



# AFTER SOCHI 2014: COST AND IMPACTS OF RUSSIA'S OLYMPIC GAMES

It was one of the biggest events in 2014, not just for Russia but for the world. The 2014 Winter Olympic Games, held between 7 and 23 February 2014 in Sochi on the Black Sea Coast, broke a series of records. They had the highest number of participating nations (88), the highest number of athletes (2,873) and the highest number of events (98) of any Winter Games. At USD 1.26 billion, they also produced the highest revenue from broadcasting rights ever. The Sochi Games were also among the top 10 of Wikipedia articles that were most frequently edited and viewed in 2014, further attesting to the public interest in the event. But the one record that Sochi will be remembered for is a more dubious one: **the most expensive Olympic games ever – summer or winter.**

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The Olympic Games in Sochi were more than a mere sports event, however. The vast funds spent on it and the priority it enjoyed in Russia were meant to expedite regional development in one big push, building state-of-the-art infrastructure and catapulting Sochi into a league of world-class resorts to rival the global winter sports elite of the likes of Zermatt, Vail and Whistler. It was this goal that President Putin highlighted in the pitch he made to the IOC at its meeting in Guatemala in 2007: "Sochi is going to become a new world class resort for the new Russia. And the whole world!"

With the benefit of hindsight, this contribution takes a look at the ambitions linked to the Sochi 2014 mega-event and compares them to the actual outcomes. In so doing, this paper presents the first full account of costs and cost overruns, separating out different types of costs and comparing them to other events. The material for the analysis is drawn from official reports by companies and organisations, either involved in organising the Sochi Olympic Games (e.g. the Sochi Organising Committee of the Olympic Games, the IOC, the Olympic delivery agency Olimpstroy) or in

evaluating them and their consequences (Fund for the Fight Against Corruption, Fitch Ratings, Pew Research Center), and coverage by independent, quality newspapers in Russia (Vedomosti, Gazeta.ru, Kommersant, Moscow Times) or news agencies (AP). For representing the view of the Russian government, it draws on official speeches and statements by government officials and state-run news media (e.g. RIA or RT, formerly Russia Today).

## COST OF THE SOCHI GAMES

The superlative that will dominate public memory with regard to Sochi is not athletic but financial: "the most expensive Olympics ever." Most Western media reported this fact as a sign of the megalomaniac extravaganza that the event. The figure of USD 51 billion has become the de facto accepted total cost of the event by virtue of its frequent repetition in the media. It does not represent, however, the final cost nor does it encompass all costs for the Sochi 2014 Games. The figure originated from an estimate of construction costs by Olimpstroy, the state company in charge of most of the infrastructure construction

for the Olympics, from one year before the Games, on 4 February 2013. At that time, Olimpstroy forecast the total cost of construction at RUB 1525.9 billion (or USD 51.4 billion at the exchange rate of that day).

But what was the final cost of the Sochi Olympics? The Russian government has not presented a final accounting of all costs and answering this question is far from straightforward, because much depends on what is included in the cost. Table 1 attempts an estimation of costs, based on public sources. It divides costs into three major categories:

- operational costs: the costs of running the event itself. The largest items are typically salaries for staff and IT equipment, but the costs also include things such as transport, temporary venue overlay, accommodation of delegations, ceremonies and so on. The operation of the event is the responsibility of the organizing committee of the Olympic Games, the so-called OCOG, but not all costs are contained in the OCOG budget. Security costs, for example, are often separate, which was also the case for Sochi.

- Sports-related capital costs: the



construction cost of all event-related buildings required by the IOC, i.e. the venues, the Olympic villages and the media centers, but also that of supporting infrastructure (electricity supply, telecommunications, road access, water and sewage etc.).

- Non-sports-related capital costs: All infrastructure not required for the immediate construction and operation of sports-related venues, for example hotels, power stations, new roads and railway connections, an expansion of the airport, new train stations etc.

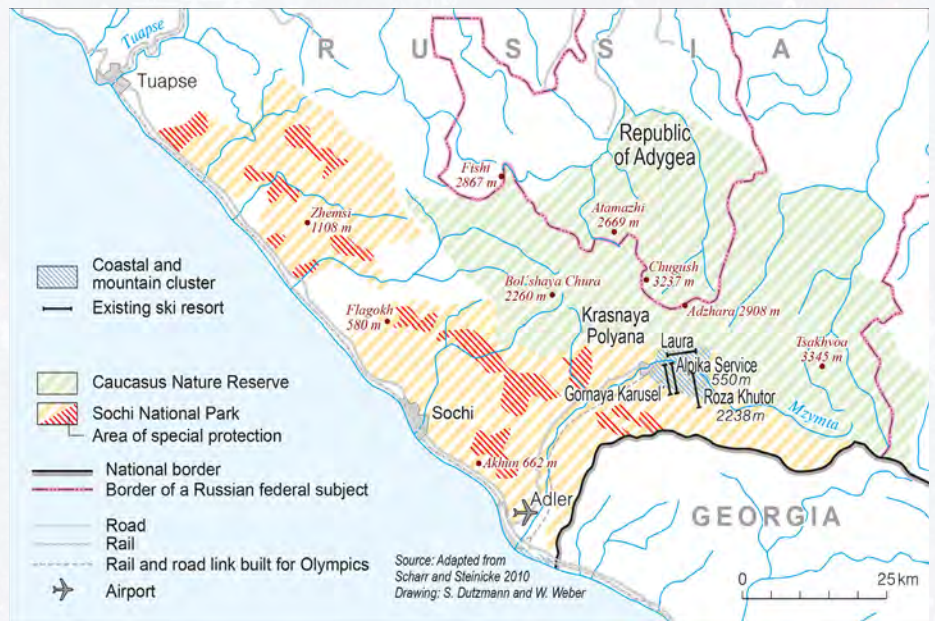
This division makes it possible to distinguish between direct costs (i.e. operational and sports-related capital costs) and indirect costs (non-sports-related capital cost).

Adding up these costs produces a figure higher than the frequently reported USD 51 billion: the total costs linked to the 2014 Sochi Olympics were just under USD 55 billion (RUB 1,652 billion) (see Table 1). More than 90% of the costs were capital costs, indicating the large share of construction for these Olympics (see Figure 1 for an overview of the most important construction). Indeed, such a high proportion of capital costs as a share of total investments was previously only reached by Tokyo for the Summer Games of 1964. It is these capital costs of USD 51 billion that have been reported as total costs, ignoring operational costs, which add more than USD 4 billion to the total.

Figure 1: Map of post-Olympic Sochi with key infrastructure and coastal and mountain clusters

Table 1: Breakdown of total budget by type of cost (operational, sports-related capital, sports-related supporting infrastructure, non-sports-related capital) [all costs in nominal USD at average exchange rate of USD 1 = RUB 30.08] \* security costs are a minimum estimate from 2011; no current data has been published

But are all costs of Table 1 attributable to the Olympics? Organisers and state officials have maintained that not all expenditures should be counted as part of the event. According to them, the true



cost of the event was USD 7.1 billion (RUB 214 billion), which, they claim, includes just the sports-related venues. According to this view, all other costs were incurred as a result of the modernization of the larger Sochi region, which would have happened anyway and has long-term utility for the development of the region.

It is true that not all costs should be counted as unique costs of the event. Russia had indeed launched a so-called Federal Target Program for the development of Sochi as a winter sports resort before it won the right to host the Olympic Games, which included many measures that were not required for the event. But USD 7.1 billion is too low a figure for the total sports-related costs for three reasons. First, it leaves out operational costs of USD 4.2 billion, which would not have been incurred without the event. Second, the figure of USD 7.1 billion underestimates the costs of sports-related venues by some 0.4 billion (RUB 12 billion) (see Table 1). Third, it ignores the costs for supporting infrastructure and site preparation for sports-related venues, for example water and electricity supply, access roads, telecommunications and

temporary structures. Since all venues were constructed from scratch, these expenditures were significant and added up to USD 4.4 billion, i.e. more than half of the costs of the venues themselves. The total sports-related costs, including operating and capital costs, should thus be put at about USD 16.1 billion.

But the Olympics have also contributed to the remaining USD 38.8 billion of ostensibly non-sports-related costs. This happened, first, because the Olympics increased the size of some of the infrastructure to fit Olympic peak demands. The largest project, a combined rail and road link between the coastal cluster and the mountain cluster, some 48 km apart (see Figure 1), which cost more than USD 10 billion, is a case in point. It was built to handle 20,000 passengers per hour – several times the total number of rooms in the mountain resort of Krasnaya Polyana it serves.

In addition, the Olympic Games drove up the cost of the non-sports-related infrastructure by imposing a fixed deadline, enabling contractors to engage in profiteering by delaying construction work. This is a well-known phenomenon, which causes mega-



COSTS	USD MILLION		COST OVERRUN (NOMINAL)	FUNDING SOURCE	AFTER-USE
	PLANNED (2007)	ACTUAL (2014)			
<b>TOTAL</b>	<b>12,287</b>	54,914	347%	--	--
<b>Operational Costs</b>	<b>1,648</b>	4,249	158%	--	--
Organizing Committee	1,391	2,327	67%	ca. 75% private	--
Security	257	1,922*	647%	public	--
<b>Capital Costs</b>	<b>10,638</b>	50,665	376%	mostly public	--
<b>Sports-Related Capital Costs</b>	<b>n/a</b>	11,894	n/a		
<b>Direct Sports-Related Capital Costs</b>	<b>1,052</b>	7,532	585%	mostly public	--
<i>Coastal Cluster</i>					
Olympic Stadium	51	631	1131%	public	concerts, World Cup 2018
Large Hockey Stadium	164	336	105%	public	multi-purpose stadium
Small Hockey Stadium	24	116	382%	private	national sports center for children
Curling Arena	11	24	113%	state-secured loan	multi-purpose stadium
Speed Skating Oval	28	246	790%	state company	tennis academy
Figure Skating Stadium	38	270	610%	public	velodrome?
Main Olympic Village	66	772	1061%	state-secured loan	apartments
Main Media Center	246	1,274	417%	public	exhibition center
Olympic Park		328	n/a	public	recreation, Formula 1
<i>Coastal Cluster</i>					
Biathlon And Cross-Country Complex	12	2,478	20759%	state company	training center
Bobsleigh Track	120	249	107%	public	training center
Ski Jumps	29	298	922%	state-secured loan	training center
Snowboard And Freestyle Park	21	113	430%	state-secured loan	training center
Alpine Skiing	240	396	65%	state-secured loan	ski resort (Roza Khutor)
Main Mountain Village	44	599	1251%	state-secured loan	hotel, apartments
<b>Sports-Related Supporting Infrastructure</b>	<b>n/a</b>	4,362	n/a	mostly public	--
<b>Non-Sports-Related Capital Costs</b>	<b>n/a</b>	38,771	n/a	public	--
Combined Rail-Road Link	n/a	10,546	n/a	mostly public	severely reduced rail service
Other Projects	n/a	28,225	n/a	mostly public	--

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events and related infrastructure to overrun their budgets much more than other mega-projects (Müller 2015a). It was also present in Sochi, or as one investor put it: “we were in so much of a hurry in the end that we did not count the money”. The average nominal (i.e. without correcting for inflation) cost overrun for capital costs was 347% (see Table 1). In other words, while some of the infrastructure may not have been built specifically for the event, the event made it significantly more expensive.

## COST OVERRUNS AND COST INFLATION OF THE SOCHI GAMES

But Sochi was not just an expensive Olympic Games, it also experienced significant cost overruns, i.e. the final budget was several times higher than the budget in the bid book. In nominal terms, the whole project became about 4.5 times more expensive than planned (USD 55.0 vs. USD 12.3 billion). The costs for venues escalated particularly strongly, with a nominal 585% cost overrun (337% in real terms, i.e. controlling for inflation). The Olympic Stadium and the Main Olympic Village came in 12 times more expensive than budgeted. These massive overruns are all the more surprising, considering that the bid book stated that “expenses are forecast on the ‘high side’, recognising that expenses for Olympic Winter Games are typically under-estimated at this stage” (Bidding Committee Sochi 2006, 99).

The changing scope of projects explains some overruns. The Biathlon and Cross-Country complex, for example, had to be relocated and had to have a separate “endurance village” for competing athletes, because of the elevation difference with the Mountain Olympic Village. Also, some venues had to conform to international sustainable building standards, a requirement that was introduced after the bid. On the other hand, however, the scope for

“**THE OLYMPIC STADIUM AND THE MAIN OLYMPIC VILLAGE CAME IN 12 TIMES MORE EXPENSIVE THAN BUDGETED**”

some projects shrank. The road-rail link, for example, was downgraded to a two-lane road, after initial plans for a four-lane road, and the cargo port for bringing in construction material was downgraded from an annual capacity of 30 million tons to just 10 million. In fact, organisers were meant to cut the whole budget for the Olympics by USD 10 billion (RUB 300 billion) in 2009, when Russia’s GDP contracted by 7.8% during the financial crisis. Instead, it ended up almost USD 40 billion (RUB 1,200 billion) higher than expected.

Even allowing for unforeseen expansions of scope, the costs of the event itself are still considerably above those of other Olympics. Sochi thus experienced not just cost overrun, but also cost inflation, meaning that cost rose beyond the typical costs of comparable events elsewhere (Flyvbjerg and Stewart 2012). To conduct such a comparison, costs need to be deflated to the same base year and have the same scope. Flyvbjerg and Stewart (2012) have conducted the most comprehensive and transparent assessment of Olympic costs and this paper uses their methodology for comparison. For this purpose, it first defines the scope of costs as the total sports-related costs, i.e. excluding non-sports-related capital costs, and then deflates them to 2009 as the base year. For cost overruns, Flyvbjerg and Stewart

(2012) assume that the bid was not able to predict inflation, thus they deflate final costs to the bid year to arrive at the cost overrun in real terms.

Table 2: Comparison of cost and cost overruns of Winter Games in Sochi 2014 with previous Olympic Games [operational costs plus sports-related capital costs] (sources: Flyvbjerg and Stewart 2012; own calculations)

Table 2 shows that Sochi 2014 is in second place for the most expensive Olympics ever if considering only the real sports-related costs of USD2009 11.8 billion. It ranks just behind London 2012, which reported estimated total costs of USD2009 14.8 billion. Yet, when the costs per sports event are calculated – one way of standardising expenditure by controlling for the size of the Olympics – Sochi leaps to the front. Organisers spent USD2009 120 million on each of the 98 events – 2.5 times more than the next most expensive candidates. The president of the IOC, Thomas Bach, is thus wrong when he claims that “costs for the Sochi Games are entirely within the bounds of those of previous Games”.

## FURTHER USE OF VENUES

The high construction costs would not be as problematic if there was a coherent plan for using the new venues. But while the majority of the venues in the mountain cluster will be used as training sites for future Olympic athletes (see Table 1), the future for the six stadia and the main media center in the coastal cluster is uncertain.

The current after-use of the Olympic Park and its venues is piecemeal. The Park sees few tourists, because of the absence of attractions and its remoteness relative to the city center and the main beaches. The after-use that exists is mostly not specific to the purpose of the venues, i.e. it does not use the venues for what they were built. The speed skating oval is now home to a tennis academy, the figure skating



GAMES	COUNTRY	TYPE	FINAL SPORTS-RELATED COST (BN USD 2009)	COST PER EVENT (MLN USD 2009)	COST OVERRUN (REAL TERMS, ORIGINAL CURRENCIES) [%]	COST OVERRUN (NOMINAL)
Sochi 2014	Russia	Winter	11.8	120	171**	324**
London 2012*	UK	Summer	14.8	49	101	133
Vancouver 2010	Canada	Winter	2.3	27	17	36
Beijing 2008	China	Summer	5.5	18	4	35
Torino 2006	Italy	Winter	4.1	49	82	113
Athens 2004	Greece	Summer	3.0	10	60	97
Salt Lake City 2002	USA	Winter	2.3	29	29	40
Sydney 2000	Australia	Summer	4.2	14	90	108
Nagano 1998	Japan	Winter	2.3	34	56	58
Atlanta 1996	USA	Summer	3.8	14	147	178
Lillehammer 1994	Norway	Winter	1.9	31	277	347
Barcelona 1992	Spain	Summer	11.4	44	417	609
Albertville 1992	France	Winter	1.9	33	135	169
Calgary 1988	Canada	Winter	1.0	22	59	131
Sarajevo 1984	Yugoslavia	Winter	0.01	0.3	173	1257
Lake Placid 1980	USA	Winter	0.4	11	321	502
Montréal 1976	Canada	Summer	6.0	30	796	1266
Grenoble 1968	France	Winter	1.0	29	201	230
Mean			4.3	31	174	313
Median			2.7	29	118	151
Maximum			14.8	120	796	1266
Minimum			0.01	0.3	4	35

Table 2: Comparison of cost and cost overruns of Winter Games in Sochi 2014 with previous Olympic Games [operational costs plus sports-related capital costs] (sources: Flyvbjerg and Stewart 2012; own calculations)

\*estimates, \*\* cost overruns do not include cost for supporting infrastructure (for which no original budget was available)

stadium might become a velodrome and the small hockey stadium is a sports center for children (see Table 1).

Other after-use plans require significant investments. The Olympic Stadium, which hosted just two events, the Opening and the Closing Ceremony, is undergoing reconstruction for hosting several matches during the 2018 Football World Cup, but for that purpose it will have to be expanded by another 5,000 seats and converted for an additional

cost of RUB 3.5 billion (USD 52 million). What will happen after the four to five matches of the World Cup have been played is unclear, since Sochi lacks a football club to fill a stadium of this size. The existing football stadium has just over 10,000 seats and has sold out only once in its entire history.

High maintenance and operation costs also hamper the after-use. Authorities initially estimated the annual costs at about USD 233 million (RUB 7 billion), but

then revised this figure upwards to USD 399 million (RUB 12 billion).

## SOCHI'S POST-OLYMPIC INFRASTRUCTURE

The preparation for the Olympic Games in Sochi started with a great promise by Vladimir Putin: "All of this is going to be used by millions and millions of citizens – even before the Games and many years after". One of the big hopes attached



to the Sochi Games was to increase people's quality of life, in exchange for the years of disruption and construction they had to endure in the run-up to the mega-event. And indeed much has been achieved on this count: Sochi now has bypass roads that alleviate the traffic on its main thoroughfare and a fast road connection from the coast to the mountains. With several new power stations, it also boasts more reliable energy supply. The implementation of new standards of urban planning pushed accessibility to the top of the agenda, with widespread level access for mobility-impaired groups such as wheelchair users or people with strollers. Cycling and other means of slow transport have received more attention and separate road space.

The most ambitious and expensive project – and the most advertised one –, however, has not come off the ground. The railway connection from Sochi and the airport to the mountains has not become, as its name *lastochka* suggests, a swallow but rather a lame duck. Its first problem had to do with the

routing, which turned the station at the airport into a branch line, as is evident from Figure 1. This both thinned out service to the airport to a frequency of less than one train an hour, which made the train uncompetitive vis-à-vis road transport, and also made it necessary to change trains if one wanted to travel from the airport to the mountains. The schedule of trains, however, was not synchronised, causing long waiting times for that journey. On top of this, the operator, Russian Railways, reduced the train service to six train pairs a day, taking on average 45 minutes to cover the 48 kilometers from Adler to Krasnaya Polyana. The upshot is a new USD 10 billion road-railway connection – with the highest per-kilometer cost for rail construction worldwide – where the branch to the airport is completely abandoned and the main line sees just six trains per day in each direction. A white elephant if there ever was one.

The oversized and expensive infrastructure and the dire economic situation of many investors will thus require funding for years to come. Table

“ ONE OF THE BIG HOPES ATTACHED TO THE SOCHI GAMES WAS TO INCREASE PEOPLE'S QUALITY OF LIFE, IN EXCHANGE FOR THE YEARS OF DISRUPTION AND CONSTRUCTION THEY HAD TO ENDURE IN THE RUN-UP TO THE MEGA-EVENT ”

3 lists an overview of expenses and foregone interest that the government has already announced, including the costs for the maintenance and operation of Olympic venues, the operation of Formula 1, tax breaks for owners of Olympic infrastructure and the moratorium on interests owed for mortgages with the state development

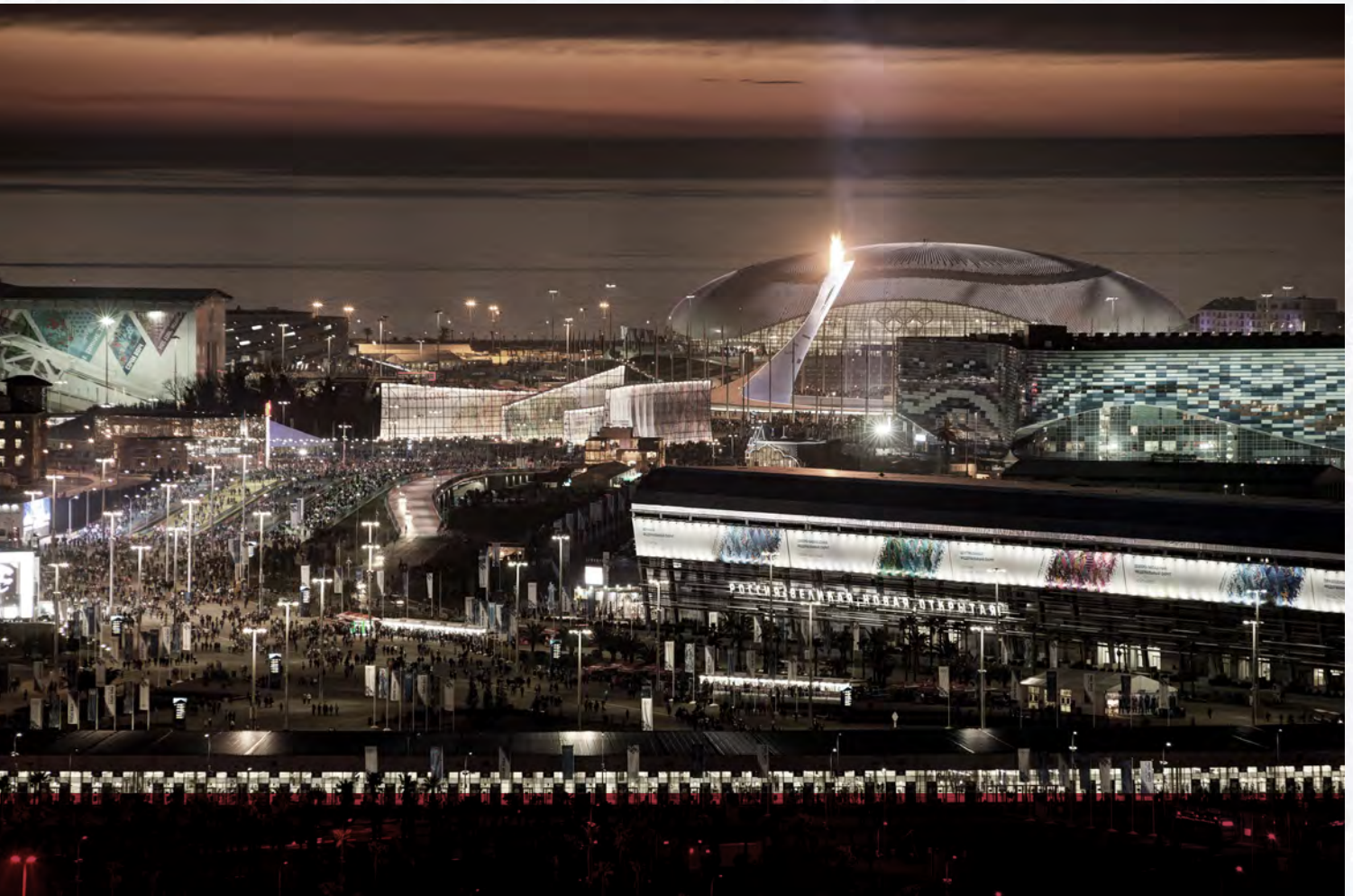




	<b>COST PER YEAR (USD MILLION)</b>
Venue operation and maintenance	399
Formula 1 operation	55
Tax break for owners of Olympic infrastructure	133
Moratorium on interest on mortgages	632
<b>TOTAL</b>	<b>1,219</b>

For conversion from rubles (RUB) into US-Dollars (USD), the average exchange rate from the date of awarding the Winter Olympics (04 July 2007) to their conclusion (23 February 2014) is used for all conversions in this paper, except where indicated otherwise. This rate is USD 1 for RUB 30.08. This method smoothes out exchange rate fluctuations. In all cases, the original ruble values are also reported, to allow readers to apply different exchange rates.

For making costs comparable among different Olympic Games, they were converted from Russian rubles (RUB), incurred during the preparation from 2007 to 2014, to US-Dollars for the base year of 2009. For this purpose, the costs in rubles were first inflated or deflated from the year in which they were incurred to 2009, using World Bank GDP deflators for Russia. They were then converted to US-Dollars using the average exchange rate for 2009 (1 USD = 31.74 RUB). This methodology follows Flyvbjerg and Stewart (2012) for comparison.







bank. Future event-induced costs add up to more than USD 1.2 billion per year, of which USD 400 million are for maintenance and more than USD 750 million for foregone revenue. This is not counting the cost of other measures, such as moving state-sponsored events to Sochi, which is a net loss somewhere else in Russia.

Table 3: Estimation of future costs of Sochi Olympic venues and tourist infrastructure (see Müller 2014)

## CONCLUSION

Russia intended the Sochi Games to achieve two things: to facilitate a big push development of the region into a global, year-round holiday resort and to show to the world and its own population alike the face of a new, modern Russia. Yet, the results were sobering. As the opening ceremony approached, both international opinion toward Russia and domestic attitudes toward the Games deteriorated, instead of improving. The main legacy of the Games is oversized infrastructure at inflated prices, paid for almost exclusively by the public. While this applies to many mega-events elsewhere, also and particularly in emerging economies (Gaffney 2010; Maharaj 2011), the extent of underutilisation and the expenditure for the infrastructure in Russia are unparalleled. As if the \$55 billion of total costs were not enough, the government will have to subsidize the

“**AFTER THE GAME IS BEFORE THE GAME**”

operation and maintenance of venues, tourist, and transport infrastructures in the order of \$1.2 billion per year for the foreseeable future.

Yet, “after the game is before the game,” as German football legend Sepp Herberger liked to quip. Even after the Olympic Games, neither the mega-event chapter nor the Sochi chapter are closed for Russia. In 2018, Russia will host the Football World Cup, and despite the intention to reform the planning and management process, costs, cost overruns, and oversized stadia are already a concern (Müller 2015b). Sochi, for its part, will play host to the Formula 1 until at least 2020 and to several matches of the Football World Cup in 2018. This, and continued subsidies to Olympic venues and infrastructure, will mean that federal monies will flow to the region for the years to come. With a recession of 4.5 percent of GDP forecast for 2015 and Crimea as another major drain on the federal budget, excesses of the kind that Sochi presents will become more difficult to fund and justify vis-à-vis the public.



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Photographs are by Bruno Helbling. Sochi is one of six Olympic cities in his photo book Olympic Realities which appeared with Birkhäuser in 2015. [www.olympicrealities.info](http://www.olympicrealities.info)