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The Sustainability of Mega-Events: the Future of the Olympic Games

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Introduction

There is no bigger sport-related, policy decision than the decision of hosting, or event bidding for, a mega-event like the Olympic Games or the FIFA World Cup. Hosts and bidders typically base and justify their decisions on spreading their potential impact. Many organizers finance or disseminate ex-ante studies that highlight the positive effects of the event. For example, the consulting firm Ernst & Young prepared a report in 2010 before the 2014 World Cup in Brazil, which gave an optimistic picture of the event's potential legacy. They estimated that an additional R\$ 142.39 billion (4.91% of 2010 GDP) would flow through the national economy and create 3.63 million jobs a year in 2010-2014, R\$ 63.48 billion (2.17% of GDP in 2010) of revenue for the population and additional tax collection of R\$18.13 billion (0.62% of GDP in 2010) for local, state and federal Brazilian governments. Ernst & Young estimated that 2.98 million additional visitors would travel to Brazil in the same period, increasing the international tourist flow to 79%.

If such results were true, they would clearly be of interest to governments considering an offer, but these expected effects do not always occur. In addition, hosting mega-events requires significant investments and the costs of these investments increase every year. Zimbalist notes that emerging economies such as China, Brazil and South Africa have increasingly perceived "mega-events as a sort of coming-out party signaling that [they are] now a modernized economy, ready to make [their] presence felt in world trade and politics" (Zimbalist, 2015). Their intentions may be noble, but the intention to use mega-events as a "coming-out party" means that developing countries who hope to host them must do so with huge investments. They face significant obstacles due to a lack of stadiums, homes, transportation systems and other sports-related infrastructures, and as a result, each of the mega-events hosted by emerging economies has been excessively expensive. Beijing, for example, spent USD 40 billion prior to the 2008 Summer Olympic (Zimbalist, 2015). In addition, as the 1976 Summer Olympics in Montreal show, expensive mega-events are not limited to emerging markets. Flyvbjerg and Stewart have even shown that all the Olympic Games, since 1960, have gone over budget (Flyvbjerg and Stewart, 2012).

Such incredible data, both in terms of costs and benefits raise the question: Are mega-events worth it?

The dissertation is organized in two chapters. The first chapter aims at providing evidence about the multiple possible reasons why in the last 60 years, the Olympic Games have always exceeded the expected costs. Firstly we will understand what methods are used when analyzing ex ante the economic benefits of hosting a mega-event. The need of the promoters of receiving optimistic results from these studies is the main cause of incorrect, often too positive, estimates. We will go beyond the impacts that organizers and promoters of the event disseminate and we will study the effects that economist like Zimbalist, Porter and Matheson have analyzed. We will divide this section of the chapter in two main paragraphs: increased

economic activity and increased tourist arrivals. Both start from the promises the promoters of the event argue to achieve, and then analyze in debt the causes of a possible insuccess.

The second chapter is divided in two parts. The first focuses on Agenda 2020, a set of 40 recommendations listed by the International Olympic Committee with the aim of ensuring and promoting more sustainable Olympic Games, not only from an environmental point of view but also in economic and social terms. We will mainly focus on six of the 40 recommendations, which make up, in turn, the so called New Norm.

In the second part of the chapter we are going to analyze in depth the 2026 Winter Olympics. These Games are the first to fully adapt to Agenda 2020 and will be hosted in Italy, more precisely in Milan and Cortina. These are going to be the first Games to take place in two regions, that will need a significant lower investment and that will have as main goals not only the delivery of the Olympic Games but also a long term economic and social plan for the regions.

We will see how credible the Candidature File and its predictions are and in the last part of the chapter, we will try to give a honest opinion about the possible success of the Games and the changes that Agenda 2020 has implied.

Chapter 1 - Effects of a mega-event on the host city in the short- and long run

1.1 Introduction to the chapter

This chapter will be dedicated to the analysis of the effects of mega events in the short and long run.

First, we will understand what we mean by mega-event and what are the main promised benefits of hosting one.

Next we will discuss which methods are mainly used to predict the economic impact that hosting a mega event will have, how ex ante studies tend to show overly positive estimates of the economic impact of hosting a major event and why this happens.

Lastly we will dedicate our attention to the ex post studies of the economic impact of a mega event. We will divide the ex post studies in two main sections.

The first section focuses on the argument that mega-events lead to an increase in economic activity in the host industry. In particular, we evaluate whether mega-events lead to previously inaccessible funds and increased investments. Theoretically, these investments could come from supranational organizations, private or public stakeholders. We also assess whether these new expenditures and investments have the multiplicative effect that many ex-ante studies suggest. Finally, we investigate whether the economic activity associated with the mega-events leads to an increase in income and tax collection for the host governments.

In the second section we will shift our attention to the possible effects of mega-events on a specific sector: tourism. We will examine the impact of mega-events on the number of tourists visiting the host region and their spending habits. We explore this channel for specific analyzes of a single mega-event as well as for cross-country evaluations incorporating many events. Next, we consider the impact of a mega event on the brand and image of a region in the international community with the idea of testing if hosting the event will have an impact on future tourism. Finally, we consider if mega-events increase the capacity of a city or a country to welcome future tourists after the improvement of the airport infrastructure, accommodation and transportation systems.

Finally, we will conclude that there is enough academic literature to suggest that the claims of most ex-ante studies are misleading.

1.2 Methods used to analyze the economic benefit of hosting a mega event

“Mega sporting events are defined as those one-time sporting events of an international scale organized by a special ‘authority’ and yielding extremely high levels of media coverage and impacts (economic, tourism, infrastructure,

etc.) for the host community because of the event's significance and/or size.”
(Sage, 2020)

In sports, the Olympic Games are the epitome of a mega-event. They happen every two years, alternating Winter and Summer Olympic Games, and are organized in synergy by the hosting country and the International Olympic Committee [IOC].

The organizing committees of major events, such as the Bureau International des Expositions or the IOC, promise the host countries important positive effects in the short-, medium- and long run. Millions of visitors, new infrastructures, new jobs, international visibility, these are just some of the main benefits claimed.¹

It is therefore not surprising to observe that the public opinion about hosting these kind of events is usually positive.

1.2.1 The *Input-Output* method

Most of the *ex ante* studies of economic impact of a mega event are done with the Input-Output method.

The basis of the Input-Output method is the idea that each sector of the economy uses the output of other sectors as inputs. The increase in production in one sector will trigger additional production in other sectors, generating a virtuous circle in the entire economy. The Input-Output method therefore shows the impacts - direct, indirect and induced - which are generated from one sector of the economy to another, following a shock of the final demand for goods and services. On the occasion of a major event like the Olympics, the direct impact on the economy is represented by the additional demand for national companies for goods and services related to the realization of the event itself, such as tourism and infrastructure costs. In turn, these companies request a higher demand for intermediate inputs from their suppliers - like raw materials, semi-finished products and various services - necessary to meet the initial additional demand. The greater additional demand for intermediate inputs represents the indirect impact.

Finally, the Input-Output method detects the impact induced on the economy, generated by the greater demand for consumer goods and services due to the greater employment activated and the greater disposable income that derives from it. The total impact of these indirect effects is estimated through multipliers, equal to the ratio between the total effect and the direct effect.

The final objective of the Input-Output method is the calculation of the added value generated on the economy.

¹ Bureau International des Expositions describes an Expo as “[...] a tool for nation branding and development. Because an Expo is one of the few events able to attract world leaders and decision makers as well as millions of visitors, it is a unique opportunity for a country to strengthen its international image and position itself as a key player in the international arena. [...] An Expo is also an extraordinary way to foster development. The event boosts the improvement of infrastructures, transportation networks and housing capacity. It generates employment and job creation and improves the global business and investment environment of the country. This local and national development is also boosted by an accurate re-use of the Expo site. After the event, the site is transformed to fit with the economic, social and cultural needs of the area.”

Despite the popularity of this method in the estimates of the economic impact of major events, due to factors such as simplicity of use and the production of results that can be easily interpreted and communicated by policy makers, the economic literature has highlighted several limitations. As shown in the table below, these problems may be intrinsic and linked to the methods of implementation, which can lead to the generation of incorrect impact estimates. Since "the predictions of these models are increasingly used to justify public subsidies, understanding these deficiencies is crucial" (Porter & Fletcher, 2008).

Table 1.1: Problems related to the Input-Output method (Porter and Fletcher, 2008)

Intrinsic Problem	Critique
Absence of constraints on resources	In real economies, resource constraints exist and must be taken into account when assessing the impacts of increased visitor spending
Constant proportion between input and output, between work and output, and between added value and output	These assumptions are not realistic if the relative prices change and force companies to change the composition of their inputs or if it becomes necessary to subtract resources from other parts of the economy
Fixed prices	In real economies, prices are not fixed. If the prices of inputs and wages rise due to an increase in demand, the net impact of output and labor resulting from the increase in demand is less than the injection of initial expenditure. This increase in prices will limit the extent of the expansion and may lead to contractions in some sectors.
Neutrality in fiscal policies	Following an economic expansion, tax revenues will increase and this will allow the government to increase spending, reduce other taxes, reduce public loans, or combinations of these, producing further effects on the economy.
Opportunity costs are not taken into consideration	Not considering the alternative uses of resources does not allow to conclude whether "an event is good enough" for the community.

1.2.2 Cost and Benefits Analysis as an alternative method

The Cost and Benefit Analysis assesses a major event in terms of social well-being. In fact, it compares the expected benefits in terms of willingness to pay for the event, with the costs

estimated in terms of opportunity costs. The analysis allows us to understand if a major event is socially acceptable, a situation that is true only if the sum of benefits exceeds the sum of costs.

It is fair to point out, however, that, like the Input-Output method, the Cost and Benefit Analysis has limits related to the evaluation of costs and intangible benefits, such as increased traffic and the difficulty of finding available parking spaces, or even something like increasing the quality of life.

However, the lack of diffusion of the method is certainly not related to these difficulties, but to the possibility of generating unfavorable results for the promoters of the events.

1.2.3 Cost overrun in the past

Cities that are candidates for a major event need public support, both because the organizing committees ask that the majority of the population is in favor of the event, and because in many countries citizens or the government can submit the candidacy for a referendum. Additionally, potential host cities compete with other cities for nomination. It is therefore necessary that the costs for organizing the event appear as low as possible to obtain public consensus and public funds linked to the nomination of a candidate national city.

The need to have public support on one's side is, in the same way, also a cause of the initial overestimation of the benefits. It is precisely to justify the use of large public funds for the realization of the event and, consequently, the increase in taxation, that the benefits are overestimated. Thus, *ex ante* economic impact studies often report extremely optimistic, hardly credible and achievable estimates.

In an article published in the *Journal of the American Association*, the economist M. Müller counts among the seven symptoms of what he calls "mega-event syndrome" the underestimation of costs and the overestimation of benefits, problematic aspects of the studies of *ex ante* economic impact detected by numerous authors.

A recent study from the Oxford University (Oxford Olympic Study, 2016) shows the dramatic gap between the expected and actual cost of the last Olympic Games, both summer and winter editions, as shown in the tables below. The results show an average increase in cost of 176% per the Summer Olympics and 118% per the Winter Olympics.

Table 1.2: Cost overrun of the Summer Olympics (The Oxford Olympic Study, 2016)

Summer Olympics	Hosting Country	Cost increase (%)
Montreal 1976	Canada	720
Barcellona 1992	Spain	266
Atlanta 1996	USA	151
Sydney 200	Australia	90
Athens 2004	Greece	49

Beijing 2008	China	2
London 2012	UK	76
Rio de Janeiro 2016	Brazil	51
Average		176

Table 1.3: Cost overrun of the Winter Olympics (The Oxford Olympic Study, 2016)

Winter Olympics	Hosting Country	Cost increase (%)
Calgary 1988	Canada	65
Albertville 1992	France	137
Lillehammer 1994	Norway	277
Nagano 1998	Japan	56
Salt Lake City 2002	USA	24
Turin 2006	Italy	80
Vancouver 2010	Canada	13
Sochi 2014	Russia	289
Average		118

1.3 Ex post studies

Since decades economist and experts of mega events ask themselves if there are real economic effects that the hosting cities can benefit from. The idea that mega events actually produce the promised economic effects finds little to no support in the independent studies *ex post*.

The American sports economist A.S. Zimbalist, in an interview with the Economist on the occasion of the publication of his book *Circus Maximus: The Economic Gamble Behind Hosting the Olympics and the World Cup*, suggested to policy makers "just say no" to the possibility of hosting a big event.

“The perennial claims that hosting the Olympics or the World Cup is an engine of economic development find little corroboration in independent studies. In the short run, the increasingly massive costs of hosting cannot come close to being matched by the modest revenues that are brought in by the games. The payoff, if there is one, must be realized in the long run. But even the legacy return is at best dubious. Much of the alleged legacy comes in the

form of qualitative gains, and the rest comes over very long periods of time, difficult to trace back to the several-week period of the games or the prior construction. But more often than not, the main legacy consists of white elephants that cost billions to build and millions annually to maintain, along with mountains of debt that must be paid back over ten to thirty years.” (Zimbalist, 2015).

There is a number of ex post studies researching the effects of a mega event. The main concepts that are analyzed are the same that are mostly used by promoters of the event ex ante, hence an increase in the economic activity and the significant increase in tourist arrivals.

1.3.1 Increased economic activity

It has been argued that both the preparation for mega-events and the actual events themselves lead to an increase in economic activity. It has also been argued that this increased level could potentially be sustained in the long run, so even after the end of the event.

Stakeholders that hold this view tend to claim that in preparation for the event the host has to undertake major investments not only in sports-related infrastructure, but also in other forms of infrastructure. Such investments would be made with three types of funds: (a) investments made by supranational organizations (i.e.: IOC, FIFA, etc.), (b) investments made by private stakeholders and, (c) investments made by public stakeholders.

According to these claims the event would allow the host to access resources that otherwise wouldn't be available. The rationale is that supranational organizations and certain private stakeholders would've simply chosen not to invest in the region in the absence of the event (or would have done so at a much smaller scale) and that (slow) bureaucracy could've prevented available public resources to be effectively deployed in these infrastructure investments.

The argument of increased economic activity holds also in other fields. Infrastructure investments would presumably serve as an engine of growth for the local economy as the required construction activities demand direct and indirect inputs from other local industries, effectively creating a multiplicative effect throughout the economy. In the short run, these investments themselves would create additional employment in the local economy as these endeavors may require sizable labor. In turn, these new jobs might translate into new spending in the region, which would also generate a multiplicative effect throughout the economy. It is also presumed that at least a portion of the new jobs created due to the event are maintained over time.

Finally, attendees, local and foreign, will spend on goods and services directly related to the event but also on social and leisure activities, goods and other services, more loosely associated to the event. This increased economic activity could presumably lead to new jobs and new spending in the region, and, once again, it is presumed that at least one portion of the new jobs created due to the event are maintained over time, allowing for the increased level of economic activity to persist long after the event has occurred.

1.3.1.1 Access to previously inaccessible resources

a) Funding from supernatural organizations

Supranational organizations, like the IOC or FIFA, will give the hosting region access to resources that would have not been accessible otherwise. This is true as these funds are specifically earmarked to be used for the mega-event.

Nevertheless, spending associated to this type of funding is generally restricted to operational and promotional costs, not major infrastructure investment and it represents a relatively small share of the overall preparation costs of the event.

As a consequence, it is difficult to make the case that “gaining access” to these earmarked funds spent by supranational organizations makes it worthwhile to incur the counterpart investments that are required from host regions. However we can state that these funding alone are not sufficient to assert that hosting a mega event will be profitable for the hosting region.

b) Funding from private stakeholders

The case of new funds from private stakeholders is based on the logic that the presence of a mega-event is the reason why a number of private stakeholders would have chosen to make significant investments in the host region. The 1984 Los Angeles Olympics are usually used as an example for this line of reasoning since they were widely considered to be the first privately funded Olympics. However, the 1984 Olympics were the exception rather than the norm, an exception mainly caused by the turbulent period preceding them.

The 1968 Olympics in Mexico City took place in the shadow of major civil unrest in the days leading up to the start of the event. The 1972 Olympics in Munich were clouded by the kidnapping of eleven Israeli Olympic athletes, who were taken hostage and murdered together with a German police officer. The 1976 Olympics in Montreal were therefore perceived as a financial hardship as they sank the city into a multi-billion dollar debt that was only paid in 2006. Finally, the 1980 Moscow Olympics were boycotted by over 60 countries to protest the Soviet invasion Afghanistan. In the midst of this tumultuous race, Los Angeles presented in 1978 the solitary offer to host the 1984 Olympics, making it the first game to be won without competing offers from the 1932 Olympics.

In light of these special circumstances, the Los Angeles Olympic Organizing Committee has been able to negotiate certain terms with the IOC that no other host had been able to do in the past - or has been able to do since then. According to Andranovich, Burbank and Heying (2001), the Los Angeles offering offered two new proposals: (i) the games would be privately funded, and (ii) the host city, not the IOC, would negotiate television rights. In addition, the insistence by city officials to limit the city's financial liability convinced the IOC to give up a rule that required the host city to be financially responsible for the Games.

Andranovich, Burbank and Heying (2001) say that the Los Angeles Olympic Organizing Committee (LAOOC) was set up with clear objectives: to maximize corporate sponsorship, exploit existing structures to minimize the costs of organizing the Games, opt for volunteers

rather than paid staff and to request sacrifices from both Olympic visitors and local communities. The preparatory investments, all made by private entities, were minimal since only some structures were built or renovated. Furthermore, according to the authors, the Games were used as a reason to renovate the airport and expand telecommunication infrastructure, but they did not generate secondary development projects. This model allowed a controlled budget of just over \$ 400 million according to the official Los Angeles 1984 report (Los Angeles Olympic Organizing Committee and Perelman 1985). This sum represented approximately 25% of the costs of the 1976 Montreal Olympics and enabled an effective profit of over USD 200 million.

However, as mentioned above, the environment that allowed control over the budget and any profit is quite unusual. For comparison, The Guardian approximates that 85% of the over 11 billion pounds slated for the London 2012 Olympics were born out of public funds. Again The Guardian estimates that the remaining 15% would be divided equally between IOC funding and private sponsorships. This means that public investment has been over thirteen times the amount of private investment and almost seven times the amount of non-public investment.

c) Funding from public stakeholders

An increase in public investments is believed to be possible because the event would be used as a catalyzer to overcome the political gridlock that, in normal circumstances, prevents the use of available public resources.

However, this logic arouses at least two counter arguments. The first concerns the actual presence of political gridlock that prevent the access to available resources. The second is related to the question whether or not readily available public resources actually go unused. With respect to the latter, it seems as very unlikely that they would actually go unused, especially considering the indebtedness the government inevitably faces by hosting mega-events.

Gouget and Barget (2006) argue that the debt that arises from hosting the event represents a negative externality of sporting events, especially if the investments made do not later lead to true economic development. Similarly, Zimbalist (2015) states that for one to meet these debt services, the government has to raise taxes or cut public services, both of which would slow down the local economy. In addition, Zimbalist claims that this potential resistance would be economically justified only if the original investment has a larger long-term positive impact on the region than the potential cost it would represent. This is a high threshold that must be met. In these circumstances, it appears unlikely that regions would incur this type of debt if they had access to public resources that would otherwise not be used.

Andrews and Balchin's emerging research has recently introduced an interesting perspective regarding this public resource debate. They argue that in the case of the 2010 World Cup in South Africa, the local governments of Cape Town and Durban benefited from a number of capital investments outside the stadium that were funded by the national government and reduced the investments made by the city itself. According to this logic, it is possible that a specific place, for example a specific city, could theoretically benefit from a significant

transfer of resources from the national or regional government, even if, at the aggregate level, the argument is that "no public resources available are not used". This national government funding is likely to imply the same tradeoffs that Zimbalist (2015) highlighted, but these costs are not necessarily borne by the beneficiary cities. They are rather subsidized by the whole country.

Andrews and Balchin's argument inserts a distribution dynamic that is worth investigating, which could help explain the reasons why host cities are often the ones where cross-subsidization is possible.

d) Prioritizing investments in mega-events over other potential investments

Finally, even if potential funding is available, the question arises whether this type of public investment should take precedence over alternatives. In particular, the question is whether the opportunity costs for building an event-related infrastructure are higher or lower than for other types of public investment. Kesenne (1999) argues that even if a mega-event can bring net benefits, public funding should only take place if the event brings greater net benefits than alternative projects. While it is not possible to know the net benefits of all other potential projects and measure them *ex ante*, the author believes that these elements should still be considered.

Matheson and Baade (2004) argue that the context could significantly affect the answer to this question. They argue that the opportunity cost of capital could be particularly high in developing countries as there could be many other public projects that are more valuable to society, but this may not be the case in more developed countries.

Similarly, Humphreys and Prokopowicz (2007) argue that transition economies trying to target these important events must significantly improve their current inventory of sports stadiums and five-star hotels. They also claim that this type of expenditure incurs higher opportunity costs than industrialized countries. These arguments should serve as an important warning when developing countries are considering hosting such events.

In their review of this topic, Coates and Humphreys (2008) agreed that stadiums, arenas, and sports franchises do not have a positive and consistent impact on jobs, income, or tax revenue. They believe that it is difficult to justify subsidies for the construction and operation of these facilities if sports facilities do not have a positive economic impact on the local economy.

It should be noted however that most of these studies did not primarily focus on mega events and that they were also based in the United States, which has a certain urban structure and a tendency to locate stadiums in suburban areas that could possibly minimize their impact.

To overcome these alleged restrictions, Feddersen, Grötzinger and Maennig (2009) created the first multivariate study that uses a difference-in-difference model to investigate the possible effects of new stages outside the US on income and employment. They hence decided to focus on new stadiums for the 2006 World Cup in Germany. However, the authors

found no significant non-zero impact on income or employment in urban areas with new stadiums².

Based on these arguments, there is nothing to suggest that stadium construction is the best use of state funds, especially when financing these structures involve very specific tradeoffs.

1.3.1.2 Multiplicative effect

Another assumption is that the investments associated with the mega event will have a multiplicative effect on the entire economy (mainly by creating additional jobs), but there are reasons to believe that also this effect could be overrated. First, the economic multipliers used in most ex-ante analysis are calculated using complex input-output tables that assume certain cross-sectoral relationships within the regions and are based on the normal production models of an economic area. As Matheson (2009) argues, during mega-events, these cross-sector relationships may not last, which makes the multipliers very inaccurate.

For example, organizing these events is a major effort that could require productive resources that are far superior to local offerings. Capacities are unlikely to support previous construction activities while managing the additional work related to multi-billion dollar specialized projects. Either the existing resources would have to be reorganized from other constructions (which at best have a net zero impact on the economy), or it would be more likely that a significant portion of the work would be outsourced to the local economy, resulting in an outflow of money from the region.

In addition, Matheson (2009) argues that there could be other significant losses that could overestimate the expected multiplicative effects. For example, hotels, many of which are national or even global chains, regularly raise their prices during mega events, while the wages paid to hotel employees remain unchanged. This lack of demonstrable effects on mega event income was also suggested by Hagn and Maennig (2008, 2009).

This could lead to a reduction in the expected multiplier effect, as capital inflows are far less likely to remain in the geographic area than earned labour. Therefore, the increase in profits for owners of non-local capital would result in higher income losses than normal.

In addition, Baade and Matheson (2004) state that further losses can vary depending on the economic situation. If the host economy has full employment or is almost full, the work required to prepare the event may be located in other municipalities. If there is a surplus of workers, the potential multiplier effect is further limited.

In view of these results, there is reason to believe that the jobs created by the mega-events, when calculated ex-ante, will also be less than originally expected.

Zimbalist (2015) summarizes these conclusions and other ex-post impact studies in the following way:

“In sixteen cases, the games were found to have no statistically significant effect on employment or income, in seven cases a modest positive effect on income or short-run employment was found, and in three cases a negative

² It's worth mentioning that the authors did stress that the impact of these stadiums might be found in “feel-good” and “image” effects. However, these variables are difficult to measure and to compare with more tangible variables.

effect on income was found. Where there was a modest short-term positive employment effect, it was in each case a fraction of the officially projected effect and must be measured against the large public investment in all cases, except Los Angeles, where public funding was diminutive”.

1.3.1.3 Revenues

Another assumption that was raised in the promotional studies is that the event could facilitate the flow of various sources of income into the host region. Such mechanisms could be classified as (a) event-specific revenue from ticketing, merchandising and broadcasting, and (b) event-related spending by tourists and locals for accommodation, transportation, food and drink. Theoretically, it could be argued that these events could result in an increase in tax collection from both sales related to the event and sales that are not necessarily directly related to the event. In addition, more optimistic ex-ante studies argue that this additional economic activity becomes "new normal" after the event and can be maintained over time.

a) Event-specific revenues

The flow of event-specific revenue to local and national authorities is minimal or non-existent. It is known that supranational organizations that monitor events have the right to generate most, if not all, of ticketing, merchandising, and broadcasting revenues.

Although to a lesser extent, even the Olympic hosts cannot fully collect the revenue generated by the event. According to the 2014 Olympic Marketing Act (International Olympic Committee, 2014), the IOC manages television partnerships, the Olympic Partnership (TOP)

worldwide sponsorship program and official IOC license and provider program. Local organizing committees are left to manage sponsorship programs, ticketing, and national licenses. However, it must be remembered, that the IOC contributes to the revenue generated through broadcasting agreements and sponsorship programs to support the Olympic Games.

If this IOC contribution is considered as a revenue sharing mechanism, it could be argued that the IOC shared about two-thirds of the total revenue with the local organizing committee for the 2012 London Olympics. However, based on the current revenue sharing agreement, the London Organizing Committee, which deals primarily with operating costs rather than infrastructure and other key costs, managed to break even. Zimbalist (2015) argues that this was only possible due to the \$1.67 billion infusion of public funds.

Perhaps more worrying is that even if the revenues were shared in a radically different way, the net benefit for the hosts could still be negative. For the London 2012 Olympic Games, the budget of the non-organizational committee for related infrastructure work and other costs was approximately \$15 billion, most of which was public money (International Olympic Committee, 2012). In the meantime, total Olympic Games revenue was approximately \$5.5 billion, indicating that the budget of the non-organizational committee would be 2.7 times the total revenue. Once taken into account the organizing cost, the cost of hosting the London Olympics was 3.7 times all revenue.

Basically, there seem to be two main problems with event-specific revenue.

First, at the World Cup, most of this income is not simply passed on to the hosts. At the Olympic Games, between half and two thirds are shared with the hosts, even though they are subject to expensive capital investments as part of their winning offers.

Second, even if the revenue has been divided radically differently and the hosts have been able to accumulate all of the revenue, they may not be able to meet the costs of hosting the event. In the more extreme recent examples, total revenue could represent between 10% and 30% of the total cost of hosting a major sporting event.

Therefore, a revenue advantage for hosts is unlikely to result from event-specific direct revenue and depend on other secondary revenue streams.

b) Event-related expenditures

In addition to the event-specific revenue, it is argued that hosts can benefit from additional costs associated with the event. Examples of this type of expenditure could include the consumption of food and beverages in the arena and further investments in parking or transportation. In addition, it could be argued that the festive mood surrounding the event would affect locals and visitors who did not necessarily attend the event to increase spending on other social and recreational activities vaguely related to the event.

Fedderson and Maennig (2010b) analyzed a number of studies that have focused on taxable sales data or the collection of sales taxes to understand the effects of mega-events. The prevalence of these studies is partly due to the quality of these data. Where available, this information is typically collected in a more precise geographic area and in shorter times. In addition, it is usually recorded more precisely and with a clearer connection to sports facilities and events. Furthermore, according to Matheson (2006), this type of data is a good indicator of economic well being as it accounts for 40% of total economic activity. The approach used in these studies could serve as the best available proxy to understand the impact of mega-events on event-related expenses.

Allmers and Maennig (2009) examined the effects of the 1998 World Cup in France and the 2006 World Cup in Germany on retail sales, but could not find any statistically significant effects. Similarly, Porter and Fletcher (2008) examined the 1996 Summer Olympics in Atlanta and the Winter Olympics in Salt Lake City in 2002 and found no significant impact on taxable sales. Along the same lines, between 1980 and 2005, Baade, Baumann, and Matheson (2005) conducted a detailed regression analysis of taxable sales in the US state of Florida to assess the impact of major sporting events on the economic activity.

During that time, the authors rated four metropolitan statistical regions (Miami-Fort Lauderdale-West Palm Beach, Tampa-St. Petersburg, Orlando and Jacksonville) and 19 major sporting events (seven NFL Super Bowls, two NHL Stanley Cups, two NHL All-Star Games, two MLB World Series, two NBA All-Star, one NBA final, one NCAA basketball final for men (four), one MLS All-Star and a number of World Cup games in 1994).

The authors used the change in taxable sales in the specific statistical metropolitan area as a percentage of taxable sales in the rest of Florida as a measure of impact. If mega-events have a positive impact on a region's economy, we can expect a consistent pattern of increasing taxable sales periods related to these events.

According to Baade, Baumann and Matheson (2005), 12 of the 19 events, including the World Cup, actually had a negative coefficient, indicating that the ratio of taxable sales during this period fell below the expected level. All in all, this corresponds to a decrease in taxable sales of USD 34.4 million (in USD 2004) per event in a specific statistical conurbation over the period of 25 years. It should be noted that none of the events had a statistically significant impact other than 0 to 5 percent, so the results must be interpreted carefully. Baade, Baumann and Matheson (2010) also carried out an analysis of taxable sales in Salt Lake City during the 2002 Winter Olympics. The authors found that some industries saw a statistically significant increase in taxable sales, that is, hotels (\$ 51.9 million) and restaurants (\$ 18.7 million). However, these gains are likely to be offset by losses in other sectors. For example, the authors point to a statistically significant loss of taxable sales in general merchandise transactions of USD 167.4 million.

Overall, there was no statistically significant connection between the event and taxable sales for the 2002 Winter Olympics. This indicates that while some industries may benefit from an important event, the overall impact may be neutral or uniformly negative. Their results also suggest that the impact is demonstrably less than the alleged investment related to the event. It is important to note that the distribution effects between the industries could strongly influence the incentives for the main players in these beneficiary industries to actively promote mega-events.

These studies agree that the effects of mega-events through retail sales are not statistically significant. However, these results do not appear to be intuitive given the level of activity that is normally perceived during these important sporting events. This perception is seen as a basic requirement for ex-ante studies. Matheson (2006) argues that there are three theoretical limits to these ex-ante assumptions: the substitution effect, the shift effect, and the spillover effect. This could include the replacement effect and the removal of restrictions which is particularly useful for understanding counterintuitive results compared to sales.

The substitution effect occurs when individuals in the local economy spend money on a mega event and not on other goods and services. It is likely that people will have a limited budget that, if spent on the mega event, is automatically taken away from other goods and services on which individuals might have spent money on in a normal occasion. Even if some people redistribute from other parts of their budget to the consumption of mega-events, the overall savings rate of the local economy as a by-product of the event is unlikely to change. Instead of a significant increase in taxable sales, it is likely that existing local sales will be redistributed.

This problem can be exacerbated by what Meannig and Du Plessis (2007) described as the "mashed potatoes" effect. The mashed potato effect describes what happens when local consumers actually reduce their regular consumption after the event. If this is to have a positive impact on retail sales, it will depend on visitor spending. In fact, Coates and Depken (2011) argue that the effects of larger events can depend on the interaction of two compensation behaviors. On the one hand, more visitors visit the event, which can increase local spending. On the other hand, the locals could be influenced to avoid the event or to leave the city altogether, which would put pressure on local spending. If local expenditures

declined faster than external expenditures due to increases outside the city, the net impact of the event would be negative, even if the gross expenditures associated with the event were high.

Barget and Gouget (2013) provide further evidence of the importance of the cost of foreign viewers. These authors argue that one of the main reasons for regional differences in influence at the 2007 Rugby World Cup in France was the structure of the nationalities that participated in games in a region. Specifically, the authors say that regions that attracted high-income and high-spending foreigners (either because they hosted the best games or the games with those foreigners' country of origin) did significantly better.

This is where Matheson's Shift Effect (2006) comes in. According to him, mega-events can create a feeling of congestion that could prevent regular visitors from coming into a city during this time. Many major events take place in regions that are already popular destinations and have total or almost full capacity in the high season (usually during the time when mega-events take place in the northern hemisphere). This could result in event visitors replacing regular visitors instead of generating new ones.

Leeds (2008) also examines the spillover effect. The author claims that while the games have done little for the Salt Lake City and Utah economy, they have had a major positive impact on neighboring Colorado through a shift or worrying effect. Visitors who traditionally went to Salt Lake City to ski would have avoided this destination during the Olympic Games and could have gone to Colorado instead. This would allow Colorado to drive freely at the Salt Lake City Olympics.

In summary, there is little evidence to support the argument that mega-events trigger a significant increase in event sales. Although gross sales during the event can be very high, the net impact can depend on the extent of the substitution effect, the "mashed potatoes" effect, the crowding-out effect and subsequent consumption patterns by visitors to the event. Therefore, there is a higher chance that an economy has a distributive impact of spending across industries rather than an increase in total sales. In addition, recent trends raise concerns that the impact via this channel could theoretically be negative for the host regions.

c) Tax collection

If there is no evidence to indicate that mega-events have a significant positive impact on direct and indirect revenue, we should not be able to find meaningful evidence that indicates a significant increase in tax collection either. On the contrary, given some requirements put forth by organizations such as FIFA and the IOC, there is a possibility that hosting some mega-events will hinder tax collection.

The IOC also requires special tax treatment. According to Zimbalist (2015), this includes the tax exemption for the income of business partners and foreign citizens who take part in the Olympic Games.

It should be noted that given the nonprofit status of these organizations, the surplus generated by their activities is likely to be considered tax-free in most countries regardless of the requirements they impose. This makes the calculation of these estimated tax losses

particularly difficult. However, these exceptions are not limited to activities that are closely related to the event, such as broadcasting rights or ticket sales.

In summary, there is no ex-post evidence that mega-events trigger an increase in tax revenue. In addition, tax exemptions extended to supranational organizations and their partners could further improve the balance of revenue distribution in favor of these organizations compared to hosts. Because these exceptions are not limited to event-specific activities or operating surpluses, they can result in a net loss of tax revenue for host cities.

d) Sustained long-term impact

Von Rekowsky (2013) examined the scarce literature on mega events between 1990 and 2010 and found no significant long-term economic benefits as a by-product of event hosting. The author argues that one possible explanation could be that investing in mega-events does not tend to meet the underlying constraints that limit growth. Therefore, the long-term prospects of the host region are unlikely to change significantly.

Finally, Billings and Holladay (2012) analyzed the long-term effects of hosting mega-events for all Summer Olympics between 1956 and 2004. The authors reviewed the self-selection of cities where these types of events take place using a difference mode - difference mode that other finalist cities used as a control group. As a result, they do not find any statistically significant long-term effects on real GDP per capita. In this case, the authors argue that the host cities are likely to lose long-term benefits during the bidding process because the investment required to win a bid and the cost of performing the preparation may be greater than the expected benefits. It should be noted that, although these investments and expenditures appear to eliminate potential benefits overall, some investments associated with the event can have potential positive effects (e.g. improved transportation).

Although there are not many studies on the long-term effects of mega-events, the few available do not provide any evidence that these events have a positive long-term effect on economic activity. In addition, these studies tend to argue that the investments and expenditures made in preparation for the event appear to outweigh the benefits and are not subject to the structural constraints of the economy, which is why they are, on average, non-productive investments.

1.3.2 Increased tourist arrivals

Given the evidence that undermines the argument that sporting events have a large positive economic impact, some argue that the impact of mega-events may be more clearly due to the performance of a particular sector, such as tourism.

More specifically, mega-events are believed to have a positive impact on the arrival of tourists and possibly spending on tourists. The mechanism by which these potential effects would occur complements the one described above, since tourists are expected to make up a significant part of event-related expenditure.

In this case, it is assumed that tourists who would not otherwise have visited the region decide to take part in the event.

Additionally, the idea is that these event-based tourists return home and recommend to friends and relatives to visit the country and therefore expand the future tourist base.

It is also expected that the remarkable television coverage of the event will make the cultural and natural beauty of the hosting region and tourist opportunities available to a global audience. In theory, this would improve and potentially attract its reputation as a global travel destination for new tourists for years to come. More specifically, according to the IOC, 99,982 hours of the 2012 Olympic Games were broadcast in 220 areas worldwide, reaching the expected 3.6 billion viewers.³

FIFA, the IOC, and the host country's tourism ministries believe that such exposure to the region would motivate future travelers to attend the numerous mega-events. Finally, the preparation of the event is believed to be a first opportunity to invest in tourism skills such as improved airports, public transport systems and hotel deals. This would also serve as an opportunity to acquire certain management and language skills that could also serve as a competitive advantage over other potential goals.

There are a number of ex-post assessments to respond to requests for positive tourism effects. For most of them, the ex post results differ significantly from the ex ante forecasts as there seem to be some structural constraints that limit the impact of this type of event on tourism activity.

1.3.2.1 Increases in the number of visitors and tourism spending

A major tourist attraction is a common feature of ex-ante estimates of the effects of mega-events. The fall of the 1992 Summer Olympics in Barcelona and the reinvention of the city as the main European tourist center are constantly being promoted as the main example of the use of mega-events for the growth of long-term tourism.

According to Zimbalist (2015), the growth in overnight stays⁴ in Barcelona between 1990 and 1994 exceeded that of all major European cities during this period. In addition, this trend continued after the event. This outstanding achievement is often attributed to the 1992 Summer Olympics, particularly in the sports sector.

Apart from Barcelona, the city or host country's experiences in tourism seem to be mixed at best. During the Beijing 2008 Olympic Games, the number of overnight stays decreased by 39% annually. The 2012 Olympic Games in London, the 2010 Olympic Winter Games in Vancouver and the World Cup in South Korea in 2002 were also associated with a sharp drop in the number of foreign visitors. On the other hand, the 2014 World Cup in Brazil and the 2000 Olympic Games in Sydney saw a significant increase in foreign visitors (Zimbalist 2015).

It is not clear from these raw numbers whether the events themselves influenced the growth of tourism or happened to correlate without major causal relations. It should be noted that many host cities, even without mega-events, are attractive tourist destinations that could

³ It should be noted that viewers are defined as those that saw at least one minute of coverage on television. According to the IOC 74.4% of viewers that saw one minute of coverage continued to watch for at least 15 consecutive minutes.

⁴ The number of tourists multiplied by the average number of nights per tourist

pursue long-term tourism strategies to improve or support the flow of tourists regardless of the mega-event. In addition, international travel is strongly influenced by exogenous causes (e.g. global business cycles, concerns about terrorism, health) that could confuse the results. Unraveling the specific effects of mega-events from these alternative explanations is exactly the goal of ex-post evaluations.

Most of these assessments attempt to outline the effects of a particular mega event on a particular region at a particular time. Other studies have attempted to answer these questions more fully and to understand the average impact of these types of events in different contexts. These different types of studies provide different but possibly complementary insights.

a) Event-specific evaluations of the impact of mega events on tourism

Most event-specific assessments are not optimistic. Edds (2012) notes that the 1992, 1996, and 2000 Olympic Games had no positive effects on the change in tourism GDP in the states or regions where the games were held, compared to similar regions with no events. Likewise, even if ex-post studies find positive effects, it generally does not meet the high expectations that were present before the event. Generally, visitors' estimates are regularly overrated ex-ante.

The literature on the subject argues that ex-ante estimates tend to underestimate the shifting effects of the mega event. There are three possible problems with ex-ante estimates: (i) time change or time shift, (ii) displacement or goal postponement and (iii) pricing.

First, Matheson (2006) defines time shift as the behavior of visitors who intended to visit a destination at a certain time in the future (for example: a desirable vacation, a business trip, etc.), but have decided to change the date of their trip so that it coincides with the mega-event.

Second, Matheson (2006) describes crowding-out as a crowd caused by the mega-event that discourages potential visitors could take a trip to the host region during the period of the event. Matheson (2006) claims that the vast majority of the destinations chosen for these events are already well-known tourist hotspots.

In addition, events such as the World Cup and the Summer Olympics usually take place between June and August, which is usually considered a high season for many travel destinations. The Winter Olympics also adapt to this model because they coincide with the peak times for winter resort destinations. The intuition behind the crowding hypothesis is, therefore, that these events tend to occur when the guest's goals have peaked. As a result, some regular visitors can be driven out to accommodate event-specific tourists.

A concrete example of this type of behavior was mentioned in the previous section. More specifically, Leeds (2008) examined the spill-over effect of the 2002 Winter Olympics in Salt Lake City on the nearby ski industry in Colorado. He found that the games added net retail sales of over USD 160 million to the economies of the 16 cities of Colorado with ski resorts. According to the author, visitors who traditionally drove to Salt Lake City for skiing reasons could have avoided this destination during the Olympic Games and allowed Colorado to free ride at the Salt Lake City Olympic Games.

Third, Porter (1999) argues that pricing input providers tend to raise prices in response to higher demand. This leads to a downward pressure on the total number of visitors. The argument is that providers such as hotels and airlines are strategically increasing prices instead of significantly expanding capacity in the face of continued tourist demand. Higher prices allow them to make more money with traveling visitors, but they also give a prize to a number of visitors. This could make sense for tourism providers, since these mega-events last a few weeks, which simply cannot justify a long-term expansion of capacity.

While this strategic response is potentially beneficial to individual economic operators, it is considered to be detrimental to the local restaurant industry as these price increases are not associated with "multiplier spending". In practice, additional revenue generally tends to generate profits for hotel chains and transnational airlines and does not increase wages, investments or interim demand in the local economy. Looking back at the 1996 Summer Olympics and the 2002 Winter Olympics, Porter and Fletcher (2008) argue that most of the growing mega-event demand has been absorbed by the hotel industry through price increases. They estimate that hotel prices rose 43% in Atlanta and 140% in Salt Lake City.

Taken together, these three possible explanations can provide information that individual events, even if they have a statistically significant impact on tourism, are regularly below previous expectations.

b) Cross-country evaluations of the impact of mega events on tourism

Numerous cross-country studies have recently been carried out to assess the impact of mega-events on the arrival of tourists. Unlike event-specific ex-post evaluations, these efforts attempt to go beyond the specific circumstances of a particular event and identify general trends related to mega-events. The assessments carried out so far appear to be particularly revealing in two areas: the timing and direction of the impact of mega-events on tourism, and the conditions that affect the magnitude of the impact.

In terms of temporality, Fourie and Santana-Gallego (2010) make an insightful discovery that the "legacy" of mega-events occurs on average before the actual event. The authors find no evidence of statistically significant increases in the three years after a mega event, but significant increases in the three years before an event. According to the authors, tourism is expected to grow 4% three years before the event, 7% two years before the event, and 16% the year before the event on average.

Song (2010) continued to deal with the topic of temporality and carried out another field study taking into account the Olympic Games between 1950 and 2008. He found that the tourist boost of the Olympic Games is short-lived. It mainly focuses on the four years before and after the event, in line with Fourie and Santana-Gallego (2011). However, Song (2010) also found that this impact not only wears off in the long run, but is also negative, which has profound effects on how mega-events are likely to be used for tourism purposes.

Regarding the issue of conditions affecting the magnitude of the impact, Fourie and Santana-Gallego (2011) make three important contributions regarding the source of tourist flows, seasonality, and different economic developments. First of all, the authors note that the vast majority of tourist flows come from countries participating in the event.

Fourie and Santana-Gallego (2011) also note that hosting an event in high season is expected to reduce tourist arrivals by 6%, while hosting an off-season event is expected to increase arrivals by 16%. This finding could provide further evidence for the aforementioned displacement hypothesis. This could also help explain the large differences in expected results between the Athens Olympic Games, which took place in Greece during the high season, and the Sydney Olympic Games, which took place in Australia in the off-season. Finally, with regard to the differences in economic development, Fourie and Santana-Gallego (2011) state that both the OECD and the non-OECD countries will benefit *ceteris paribus* from the further influx of tourists in the year of the event. This impact could be greater for non-OECD countries (15%) than for OECD countries (9%). It is worth noting that there is some inclination to choose in this outcome, as the OECD tends to host events with less tourist impact, such as the Winter Olympics, and tends to host events in high season. Therefore, these latter results should be interpreted with particular caution. Overall, these cross-border studies help to understand most of the variance in event-specific studies, identify some of the underlying causes of this variance, and better understand the long-term impact of these types of events.

1.3.3 Image enhancements

Another potential benefit that is regularly mentioned by organizers of mega events is the international perception of the host city. The mega events attract a large global audience and increasingly fill the news feeds as the event approaches.

Mega event organizers argue that this sizeable presence can be used strategically to raise awareness of the host region as a travel destination and improve its global brand.

Therefore, the organizers argue that hosts could become more competitive long-term destinations beyond the short-term tourist flow.

Ritchie and Smith (1991) created one of the first studies on the relationship between mega-events and image enhancement. The authors assessed the impact of the 1988 Winter Olympics in Calgary on the city's image in two major markets: the United States and Europe, and found that awareness of the city and that there was a significant increase on the awareness of the city and an important shift the way city was perceived by potential visitors.

However, studies also show that these good signs should also be used with caution.

Solberg and Preuss (2007) argue that the promotional effect created by the mega-event could only be short-lived and that attracting new tourists after the events had passed could therefore require considerable investments.

Oldenboom (2006) found that, although the event briefly raised awareness of the host cities, 55% of the people answering the survey did not even remember the names of the host countries one year after the tournament.

The European Tour Operators Association (ETOA) argues that one possible explanation for this phenomenon is that sports viewers care more about the sport itself than the location.

While past general-purpose visitors would likely have focused their comments on friends and relatives on the traditional tourist attractions of a destination, such as natural and cultural

facilities, visitors to mega-events would likely have shared the experiences associated with the sport itself. These word of mouth reports related to sports may be less informative or attractive to potential future visitors. This type of awareness, we can conclude, may not affect the long-term perception of the host region as a destination.

1.3.4. Building tourism capacity

A final positive result mentioned by the organizers concerns the tourist capacity. In theory, the mega event offers the opportunity to expand and improve important tourist infrastructures, which in turn would enable the host region to profile itself as a travel destination in the long term.

As already mentioned, there is clear evidence that the effects of mega tourism events are likely to be short lived without a well-designed and well-implemented agenda for long-term tourism promotion. Considerable investments to cover a short surge in demand could therefore prove to be risky.

This helps to better understand two trends observed at the recent mega-events: the behavior of rising prices by established tourism providers and the increase in temporary tourist accommodations.

Solberg and Preuss (2007) emphasize the inherent risk of excessive optimism when preparing for an event. The authors argue that even if mega-events boost tourism, excessive optimism can lead to investments that outweigh long-term demand. They also warn that a positive supply shift that outweighs the positive demand shift can make investments unprofitable in the long run.

1.4 Other qualitative and social impacts

While this does not fall within the scope of this document, it should be noted that organizers have pointed out that mega-events have additional qualitative and social effects. I will only briefly describe three social "legacies" of frequently cited events and comment on the remarkable ex-post results that tease the validity of these claims. In particular, we will look at the results of increased international trade relations, crime reduction and welfare effects.

Compared to the potential increases in international trade relations, the organizers premise that mega-events raise awareness of host cities in the eyes of potential investors and business partners around the world. It is believed that the organization of an event triggers three important signals for potential new business partners: submitting a bid to host the event, being chosen as best candidate to host the event and finally successfully hosting the event.

The reduction in crime is also included in the long list of potential benefits that the organizers are promoting. Security budgets for mega-events have grown steadily in recent decades and now tend to be well over \$ 1 billion. However, some ex-post evaluations report that despite these enormous costs, there is little evidence of a crime reduction. First, Baumann et al. (2012) estimate that the Olympic Games are associated with a 10% increase in crime rates in the host cities. In the meantime, Campaniello (2013) reviewed the relationship between the

1990 World Cup in Italy and the crime rate in the provinces and found that hosting the World Cup was associated with an increase in the number of property crimes and an increase in willful misconduct. There is no clear relationship with other violent crimes.

Lastly, organizers often discuss the effects of "well-being" and "happiness". The orchestration of one of the most anticipated sporting events in the world, according to the thought, could positively influence the prospects of the population not only on the event, but also on a broader range of topics. According to the Zimbalist (2015), surveys confirm with a few exceptions that the mood of the population tends to improve in connection with the event. However, these effects are usually temporary and disappear after the event ends. Exceptions to this are some rather extreme situations, as evidenced by the numerous protests by the Brazilian government regarding the 2014 World Cup.

These are just a few of the "hereditary effects" advertised by promoters and organizers. Zimbalist (2015) compiled a non-exhaustive list of potential benefits inherited from the IOC. In addition to those already mentioned, it includes improved management practices, improved coordination between government agencies, educational services, public health services, improving the inclusion of disabled people, preserving culture, more sustainable strategies and standards, less racism and greater social inclusion.

There are only a few independent studies that confirm these claims. However, Zimbalist (2015) notes that it is not clear whether it makes sense to pursue these goals indirectly by investing in mega-events, rather than pursuing them directly through targeted, better-funded, and better-planned strategies, even if these claims hold true.

1.5 Conclusion

The vast majority of mega event literature is unable to demonstrate a relationship between mega-events and an increase in economic activity. Overall, the supposed economic benefits of an event in ex-ante studies are largely overestimated. In practice, the real benefits are offset by the costs associated with preparing the event.

Mega events seem to have a positive impact on visitor growth and an enhanced image of the host cities as a travel destination. However, these positive effects are usually short-lived, conditioned and far below the ex-ante expectations. Most of the impact on visitor growth appears to be mainly focused on the four years before and after the event. In fact, the positive impact of mega-events disappears in the long run. Likewise, after a brief increase in awareness and perception after the event, the hosts face a rapid decline in the image. In addition, the positive effects of tourism tend to depend on a number of other variables.

After all, the positive impact on tourism, especially visitor growth, tends to be far below expectations. This seems to be due to the fact that ex-ante estimates systematically underestimate the effects of time switching, crowding out and pricing. This practice could lead to overcoming the estimate of new net tourists and their intrinsic "multiplicative effect". This can overestimate the potential impact of the mega event and even become a self-defeating prophecy with significant repercussions for the host region.

In conclusion, it seems to be that the broader question in play for policymakers is whether or not mega-events are the appropriate channel through which the pursuit of these different policy objectives should be pursued.

Chapter 2 - Agenda 2020 and the Winter Olympic Games in Milano and Cortina

2.1 Introduction to the chapter

This chapter will be dedicated to the understanding of recommendations suggested by the International Olympic Committee in order to have more sustainable Olympic Games and how these were adopted by Milano Cortina 2026.

First we will understand the reasons why the IOC created Agenda 2020 by examining previous Games, and the constant decreasing number of bidders. Next we will understand what Agenda 2020 means, its multiple goals and why it could represent a turning point for mega-events worldwide. We will then analyze one by one the most relevant recommendations from an economic perspective, on how to plan and host the Olympic Games in a more sustainable way, stimulating a higher profit in the short and also in the long run by decreasing the cost of investment necessary during the preparation of the mega-event.

The second part of the chapter is dedicated to the case of the Winter Olympic Games Milano Cortina 2026. These Games will be the first to fully adopt every recommendation present in Agenda 2020. We will therefore analyze the Candidature File that assured these Games to win the bid and actually host the Winter Olympics in the year 2026. This analysis will be mainly focused on four aspects: venues, transport, tourism and legacy.

Venues and transport represent for these Games the main investments, we will see how these are different from any previous Game and what changes have been made to keep the numbers as low as possible. We will also briefly discuss the other potential and actual investments made for the Games.

We will then analyze the expected visitors numbers and try to understand if these expectations are realistic and coherent with the different effects already studied in Chapter 1. We will see how every effect is reflected also in these Games and what impact it could have on the success of the event.

Finally we will discuss about the legacy of the mega-event. We will understand what positive or negative changes will happen in the short and long-term period both on a regional and national perspective.

2.2. Agenda 2020

Investigating the effects of mega sport events has been popular in the scientific community for several decades. However, researchers' attention has recently shifted, and interest in understanding local residents' role in sporting events and understanding what drivers influence the support for such events has increased. One of the reasons for these new fields of research is the fact that almost all public referendums on the direction of the Olympic Games

have failed in recent years. In the table below it is visible how, in the last 15 years, the number of bidders has constantly decreased to the extreme that, for the 2024 Summer Olympics, Paris was unopposed and Los Angeles, the only other city that entered the competition but left before the final decision, got the possibility to host the Summer Olympics in 2028, a Game for which the bidding contest wasn't even open yet.

Table 2.1: Number of cities candidate for the Summer Olympics (GameBids, 2020)

Games	Hosting City	Number of Bidders
2028	Los Angeles, USA	Awarded Games through tripartite deal with Paris 2024, IOC
2024	Paris, France	Unopposed
2020	Tokyo, Japan	5
2016	Rio de Janeiro, Brazil	7
2012	London, UK	9

Table 2.2: Number of cities candidate for the Winter Olympics (GameBids, 2020)

Games	Hosting City	Number of Bidders
2026	Milano-Cortina, Italy	2
2022	Beijing, China	2
2018	Pyeongchang, South Korea	3
2014	Sochi	7
2010	Vancouver, Canada	7

It is therefore more important than ever to understand this opposition to the Olympics and attitudes to such events and to analyze the possible legacy they leave behind the host cities. Citizens have lost confidence in the International Olympic Committee, but also in other international sports associations, which can be explained by corruption scandals, a lack of transparency, questionable decisions about the choice of venue or excessive costs in organizing this type of event. Moreover, mega-events can create "white elephants" - an (expensive) infrastructure that is no longer used after the event - and consequently lead to distrust of international sports associations. Since the new millennium the content, size and complexity of the Olympic Games has increased dramatically.

As a response, after he was elected President of the IOC, Thomas Bach made the Olympic Agenda [OA] his first major initiative. It started with a public debate with over 40,000 thoughts and 1,200 ideas, which were discussed in 14 working groups with industry experts.

The proposed ideas were summarized and presented in 40 recommendations for the future of the IOC. During the 127th IOC meeting in December 2014, the Agenda was approved as a new compass for the sustainable Olympic Games. Since the decision to host the 2022 Winter Olympics was made in June 2015, the 2020 Olympic Agenda has become relevant for the next bidding cycle: the 2026 Winter Olympics Bid.

2.2.1 Main recommendations

Six of the 40 recommendations within the Olympic Agenda are specifically focused on the planning and implementation of the Olympic Games. (Rec. 1,2,3,4,12,13)

In the next paragraphs we are going to look more in depth about these recommendations (Olympic Agenda 2020, 2014).

Recommendation 1: Shape the bidding process as an invitation

Introduce a new philosophy: the IOC aims at inviting potential candidate cities to present an Olympic project that best matches their sports, economic, social and environmental long-term planning needs.

To help the hosting cities and governments to do so, the IOC will introduce an assistance phase during which cities considering a bid will be advised by the IOC about bid procedures, core Games requirements and how previous cities have ensured positive bid and Games legacies. Moreover, it will actively promote the maximum use of existing facilities and the use of temporary and demountable venues.

In addition, the IOC will from now on allow, for the Olympic Games, the organisation of preliminary competitions outside the host city or, in exceptional cases, outside the host country, notably for reasons of sustainability. This permission will be extended also for the Games themselves. In fact it is now permitted to organize entire sports or disciplines outside the host city or, in exceptional cases, outside the host country.

Besides, the IOC will include in the host city contract clauses with regard to Fundamental Principle 6 of the Olympic Charter as well as to environmental and labour-related matters.

In order to increase transparency, the IOC has introduced some significant changes. It will make the Host City Contract (HCC) public and the contract will include details of the IOC's financial contribution to the OCOG. The Committee will, from now on, respect third-party legal interests by making contractual elements available on an "in-confidence" basis. In addition, the IOC accepts other signatories to the HCC than the host city and the NOC, in line with the local context.

Finally, the IOC promises to provide the HCC at the outset of a given bid process.

Recommendation 2: Evaluate bid cities by assessing key opportunities and risks

The report of the Evaluation Commission to present a more explicit risk and opportunity assessment with a strong focus on sustainability and legacy is the second recommendation presented in the Agenda 2020. It consists of 6 points. The first introduces into the existing 14 Candidate City evaluation criteria a new criterion entitled: The Athletes' Experience. The

second explain that the IOC will consider as positive aspects for a bid the maximum use of existing facilities and the use of temporary and demountable venues where no long-term venue legacy need exists or can be justified. Moreover, the Olympic Committee, in collaboration with Olympic Movement stakeholders, is going to define core requirements for hosting the Olympic Games. The field of play for the athletes has and always will be a state-of-the-art for all competitions and forms part of the core requirements.

The fourth point focuses on the fact that the IOC will clarify the elements for the two different budgets related to the organisation of the Olympic Games: the long-term investment in infrastructure and the return on such investment on the one hand, and the operational budget on the other hand. Furthermore, the IOC contribution to the Games is going to be further communicated and promoted.

The Candidate City Briefing will also have some changes: it is going to include an in-camera discussion between the IOC members and the IOC Evaluation Commission, in order to promote transparency.

Lastly, the Commission can benefit from third-party, independent advice in such areas as social, economic and political conditions, with a special focus on sustainability and legacy.

Recommendation 3: Reduce the cost of bidding

The IOC will further assist Candidate Cities and reduce the cost of bidding. This is one of the main turning points of agenda 2020. The IOC is the first supranational organization to recognize that the cost of bidding should be reduced in order to achieve a more economically sustainable event.

In order to reach this goal many changes had to be made. Firstly, the Candidate Cities are allowed to attend and make presentations only to the IOC members during the Candidate City Briefing, ASOIF/AIOWF respectively. This presentation may be combined with the Candidate City Briefing, ANOC General Assembly preceding the vote, IOC Session at which the host city is elected.

Additionally, the IOC accepts to bear the following costs: costs incurred in relation to the visit of the IOC Evaluation Commission, travel and accommodation for six accredited delegates for the Candidate City Briefing to IOC Members in Lausanne, travel and accommodation for six accredited delegates for the Candidate City briefing to the ASOIF/AIOWF respectively, travel and accommodation for six accredited delegates for the ANOC General Assembly, travel and accommodation for 12 accredited delegates for the IOC Session at which the host city is elected. This means that all travel costs for the members of the IOC will not be expenses for the bidding city. Such change has a considerable impact on the bidding budget.

The publication of the Candidature File to be in electronic format only, as a consequence of the fact that the Olympic Games will be environmentally sustainable and have low CO2 emissions.

The IOC will also create and monitor a register of consultants/lobbyists eligible to work for a bid city. Formal acceptance of the IOC Code of Ethics and Code of Conduct by such consultants/lobbyists is going to be a prerequisite for listing in the register.

Finally, the Committee will give access to bid cities, upon their request, to the Olympic Channel, if the creation of such Channel is approved.

Recommendation 4: Include sustainability in all aspects of the Olympic Games

The IOC undertakes to take a more proactive position and leadership role with regard to sustainability and ensure that it is included in all aspects of the planning and staging of the Olympic Games. This means that it will develop a sustainability strategy to enable potential and actual Olympic Games organisers to integrate and implement sustainability measures that encompass economic, social and environmental spheres in all stages of their project and that it will assist newly elected Organising Committees to establish the best possible governance for the integration of sustainability throughout the organisation

Ultimately, the IOC ensures post-Games monitoring of the Games legacy with the support of the NOC and external organisations such as the World Union of Olympic Cities (UMVO).

Recommendation 12: Reduce the cost and reinforce the flexibility of Olympic Games management

Reduce the cost and reinforce the flexibility of Olympic Games management is one of the most revolutionary recommendations of the Agenda. It may represent, if adequately respected, a turning point for future events.

The IOC will establish a transparent management procedure for any change of requirements, regardless of its initiator, in order to reduce costs.

Besides, the IOC, with the stakeholders, will systematically review the level of services, Games preparation and delivery, with a view to containing cost and complexity. Regular proposals will be made in this respect.

The Committee is also going to consider the provision of turnkey solutions for OCOGs in areas which require highly specific Olympic expertise.

Recommendation 13: Maximize synergies with Olympic Movement stakeholders

Recommendation 13 focuses on maximizing synergies with Olympic Movement stakeholders to ensure seamless organisation and reduce costs.

To do that, the IOC will enhance the role of the International Federations (IFs) in the planning and delivery of the Olympic competitions, including the study of transferring technical responsibilities from the OCOGs to the IFs.

Finally, the IOC is going to focus the role of the IOC Coordination Commission on key issues and validation of service levels.

2.3 The case of the Winter Olympic Games 2026 in Milano and Cortina

For the third time the Olympic Games will be hosted in our country, Italy. The decision has been taken the 24th of June 2019 by the International Olympic Committee and represented by

its president, Thomas Bach with the following phrase: "The members of the IOC have elected as the hosting city of the 2026 Games Milan-Cortina".

After the legendary edition of Cortina 1956 and the fascinating but more discussed one of Turin 2006, in 2026 it will be the turn of the unprecedented alliance between Milan and Cortina, which will also involve Valtellina, Val Di Fiemme, Val Pusteria and Verona, with the final ceremony in the Arena.

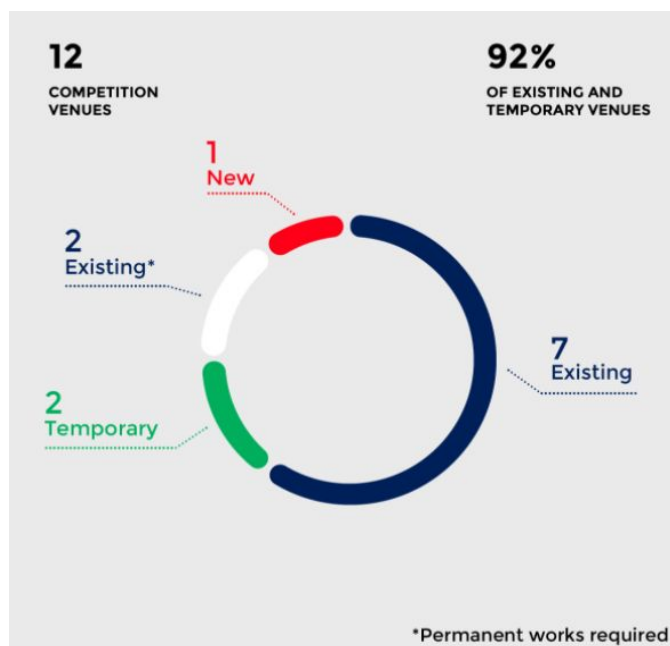
The particularity of these Olympics is that it will be the first to adopt entirely the suggestions present in the Agenda 2020. As written on the very first page of the Olympic Bid " The Milano Cortina 2026 Candidature was inspired by the IOC's Agenda 2020 and presentation of 'New Norm' which clearly repositions hosting the Olympic and Paralympic Games as an event that is more sustainable, more flexible and more efficient, both operationally and financially, whilst also unlocking more long-term value for host cities."

In the following paragraphs we will analyze the ways the recommendations of Agenda 2020 were adopted and see if these will allow to actually have an economically sustainable Olympic Game.

2.3.1 Venues

The main investment necessary in all previous Games was the creation of multiple venues needed for the 15 sports present, from biathlon to curling and ice skating, which needed specific stadiums or tracks that can be rarely found all in one place. With the innovative possibility to host the Games in two regions, the investment required dropped significantly. Of all the venues necessary for the Winter Olympics, only two will be built from scratch. We can see in Figure 2.1 below, that nine out of the 12 competition venues are already existing and need either permanent work or an adaptation for hosting an event like the Olympic Games, which accommodates a significantly larger number of spectators.

Figure 2.1: Venues. (Dossier - Milano Cortina 2026)



Moreover, the funding will be mainly public. The Lombardy Region, the Veneto Region and the autonomous provinces of Trento and Bolzano will be responsible for funding all infrastructure investments related to the offices in the respective areas.

This aspect is centralized and monitored by the Olympic Design Agency, which acts as the authority responsible for the construction of the Olympic works, whose administrative structure ensures that the most important public institutions are represented.

Private investors guarantee the financing of the construction of the Olympic Village Milan, PalaItalia Santa Giulia and the Milan Hockey Arena for Hockey 2.

The two main Olympic Villages will be located in Cortina and Milan. The first will be provisory and will be used in the long term for emergency situations in Italy as temporary housing. This may be the case for earthquakes, avalanches or fires that may hit the country and need an immediate intervention from the government. The latter, in Milan, will be permanent and after the Games it will be transformed into student housing. As written in an article of Espresso (2015), the city of Milan has some of the most renewed universities of the country, eight in total, and 183 thousand students in 2015, constantly increasing. One out of ten Italian freshman has chosen Milan as place to study. It is clear from these numbers that the possibility to create thousand of student accomodations in the city is necessary and convenient.

In addition, the Olympic Design Agency will intervene with investments of 13.11 million euros for the Olympic village of Milan and 455,000 euros for the Milan hockey arena in order to fully compensate private investors for any adaptation work the post-Olympic conversion.

2.3.2 Transport

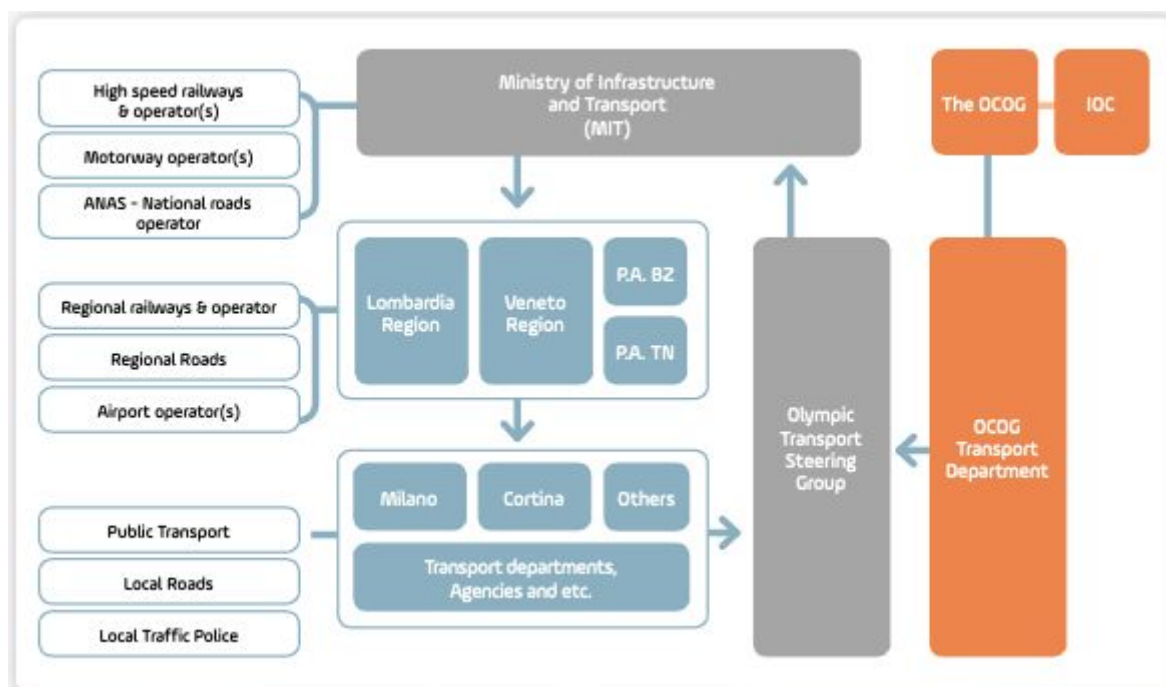
Given the evident distances between the clusters, another source of costs arose: transportation. The host regions must be prepared to welcome an exceptional amount of tourists that must be able to reach every competition venue of its interest in a decent amount of time. To do so, investment is needed because the regions are at the moment not prepared for such number of visitors.

Nevertheless, the bid claims that most of the investment in roads and railways were already planned by the regions. Lombardy and Veneto are wealthy regions of Italy and the amount of public funding dedicated to improving tourism has been relevant since years, and with obvious results. Suffice to say that spending by foreigners between 2002 and 2016 increased in Italy by 28.9% while it recorded in Lombardy +48.5%. A clear example of this expenses is shown by the long-term transport strategy of the Milan metropolitan region for the next 10 years (PUMS). The so-called "Italian economic capital" has launched a courageous plan to continuously improve the transport infrastructure and public transport in 2017 (Urban Sustainable Mobility Plan, 2017). This plan aims to structure the existing public transport offer based on a clearer logic of the transport hubs and a clear hierarchy of services and provides for a wide range of measures to restore the railway hubs. The organization of the construction, upgrade and modernization of the public transport will be divided between the government, the regions and the hosting cities.

It needs to be noted that all participants in the games and spectators who have a ticket in the Milan region and in each of the three mountain clusters identified will receive free public transport. To strengthen the activities, special shuttles are offered to all customers. Exchange parking spaces and the intermodality of the traffic strategy of the Games of Milan Cortina 2026. This may incentivize tourism but will significantly slow down the profit that one would expect after such a significant investment.

The responsible for the organization, construction and control of the different kind of transport infrastructures, roads and railways needed for the Games are the Ministry of Infrastructure, the hosting regions and the autonomous provinces of Trento and Bolzano, and finally the single hosting cities. This division of the work, as shown in Figure 2.2, will help having a greater control before, during and after the Games, about the investments and the results in the short- and long run.

Figure 2.2: Transport. (Candidature File - Milano Cortina 2026, pg.78)



2.3.3 Other investments

Venues and transport take up the majority of the investment, and, as we have seen, most of the money used comes from public shareholders. The Olympic Games may have become more sustainable but we have to remember that hosting a major event always means that the hosting country, region and cities have to prioritize the investment in the Olympic Games over other potential investment for at least six years (since the winning of the bid until the Games take place). It is a big responsibility that can not take into consideration unexpected events that may need public support. As a very current example we may think of the pandemic that has unexpectedly broken out and has hit the northern regions of Italy the most. The economic and financial crisis that will derive from it is most likely unprecedented, hence, as Kesanne wrote in 1999, it is logical to question if investing public fundings in the Olympic Games is the most wise and efficient think to do.

On the other hand, we have proof that a more sustainable and actually cheaper way of preparing the Games is, in fact, possible. The bidding process was in the past often one of the most expensive aspects of hosting such a mega-event. It is the main reason why we have seen at the beginning of the chapter that the number of cities bidding has been decreasing for years now. Normally the bidding cost vary from 50\$ million to 100\$million considering the fees spent for consultants, event organizers and travel related to hosting duties (Jennifer Wills, 2019). This bid for both Milano Cortina and Stockholm Äre cost on average 46% less, which is a huge change for the better.

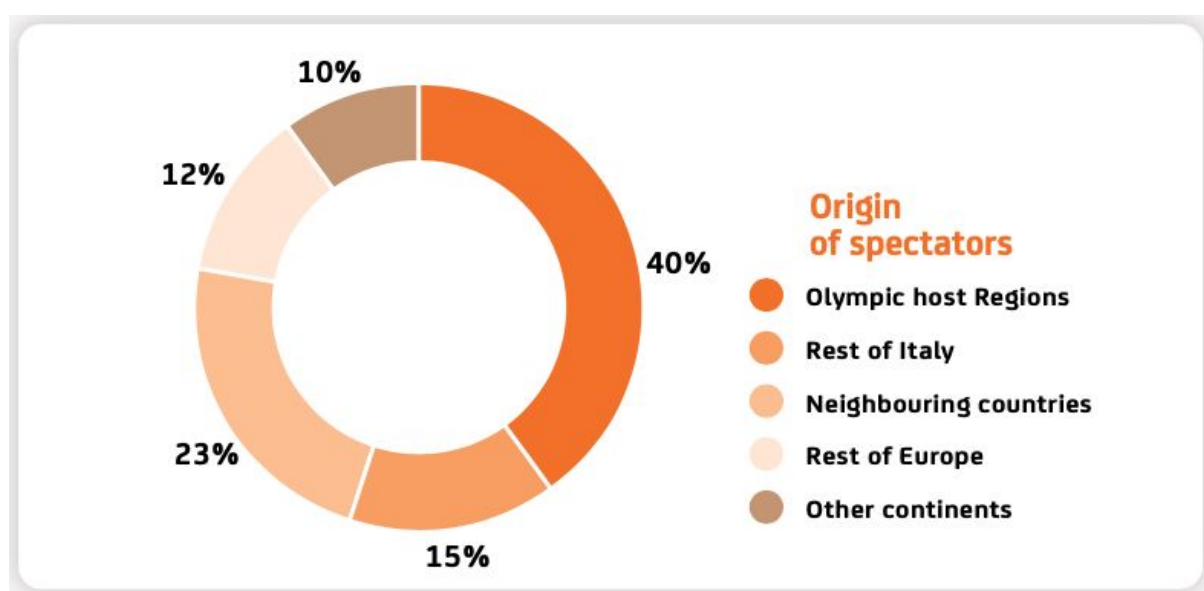
2.3.4 Tourism

The main source of revenue deriving from hosting the Winter Olympics is tourism, which is expected to increase by +215% during the month of February and March 2026.

The preparation to welcome such impressive number of people is long and expensive, therefore it is crucial for the success of the event from an economic point of view that the numbers predicted are as close as possible to the reality in order to cover, and possibly exceed, the expenses.

A study from the Lombardy Region of 2017 shows the origin of the tourist visiting the northern region of Italy during the years 2014 to 2016. During these years the trend has change slightly, Lombardy becoming more and more international but in principle we could say that 45% are italian, coming from outside Lombardy, while 55% are international tourist, of which mostly from european countries like Germany, United Kingdom, France and the Netherlands. When speaking of tourists coming from other continents, the main nationalities are American (USA) and Chinese. In terms of percentage the origin of the expected visitors during the Olympic Games of 2026 changes slightly. It is predicted that 55% of the spectators will be Italian, of which 40% are coming from the Olympic host regions Lombardy and Veneto and only 15% from other parts of Italy. 23% of the visitors is expected to come by car or train from the neighbouring countries like France, Switzerland and Austria, 12% from the rest of Europe and only 10% from other continents. It may seem surprising to see that it is expected to have more visitors from neighbouring countries than from the rest of Italy but we have to consider the fact that we are talking about the Winter Olympic Games and countries like Austria, Switzerland and France have many athletes that will possibly participate in the Olympic competitions and are well known nationally, while for the Southern regions of Italy winter sports are not considered overly popular.

Figure 2.3: Origin of spectators. (Candidature File - Milano Cortina 2026, pg.89)



The expected number of spectators per day varies heavily, with a minimum of 65'000 to a maximum of 13'000 on the eleventh day. Taking into account that in 2018 the average amount of visitors during the winter months in the region of Lombardy was 48'000, and now would increase of another 105'000 a day (so more than twice as many more) it is clear that the number of rooms available in hotels, bed and breakfast, short term renting apartments, campings and similar must increase noticeably.

An important aspect that is not taken into consideration in the calculation of tourist arrivals are the effects that Matheson (2006), Porter (1999), and Meanning and Du Plessis (2007) found about and that we discussed in Chapter 1: the time shift, the crowding-out effect, the pricing input, the spillover effect, the substitution effect, and finally the so-called "mashed potatoes" effect.

Tourists that decide to postpone or anticipate the date of their visit to one of the regions hosting the Olympics so that the dates of their trip coincides with the mega-event are not considered in the analysis made during the bidding process. This would lead to a double counting of visitors during the period of the Olympics and a decrease of tourist arrivals before and after the peak season.

It is also possible that the inevitable crowd that the Olympic Games will create, discourages potential regular visitors to take a trip to the host region in the months of February and March. This would have a noticeable negative impact on both Lombardy and Veneto for multiple reasons. The first trimester of the year represents peak season for winter resorts destinations, destinations that obviously coincide with the locations where the Games take place. Differently than in previous Olympic Games, Milano Cortina 2026 is spread throughout many cities that are internationally already well known as a skiing destination. This means that the crowding-out effect would have repercussions on the whole territory and not just on one city and its surrounding area as in the previous Games. Moreover, both regional capitals host every year during the month of February two worldwide known events, the Milan Fashion Week and the Venice Carnival. It is inevitable, based on Matheson studies, to expect that the regular affluence to these minor events will decrease having a negative impact on the local economy that is well organized around these seasonal peaks of tourism arrivals.

Moreover, we have to remember that providers tend to raise prices in response to higher demand. The raise in prices is mostly adopted by hotels, transnational airlines and train companies. This approach may increase revenues per visitor but will inevitably decrease the number of visitors in total, not only the ones coming to see the Olympic Games but also regular visitors. By adopting this approach Venice may be the city that will suffer the most since, unlike Milan, the city does not host any event linked to the Winter Olympics. The city has one of the two airports that will receive tourist arrivals for the mega event and also an important railway station, which is mostly used by Italians and people coming from nearby countries to reach the city. By increasing the airplane and train tickets Venice will probably just experience a sharp decrease of tourist arrivals during the months of the Games, which coincide with the Venice Carnival.

Because of an increase in prices and a greater amount of people present in the area because of the games it is reasonable to believe that some of the tourist that would normally spend their winter vacations in the Dolomites will prefer to go elsewhere. Switzerland, Austria and France all have renowned winter locations. Neighbouring countries would free ride at the Milano Cortina Olympics, generating profit outside of Italy, a profit that in the bid is expected to be gained by the region of Veneto and the autonomous provinces of Bolzano and Trento.

On top of the causes listed below that would explain a lower amount of total visitors we have to consider the profit that is expected to be created by the individuals of the local economy. In the Dossier there is no mention regarding the possibility that the expenditure from the locals stays the same or even decreases. It is supposed that the local community would spend extra during the weeks of the Games in order to buy the ticket and benefit from goods and services that may cost more because of the mega-event. As the studies of Matheson (2006) show, there are two effects that would explain a change in the behaviour of the local community. People likely have a limited budget that, if spent on the event, is automatically taken away from other goods and services on which individuals might have spent money on in a normal situation. This inevitable behaviour will translate in a overall saving rate of the local economy very similar to normality.

Actually, the substitution effect discussed above can also be exacerbated. Local consumers may even reduce their regular consumption during and after the event, leaving the outcome of a positive impact on retail sales solely on visitors spending.

The effects discussed in this paragraph have unfortunately not been taken into consideration when predicting the number of visitors and the profits that the hosting regions will benefit from by hosting the Winter Games. This lack might possibly cause a great miscalculation that will directly affect the outcome of the event, both in the short and in the long run.

On a more positive note, research run by Fourie and Santana-Galleo (2010) shows that the legacy of a mega-event occurs on average during the four years that precede the mega-event. If this would be the case, it will help significantly the hosting regions, considering the devastating impact that the forced quarantine and the Coronavirus pandemic have caused on the local economy.

2.3.5 Legacy

In the Candidature File the subject of legacy has been discussed profusely under four main areas: sport, social, economic and environmental. We are going to focus mainly on the social and economic long-term impact of the Games.

Table 2.3: Social legacy. (Candidature File - Milano Cortina 2026, pg.69)

Legacy theme: Social			
Legacy objective	Target	Timeframe	
1	To promote more active healthy lifestyles, increasing the value of sport in people's everyday lives	KPIs to be defined: <ul style="list-style-type: none"> Increased number of people participating in sport and physical activity Improvement in young people's attitudes towards sport and physical activity 	2030
2	To raise accessibility standards and awareness of accessibility as a tool for social inclusion	Strategic accessibility plan in place across all host locations	2024
3	To encourage and promote a culture of volunteering	Targeted Volunteer programme: <ul style="list-style-type: none"> Increased number of sports volunteers % target for volunteer demographics 	2025
4	To use the Cultural Olympiad to inspire more people to engage with culture and the arts.	Cultural Olympiad Legacy Plans and targets in place: <ul style="list-style-type: none"> Set up of a permanent coordination forum of cultural institutions in Milano 	2024
5	To use the Games to raise awareness of Olympic (and Paralympic) values through education	Olympic and Paralympic Education Programme implemented, with 8.8 million of students potentially involved	2021 – 2026
6	To generate an enhanced sense of pride and community cohesion.	KPIs to be agreed and monitored through community surveys <ul style="list-style-type: none"> Increased number of sports volunteers 	Pre, during, post-Games
7	To promote social inclusion, equality, diversity and social mobility	Community engagement plan in place targeting disadvantaged groups	

While it is right to believe that the Games will help promote equality in the hosting regions - as pointed out in point 7 of the table above - inequality across regions will probably increase even further. The northern regions of Italy are known to be richer and with a more stable and organized economy compared to the center and especially the south of Italy. A transfer of resources to the hosting region may aggravate this problem. The Italian Government will dedicate copious investment funds to the Games, injecting liquidity in the area, increasing job demand, private investments, attracting an international audience and possibly even foreign investors. This will surely be positive for the regions in question but possibly not for the country as a whole.

Table 2.4: Economic legacy. (Candidature File - Milano Cortina 2026, pg.69)

Legacy theme: Economic			
	Legacy objective	Target	Timeframe
1	To raise Milano, Italian Alps and Italy's reputation as an international major events and sports tourism destination	Targeted programme of events in place, including performance measures/ monitoring	2026 onwards
2	To raise the city/region's profile as a tourist destination, attracting more visitors and increasing European rating	Increased visitor numbers: <ul style="list-style-type: none"> • Lombardia: Top 10 in Europe • Veneto: Top 3 in Europe 	2030
3	To create a more diverse, attractive and welcoming tourist offer, including coordinated tourist packages, across the macro-region	Combined tourism offers and promotional plans in place <ul style="list-style-type: none"> • N. of common projects set up by the four Regions involved 	2024 onwards
4	To attract more business opportunities, attract inward investment and encourage innovation	Business/economic forum to define targets	2024 onwards
5	To strengthen Milano's position within the global city network	Global destination city index Milano: TOP 10	2030
6	To enhance the training and development of sports management professionals to help promote the Italian economy	Milano Cortina 2026 Sport management programme in place Increased number of people gaining employment in the sport sector.	2020 onwards

Italy is at the moment mainly based on volunteering and generally unpaid work for what regards sports. The concept of a career in the area of sports is not very common. In 2020 still the only athletes that are recognized to receive a salary are only males and only the ones that are part of the soccer, basketball, cycling or golf federation. 92% of the people working in the different sporting federations were volunteers in 2018, this would theoretically translate in 54'050 full-time employment contracts (Vita, 2018). Practically the only people receiving a salary are the chiefs of the 15 sport federations, the male athletes of the national teams of four sports and the employees working for CONI and Sport&Salute. The Sport Management Programme (pont six, table 2.4) may represent a crucial turning point for Italian sport.

On the other hand, unfortunately, studies from Coates and Humphreys (2008) have shown that stadiums, arenas, and sport franchises do not have a positive and consistent impact on jobs, income, or tax revenue. There is to say, nevertheless, that the realization and renovation of the venues before the games will demand a great number of labour force for possibly several years.

2.4 Conclusion

The IOC is the first mega-event organization to recognize that hosting the event they are promoting and representing has caused an inevitable increase of debt in the past, to the cities and their national and regional governments. The implementation of Agenda 2020 recognizes and addresses the problem that economist around the globe were analyzing and advocating. Agenda 2020 is the result of a critical and meticulous work that has the goal to address all the difficulties the hosting cities were facing in the past and the reasons why the Games have repeatedly been a fiasco from an economic, social and environmental point of view.

Its success might represent a turning point not only for the Olympic Games, but also for every other mega-event.

Milano Cortina 2026 will be the first Olympics to fully adopt all 40 recommendations of the Agenda 2020, from the bidding process to the long term future legacy of the Games. It is crucial not only for the hosting cities, but also for the Italian government, the IOC and the other mega-event organizations (like FIFA) to see a generally positive result that is coherent with what predicted in the Candidature File.

The main changes in the preparation and in the delivery of these new Games are: a cheaper bidding process, the possibility to host the Olympics over a vaster area, a decrease in investments that allow the hosting region to not increase the public expenditure and debt more than what the profits will cover, a greater financial help from the IOC during the preparation of the event, and finally a more environmental and socially conscious experience. Since the Olympic Games will not change in terms of experience and visibility, the profit generated by visitors, ticketing, sponsorship and broadcasting will stay probably the same as in the previous Games. What will really change are the costs, debt increase, and investment, that will all be significantly lower compared to the Olympics of the past. It is therefore reasonable to expect that, even if there might still be some estimates that are imprecise with the intent to be more favourable during the bidding process, the costs are lowered so remarkably that for once we will finally have an Olympic Game with a positive impact on the hosting country.

Conclusion

We conducted a comprehensive review of the mega event literature to better understand its demonstrable impact on economic activity, tourism performance and other qualitative and social measures. We focused more on ex-post evaluations than on ex-ante estimates.

We find that the vast majority of mega-event literature cannot prove any direct or indirect connection between mega-events and increased economic activity in the short or long term. Overall, the alleged economic benefits of an event in ex-ante studies are largely overestimated. In practice, the actual benefits are offset by the costs associated with preparing the event.

We then see how the International Olympic Committee, in light of these numerous evidences that prove that the investment requested to host the Olympic Games is unsustainably high, published the so-called Agenda 2020, in 2014. This document addresses all the main problems in terms of legacy, economic sustainability before, during and after the event, social impact and environment.

We finally analyze the first and, currently, the only Olympic Bid that fully incorporates the 40 recommendations presented in Agenda 2020 - the 2026 Winter Olympic Games that will take place in Milano and Cortina. We conclude that, even though not all problems have been addressed, and even though part of the forecasts are still overestimated and extremely optimistic. the profit will probably be positive not only in the short- but also in the long run, because the required investment have been considerably reduced, compared to previous Olympic Games.

If Agenda 2020 is as successful as it seems, it will represent a turning point for all mega-events, not only the Olympic Games. We can expect a new era, where the hosting cities and their governments actually benefit from hosting a mega-event, and don't risk to be overwhelmed by debt, as it happened in the last 60 years.

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