brad R. Humphreys (2008), "Do Economists Reach a Conclusion on Subsidies for Sports Franchises, Stadiums, and Mega-Events?" *Econ Journal Watch* 5(3), 294-315.
- Daley, Arthur (1964), "Sports of The Times: Sayonara Means Farewell," 25 October, S2.
- Flyvbjerg, Bent, Allison Stewart, and Alexander Budzier (2016), "The Oxford Olympics Study 2016: Cost and Cost Overrun at the Games," Saïd Business School working paper.
- Humphrey, John (1986), *Roman circuses: arenas for chariot racing*, Oakland, California, USA: University of California Press.
- IMG Forum (2017), "Sports Stadiums," posted 31 January at <http://www.igmchicago.org/surveys/sports-stadiums>.

- IOC (2015), “Net Gains – The Evolution of Beach Volleyball,” posted 21 May at <https://www.olympic.org/news/net-gains-the-evolution-of-beach-volleyball>.
- Leeds, Michael, Peter von Allmen, and Victor Matheson (2018), *The Economics of Sports*, 6th ed., London, UK: Routledge.
- Matheson, Victor (2009), “Economic Multipliers and Mega-Event Analysis,” *International Journal of Sport Finance*, 4(1), 63-70.
- Ridgwell, Henry (2018), “Russia’s Record-Breaking \$15 Billion World Cup Price Tag: What Does It Buy?,” *Voice of America*, posted 19 June at <https://www.voanews.com/a/russi-world-cup-is-pricey/4444907.html>.
- Ritchie, J.R. Brent (1984), “Assessing the Impact of Hallmark Events: Conceptual and Research Issues,” *Journal of Travel Research*, 23(1), 2-11.
- Zarnowski, Frank (1999), “A Look at Olympic Costs,” *Journal of Olympic History*, 1(1), 16-32, posted at <http://library.la84.org/SportsLibrary/JOH/JOHv1n1/JOHv1n1f.pdf>.
- Zimbalist, Andrew (2015), *Circus Maximus: The Economic Gamble Behind Hosting the Olympics and the World Cup*, Washington, D.C., USA: Brookings Institution Press.
- Zimbalist, Andrew (2017), “The Economic Legacy of Rio 2016,” in *Rio 2016: Olympic Myths, Hard Realities*, Andrew Zimbalist (ed), Washington, D.C., USA: Brookings Institution Press, 207–238.

Table 1: Summer Olympics

Year	Location	Bids	Selection year	Athletes	Participant teams	Events	Cost (mil. \$2018)*	Cost (mil. \$2015)**
1896	Athens	1	1894	241	14	43	11.5	n.a.
1900	Paris	1	1894	997	28	95	n.a.	n.a.
1904	St. Louis	2	1901	651	12	95	n.a.	n.a.
1908	London	3	1904	2,008	22	110	10.1	n.a.
1912	Stockholm	1	1909	2,406	28	102	n.a.	n.a.
1916	Not held	6	1912	n.a.	n.a.	n.a.	n.a.	n.a.
1920	Antwerp	8	1919	2,626	29	156	n.a.	n.a.
1924	Paris	6	1921	3,089	44	126	7.7	n.a.
1928	Amsterdam	2	1921	2,883	46	109	17.4	n.a.
1932	Los Angeles	1	1923	1,332	37	117	18.5	n.a.
1936	Berlin	13	1931	3,963	49	129	526	n.a.
1940	Not held	2	1936	n.a.	n.a.	n.a.	n.a.	n.a.
1944	Not held	8	1939	n.a.	n.a.	n.a.	n.a.	n.a.
1948	London	6	1946	4,104	59	136	31.3	n.a.
1952	Helsinki	7	1947	4,955	69	149	65.7	n.a.
1956	Melbourne	9	1949	3,314	72	151	126	n.a.
1960	Rome	7	1955	5,338	83	150	607	n.a.
1964	Tokyo	4	1959	5,151	93	163	15,616	282
1968	Mexico City	4	1963	5,516	112	172	1,268	n.a.
1972	Munich	4	1966	7,134	121	195	3,682	1,009
1976	Montreal	3	1970	6,084	92	198	6,385	6,093
1980	Moscow	2	1974	5,179	80	203	6,116	6,331
1984	Los Angeles	1	1978	6,829	140	221	1,325	719
1988	Seoul	2	1981	8,391	159	237	6,914	n.a.
1992	Barcelona	6	1986	9,356	169	257	17,445	9,687
1996	Atlanta	6	1990	10,320	197	271	3,802	4,143
2000	Sydney	7	1993	10,651	199	300	7,363	5,026
2004	Athens	11	1997	10,625	201	301	14,672	2,942
2008	Beijing	10	2001	10,942	204	302	47,842	6,810
2012	London	9	2005	10,768	204	302	12,121	14,957
2016	Rio	7	2009	11,544	207	306	14,034	4,557
2020	Tokyo	5	2013	n.a.	n.a.	n.a.	n.a.	n.a.
2024	Paris	2	2017	n.a.	n.a.	n.a.	n.a.	n.a.
2028	Los Angeles	1	2017	n.a.	n.a.	n.a.	n.a.	n.a.

*Cost data from Zarnowski (1992) for games up to 1984 and Baade and Matheson (2016) for games since 1988.

**Cost data from Flyvbjerg, Stewart, and Budzier (2016).