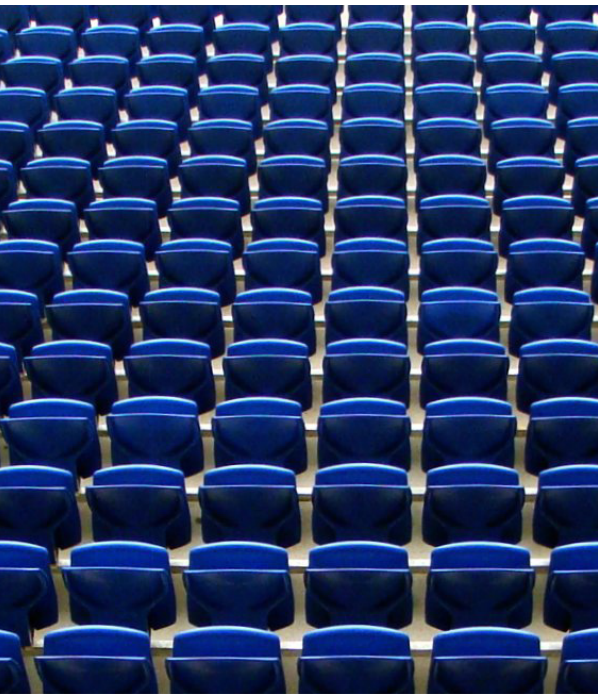
World Stadium Index

Stadiums built for major sporting events – bright future or future burden?



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Play the Game/
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home for the homeless questions in sport

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World Stadium Index
Stadiums built for major sporting events – bright future or future burden?

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Content

Preface

This report from the Danish Institute for Sports Studies/Play the Game has the objective to obtain a greater understanding of the sporting legacy of stadiums built for or having undergone major renovations to host a major international sporting event. Several brand new stadiums have been built or renovated for specific events, but the legacy of such stadiums and to what extent they are used after the event are in many cases unclear.

The study detailed in this report was conducted in order to assess the sustainability of stadiums built for major international sports events in terms of sporting and financial sustainability. Do substantial investments in stadiums for mega events lead to significant utilisation after the event? Is it possible for all stadiums to be utilised to a higher extent after the major sporting event? Is there a complex of general problems present, and if so: How and where are they occurring? How can we avoid the potential problems? Are there any model examples? And why have they succeeded?

The overall results presented in the report allow us to answer at least some of the questions related to stadiums that have been constructed or undergone major renovations due to a major sporting event.

We wish to invite persons with an interest in the field to contribute with more precise and additional data in order for us to be able to continually develop and expand the stadium data set.

The author and the Danish Institute for Sports Studies/Play the Game wish to thank the stadiums that have chosen to participate in the survey by submitting information. A special thanks goes to our local informers Francisco Pinheiro, Sahr Morris Jr., Junmei HU, Clemens von Veltheim, Honorata Jakubowska, Simon Pile, Hiroto Shoji, Tolga Senel and Özden Fedakar, who have assisted with additional country specific research. We also want to thank the stadium expert and founder of Xperiology.com, Ian Nuttall, for his inspiration and contribution to developing this study. Furthermore, the author wants to thank his colleagues at the Danish Institute for Sports Studies/Play the Game for their input and support in the process and for their assistance in translating, editing and layouting this report. Without their help the work in producing this report would have been far more difficult.

Finally, the Danish Institute for Sports Studies/Play the Game wants to thank the Danish Gymnastics and Sports Associations (DGI), Team Danmark, the Danish Company Sports Federation, and the National Olympic Committee and Sports Confederation of Denmark (DIF) for their general financial contribution to this study and other research activities connected to the 7th Play the Game conference held in Cologne, Germany, on October 3-6, 2011.

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Summary

The present study has looked into 75 venues in 20 countries that have been built or undergone major renovations in order to host a major international or continental sporting event. The aim of the study has been to examine how and to what extent stadiums built for these events are utilised after the events have taken place.

The main variable in the report is the number of spectators per season/year. By dividing the attendance figures with the stadiums' capacities, we have created an index that has made it possible to compare the stadiums included in the study in a simple manner. The index has also made it possible to visualise the state of each stadium built or renovated for particular events, and compare and examine the events to determine which types of events have been most successful in terms of sporting legacy.

Even though the study shows that some stadiums have had positive legacies and satisfying developments post-event, it also demonstrates that numerous stadiums that have been built or renovated for major events have had problematic legacies. A majority of the stadiums included in the study have had problems attracting larger crowds, and in general their attendance figures are low.

The lack of an attractive anchor tenant from the outset or weak attendance figures are the main reasons why some stadium owners have financial problems and why several stadiums have a negative sporting legacy.

Sports federations should be more cautious when awarding major events and to a higher degree award the events to countries or cities in a manner that gives these hosts a realistic chance of converting the short-lived honour of hosting a major event into a long term stadium legacy.

However, it is not only the sports federations' fault that several stadiums stand empty. The host countries and cities also have a responsibility as they ultimately (almost every time) pay the bill. Countries and cities should have a greater awareness of what kind of impact hosting an event really has. They should take a longer time perspective when they consider becoming hosts and be more focused on what their legacy will be after the event is over.

The 2006 FIFA World Cup in Germany is the single most successful event in the study as viewed in this context, as a majority of the stadiums have had a large inflow of spectators after the World Cup.

That the World Cup stadiums in Germany would continue to have good attendance figures was not a big surprise in view of Germany's relative wealth, strong football tradition and a local football league that has highest attendance figures in the world. Nor was it surprising that several of the stadiums built or renovated for UEFA Euro 2004 in Portugal have turned out to have a problematically legacy. Aside from three teams, attendance figures in Portuguese football are low.

The experiences from Portugal show that the mantra 'If you build it, they will come' should not be seen as a trustworthy solution. It requires more than a new stadium to get an inflow of spectators. Several UEFA

Euro 2004 stadiums have since been put up for sale, and the majority have very low attendance figures in relation to their capacities.

Instead of taking local needs into account beforehand, many stadium owners have, to a great extent, chosen to customise their stadiums according to external requirements. This has led to the problem that many stadiums cannot be adapted for daily needs after the event. This has not only resulted in empty stadiums and negative sporting legacies, but also higher construction and maintenance costs for stadium owners, who are typically cities and municipalities. The cost of a stadium does not end with its completion. Weekly events with good attendance figures are needed if a stadium is to avoid becoming a financial burden and causing great financial losses for its owner(s).

1. Introduction

On the 2nd December 2010 in Zürich, Switzerland, when FIFA awarded Russia and Qatar hosting rights for the 2018 and 2022[1] World Cups respectively, it was also implicitly decided that over 20 new stadiums would be built.

Neither Russia nor Qatar have a satisfactory stadium infrastructure in place today and thus do not meet FIFA's requirements[2] for stadium capacity within a host country. However, both Russia and Qatar will, according to FIFA's evaluation of the 2018 and 2022 World Cup applications, invest massive sums in order to meet FIFA's requirements. Russia has an official stadium budget of $3.8bn. for the 2018 FIFA World Cup, while Qatar has agreed to a tidy sum of $3bn.[3]

But Russia and Qatar are not the only applicants willing to invest substantial amounts to host major international and continental sporting events. Many other countries and cities are looking to stage these events not only for sporting motives, but also in an attempt to promote their host city or country or reach other economic or political objectives.

Major sporting events mean major stadiums, and it is the stadiums only that this report will examine. While the construction of such stadiums may also reflect architectonic or political ambitions, the focus of this report is solely on the intended long-term use of the stadiums. What happens to the stadiums after the major events are over? Do they get utilised and to what extent? Is it possible to see any pattern in the investments and their after use? Do the stadiums as the most iconic buildings of most mega events contribute to the promised positive legacies of mega events – or should stadiums rather be considered the symbol of an arms race for big international sports events that has been allowed to spiral out of control?

The total construction cost of the venues included in the study is nearly $14.5 bn. Significant investments are therefore required to host a major sporting event – investments that come with enormous expectations and promises. But are the promises fulfilled? Are the stadiums able to live up to the high expectations that were present prior to the event?

This is not a new issue. Brand new stadiums have always been built for major sporting events. Their design and shape often attract a lot of attention, so the stadiums therefore tend to seen, beyond the sport itself, as the very symbol of a major sporting event.

But as it is evident that several of the stadiums that have been constructed for major events have not had a successful legacy in terms of attendance, this report examines whether such problems are relevant and what they might look like.

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[1] http://www.fifa.com/worldcup/russia2018/news/newsid=1344698/index.html
[2] http://transparencyinsport.org/The_documents_that_FIFA_does_not_want_fans_to_read/PDF-documents/%2815%29Stadium-Agreement.pdf
[3] http://www.fifa.com/mm/document/tournament/competition/01/33/59/45/bidevaluationreport.pdf p. 28 & 32

Basically, the aim of study is to examine whether stadiums built for major international or continental sporting events are utilised after these events and to what extent. How many people visit the stadium per season/year? What kinds of events are taking place in the stadiums?

As an operational and relatively simple measure this report is primarily based on the number of spectators visiting each stadium for events taking place at the pitch of the stadium in 2010. However, the study also considers qualitative data in the discussion of why some stadiums might succeed in attracting people, while others do not. Which of the stadiums has been most successful in terms of their number of spectators? Why have they been successful? Which of the stadiums have had difficulties attracting spectators after the event? And why have these venues faced problems?

The growth of major events

The Olympic Summer Games and the men's football World Cup and European Championships have developed and grown substantially in recent years.

In terms of the number of participating countries, sports disciplines and athletes the Summer Olympics have had an increase from Atlanta 1996 to Beijing 2008[4] [5], and a similar trend can be discerned from the Winter Olympics from Lillehammer 1994 to Vancouver 2010.[6] [7]

As football has become increasingly globalised, commercialised and professionalised, both FIFA and UEFA have chosen to expand their respective main events, FIFA World Cup and UEFA Euro, making it possible for more countries to participate in the final stage of the events. FIFA, for example, has expanded the number of participating countries in the World Cup finals from 24 to 32 since the tournament in France in 1998. The confederations that benefited most from this development were the Confederation of African Football (CAF) and the Asian Football Confederation (AFC). CAF received two additional places and now has five World Cup places, while the AFC's number of World Cup places doubled from two to four.

Another significant change reflecting this development in football is the decision to introduce a rotation system when it comes to the location of the FIFA World Cup. The policy arose after South Africa failed to be awarded FIFA World Cup in 2006 after a very tight bidding contest with Germany, which set forth the idea that the World Cup should rotate between the continents. On this ground it was decided that the World Cup 2010 would be awarded to an African country, while the 2014 World Cup should take place in South America.[8] However, FIFA's policy has undergone changes since its introduction, and now all

[4] http://web.archive.org/web/20080822100835/http://www.olympic.org/uk/games/past/index_uk.asp?OLGT=1&OLGY=1996
[5] http://en.beijing2008.cn/news/official/preparation/n214496035.shtml
[6] http://www.olympic.org/vancouver-2010-winter-olympics
[7] http://www.olympic.org/lillehammer-1994-winter-olympics
[8] http://news.bbc.co.uk/sport2/hi/football/7067187.stm

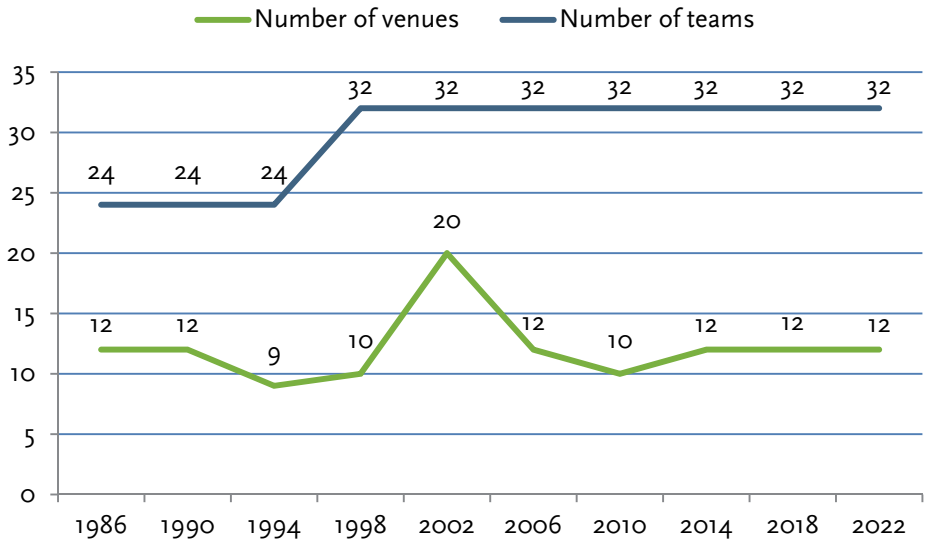
member countries of FIFA can apply for the World Cup, as long as a country from the same confederation has not arranged any of the last two World Cup finals.[9]

Just like FIFA, UEFA has also made some structural changes. The UEFA Euro finals expanded from eight teams in Sweden in 1992 to 16 teams in England in 1996, and for UEFA Euro 2016 in France the event will grow from 16 to 24 participating teams, nearly half of UEFA's 53 member countries. Unlike FIFA, UEFA does not have an explicit rotation system. All countries that are members of UEFA have the same opportunity to apply to host the finals. However, based on the host countries chosen for the event in recent years one can argue that UEFA has an underlying wish to spread the event around.

One could expect that the expansion of these events to include a greater number of participant countries would lead to more stadiums being used, but this is not entirely true. As figure 1.1 below shows, 12 stadiums were utilised for FIFA World Cup 1986 in Mexico and during the subsequent World Cup in Italy in 1990. Both tournaments took place before FIFA decided to expand the World Cup finals with an additional eight teams.

12 stadiums will also be used at the upcoming World Cup in Brazil in 2014 and the consecutive events in Russia and Qatar, where 32 teams will participate. This determines that expansion has not influenced the number of venues required to host the event. The exception is Korea/Japan in 2002, which was played in 20 venues, partly for political reasons. We will return to the FIFA World Cup and the 2002 FIFA World Cup stadiums in Korea/Japan later in this report.

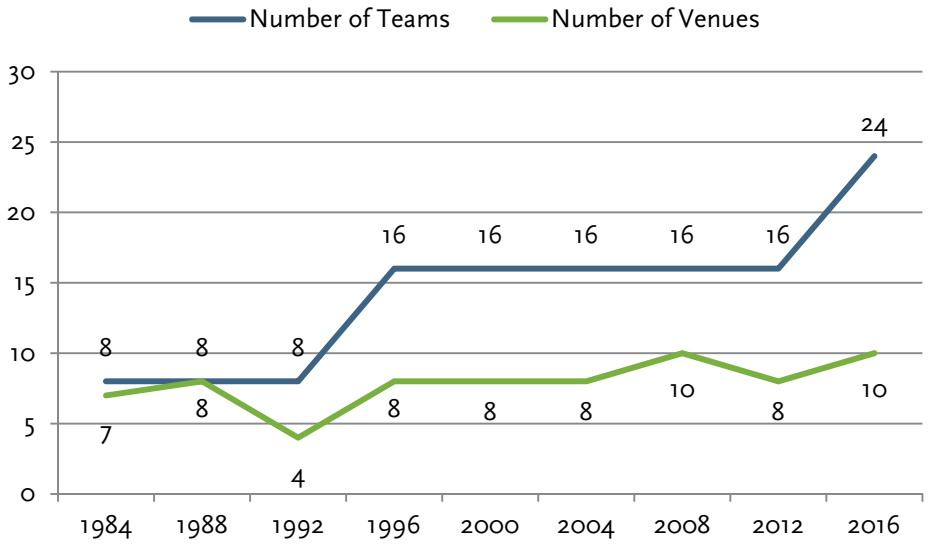
Figure 1.1: Number of participating teams and utilised venues FIFA World Cup 1986-2022



[9] Ibid.

The number of venues used for the European Football Championship has not changed in accordance with UEFA's gradual expansion of the tournament. The most notable exception to this relatively constant trend was in fact a decrease in the number of venues used for UEFA Euro 1992 in Sweden.

Figure 1.2: Number of participating teams and utilised venues UEFA Euro 1984-2016



Only four stadiums were utilised during the tournament in Sweden, which may be seen as comparatively low, but also as proof that it is possible to host a major event with only a few main stadiums. The main reason why so few stadiums were used is that Sweden had only four stadiums at that time that were suitable for hosting UEFA Euro matches and refused to construct any new stadiums up to the event.

As figure 1.2 above shows, UEFA Euro 1984 in France and the subsequent event in Germany were the events where most venues in relation to participating teams were utilised. Germany already had existing and sufficient stadium facilities before the 1988 event, while France had to build two new stadiums and make major renovations on several others before its event.

As stated above, it is not the expansion of teams in the World Cup and UEFA Euro that has resulted in more stadiums being built for the events. Instead, the answer lies in FIFA and UEFA's stadium specific requirements[10] [11]. Stadium requirements set for the Olympic Games and other major sporting events have also resulted in many host countries needing to build new stadiums or make significant upgrades to older ones in order to host these events.

A more detailed review of FIFA and UEFA's stadium requirements will be given at the beginning of chapters 4 and 5.

[10] http://transparencyinsport.org/The_documents_that_FIFA_does_not_want_fans_to_read/PDF-documents/%2815%29Stadium-Agreement.pdf
[11] http://www.uefa.com/MultimediaFiles/Download/Regulations/uefa/Others/84/03/26/840326_DOWNLOAD.pdf

2. Method

Selection

The study's initial phase included 65 stadiums in 20 countries – stadiums which have been constructed or have undergone significant renovations in order to host an international or continental sporting event. The sports events which initially formed the basis of the study's selection of venues were the Olympic Summer and Winter Games, the FIFA World Cup, UEFA Euro, Africa Cup of Nations, All-Africa Games, Asian Games, Pan-American Games and Commonwealth Games.

However, during the report's progress we included a few cities that had unsuccessfully bid to host the Olympic Games. So in light of this and other methodological adjustments, the study has been expanded to comprise 75 stadiums in 20 countries on six continents.

It would have been possible to include even more new and modern stadiums in the study if the focus had been broader. During recent years numerous new stadiums and venues have been built for concerts and other cultural events as well as sport. However, an inclusion of these many venues would have resulted in a burdensome number of stadiums for the analysis.

Another choice made was to only focus on the main stadium of the Olympic Summer and Winter Games, All-African Games, Asian Games, Pan-American Games and Commonwealth Games. This means that many smaller stadiums and sports venues built for these events have not been included in the study. The choice to include only the main stadiums can be justified by the fact that they are often the venues in which the host's largest single investment is made. These venues are often ascribed a symbolic or iconic value for the mega events and their legacies and receive most attention. Furthermore, these venues' capacities are comparable to those of the stadiums that stage the major football events.

For the FIFA World Cup, UEFA Euro and Africa Cup of Nations we have chosen to include all of the stadiums that have been built or have undergone major renovations for these events. This means that venues were not included in the study if they already existed and were suitable or almost suitable for the event before the host city/country was selected.

In the study we have chosen to focus in greater depth on a few stadiums per event, both stadiums that have done well and stadiums that not have done so well after hosting an international or continental sporting event. The reason why we have chosen these case studies is that we have good data available on certain stadiums and these stadiums have interesting backgrounds and sporting legacies.

As stated above, only events that have taken place on the pitch after the major event has taken place, e.g. football games and concerts, are included in the study. No accounts have been made of the business events or stadium tours that have subsequently taken place at each stadium. The main reason for this omission is that the venues were constructed with the primary purpose of holding major events like sporting events and cultural events. If they were intended to be a forum for business events, a pure conference centre would have been significantly cheaper to construct and maintain.

A few Olympic stadiums in particular have reduced their capacities after the event. We have chosen to use their final venue capacities in this study simply because it is our intention to provide a fair picture of the number of spectators in relation to the capacity of each venue. Otherwise, the report's figures and numbers would be misleading, because they would have judged the proportion of spectators attending events held after the major event against the venues' capacities during the major event. This is also the case when the price per seat is presented since only the final configuration is relevant for the long term use of the stadium.

Questionnaire

The study began with desk research in which all adequate information about the stadiums included in the study was collected from available sources – i.e. stadium websites and press reports. Following the initial desk research, a questionnaire (see Appendix 1) was created and subsequently sent out to each stadium owner/stadium operator in order to get answers to the questions for which we had no information, and also in order to verify the information we had found via the desk research. The focus of the questionnaire was on the number of tickets sold and the number of events taking place at each venue. The questionnaire was supplemented with basic facts and technical information about each venue.

Only 14 stadiums chose to respond to the questionnaire, giving a relatively low response rate of 18.6 per cent. There were cases, especially some venues in Africa, where it was impossible to find any contact details for either the owner or the operator of the stadium. Therefore, due to the low response rate and our intention to give the study a qualitative angle, we contacted sources who either had knowledge about a specific venue or area or spoke the language in the country where we wanted to obtain data.

The initial questionnaire was supplemented at this stage with qualitative questions (see Appendix 2) and sent out to our local sources. The information provided by our network of local sources in many of the countries gave us a greater opportunity to create an accurate picture of the venues and, to some degree, overcome the lack of figures and numbers on certain venues.

Methodological Problems

It has not been possible to obtain adequate information about all of the included stadiums, neither through primary nor secondary sources, which has resulted in a lack of information about certain venues mostly concerning the most significant variables in our study: numbers of tickets sold and numbers of events. Although it is generally difficult to obtain data on numbers of tickets sold or total attendance figures per season/year, this problem is even more pronounced for the African stadiums that have hosted either the Africa Cup of Nations or All-Africa Games. The lack of designated long-term management, sales or PR-infrastructure in several of the selected stadiums is striking taking into the account the significant investments made in stadium infrastructure to ensure long-term use after the initial mega event.

In some cases, when the owner or operator of a certain venue has not been able or willing to state the figures, it has been possible to find estimates through online sources of attendance numbers for most of the events which have taken place in the venues. However, finding these numbers has proven problematic when the owner or operator has not specified in their answers what kinds of events that have

taken place. This means that we are not able to present the total attendance numbers or a qualified estimate for all cases. It is, however, interesting in itself that there are certain venues built to host major sporting events where adequate information about the venues is not available in any form.

The main reason why adequate information has not been available in some cases is primarily the lack of answers from stadium owners and operators, but obtaining trustworthy information through desk research and local sources is also a challenge.

Another problem that arose during the study was a discrepancy between the number of tickets sold and the number of spectators per season/year. The study's questionnaire was based on the number of tickets sold, but during the study it became apparent that the numbers of total spectators were much easier for us and our sources to obtain. The figures presented in this study are therefore the attendance figures and not the number of tickets sold as originally intended.

The challenges in collecting reliable data from all stadiums meant that some uncertainties, especially regarding the utilisation of single stadiums, could not be avoided. Despite these shortcomings, we still believe that the general trends described in this report are valid. But the report should be seen as a first step in getting a more comprehensive picture of stadium investments, and further research must eventually fill out some of the gaps. It is also the reason why we invite others with interest in the field to contribute with more precise data, if possible.

Comparison of stadiums

A major part of this report is based on comparisons of the different venues. But how should we compare the different venues constructed for various events held at different times and in different countries?

To make these comparisons as consistent as possible and to create an accurate picture, we have chosen to include different variables to help us convey as complete a picture as possible on the state of the individual venue.

Capacity, price and the World Stadium Index

A relatively simple way to compare the stadiums is to look closely at what each venue has cost to build. Although construction prices give an important indication of which events have been the most and least expensive to host, it can be misleading to focus only on the respective venues' total construction costs.

Calculating the price per seat gives a more adequate picture of what the owners have got for their invested money in terms of capacity. But although these two price variables play a significant role in this report, they are rather superficial and do not provide an indication of how much the venues are used.

We have therefore chosen to complement these variables with an index that goes beyond price and instead focuses on the number of spectators visiting the stadiums each season/year in relation to each stadium's capacity – an index we have chosen to name the 'World Stadium Index'. The index is a result of the relationship between the number of spectators per season/year and the stadium's capacity. To further clarify the index we will give an example below with a fictional venue.

If we suppose that the fictional Victoria Stadium has a capacity of 55,000 spectators and the venue had 456,789 visitors in 2010, this would result in an index number of 8.3. The World Stadium Index represents how many occasions per season/year the venue theoretically is filled up. In Victoria Stadium's case, this would represent slightly more than eight times.

One must also take into account other variables that can measure whether a venue is successful or not. But even if the World Stadium Index does not completely show the success of a venue, it is a valuable indicator which demonstrates the sporting legacy and the operators' ability to fill the stadium in relation to its capacity in a simple way. The index is also a valuable and significant indicator that can be used to rank the venues.

Another method, which is not used in this report, would be to compare the stadium's capacity with the average attendance. If Victoria Stadium, with its capacity of 55,000, had six events with an average attendance of 53,123, it would result in an utilisation rate of 96 per cent. This indicates that it is possible to fill the stadium on certain occasions, but the disadvantage of this approach is that it does not take into account the total number of spectators or events per season/year. Despite the stadium's relatively high utilisation rate when events do take place, its low number of events per year means that its number of spectators per year is also relatively low.

GNI Index

To be able to compare venues which have been constructed at different times, for different prices and in different countries, and to further deepen the study's analysis, we have chosen to include the variable gross national income (GNI) per capita, purchasing power parity (PPP) from 2010 in the study.

The World Bank's definition of GNI per capita is:

"GNI per capita based on purchasing power parity (PPP). PPP GNI is gross national income (GNI) Converted to international dollars using purchasing power parity rates. An international U.S. dollars hock the Sami purchasing power over GNI as a U.S. dollar hock into the United States. NCI is the sum of value added by all resident Producers plus any product Taxes (less subsidies) not included in the valuation of output plus net receipts of primary Income (Compensation of Employees and Property Income) from abroad."[12]

The GNI per capita is implemented in order to obtain an index number that makes it possible to do a more precise comparison of the construction costs measured by price per seat between countries and venues. This is done by dividing the price per seat for each venue with the GNI per capita figure in the country in which the stadium is built.

A GNI Index also highlights which countries and cities have made the biggest and the smallest investments in relation to their population's purchasing power parity. Is it, for example, financially or

[12] http://data.worldbank.org/indicator/NY.GNP.PCAP.PP.CD

morally feasible if the price per seat is equal to the annual purchasing power parity per capita in a country?

Along with World Stadium Index, the GNI Index will serve as an indicator of the legacy of each stadium and event and indicate whether the money invested in the stadiums can be seen as a good or poor investment.

Once again we can use the fictive Victoria Stadium as an example: Victoria Stadium cost $350 million to construct and has a capacity of 55,000 giving a price per seat of $6,364. The stadium has been built in a country with a GNI per capita of $15,250, which results in a GNI Index number of 0.40. Unlike the World Stadium Index, the GNI Index should be as low as possible. In this case, the index 0.40 represents about 50 per cent of a person's purchasing power parity per year in the country where Victoria Stadium has been built.

Currency

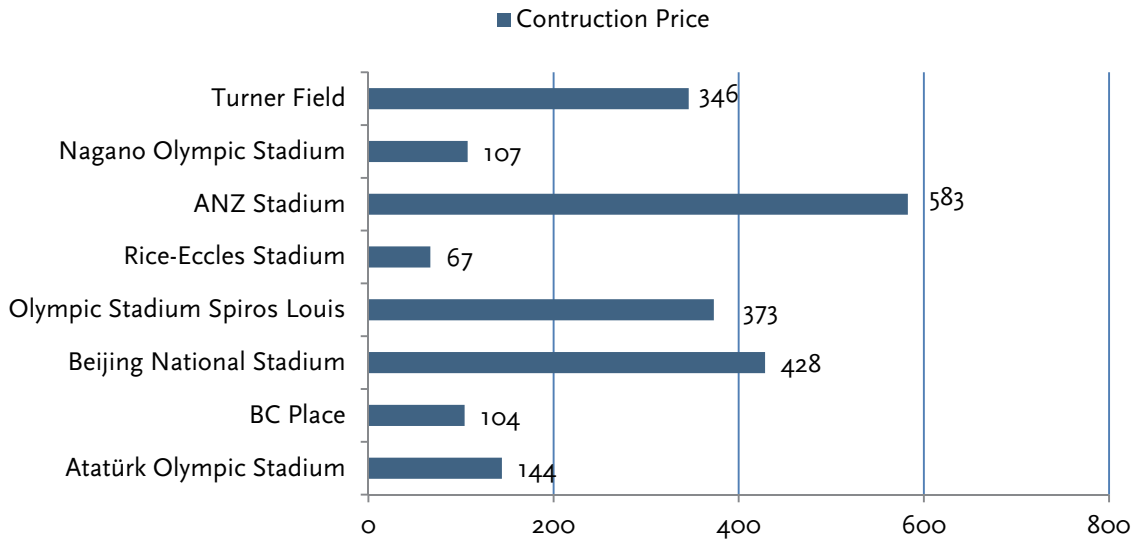
If not stated, all prices are in U.S. dollars ($). When the price has only been available in the domestic currency, we have converted the price into U.S. dollar using the exchange rate between the domestic currency and the average U.S. dollar rate during the year the stadium was completed. Inflation is taken into account, and therefore, unless otherwise indicated, all prices are under the monetary value of 2010.

3. Olympic stadiums

We have included eight Olympic stadiums in the study and we have chosen to include venues for the Summer and Winter Games as well as stadiums that have been constructed as a consequence of an Olympic bid from a candidate city which ended up not being awarded the Olympic Games.

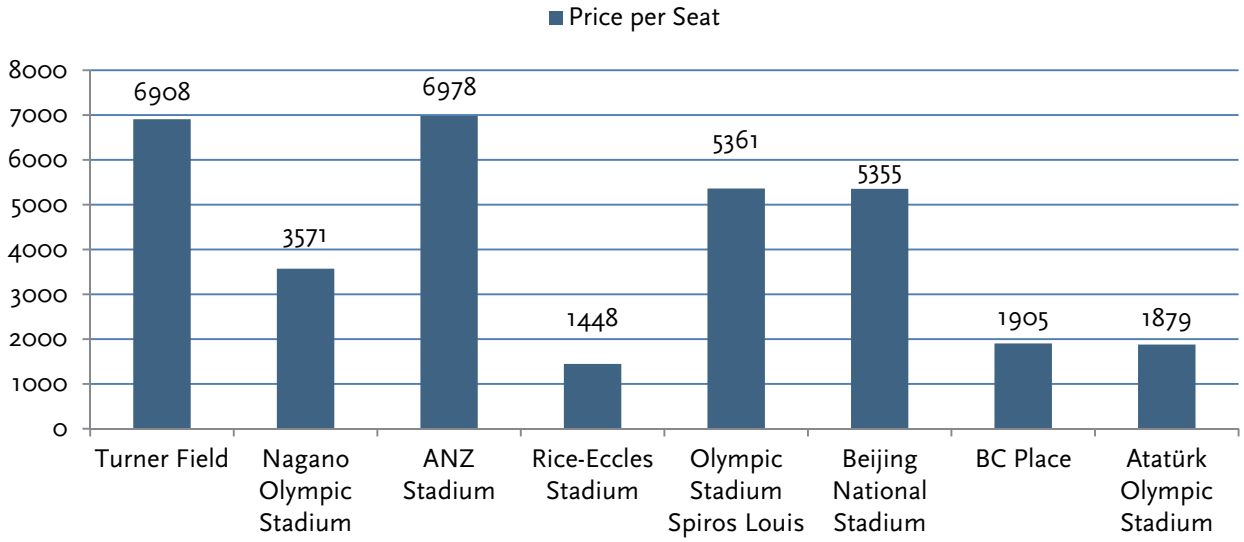
As the figures below show, the main stadiums for the Summer Olympics are much more expensive to construct and modernise than the corresponding venues for the Olympic Winter Games. The total costs of the Olympic stadiums are just over $2 bn. giving an average price of close to $270 million per venue.

Figure 3.1: Construction price Olympic stadiums 1996-2010 (million dollars)



All prices in 2010 dollar value

Figure 3.2: Price per seat Olympic stadiums 1996-2010 (dollars)



All prices in 2010 dollar value

One of the explanations why the stadiums for the Olympic Summer Games are more expensive to construct is that the capacity in general is significantly higher for those venues than for the Winter Olympic venues. Often it is also necessary for the hosts of the summer Olympics to build a main stadium, because the majority of the candidate cities do not have a stadium which is big enough and provides running tracks. These problems are not present at the Winter Olympics. The stadiums that are used for the opening and closing ceremonies at the Winter Olympics do not have to take any specific sport on the Olympic program into account. None of the main venues for the Winter Olympics, which are included in this study, have hosted an Olympic sport. They were constructed for ceremonial purposes.

Of the eight Olympic venues included in the study, only the Beijing National Stadium lacks a permanent anchor tenant. The other venues have one or several tenants. However, there is a big difference between the venues in the extent to which the tenants utilise the stadium and the number of other events taking place in the stadium.

1996 Summer Olympics, Turner Field, Atlanta in USA

Construction price: 346 million
Capacity: 49,586
Attendance in 2010: 2,510,119
World Stadium Index: 50.6

After the Olympics the local baseball team, Atlanta Braves, chose to remove the running track, lower the capacity and convert the Centennial Olympic Stadium, now Turner Field, into a ballpark for baseball.[13] The investment cost $40 million, equal to $54 million in 2010 value. It has proven to be a successful investment in terms of attendance and over the past three seasons up until the time of writing the stadium has hosted more than 80 baseball games per season, including the annual game between the college teams Georgia and Georgia Tech.[14]

In the past seasons the stadium attracted over 2.5 million spectators, and the many baseball games per season had of course a significant impact on the attendance figures. Major League Baseball (MLB), the league in which Atlanta Braves play, is the most popular league in the world in terms of the total number of spectators. Had the Braves not chosen to convert the stadium into a ballpark that met the local needs, the venue could have had some of the problems another big stadium in Atlanta, Georgia Dome, which has seating for more than 70,000 spectators, is facing.[15]

1998 Winter Olympics, Nagano Olympic Stadium, Nagano in Japan

Construction price: 107 million
Capacity: 30,000
Attendance in 2010: 17,828
World Stadium Index: 0.6

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[13] http://www.nytimes.com/specials/olympics/0730/oly-stadium-braves.html
[14] http://www.georgiadogs.com/sports/m-basebl/spec-rel/042810aab.html
[15] http://www.gadome.com/about/Default.aspx

After the Winter Games in Nagano in 1998, the Olympic stadium has primarily been used for baseball, both professional and amateur. But the stadium is also used for the Nagano Olympic Commemorative Marathon, where the runners cross the finish line inside the stadium.

The main tenant is the semi-professional baseball team Shinano Grandserows, which plays in the Baseball Challenge League. The league was founded in 2007 and includes six teams. Unlike the Atlanta Braves, Shinano Grandserows has a more leisurely schedule playing only 11 games in 2010. In terms of attendance the contrast is even bigger. Throughout the whole season, Shinano Grandserows only had around 18,000 spectators, which is relatively poor for an arena of Nagano Olympic Stadium's size.

2000 Summer Olympics, ANZ Stadium, Sydney in Australia

Construction price: 583 million
Capacity: 83,500
Attendance in 2010: 1,195,696 (2006)
World Stadium Index: 14.3

ANZ Stadium in Sydney, Australia, has had, as shown by the figures above, both the highest construction price and the highest price per seat. Just as Turner Field in Atlanta, the stadium in Sydney chose to remove the running track after the Olympics and reduce the stadium's capacity. The intention in Sydney was similar: to meet local sporting needs and to be able to host as many events as possible. Both rugby and Australian Rules football, which are not on the Olympic programme, are considerably popular in the country, and no less than five teams belonging to these sports use ANZ Stadium as their home ground. Athletics has, apart from the Olympics and the World Championships, difficulties in attracting larger crowds to the stadiums so the removal of these tracks in Atlanta and Sydney after the Games was not surprising.

As ANZ Stadium did not wish to participate in the study, the latest available and reliable data about the stadium's total attendance figures is from 2006. In 'Idrættens største arenaer' (2007) the authors state that ANZ Stadium had nearly 1.2 million spectators in 2006.[16]

Just like Rice-Eccles Stadium in Salt Lake City and Turner Field, ANZ Stadium has up to now not held an international or continental major sporting event since it hosted the Olympics. However, 2015 will be a significant year for Australia, as two major sporting events will be held in the country.

The country will for the first time host the AFC Asia Cup,[17] the equivalent of the UEFA Euro and Copa América, and ANZ Stadium is expected to be the tournament's final venue.[18] [19] The other major event, the

[16] Almlund, U., S. Bang & H. Brandt (2007): Idrættens største arenaer – fra OL til hverdag. P. 15
[17] http://www.the-afc.com/en/news-centre/news/32028-australia-to-host-2015-afc-asian-cup
[18] http://www.austadiums.com/news/news.php?id=461
[19] http://theworldgame.sbs.com.au/asian-cup/news/1015189/Cities-fight-for-Asian-Cup-motza

Cricket World Cup, will be jointly hosted by Australia and New Zealand[20] and ANZ stadium is likely to be one of the potential venues.[21]

Australia was one of the candidates to host 2022 FIFA World Cup, where ANZ Stadium, according to the Australian application, would have hosted either the opening match or the final.[22] However, FIFA decided to award the event to Qatar, which prevents a possible World Cup in Australia in the foreseeable future due to FIFA's rotation policy. Australia is a member of the Asian Football Confederation, along with Qatar, so it is not eligible to host the World Cup until two championships after another country in its confederation has hosted the event. Australia also applied to host the FIFA Women's World Cup in 2011, but later decided to withdraw its application.[23]

2002 Winter Olympics, Rice-Eccles Stadium, Salt Lake City in USA

Construction price: 67 million
Capacity: 46,178
Attendance in 2010: 332,482
World Stadium Index: 7.2

Rice-Eccles Stadium hosted the opening and closing ceremony of the Winter Olympics in Salt Lake City in 2002. Two stadiums had previously existed on the site where Rice-Eccles Stadium was built, and when Rice-Eccles was completed in 1998 it replaced the Rice Stadium. The new stadium has a capacity of 46,178 and cost about $66 million to construct. Four main partners shared the investment, including the Salt Lake City Olympic Committee and the University of Utah.[24]

The stadium is owned and operated by the University of Utah and the anchor tenant is the American football team Utah Utes, which plays in the American College League NCAA. However, the team played only six home games in 2010 and only three other events took place in the stadium. Although the Utah Utes' games are usually well attended, 45,459, the total attendance number for the stadium is quite low due to the limited number of Utah Utes games and other major events.

2004 Summer Olympics, Olympic Stadium Spiros Louis, Athens in Greece

Construction price: 373 million
Capacity: 69,618
Attendance in 2010: 1,234,379
World Stadium Index: 17.7

The Olympic Stadium in Athens, Olympic Stadium Spiros Louis, was built in 1982, but underwent significant renovations for the Summer Olympics in 2004. Thanks to two of the largest football clubs in

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[20] http://icc-cricket.yahoo.net/events_and_awards/CWC/overview.php
[21] http://www.cricketworldcup2015.in/venues
[22] http://www.fifa.com/mm/document/tournament/competition/01/33/74/50/b3ause.pdf p. 11
[23] http://www.fifa.com/aboutfifa/footballdevelopment/news/newsid=614495/index.html
[24] http://utahutes.cstv.com/trads/utah-trads-ricestadium.html

Greece, Panathinaikos FC and AEK Athens FC, who use the stadium as their home ground, the Olympic stadium has a fairly high attendance number.

The stadium is not ideal for football matches as its running track has been kept. But as the two clubs' plans to build their own stadiums have not been fulfilled, and considering the current condition of the Greek economy, it is likely that for at least the next couple of years the two clubs will continue to play their home games at the Olympic Stadium Spiros Louis, which is owned and operated by the OAKA and the Greek government.

Both clubs are among the most successful and popular football clubs in Greece, and collectively they had just over 1 million home spectators during the 2009/10 season. The stadium has also been relatively good at attracting significant sporting and cultural events over the years. Since 1982, the stadium has hosted three UEFA Champions League finals, a final in the now defunct UEFA Cup Winners' Cup, IAAF World Athletics Championships, the Olympic Games and numerous concerts by major artists. However, there is not much competition from other venues in Greece to host major events, which gives the stadium the best opportunity to host major artists when they are passing by on their tours.

In recent years, several modern football stadiums have been built around Europe, and the Olympic stadium in Athens could be challenged in the future when it comes to attracting a final in any of the European Cups, UEFA Champions League and UEFA Europa League or UEFA Euro if it does not have major renovations.

Greece jointly applied with Turkey to host UEFA Euro 2008[25]. If their application had been successful, Spiros Louis Olympic Stadium would have been the final venue[26], but instead the joint bid from Austria and Switzerland was awarded the event. Four years later, Greece once again applied to host UEFA Euro,[27] but this time the event went to Poland and Ukraine. Spiros Louis Olympic Stadium would have most likely been the final venue as the stadium was still, by far, the largest football ground in Greece.

2008 Summer Olympics, Beijing National Stadium, Beijing in China

Construction price: 428 million
Capacity: 80,000
Attendance in 2010: N/A
World Stadium Index: N/A

It is rather difficult to obtain data regarding attendance at events that have taken place at the Beijing National Stadium in 2010. The information we have found indicates that the stadium had 19 events during 2010 and the majority of these were sporting events. Although there have been relatively few events on the pitch, the venue had, according to our sources, a net income of 370 million RMB in the period April 2008 to January 2010, which is equivalent to approximately $54 million. More than $14

[25] http://news.bbc.co.uk/sport2/hi/football/europe/1321498.stm
[26] http://www.scotland-mad.co.uk/feat/edz4/greeceturkey_euro2008_78131/index.shtml
[27] http://edition.cnn.com/2004/SPORT/football/11/11/euro.greece/index.html

million of the net income was from ticket revenue from stadium tours. From the day the stadium opened in 2008 there have been about 13 million people who have taken a stadium tour.

According to an article in Chinatown Sports Science[28] the stadium's operating budget in 2009 was just over 187 million RMB, or a little over $27 million, and this budget will not rise significantly over the next ten years. The operating numbers are similar to numbers printed in the China Daily, which indicates that the annual operating expenses are just over $22 million.[29]

The stadium is owned by the Beijing State-Owned Assets Management Co. Ltd (BSAM) and the China International Trust and Investment Company (CITIC Group), both of which have clear links to the Chinese government. CITIC Group is also an operator of the stadium. The football team Beijing Guoan FC, which is tightly connected to the co-owner and operator of the arena, CITIC Group, has a priority to play in the venue, but has so far chosen to play its matches at the Workers Stadium.[30]

2010 Winter Olympics, BC Place, Vancouver in Canada

Construction price: 104 million
Capacity: 54,320
Attendance in 2010: 1 million (2009)
World Stadium Index: 18.3

BC Place hosted the opening and closing ceremony of the 2010 Winter Olympics in Vancouver, Canada. In 2009-2011 the stadium, originally constructed in 1983, went through a complete renovation for 565 million Canadian dollars[31], equivalent to $548 million, approximately $194 million more than initially expected.[32] The redevelopment of the stadium was done in two phases. The first phase, which cost more than $103 million, was done before the Olympics and included new public spaces, new restrooms, updated media facilities, kiosks, new seating for people with disabilities and new lighting and signs.[33]

The second phase, which was the most costly, began after the Olympics were over. This phase included the installation of a new roof that can be opened and closed in twenty minutes. Other major modifications were a new pitch, new screens, new sound system and new seats. The last phase cost about $445 million and the stadium reopened in September 2011.[34]

As the stadium was closed due to the renovations after the Olympics, no attendance figures for 2010 are available. However, the venue has confirmed over 231 event dates in 2012. Only a fraction of these events

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[28] China Sport Science. Vol. 30, No. 1 2010
[29] http://www.chinadaily.com.cn/metro/2010-06/30/content_10039597.htm
[30] http://translate.googleusercontent.com/translate_c?hl=da&rurl=translate.google.dk&sl=zh-CN&tl=en&u=http://fcguoan.sina.com.cn/fixtures-
[31] http://www.theglobeandmail.com/sports/football/bc-place-to-be-gussied-up-in-time-for-2011-grey-cup/article1781720/
[32] http://www.canada.com/vancouversun/news/westcoastnews/story.html?id=c5dd17d0-de39-4019-98cc-b70a6e50d73e
[33] http://www.winnipegfreepress.com/sports/football/bombers/two-stadiums-similar-sagas-134483063.html
[34] Ibid.

are reserved for the main tenants: the football team Vancouver Whitecaps, which plays in Major League Soccer, and the American football team BC Lions, which plays in the Canadian Football League. The majority of the confirmed events are either concerts or other major gatherings.

According to Duncan Blomfield, Marketing and Communications Manager at BC Place, the venue had about 200 event days per year until the start of the renovation in 2009, and each year had approximately one million visitors.

Atatürk Olympic Stadium, Istanbul in Turkey

Construction price: 144 million
Capacity: 76,092
Attendance in 2010: N/A
World Stadium Index: N/A

The Atatürk Olympic Stadium in Istanbul is clear evidence that the motto "build it and they will come" is questionable.

Turkey and Istanbul have applied to host the Summer Olympics four times (2000, 2004, 2008 and 2012) without success.[35] After their unsuccessful bids for the Games in 2000 and 2004, former International Olympic Committee (IOC) president Juan Antonio Samaranch recommended that Turkey and Istanbul should demonstrate tangible improvements to display their determination to the IOC.

That this recommendation resulted in the construction of Atatürk Olympic Stadium cannot be confirmed, but Atatürk Olympic Stadium was nevertheless built soon after and since then Istanbul has had another two unsuccessful Olympic bids. Despite its previous failures, Turkey's Prime Minister, Recep Tayyip Erdogan, confirmed in July 2011c that Turkey and Istanbul had once again submitted an application to host the Olympic Games 2020.[36]

Turkey has not only had unsuccessful Olympic bids but also unsuccessful bids to host UEFA Euro. As mentioned above, Turkey and Greece had a joint bid to host the UEFA Euro 2008. Atatürk Olympic Stadium was supposed to host the opening game[37] if the joint bid with Greece became a reality. Turkey also applied for UEFA Euro in 2016, but once again the bid was unsuccessful.[38] According to the Turkish UEFA Euro 2016 application[39], Atatürk Olympic Stadium was supposed to host group matches, the last 16 matches, quarter- and semi-finals and the final.

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[35] http://www.gamesbids.com/english/bids/ist2012.shtml
[36] http://www.insidethegames.biz/olympics/summer-olympics/2020/13679-turkey-prime-minister-confirms-istanbul-bid-for-2020-olympics
[37] http://www.scotland-mad.co.uk/feat/edz4/greeceturkey_euro2008_78131/index.shtml
[38] http://news.bbc.co.uk/sport2/hi/football/europe/8711016.stm
[39] http://www.uefa.com/MultimediaFiles/Download/MediaRelease/uefaorg/MediaReleases/01/48/83/27/1488327_DOWNLOAD.pdf p. 3

The football club Istanbul Buyuksehir Belediye Spor Kulubu (IBB) uses the stadium as its home ground. However, the competition is fierce in Istanbul with teams like Fenerbahce SK, Galatasaray SK and Besiktas JK. IBB is the least popular team among the Istanbul teams in the top division.

IBB is also another example of the problems we had in obtaining exact data on the total number of spectators per season/year. Neither the club nor the Turkish Football Federation (TFF) have information regarding the attendance number for IBB on their official websites, and despite requests to the two parties, they have not been willing or able to answer.

However, our source in Turkey and the Turkish newspaper 'Haber3' points out that at a normal game in 2010 IBB had around 200 spectators.[40] According to' Hürriyet Futbol' the average had risen to 4,000 in 2011.[41]

Although the club has increased its average, the numbers of spectators at a regular game confirm that IBB has very low attendance figures in relation to the venue's capacity.

Conclusion on Olympic stadiums

If you only look at the Olympic venues included in the study in terms of big events, Atatürk Olympic Stadium is the poorest investment. Having spent nearly $150 million in construction costs with no major event in return, the largest stadium in Turkey could be seen as a major failure and a poor public investment. Turkey and Atatürk Olympic Stadium have so far, despite numerous attempts, not hosted any major international sporting events and its next opportunity could be to host the Summer Olympics or UEFA Euro in 2020 – 18 years after the stadium was opened.

Its price per seat in relation to GNI per capita is, however, low, and results in a relatively low GNI Index, which may be positive for a stadium that is used by a football team with relatively low attendance figures. But the stadium is nevertheless underutilised. For instance, even though the Turkish national football team chose to play their home games at several different venues in their qualifying series for the 2010 World Cup and the 2012 European Football Championship, Atatürk Olympic Stadium was not one of them. Most of the events taking place in the stadium are connected with the football team IBB, which is the main tenant. But as the team has a low average attendance, it does not have a major influence at the total attendance number.

[40] http://www.haber3.com/turkler-tv-taraftari--556356h.htm
[41] http://hurarsiv.hurriyet.com.tr/goster/printnews.aspx?DocID=19541776

Table 3.1: Overview Olympic stadiums 1996-2010

Name	Construction Price	Price per Seat	World Stadium Index	Events	GNI Index	Ownership
Turner Field, Atlanta (USA)	$346,052,868	$6,908	50.6	85	0.15	Private
Nagano Olympic Stadium, Nagano (JPN)	$107,127,879	$3,571	0.6	11	0.10	Public
ANZ Stadium, Sydney (AUS)	$582,685,890	$6,978	14.3	44	0.18	Private
Rice-Eccles Stadium, Salt Lake City (USA)	$66,888,036	$1,448	7.2	9	0.03	Private
Olympic Stadium Spiros Louis, Athens (GRE)	$373,209,963	$5,361	17.7	49	0.20	Public
Beijing National Stadium, Beijing (CHN)	$428,406,780	$5,355	N/A	19	0.71	Public
BC Place, Vancouver (CAN)	$103,843,500	$1,905	18.3	200	0.05	Public
Atatürk Olympic Stadium, Istanbul (TUR)	$144,238,715	$1,879	N/A	46	0.12	Public
Average	$269,056,704	$4,176	18	58	-	-

All prices in 2010 dollar value

The stadium which clearly has the lowest known World Stadium Index is Nagano Olympic Stadium at 0.6. The reason why the stadium has such a low index is connected to the problem of finding a high profile tenant, which is indicated by the stadium's annual attendance numbers. In terms of the number of events held at the venue, the stadium's general utilisation is also below average.

It is possible that the stadium fills a local sporting need, but this need could most likely also be filled with a much smaller venue. If the local authorities had a sporting legacy plan for the Olympic Stadium, this plan has proven not to have worked very well. 17,828 spectators in total in 2010 for an Olympic venue is a number that is hard to beat – on the wrong end of the scale.

Another stadium that has a low index is Rice-Eccles Stadium in Salt Lake City. The low index is a result of the few annual events held at the stadium. The Utah Utes have a high average audience, but the team

only plays six home games per year. However, the investment cost was quite low resulting in a low GNI Index. The stadium's annual costs are only $133,000[42], and while the stadium is entirely funded by private funds[43], its potential negative results do not affect public finances.

A venue that has clearly done well since the Olympics is Turner Field in Atlanta. The former Centennial Olympic Stadium has an index of 50.6, which in comparison with the other Olympic venues is very high compared to the average index of 21.5 for Olympic venues. What has contributed to Turner Field's success is, without a doubt, its adaption to local sporting needs after the Olympics. No nostalgia for the Olympic stadium got in the way as Atlanta had any interest in letting the stadium stand as a monument of the Games. Another important aspect of its success is its anchor tenant. The Atlanta Braves play more than one game per week and attract more than two million spectators per season. However, baseball is not equally strong around the globe and cannot be seen as a universal solution.

A venue that seems to have chosen its own distinctive path is Beijing National Stadium. The stadium has no main anchor tenant, and has, along with Nagano Olympic Stadium and Rice-Eccles Stadium, hosted least number of events per year. There are no data available on its total attendance, which makes it impossible to calculate a World Stadium Index figure. Instead of having a permanent anchor tenant and several events per year, the Chinese have chosen to use the stadium as a tourist attraction, a historical and possibly also a political monument. This strategy had brought some success – 13 million people have taken a stadium tour since the stadium opened in 2008 and the 'Bird Nest' is well-known around the globe.

The GNI Index for Beijing National Stadium, however, is not a success. At 0.71 it is high and well above average for the Olympic venues. It could be argued that there is a connection between the high index and the way in which the Chinese chose to utilise Beijing National Stadium after the Olympics. The distinctive design of the stadium has certainly contributed to its high construction price, almost $430 million, and the stadium is more of an excursion goal and a landmark symbol for China as a nation than a sports stadium.

Many of the Olympic venues have quite high construction costs, but is there a correlation between the amount of money invested and high attendance numbers? Yes and no. Turner Field in Atlanta cost nearly $7,000 per seat to build, but has been the most successful arena in attracting spectators. Rice-Eccles Stadium has the lowest investment cost and also the lowest World Stadium Index of the Olympic venues. Although it is tempting to draw a conclusion that there is a correlation between the money invested per seat and the subsequent success of the venue, it is not possible to make this conclusion. The Olympic cases presented here are too few, and at the same time Beijing National Stadium, one of the most expensive stadiums per seat to build, has an (unofficially) low World Stadium Index, which furthermore contradicts this assumption.

[42] https://law.marquette.edu/assets/sports-law/pdf/sports-facility-reports/v12-college-facilities.pdf p.49
[43] Ibid.

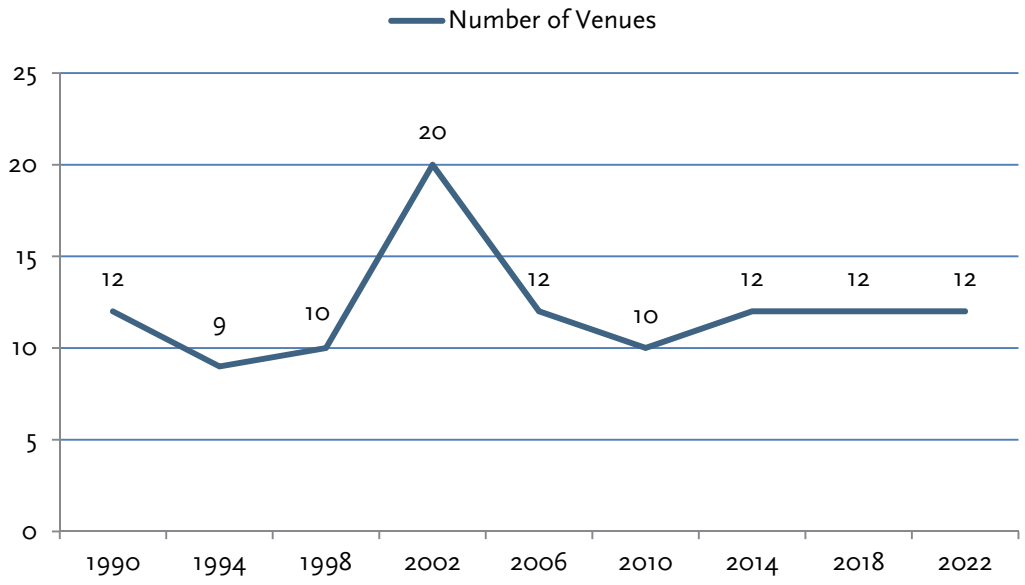
4. FIFA World Cup stadiums

FIFA has a number of requirements for stadiums hosting World Cup games. One of these is capacity. FIFA requires that a venue hosting the opening game and the final must have a net capacity of at least 80,000. For the other group matches, last 16, quarter finals and the match for third place the requirement is at least 40,000, and FIFA requests a net capacity of at least 60,000 for venues hosting the semi-finals.[44]

At the first FIFA World Cup for men, which was held in Uruguay in 1930, 13 teams participated. Over time, the number of teams has increased and, as mentioned in chapter 1, the number of participating countries had become 32 by the World Cup in France in 1998.

The increase in participating teams has, as stated above, not resulted in more stadiums being built, and figure 4.1 below shows that the number of World Cup stadiums has been 9-12 per venue per event regardless of whether 24 or 32 countries took part in the finals. The exception is the 2002 World Cup in Korea/Japan where 20 stadiums were used.

Figure 4.1: Number of FIFA World Cup stadiums 1990-2022



For future World Cups, the number of venues is also about the same. FIFA advised applicants for the World Cup in 2018 and 2022 that 16-18 venues should be presented in each application, venues which, in a reasonable manner, should be spread all over the country. Of these 16-18 stadiums FIFA would then choose 12 stadiums.[45] The majority of the stadiums used for the 2018 World Cup in Russia and 2022 in

[44] http://transparencyinsport.org/The_documents_that_FIFA_does_not_want_fans_to_read/PDF-documents/%2815%29Stadium-Agreement.pdf p.17
[45] Ibid. p.8-9

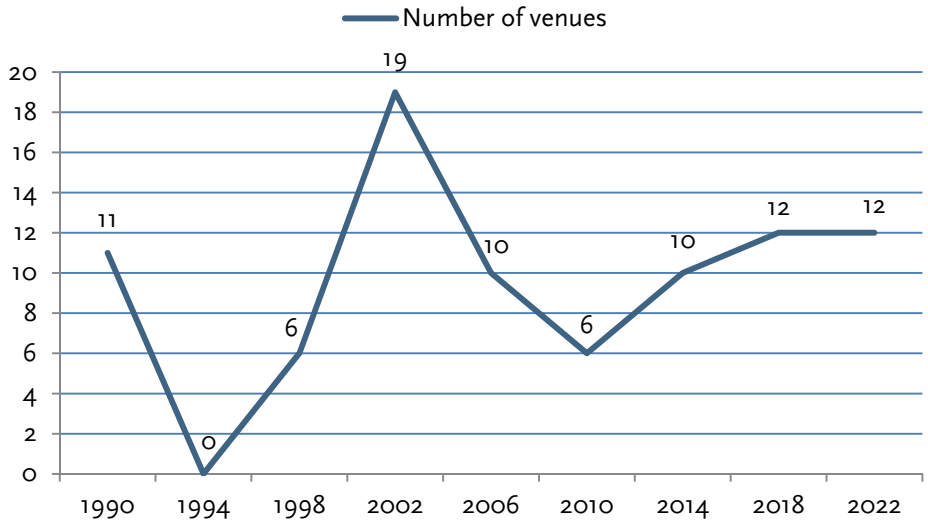
Qatar will be newly built. Brazil anticipates six new stadiums and major renovations to four others for its World Cup in 2014.

As figure 4.2 shows below, the number of venues that have been constructed or undergone major renovations varies from event to event. Before the 1998 World Cup in France, FIFA decided to only allow all-seater stadiums. France built one new stadium while five underwent major renovations partly due to these requirements.

The all-seater stadium requirements were introduced eight years before when Italy hosted the World Cup and despite the former requirements Italy had to make significant investments to be able to host the event. 11 new stadiums were built or underwent major renovations for the event. Since 1990 the majority of these Word Cup venues have not undergone any significant renovations.

As figure 4.2 shows, the 1994 World Cup in the United States took place without any new stadiums being built or major renovations being carried out. Thanks to a major interest in American football in the state, on both a professional and college level, USA could organise the event without any significant stadium investments.

Figure 4.2: Number of new or major renovations to stadiums due to the FIFA World Cup



2002 FIFA World Cup in Korea/Japan

The total cost of the 19 new or renovated stadiums for the 2002 FIFA World Cup was just over $4.6 bn. resulting in an average price of $243 million per venue. As figures 4.1 and 4.2 show, the World Cup in Korea/Japan so far has the highest number of used venues and also the highest number of new or renovated venues due to the event.

The main reason for the many venues is that the two countries initially intended to apply for the World Cup individually. However, the two countries eventually decided to make a joint application and were awarded the event in 1996.

Miyagi Stadium, Rifu in Japan

Construction price: 318 million
Capacity: 49,133
Attendance in 2010: 73,767
World Stadium Index: 1.5

After the 2002 World Cup a number of venues in Japan have faced difficulties in attracting larger crowds. One of these venues is Miyagi Stadium. The stadium, with a capacity of 49,133 and construction costs of almost $320 million, hosted two group matches and one last 16 match during the event. Miyagi Stadium staged nearly 80 events, but had only 73,767 spectators in total in 2010, which is a poor figure for a stadium of Miyagi Stadium's capacity.

Another major problem is that the two big teams in the prefecture, Vegalta Sendai and Tohoku Rakuten Golden Eagles, have chosen to play their home games at other venues – venues that existed before the Miyagi Stadium was built. Both teams attracted larger attendance figures than the events at Miyagi Stadium did in 2010.

The football team, Vegalta Sendai, chose to play a majority of their home games at the much smaller venue Yurtec Stadium Sendai, which has seating for 20,000 spectators. In 2010 the team had an average audience of 17,332[46] and played only three matches in the J-League at Miyagi Stadium. The baseball team in the prefecture (subnational jurisdiction), Tohoku Rakuten Golden Eagles, plays its home games at Miyagi Baseball Stadium, which has a capacity of 23,026 spectators, and had an average attendance of 15,876 in 2010.[47]

The two teams have similar average attendance figures, but while Tohoku Rakuten Golden Eagles play at least 72 matches at home per season, their total attendance figures are just over 1.6 million, which results in a higher total attendance figure than Vegalta Sendai.

Miyagi Stadium needs a high profile anchor tenant if the stadium is going to increase its attendance figures. Its few major sporting events per year are not enough and the sporting legacy of the stadium is questionable. The local stadium need was fulfilled before 2002 World Cup and the new stadium has not been a boost for sport in the prefecture.

Sapporo Dome, Sapporo in Japan

Construction price: 426 million
Capacity: 42,328
Attendance in 2010: 1,965,944 (only baseball and soccer)
World Stadium Index: 46.4

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[46] http://www.worldfootball.net/zuschauer/jpn-j-league-2010/1/

[47] http://translate.googleusercontent.com/translate_c?hl=da&rurl=translate.google.dk&sl=ja&tl=en&u=http://blog.goo.ne.jp/renee_2008/e/29c6b80b97cf5cc9b1e79309b2f59ebf&usg=ALkJrhhgtoyatqm-MPWAe4uLaTX8xJPkjw

Not all stadiums built for the 2002 World Cup have had a problematic sporting legacy. One example is Sapporo Dome on the island of Hokkaido. Although the stadium had a relatively high investment cost, just over $426 million, due to its multi-functionality and roof, this has made it possible for the venue to host different types of events.

Significant events that have taken place in the stadium after the World Cup exemplifying the venue's multi-functionality are the sprint races in the 2007 FIS Nordic World Ski Championship and a special stage of Rally Japan in 2008 and 2010.

In 2010 the stadium hosted 118 events and the majority of these were sporting events. The local baseball team, Hokkaido Nippon-Ham Fighters, played 72 games at Sapporo Dome. The stadium's other main tenant, football team Consadole Sapporo, play at the venue on match days that do not clash with Hokkaido Nippon Ham-Fighters. Consadole Sapporo played eleven games in the J-League at the venue during the 2010 season.

The Hokkaido Nippon-Ham and Consadole Sapporo's games alone gave Sapporo Dome a total attendance figure of over two million in the 2010 season. The total figure for the stadium is higher, but we lack the figures from the other events.

Conclusion on 2002 FIFA World Cup in Korea/Japan

Unfortunately, we lack data on the total attendance numbers for the Korean stadiums built for FIFA World Cup 2002, which means that is impossible to give an overall picture of the sporting legacy for the 2002 World Cup venues. Desk research indicates that Korea spent nearly $1.7 bn. on its stadiums. The equivalent figure for Japan was just over $2.5 bn.

Table 4.1: Overview 2002 FIFA World Cup stadiums

Name	Construction Price	Price per Seat	Total Attendance	World Stadium Index
Ecopa Stadium, Fukuroi City (JPN)	$300,837,055	$5,859	184,296	3.6
Kashima Soccer Stadium, Kashima (JPN)	$194,968,272	$4,787	415,273	10.2
Miyagi Stadium, Rifu (JPN)	$317,965,217	$6,472	73,767	1.5
Nissan Stadium, Yokohama (JPN)	$621,135,687	$8,588	541,047	7.5
Ooita Bank Dome, Ooita (JPN)	$202,549,576	$5,064	535,516	13.4
Saitama Stadium, Saitama (JPN)	$359,630,596	$5,646	882,182	13.8

Misaki Park Stadium, Kobe (JPN)	$232,345,610	$7,711	242,979	8.1
Sapporo Dome, Sapporo (JPN)	$426,303,684	$10,071	1,965,944	46.4
Tohoku Denryoku Big Swan Stadium, Niigata (JPN)	$283,348,305	$6,699	572,099	13.5
Busan Asiad Stadium, Busan (KOR)	$223,623,410	$4,159	N/A	N/A
Daegu Stadium, Daegu (KOR)	$293,203,898	$4,414	N/A	N/A
Daejeon World Cup Stadium, Daejeon (KOR)	$141,821,986	$3,499	N/A	N/A
Gwangju World Cup Stadium, Gwangju (KOR)	$156,506,820	$4,090	N/A	N/A
Incheon Munhak Stadium, Incheon (KOR)	$121,402,939	$2,562	N/A	N/A
Jeju World Cup Stadium, Seogwipo (KOR)	$124,426,864	$3,660	N/A	N/A
Jeonju World Cup Stadium, Jeonju (KOR)	$131,177,945	$3,144	N/A	N/A
Seoul World Cup Stadium, Seoul (KOR)	$197,111,864	$2,951	N/A	N/A
Suwon World Cup Stadium, Suwon (KOR)	$149,065,847	$3,452	N/A	N/A
Ulsan Munsu Football Stadium, Ulsan (KOR)	$149,213,681	$3,500	N/A	N/A
Average	$243,507,329	$5,070	601,456	13.1

All prices in 2010 dollar value

The only information we have on the total inflow of spectators in Korea is from the statistics on the football games that took place at the Korean World Cup stadiums. Seven stadiums had less than 150,000

football spectators in 2010. The Korean World Cup stadium with the best figures was Seoul World Cup Stadium, which had a total attendance of 680,101 football spectators in 2010.

The FIFA World Cup in Japan resulted in an excessive construction of stadiums that led to increased competition between new and existing stadiums. This was particular visible in Miyagi and Fukuroi City. Both cities already had stadiums that were being used by local sports teams before the World Cup and were serving local needs. These old stadiums have continued to play an important role for the local teams, which has meant that Miyagi Stadium and Ecopa Stadium have had problems attracting larger crowds.

Miyagi Stadium and Ecopa Stadium have, as Table 4.1 shows, a poor World Stadium Index and the construction of both stadiums were obviously questionable. The stadiums are owned by the Miyagi and Shizuoka prefectures, and with their low attendance figures there is an obvious risk that the local citizens bear significant annual costs of maintaining the stadiums as the revenues from the stadiums are most likely minimal.

The current over-capacity of venues in Japan could quite easily have been avoided by choosing not to build and use as many stadia for 2002 World Cup. In the Japanese 2022 FIFA World Cup application, Japan submitted proposed to use stadiums that existed before 2002 World Cup. If these stadiums had been used in 2002, the current problems in Japan would probably not be present to the same extent.

As researcher John Horne points out in his article 'The Four 'Knowns' of Sports Mega-Events', the World Cup did result in some desired tourism developments for the two host countries, but not as much as originally hoped. Japan and Korea expected a million extra tourists in 2002, but Japan had only 30,000 more tourists than the year before. Korea had the same number of tourists in 2001 as in 2002.[48]

The two countries' estimations before the 2002 World Cup are typical for the overt optimism that is often seen in connection with the construction of mega-event stadiums. Hopes and visions are not always transformed into something that can be called a sustainable success. Miyagi Stadium and Ecopa Stadium are two good examples of this.

However, there are venues that have done well and have had a positive sporting legacy after the World Cup. As mentioned above, the Sapporo Dome is an excellent example and Saitama Stadium, with nearly 900,000 spectators in 2010, could also be mentioned. Both stadiums have succeeded in playing an important role for their local sports post-World Cup and have managed to become a natural part of the local sporting landscape and fulfil a local sporting need.

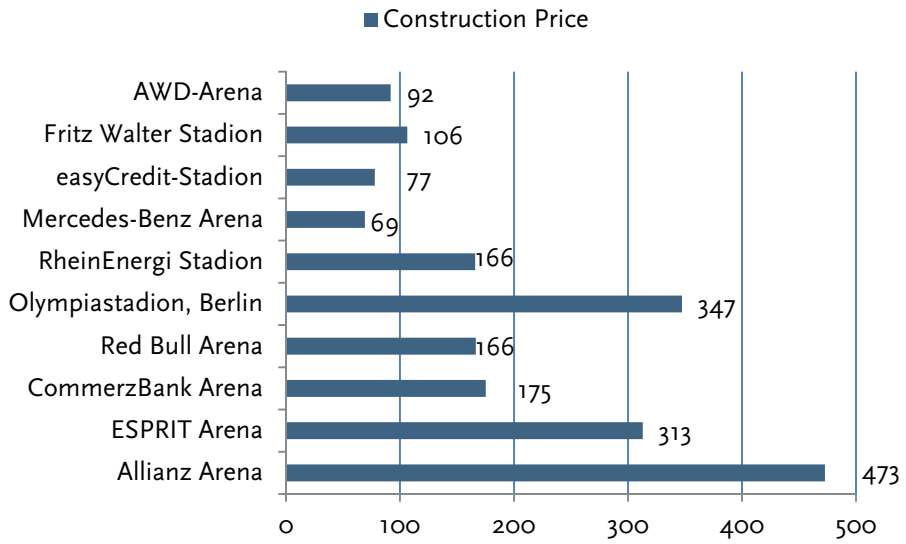
2006 FIFA World Cup in Germany

Although Germany had fairly updated stadiums before 2006 FIFA World Cup, the country made significant investments due to the 2006 tournament. Nearly $2 bn. was invested in stadiums that were either built for or underwent major renovations for the event. The German investment is comparable to

[48] Horne, J. The Four 'Knowns' of Sports Mega-Events. Leisure Studies, Vol. 26, 1 p. 86

the investments Korea made before the 2002 World Cup even though the stadium infrastructure in Germany was much more modernised before the 2006 tournament than the Korean infrastructure was before the 2002 tournament.

Figure 4.3: Construction/renovation price of 2006 FIFA World Cup stadiums (million dollars)



All prices in 2010 dollar value

Allianz Arena, Munich
Construction price: 473 million
Capacity: 69,901
Attendance in 2010: 2,326,000
World Stadium Index: 33.3

In the mid-1990s, a modernisation of the Olympic Stadium in Munich was considered as the German Football Association (DFB) began to show an interest in bidding for the 2006 FIFA World Cup. An upgrade of the 1972 Olympic Stadium was necessary for the stadium to meet FIFA's requirements.

The modernisation proposal was supported by FC Bayern Munich, which wanted to convert the Olympic Stadium into a pure football ground. However, one of the Olympic Stadium's architects, Günther Behnisch, vetoed a possible conversion of the stadium and instead, a plan for a new football ground in Munich was established.

As the figure above shows, Allianz Arena was the most expensive of the German World Cup stadiums, costing more than $472 million to build. However, FC Bayern Munich and the other major club in Munich, TSV 1860 München, covered the cost of the stadium, while the city of Munich paid for the surrounding infrastructure.

The stadium is owned by the company Allianz Arena München Stadion GmbH, in which the two clubs initially held a 50 per cent share of ownership. In April 2006 FC Bayern Munich bought TSV 1860

München's share for almost $15 million. TSV 1860 München's administrative director, Stefan Ziffer, said that the deal would prevent insolvency for the club. Initially, the agreement stated that the club had the right to buy back their share for the selling price plus interest before June 2010. However, in 2007 TSV 1860 München chose to decline the right and FC Bayern Munich is currently the sole owner of the stadium.[49]

FC Bayern Munich are still paying off the loans that made it possible to build Allianz Arena, but according to our informants they receive approximately $6.6 million (€5 million) annually in rental payments from TSV 1860 München.

In the spring of 2004 the president of TSV 1860 München, Karl-Heinz Wildmoser Sr., his son, Karl-Heinz Wildmoser Jr., who at the time was the CEO of Allianz Arena München Stadion GmbH, and two other persons were charged for corruption in connection with the awarding of the stadium construction contracts. The prosecution against Wildmoser Sr. was closed, but he resigned as president of the club. Karl-Heinz Wildmoser Jr. did not have the same luck. He was prosecuted for fraud, corruption and tax evasion. In exchange for €2.8 million, equivalent to over $4 million, Wildmoser Jr. gave the Austrian contractor Alpine inside information that made it possible for Alpine to win the contract. Wildmoser Jr. was sentenced later, in August 2006, to four and a half years in prison.[50]

FC Bayern Munich is one of the most successful clubs in Germany, both in terms of records and attendance figures. As the local competitor, the other tenant, TSV 1860 München, does not have such a large inflow of spectators but together the two clubs generate large total attendance figures annually.

During the 2009/10 season the stadium was used exclusively for football and hosted 48 matches with over two million spectators. The stadium's success formula is thus quite simple – two attractive football teams including one which is successful at both a national and European level and another that has a relatively large and loyal fan base within the local area.

ESPRIT Arena, Düsseldorf

Construction price: 313 million
Capacity: 54,500
Attendance in 2010: 576,522
World Stadium Index: 10.6

A venue that not has had the same success as Allianz Arena is ESPRIT Arena in Düsseldorf. There was a discussion during the planning stage about whether there was a real need for a World Cup venue in Düsseldorf as the local team, Fortuna Düsseldorf, played in the 4th division at the time. But when the World Cup was approaching it was decided that the stadium should be built anyway.

[49] http://bayernow.com/2011/05/25/allianz-arena/
[50] http://bayernow.com/2011/05/25/allianz-arena/

It turned out that the $310 million stadium in Düsseldorf did not get the opportunity to host any World Cup matches – a big setback.

The stadium was financed through both public and private funding but is now owned by the city. As Fortuna Düsseldorf was only playing in the lower divisions, it was uncertain how much the club would be able to pay in rent to the city. The club's mediocre performance on the pitch was also reflected in terms of spectator numbers, and in the early years of ESPRIT Arena the club had rather poor attendance figures in relation to the stadium's capacity. However, the club has in recent years advanced in the league system and is currently playing in the 2.Bundesliga. The club's sporting progress has resulted in more spectators and during the season 2009/10 the club had a total attendance figure of 511,522.

The club is important for the venue. Beyond the football matches ESPRIT Arena does not host many other events. It has a roof which allows concerts and other events to be held during wintertime and in the winter of 2010 the stadium hosted Race of Champions – a rare event during the football season as the match schedule is confirmed relatively late and it is difficult to plan ahead for concerts and other events to take place at the pitch. Such events are therefore most likely to be held during the summer.

Red Bull Arena, Leipzig

Construction price: 166 million
Capacity: 44,345
Attendance in 2010: 181,000
World Stadium Index: 4.1

Before the 2006 FIFA World Cup, Central Stadion in Leipzig underwent significant renovations at a cost of over $165 million. The German government was the main financier with other financial contributions coming from the City of Leipzig and private funders. As the government accounted for the main cost there was no further debate present in Leipzig about the legacy of the new stadium.

Leipzig currently does not have a professional football team playing in the stadium. It has instead had less-profile teams as anchor tenants. The resigned club FC Sachsen Leipzig, playing in of one of the German regional leagues, was the tenant 2004-2007. The team's best season attendance average during this period was 3,926. Prior to the 2008/09 season FC Sachsen Leipzig chose to relocate to their old and more suitable home ground Alfred Kunze-Sports Park.

It was not before 2010 that the venue had another anchor tenant, a newly formed club, RB Leipzig, with the company Red Bull as the main owner and sponsor. Red Bull also bought the naming rights to the stadium until 2040 for $55 million.

RB Leipzig is currently playing in Regionalliga Nord (the 4th division) and does not attract big crowds. Although the stadium hosted more events in addition to RB Leipzig's games, the stadium had no more than 181,000 spectators during 2009/10 season, which is the lowest attendance figure of all the 2006 World Cup venues.

If the stadium is going to have a positive sporting legacy in terms of the number of spectators, it is necessary for either RB Leipzig to be a more successful or for the stadium's owners to completely change their focus and become a pure event arena. The latter option seems less likely as Red Bull started the team and bought the naming rights to the stadium. As Leipzig also has an indoor arena with seating for up to 12,300 spectators, it also seems less likely that Red Bull Arena will succeed as an event arena.

Conclusion on 2006 FIFA World Cup in Germany

Both Esprit Arena and Red Bull Arena give clear evidence that several stadiums constructed for major sporting events are being built without a clear sporting legacy plan, and it is quite obvious that local needs were not taken into account when these two German venues were built. At the time the stadiums opened, neither clubs in Düsseldorf nor Leipzig had a temporary decline since they had played in the lower divisions for a couple of years. The local situation therefore raises the question why both stadiums were built. That ESPRIT Arena in Düsseldorf did not even host any World Cup matches only makes the rationale behind the stadium project even more questionable. Fortuna Düsseldorf is at the top of 2.Bundesliga at the moment and maybe the team's sporting renaissance will result in better attendance figures for ESPRIT Arena.

The capacity of the Olympic Stadium in Munich and Allianz Arena only differs by about 700 seats, which makes it fairly easy to do a comparison of the Munich venues. The season before both of the anchor tenants left for Allianz Arena they had more than 1.5 million spectators, which is a good attendance figure and would result in a World Stadium Index of 23.

During the 2009/10 season Allianz Arena had almost a million more visitors than the Olympic Stadium had during the last season the teams played at the stadium. Allianz Arena had a World Stadium Index of 33.3 during 2009/10 season, which is the best index of any stadium in Europe built for major sporting event included in this report.

Above all, FC Bayern Munich is the main reason why Allianz Arena has a good index, but another important parameter is that Munich is located in a wealthy region and in a large catchment area, which also helps Allianz Arena to have a large number of spectators annually.

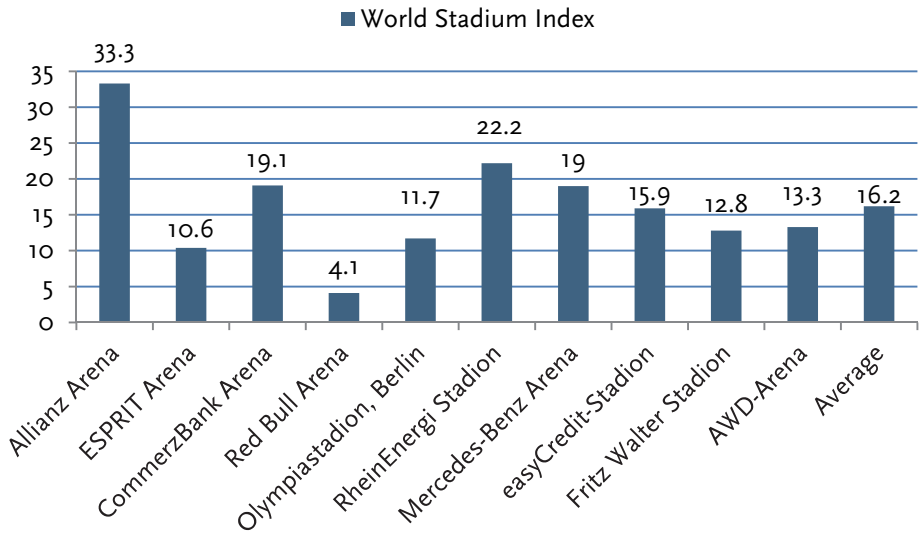
Although the public-owned Olympic Stadium in Munich lost two important tenants to Allianz Arena, the Olympic Stadium did pretty well in 2010.[51] The stadium had 85 events and attracted over 515,000 spectators in 2010, which may be seen as proof that the Olympic Stadium has managed to adapt to the market, fulfilled a need and showed that a stadium can manage quite well without a permanent tenant under the right circumstances.

However, as mentioned above, the Munich area, and wider Bavaria, is a wealthy and densely populated region with just over 12.5 million inhabitants,[52] which allows the two large venues the opportunity to attract big audiences on an annual basis. There also seems to be cooperation between the two Munich

[51] http://www.olympiapark.de/Geschaeftsbericht2010/
[52] http://www.statistik-portal.de/Statistik-Portal/de_zs01_by.asp

venues that Allianz Arena only hosts football while the Olympic Stadium hosts other big events. This allows both venues to coexist without any significant competition between them.

Figure 4.4: World Stadium Index 2006 FIFA World Cup stadiums



Apart from Esprit Arena and Red Bull Arena all numbers that have been included to obtain the index for each venue only include football matches. Despite this, both ESPIRIT Arena and Red Bull Arena have the lowest index. This is mainly due to the absence of a successful football team. The attendance figures from the other German World Cup venues indicate that football has enormous popularity in Germany and most of the teams in the Bundesliga have an impressive average attendance.

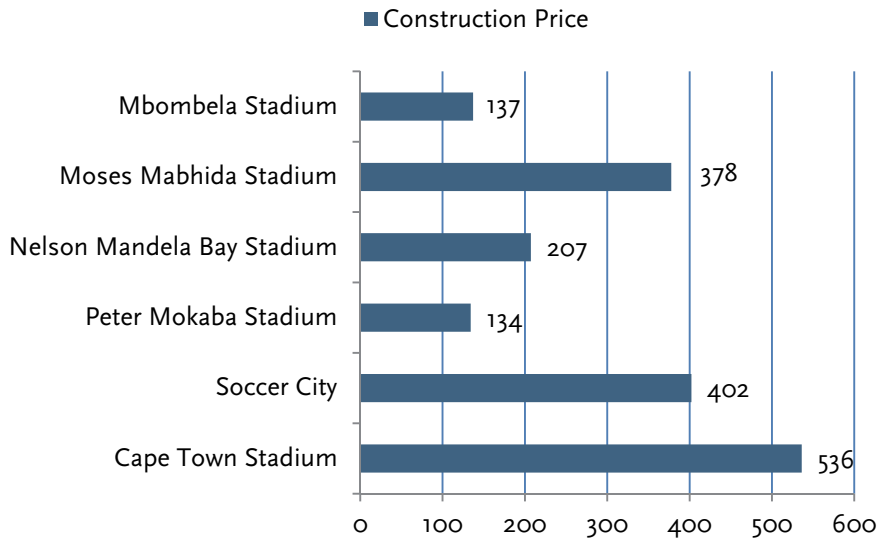
The majority of the teams that play at the World Cup venues have increased their average attendance over a 10-year period. Only the Olympic Stadium in Berlin and Fritz Walter Stadion in Kaiserslautern had a better average during the 1999/00 season than during the 2009/10 season. In connection with the 2006 World Cup the German football, primarily the national team, was given a boost, but it is hard to say if that boost stimulated an increase in the World Cup stadiums' attendance figures.

2010 FIFA World Cup in South Africa

As South Africa hosted the 1995 Rugby World Cup, the country already had a reasonable amount of venues before the 2010 FIFA World Cup. Free State Stadium in Bloemfontein and Loftus Versfeld Stadium in Pretoria hosted games both during the 1995 Rugby World Cup and the 2010 FIFA World Cup and neither of these two venues underwent any major renovations for the event in 2010.

Despite a relatively good infrastructure, South Africa chose to make significant renovations to one stadium and construct five new ones for nearly $1.8 bn. Although it has been quite difficult to confirm the funding for the stadiums, all stadiums are public-owned, which implies that the public sector was the main funder for the construction costs and renovations.

Figure 4.5: Construction price 2010 FIFA World Cup stadiums (million dollars)



All prices in 2010 dollar value

Cape Town Stadium, Cape Town
Construction price: 536 million
Capacity: 55,000
Attendance in 2010: 849,840
World Stadium Index: 15.5

Local authorities in Cape Town had initially planned to upgrade the existing stadium Athlone Stadium. The stadium is located in a relatively disadvantaged area with a high level of unemployment, but is more accessible to the black population, who constitute the majority of football fans in the country. But as Cape Town came under pressure from FIFA and the South African government, threatening that Cape Town would not host any World Cup matches with Athlone Stadium as a venue, Cape Town Stadium was built.[53] However, Athlone Stadium still underwent renovations due to the World Cup and was used as a training facility during the event.[54]

Cape Town Stadium cost more than $530 million to construct, which was more than $130 million higher than estimated.[55] The stadium hosted eight World Cup matches, among them the semi-final between Uruguay and the Netherlands.

An additional venue in Cape Town that could have been used during the World Cup instead of Cape Town Stadium is Newlands Stadium. The stadium underwent major renovations 1990-1995 to be one of the venues for the 1995 Rugby World Cup and the stadium's present capacity is 51,900. There had been a need for further renovations to meet FIFA's requirements, but the cost of these renovations would

[53] http://pitchinvasion.net/blog/2010/06/21/2010-world-cup-stadiums-a-questionable-legacy-in-south-africa/
[54] http://www.capetown.gov.za/en/Pages/AthloneStadiumclosedforpitchrenovation2010.aspx
[55] http://www.iol.co.za/news/south-africa/western-cape/stadium-cost-cape-seeks-answers-1.1020510

probably not have reached $530 million. Using this stadium would have also avoided an over-capacity of big venues. FIFA decided, however, that neither Athlone Stadium nor Newlands Stadium was appropriate for the World Cup and that it was necessary to construct a new stadium if Cape Town was interested in hosting World Cup matches.[56]

Former stadium operator Sail City France Operating Company (SSOC) chose to end its 30-year lease with the owner, the city of Cape Town, in autumn 2010. The reason for its withdrawal was the stadium's high maintenance costs, the problem of finding a high profile tenant, and the commercial restrictions the stadium had. It was therefore not financially sustainable for the company to operate the stadium as it would face significant losses. In the absence of an operator Cape Town's authorities chose to operate the stadium themselves. The operating cost is estimated at $6 million a year after revenues are deducted, and including a further annual maintenance cost of $2 million[57] the taxpayers of Cape Town pay $6 million annually for the stadium.

Ajax Cape Town has been the stadium's anchor tenant since the 2011/12 season. The club has signed a three-year lease, which has been structured around five audience categories: an audience of 7,000, 10,000, 15,000, 25,000 and 40,000.[58] The rental is thus calculated around the number of spectators who attend the games. During the current season Ajax Cape Town has played ten games in the Premier Soccer League (PSL) with a total attendance number of 40,000 giving an average of 4,000[59] in a stadium with a capacity of 55,000.

Although the agreement between Ajax Cape Town and the city of Cape Town is more favourable for the football team and, to a lesser extent, helps Cape Town pay the high annual costs, it was important for the city and the stadium to get a permanent tenant, not at least from a prestige point of view, as both of the local rugby teams, Western Province and The Stormers continue to play their games at Newlands Stadium.

The choice of Western Province was not particularly surprising as Western Province owns Newlands Stadium[60] – a stadium where the debt has been paid off. Western Province, as the owner, controls all the rights concerning the stadium, and is therefore inherently against moving its team to Cape Town as a rent-paying tenant.

Cape Town Stadium's attendance figures for 2010 were, as the Table 4.7 below shows, quite good. It is, however, important to have in mind that 500,000 of the total attendance sum consisted of World Cup spectators. Cape Town Stadium was clearly the most expensive stadium built for the 2010 World Cup. Its high construction price equates to a rather high price per seat so its GNI Index of 0.95 is very high.

[56] http://www.iol.co.za/news/south-africa/western-cape/what-now-for-cape-town-stadium-1.684199
[57] http://www.iol.co.za/capetimes/ratepayers-to-fork-out-r44m-to-cover-costs-of-running-stadium-1.1105131
[58] http://www.iol.co.za/sport/soccer/ajax-sign-stadium-deal-1.1110510
[59] http://stats.football365.co.za/dom/SAF/PR/attend.html
[60] http://www.iol.co.za/sport/demolish-absa-stadium-newlands-jordaan-1.604232

Other 2010 FIFA World Cup stadiums

The majority of the stadiums built for 2010 World Cup have a football team as their main anchor tenant. The exception is the $200 million Nelson Mandela Bay Stadium, which has the rugby team Eastern Province as its main tenant. The attendance information that is available indicates that Eastern Province Kings has a pretty low average attendance[61] and that the World Cup venue is too big in relation to the local need.

In 2010 405,530[62] people attended events at the stadium, a fairly good figure, but more than half of them were spectators at the eight World Cup games held at the stadium. Therefore, Nelson Mandela Bay Stadium has a World Stadium Index of 8.8, which would have been significantly lower if the World Cup games had not taken place at the venue. In 2011 the stadium hosted around 20 events.

Peter Mokaba Stadium in Polokwane is used almost exclusively for football matches. The local team, Black Leopards, plays along with Ajax Cape Town in the PSL, and has after eight games played in front of an average of 10,063 spectators in 2011/12 season.[63] The information we received about the total attendance at the stadium in Polokwane is quite contradictory. The two officials we have been in contact with gave different figures for 2010, one stating that the stadium had 340,000 spectators, the other 654, 500. As Table 4.7 below shows, we have chosen to include the number of 654,500 in the study.

Soccer City in Johannesburg, with a capacity of 94,736, hosted eight matches during the World Cup, among them the final between Spain and the Netherlands. PSL team Kaizer Chiefs play the majority of their games at Soccer City, but have also chosen to locate some of their games to Peter Mokaba Stadium. The team has the highest average attendance figures in the PSL. Up until the time of writing the team has had an average of 14,563 spectators[64] during the 2011/12 season. Just like Cape Town Stadium, Soccer City exceeded their original budget and the final construction bill was just over $395 million, $136 million more than estimated.[65]

In addition to Soccer City, Ellis Park Stadium also hosted World Cup matches in Johannesburg, but the stadium underwent only minor renovations for the World Cup. Another big venue situated in Johannesburg is Orlando Stadium, which has a 40,000 seat capacity. The venue underwent a complete renovation in the mid-2000s and reopened in 2008. If FIFA's limit of only two venues per city had been disregarded, Orlando Stadium could, in terms of capacity, have hosted matches during the event. Just as Athlone Stadium, Orlando Stadium was instead only used as a training facility.

Moses Mabhida Stadium in Durban cost nearly $380 million to construct and hosted seven matches during the 2010 FIFA World Cup. We do not have any attendance information for 2010, but the stadium's main tenant, AmaZulu FC, has had an average attendance of 3,111 so far in the 2011/12 season.[66]

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[61] http://www.nmbstadium.com/earlierevents/4
[62] Ibid.
[63] http://stats.football365.co.za/dom/SAF/PR/attend.html
[64] Ibid.
[65] http://www.sport24.co.za/Soccer/WorldCup/TournamentNews/Soccer-City-R1bn-over-budget-20100303
[66] http://stats.football365.co.za/dom/SAF/PR/attend.html

Close to Moses Mabhida Stadium is the 55,000 seat Kings Park Stadium, where the local rugby team, Natal Sharks, plays all of its home games. The stadium underwent major renovations in the 1990s and hosted several games during the 1995 Rugby World Cup. Kings Park Stadium was also a venue for the 1996 Africa Cup of Nations.

The situation in Durban is quite similar to the situation in Cape Town. As in Cape Town, the local rugby team has a wider popularity than the local football team, and, similar to the Western province, the rugby club Natal Sharks owns the competing stadium in the city. The Sharks Pty Ltd. funds the stadium and is debt free. In early 2011 it came to an agreement with the publicly traded retail company Mr. Price concerning the naming right of the stadium.[67] The naming right agreement is valid until 2016.[68] With these factors in mind it is understandable that Natal Sharks have no intention to move to Moses Mabhida Stadium.

Mbombela Stadium

Turning to Mbombela Stadium in Nelspruit, evidence has emerged that the tender for the construction of some parts of this stadium was corrupt and that the company that was granted the contract was improperly awarded the contract. The former speaker of Mbombela municipality, Jimmy Mohlala, was one of those who were supposed to be in possession of evidence of corruption and irregularities linked to the stadium, but he was assassinated outside his home.[69] Since Mohala's death, an additional three persons have been murdered and another three have mysteriously died.[70]

Independent investigators have found that millions of dollars were wasted on large contracts, and the final report from the investigators suggests that charges have been laid against the former mayor and the directors of the three construction companies who were responsible for the stadium project.[71]

When the stadium was about to be built the municipality tried to persuade landowners to sell 173 acres of their land for one rand, equivalent to 13 US cents. A judge, however, put a stop to the deal and the final price for the land ended up being about $1 million.[72]

There were concerns that after the World Cup Mbombela Stadium would be without a permanent tenant and would only be used for political meetings.[73] These concerns have to some extent come true. The rugby team Pumas only uses Mbombela Stadium on very few occasions and play most of its games in the smaller Puma Stadium, which they share with football team Mpumalanga Black Aces. The other tenant at the stadium, football team Bidwest Wits, plays most of its home games at the stadium, but on some occasions it also uses the smaller venue Bidwest Stadium for some of its games. The team has a current average of 9,404 spectators at its matches.[74]

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[67] http://www.sharksrugby.co.za/article.aspx?id=394629
[68] http://www.sharksrugby.co.za/news/general/101119/Sharks_to_Stay_Put
[69] http://www.nytimes.com/2010/03/13/world/africa/13stadium.html
[70] http://www.bbc.co.uk/news/10217817
[71] http://www.nytimes.com/2010/03/13/world/africa/13stadium.html
[72] Ibid.
[73] Ibid.
[74] http://stats.football365.co.za/dom/SAF/PR/attend.html

Conclusion on 2010 FIFA World Cup in South Africa

The 2010 FIFA World Cup has contributed to an over-capacity of stadiums in South Africa, a country in which football already had major problems attracting big crowds before the World Cup.

There are some games in the PSL that attract up to 40,000 spectators, but those occasions are few and far between. Some of the venues that already existed before the event could have been used as World Cup venues as they would have met FIFA's requirements with minor renovations. It is a paradox that today those old venues have higher average attendance figures than the newly built World Cup venues.

With the low average attendance figures Ajax Cape Town and AmaZulu have – and given how few larger events take place at these venues – one can question why these two stadiums were built at all. Both Cape Town and Durban had stadiums with capacities of over 50,000 before the World Cup, yet the South Africans built two brand new ones for almost $1 bn. After pressure from FIFA and the South African government, Cape Town had to abandon its plan of using an existing venue, while Durban constructed a new stadium not only for 2010 World Cup, but also for its application for the 2020 Summer Olympics and 2022 Commonwealth Games.[75] Durban withdrew its application for the 2020 Summer Olympics in 2011[76] and is now focusing on securing the 2022 Commonwealth Games and the 2024 Summer Olympics.[77]

[75] Sport Stadia, Sporting Events and Urban Development: International Experience and the Ambitions of Durban. P. 68

[76] http://www.eyewitnessnews.co.za/Story.aspx?Id=72249

[77] http://www.gamesbids.com/eng/commonwealth_games_bids/1216135725.html

Table 4.2: Overview 2010 FIFA World Cup stadiums

Name	Price per Seat	Attendance 2010	World Stadium Index	GNI Index
Cape Town Stadium, Cape Town (RSA)	$9,749	849,840	15.5	0.95
Soccer City, Johannesburg (RSA)	$4,245	N/A	N/A	0.41
Peter Mokaba Stadium, Polokwane (RSA)	$2,946	654,500	14.4	0.29
Nelson Mandela Bay Stadium, Port Elizabeth (RSA)	$4,510	405,530	8.8	0.44
Moses Mabhida Stadium, Durban (RSA)	$6,996	N/A	N/A	0.68
Mbombela Stadium, Nelspruit (RSA)	$3,347	N/A	N/A	0.33
Average	$5,299	636,623	12.9	0.52

All prices in 2010 dollar value

The problem South Africa now faces is how to attract bigger crowds to a majority of its new stadiums and thus help the stadiums to be sustainable in both a sporting and financial sense. This will be challenging as the anchor tenants lack big crowds, the stadium investment in South Africa has been high and the country's purchasing power parity is not comparable to Korea's, Japan's or Germany's. There is an obvious risk that more cities will find themselves in the same situation as Cape Town with significant annual deficits and citizens who, in the long run, will have to bear the financial burden.

South Africa invested over $6 bn.[78] in various projects related to the World Cup. However, a large proportion of the population still has significant problems to getting access to clean water and electricity[79]. One could ask if some of the investments made leading up to the World Cup should have been invested in basic necessities for the population instead.

It is still a bit too early to determine the state and the sporting legacy of the World Cup venues in South Africa. The figures included in the study are from 2010, which means that the attendance figures from the 2010 FIFA World Cup are included. We lack further figures as the World Cup stadiums have only had one ordinary year without a major event taking place. Cape Town Stadium had nearly 850,000 spectators in total 2010, a fairly good figure, but the main tenant of the stadium, Ajax Cape Town, with its current

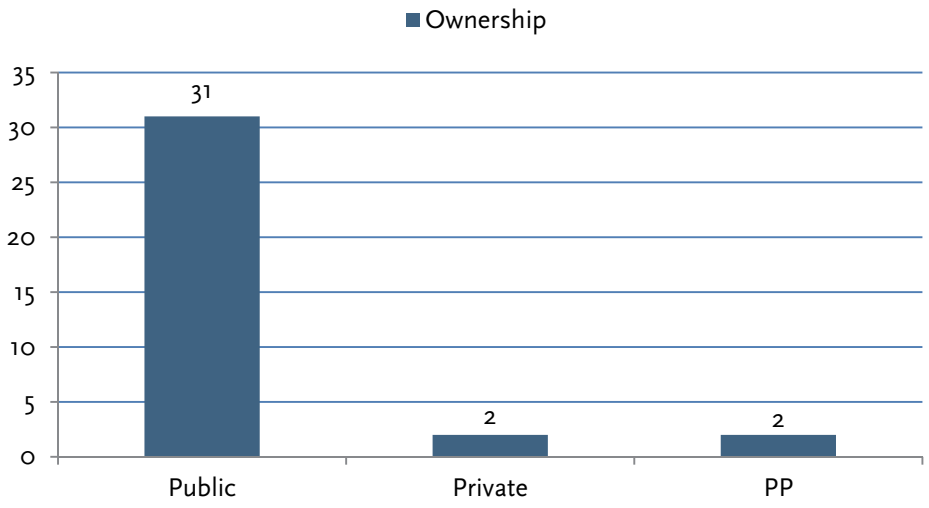
[78] http://www.eyewitnessnews.co.za/Story.aspx?Id=72249
[79] http://www.nytimes.com/2010/03/13/world/africa/13stadium.html

attendance numbers needs to play roughly 212 games per season to reach the attendance figure the stadium had in 2010.

Conclusion on FIFA World Cup

Hosting a World Cup in football costs money – a huge amount of money. The total bill for the three World Cups included in this study is nearly $8.5 bn., which only includes stadium investments. The bill would be much higher if minor renovations and the other necessary investments made before a World Cup were also added to the total. In South Africa alone this figure was $6 bn. Although some private investments were made in some of the stadiums that were built due to the World Cup, particularly in Germany, the majority of the World Cup stadiums included in this study have been publicly funded. As figure 4.6 below shows, this means that there is now a clear prominence of publicly owned stadiums.

Figure 4.6: Current ownership FIFA World Cup stadiums 2002-2010



The World Cup 2002 in Korea/Japan is the most expensive event included in the study. The two countries invested over $4.6 bn. in venues, which is around twice as much as Germany and South Africa. As mentioned earlier, the reason why Korea/Japan spent so much money was that 19 venues underwent major renovations or were newly built.

In terms of average price per venue, the 2010 FIFA World Cup in South Africa was the most expensive event, costing nearly $300 million per venue. The corresponding figure for the 2006 FIFA World Cup in Germany was $200 million, while Korea/Japan spent $243 million on average.

Table 4.3: Overview FIFA World Cup stadiums 2002-2010

Name	Total Construction Price	Average Construction Price	Average Price Per Seat	Average GNI Index
Korea/Japan	$4,626,639,256	$243,507,329	$5,070	0.16
Germany	$1,985,883,219	$198,588,322	$3,442	0.09
South Africa	$1,794,379,401	$299,063,234	$5,299	0.52

All prices in 2010 dollar value

The construction price for one seat at Cape Town Stadium is roughly at the same economic level as the annual GNI per capita in the country. The average index for South Africa is however slightly lowers at 0.52, but South Africa is still well above the other World Cup host countries.

Both the 2002 FIFA World Cup in Korea/Japan and the 2010 event in South Africa have resulted in an over-investment in stadiums. Before the World Cup in 2010 South Africa had problems attracting spectators to its domestic leagues and, as figure 4.7 below shows, the average audience per game so far in season 2011/12 is very low in relation to the capacity of the World Cup stadiums. Although baseball in terms of total attendance is a high-profile sport in Japan, and although rugby has a strong fan base in many of South Africa's World Cup cities, a majority of the stadiums built for the World Cup in 2002 and 2010 have football teams as their main anchor tenants.

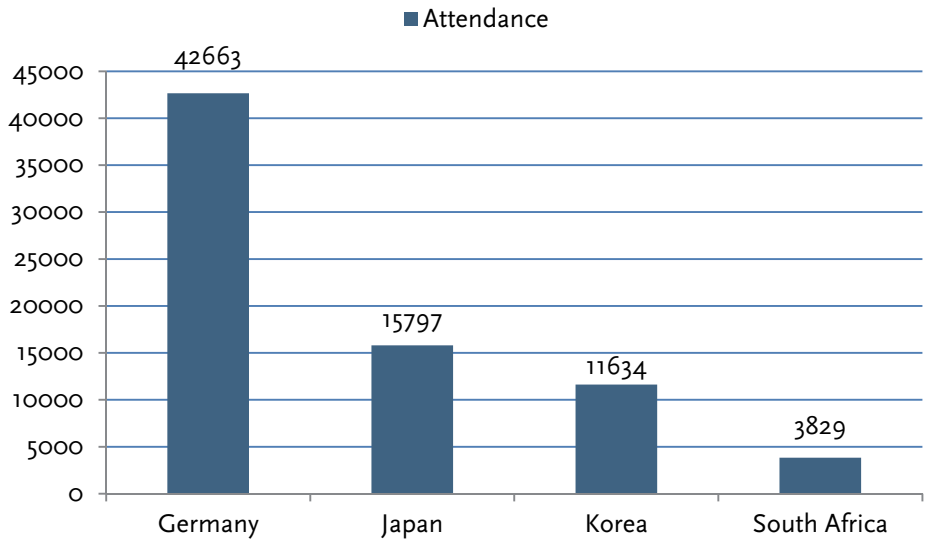
In South Africa it could have been possible, as mentioned above, to use stadiums that already existed before South Africa was awarded the 2010 World Cup. The construction of the new stadiums in Cape Town and Durban and FIFA's way of choosing the venues can be questioned. It was obvious that there was no need for a new stadium in either Cape Town or Durban and that a better consideration of the actual need would have been preferable. It is quite clear that the cities and their citizens have not seen any economic benefits from the venues, and therefore the sporting legacy of the event is highly questionable.

In Japan there is a similar problem, especially in Miyagi and Fukuroi City where the local teams have chosen other venues instead of the World Cup stadiums – other venues that are more suitable and are more adapted to the average attendance that each team has. This has resulted in low annual attendance figures especially for Miyagi Stadium and Ecopa Stadium.

The problems that are present in South Africa and Japan have not affected Germany in the same way. Even before the 2006 FIFA World Cup there was a significant interest in domestic football in Germany[80] and as a result there seemed to have been awareness that a majority of the stadiums should be used after the World Cup.

[80] http://www.worldfootball.net/zuschauer/bundesliga-2003-2004/1/

Figure 4.7: Average attendance for FIFA World Cup hosts domestic football top divisions 2010/2011



However, there have been some problems in Germany, particularly in Leipzig. It was probably politically impossible for the German organisers not to include an East German city such as Leipzig as one of the host cities in their World Cup application, and as FIFA has a prominent wish[81] that host cities and stadiums should be scattered across the country, FIFA's election of Leipzig as a host city was not an unexpected choice.

Former East German football teams, especially teams from Leipzig, have had huge difficulties since the reunification of Germany in 1990. Only one team from Leipzig was represented in Bundesliga during the 1993/94 season. But now, in the 2011/12 season, not one single team from the former East Germany is represented in the top division.

There is a high probability that FIFA did not take the sporting legacy of the stadium or the historical and current sporting situation in Leipzig into account when they made the decision to locate some of the World Cup games in Leipzig. If they had, it would have been unlikely that FIFA would have elected Leipzig as one of the host cities. Interests other than the stadium's legacy prevailed.

One must also question the local authorities and their choice to elect certain cities as hosts. Although the German government accounted for most of the funding, there should been a greater awareness among the authorities in Leipzig of the sports situation in the city, including the fact that no local team had the fan base to sustain a World Cup-sized venue.

FIFA could also abandon the idea of the World Cup being scattered all over the host country and instead focus on making right venue selection from a sporting legacy perspective. A more careful examination should be done to avoid World Cup stadiums ending up as venues that are not sustainable from either an

[81] http://transparencyinsport.org/The_documents_that_FIFA_does_not_want_fans_to_read/PDF-documents/%2815%29Stadium-Agreement.pdf

economic or a sporting point of view. FIFA and the host country should also take greater advantage of existing venues instead of building new ones that are unlikely to play a major role in the local sporting or cultural life after the World Cup.

Although the host countries also have a responsibility as they officially choose which venues will be presented in their bids, FIFA could take a more critical stance in their venue selection that would fall more in line with the organisation's official mission: `Develop the game, touch the world, build a better future´.

5. UEFA Euro stadiums

Just like FIFA, UEFA has stadium requirements[82] for stadiums to be used during its major event. For the 2016 UEFA Euro in France, UEFA requires two stadiums with a net-capacity of at least 50,000, preferably including one which holds 60,000, three stadiums with a net-capacity of at least 40,000 and four stadiums with a net-capacity of at least 30,000.[83] As UEFA Euro in France will have 24 participating teams and nine venues, UEFA's requirements are slightly different but generally the same as for UEFA Euro 2004 and 2008.

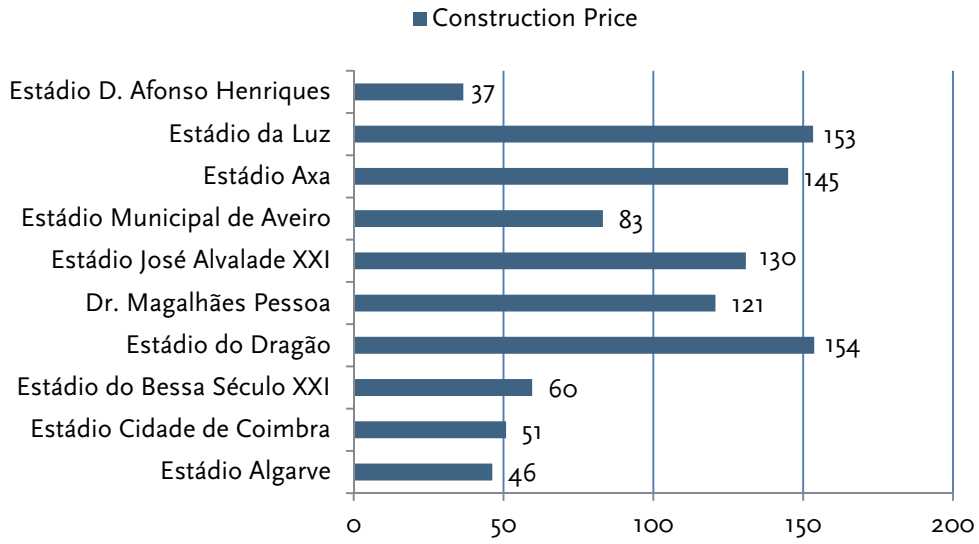
UEFA Euro 2004 in Portugal

One of the main selling points in the Portuguese application that helped Portugal win hosting rights for the UEFA Euro 2004 was its guarantee that the necessary stadiums investments would be made and that there would be cooperation at various levels between the Portuguese Football Association (FPF) and the Portuguese state.

At the time when Portugal was awarded the UEFA Euro, it was estimated that $580 million would be invested in stadiums. This estimation proved to be totally inaccurate when the actual investment costs became public.

Ten stadiums were used during UEFA Euro 2004. Six were newly built and four underwent major renovations for the event. A majority of the stadiums exceeded their original budgets – the worst example is Leiria's Dr. Magalhães Pessoa, which exceeded the original budget by $56 million.

Figure 5.1: Construction prices for UEFA Euro 2004 stadiums (million dollars)



All prices in 2010 dollar value

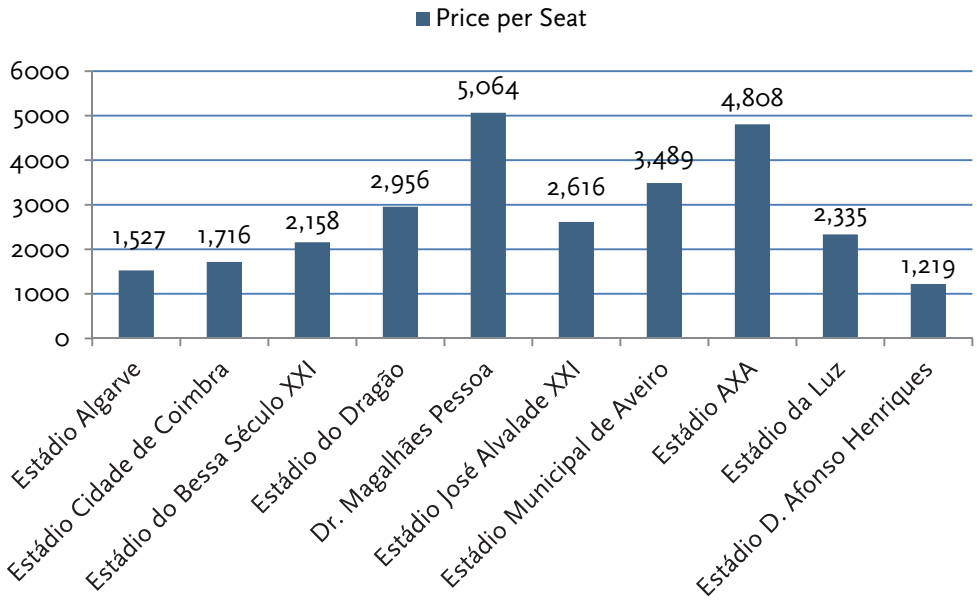
[82] http://www.uefa.com/MultimediaFiles/Download/Regulations/uefa/Others/84/03/26/840326_DOWNLOAD.pdf
[83] Ibid. Sector 08. P. 8.

Local politicians in Leiria covered the actual costs for Dr. Magalhães Pessoa, and stated officially that the stadium had cost $64 million to build. When a new mayor took office, the actual cost of $120 million was revealed.

The total bill for Portugal ended up at nearly $1 bn., almost twice as much as proposed when UEFA awarded Portugal the UEFA Euro 2004 in 1999.

As mentioned above, the cooperation at various levels between FPF and the Portuguese state was one of the major reasons why Portugal was awarded the event. About 50 per cent of the invested money came from public funds and a majority of the host municipalities took on this financial obligation.

Figure 5.2: Price per seat at UEFA Euro 2004 stadiums (dollars)



All prices in 2010 dollar value

The study has exposed a pattern between investments in a venue from the municipality and economic support from EU structural funds with the local main anchor tenants' inability or unwillingness to give an economic contribution. Municipalities funded six of the UEFA Euro 2004 venues and these venues have received economic contributions from the subsequent main tenants.

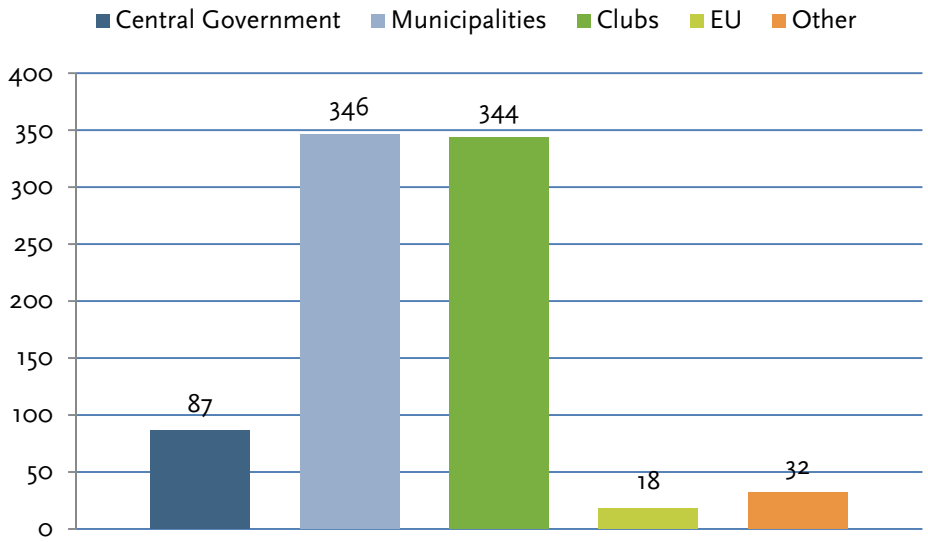
The survey also demonstrates that the three major clubs that chose to fund the majority of the costs by themselves also received the most financial support from the Portuguese state. Estádio da Luz and Estádio José Alvalade XXI in the capital Lisbon and Estádio do Dragão in Oporto all received an average support of $26 million. The corresponding financial support from the Portuguese state to the other UEFA Euro 2004 venues was just over $20 million in total.

It was no surprise that SL Benfica, Sporting Lisbon (Sporting Clube de Portugal) and FC Porto, the three clubs that dominate Portuguese football and have the best record and the highest attendance figures,

funded their venues to a large degree. Only twice since the 1930s has another club won the Portuguese league and these three clubs have also the biggest fan bases.

It was, however, more surprising that FC Boavista, the other big club from Oporto, chose to be the main funder of their stadium without any support from the municipality or the European Union, as many believed that the club did not have a solid financial base. Corruption allegations were made, but the charges did not lead to prosecution.

Figure 5.3: Funding of UEFA Euro 2004 stadiums (million dollars)



All prices in 2010 dollar value

Estádio Algarve, Faro
Construction price: 46 million
Capacity: 30,002
Attendance in 2010: N/A
World Stadium Index: N/A

Estádio Algarve, which was $5 million more expensive than expected, cost more than $46 million to construct, of which the two municipalities of Faro and Loulé paid $36 million.

The stadium is owned by both municipalities and is operated by the municipal company Empresa de Concepção, Execução e Gestão do Parque das Cidades Loulé/Faro - Entidade Empresarial Inter-Municipal (EEIM).

Estádio Algarve has two anchor tenants, Sporting Clube Farense and Louletano Desportos Clube. Both of these clubs are not particularly successful and are currently playing in the 2nd and 3rd Divisions.

There is no information available about the total number of spectators visiting Estádio Algarve annually. EEIM does not release any attendance statistics in their annual reports and the Portuguese FA, as well as

both clubs, does not have any attendance figures available. However, there is evidence to suggest that the two clubs do not attract high attendance, which is quite understandable since they play in the lower divisions.

The venue holds over 30 events annually. Most of these events are the local football club's matches, but Estádio Algarve also has annual recurring events, such as Algarve Cup and Rally de Portugal, which could be seen as being relatively big.

During the 2011 Algarve Cup the venue hosted one match in the group stage and the final of the tournament. The final between USA and Iceland attracted only 1,500 spectators.[84] During Rally de Portugal Estádio Algarve hosted two special stages, but we do not have the spectator figures for these stages as EEIM has not been able or willing to publish the official figures, but the whole rally attracted 550,000 spectators in total.[85]

Between the seasons 2007/08 and 2009/10 Estádio Algarve hosted the final in the Portuguese League Cup and in 2008/09 the venue hosted the Portuguese Super Cup final. The four events attracted over 107,000 spectators.

Although the venue has annual events and two anchor tenants, the two municipalities have large annual expenses related to Estádio Algarve. Faro and Loulé pay $3 million annually in mortgage repayments and more than $1 million in maintenance costs. The annual costs for Estádio Algarve are a major burden for Faro and Loulé and, like Portugal in general, the two municipalities are struggling with significant economic problems.

Although there are no data available on the annual number of spectators at the venue, the financial problems connected to the venue certainly question the rationale behind the municipalities' decision to fund Estádio Algarve.

Both Faro and Loulé and the two clubs, Sporting Clube Farense and Louletano Desportos Club, are too small for Estádio Algarve and local politicians obviously should have paid greater attention to the major risk involved in investing a major amount of money in a venue in Algarve – a region without any big clubs or great sporting records.

More than seven years after the UEFA Euro 2004, Faro and Loulé still pay significant amounts of money in connection with the venue. Although the venue holds over 30 events per year and to some degree fills a local sporting need since it serves as home ground for the local clubs, it would have been possible for both of the clubs to play at a smaller venue. Only the three big football clubs in Portugal regularly attract over 30,000 spectators.

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[84] http://www.womenssoccerunited.com/group/algarvecup/forum/topics/us-wnt-defeats-iceland-for
[85] http://www.esafetychallenge.eu/en/esafety_challenge/news_events/news/rallyportugal.htm

The construction of a smaller venue in Algarve would have meant that the region would have been left out of the race to host any UEFA Euro 2004 matches and would not have been likely to receive financial support from the Portuguese state or the European Union. However, if the Algarve region had been given a more suitable venue for its local sporting needs, Faro and Loulé may not be in the same financial situation as they currently are.

In addition to the two municipalities' financial struggles with Estádio Algarve, figures from *Turismo de Portugal* indicate that UEFA Euro 2004 was not a success for the Algarve region in terms of tourism. In relation to 2002 and 2003[86] there was a decline of overnight stays during 2004[87] as well as a decline in the number of overnight guests in 2004[88] in comparison with 2002 and 2003.[89]

Even though it is difficult to determine the actual cause of this decline, it is possible that tourists chose not to visit the Algarve region due to UEFA Euro 2004. Such a crowding out effect has been registered before in connection with mega events. Algarve was well-known before the event as a tourist destination, but maybe not for the general football audience.

Estádio Municipal de Aveiro, Aveiro

Construction price: 83 million
Capacity: 30,127
Attendance in 2010: 59,007
World Stadium Index: 2.0

Although the municipalities of Faro and Loulé have financial problems linked to Estádio Algarve, there are municipalities in Portugal that have far bigger financial issues with their UEFA Euro 2004 venues. One of these municipalities is Aveiro.

Estádio Municipal de Aveiro cost more than $83 million to construct. The municipality covered the main costs and invested almost $78 million in the stadium. The remaining part was funded by the Portuguese state and the EU. The municipality owns the stadium and operates it through the utility Empresa Municipal de Aveiro (EMA).

The stadium has a current capacity of 30,127 and the anchor tenant is the football club Sport Clube Beira-Mar. The team is, since 2010/11 season, once again represented in the Portuguese top division after having spent three seasons in the 1st Division. As a result of the club's poor performance during the last seasons, it has had a very low average attendance per game, just over 1,600 spectators, and the total attendance number during 2009/10 season was just 59,007. Last season the average was slightly higher,

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[86] http://www.turismodeportugal.pt/Portugu%C3%AAs/ProTurismo/estat%C3%ADsticas/quadrosestatisticos/dormidas/Documents/Dormidas%202004-2010%20Algarve_Tipologias.pdf

[87] Algarve 02-03. See Appendix 3.

[88] http://www.turismodeportugal.pt/Portugu%C3%AAs/ProTurismo/estat%C3%ADsticas/quadrosestatisticos/hospedes/Documents/H%C3%B3spedes%202004-2010%20Algarve_Tipologias.pdf

[89] See Appendix 4

3,892,[90] but Sport Clube Beira-Mar still has major problems attracting bigger crowds. It is only when one of the major three clubs, SL Benfica, Sporting Lisbon or FC Porto visit Estádio Municipal de Aveiro that the full capacity of the stadium is anywhere close to being needed.

As owner and operator of the stadium, the Aveiro municipality has suffered financial problems and in 2005-2008 the stadium had a negative annual result. Aveiro pays $5.3 million per year in annual costs related to the stadium which, according to our informant in Portugal, is equivalent to three percent of the municipality's annual budget.

In 2009 an important local politician in Aveiro proposed that, due to its high maintenance and operating costs, Estádio Municipal de Aveiro should be demolished and be replaced by a smaller venue that is more centrally located. The idea is still alive even though it has not come into effect yet.

The municipality has tried to sell the stadium and its naming rights without any luck. The municipality has also made attempts to find an operator who is willing to share the responsibility and cost of running the stadium, but in this respect the municipality has been unsuccessful as well.

Just as with Estádio Algarve, it is obvious that the local politicians did not have a realistic and sustainable legacy plan for Estádio Municipal de Aveiro. It was a huge investment for a municipality of Aveiro's size, so it is quite problematic that only Sport Clube Beira-Mar's matches take place at the stadium. Other events are few and far between and Sport Club Beira-Mar's annual attendance figures are too low to make it even remotely possible to operate the stadium without a negative financial result.

Estádio Dr. Magalhães Pessoa, Leiria

Construction price: 121 million
Capacity: 23,835
Attendance in 2010: 64,292
World Stadium Index: 2.7

Another Portuguese municipality with a negative sporting legacy and financial problems after the UEFA Euro 2004 is Leiria. Its venue, Estádio Dr. Magalhães Pessoa, with a current capacity of nearly 24,000, cost about $120 million to construct, which was almost double the amount first presented by the local politicians in 2004.

The municipality owns the venue and operates it through the utility Leirisport - Desporto, Lazer e Turismo de Leiria, E.M. Just like the two Portuguese cases mentioned above, the venue in Leiria has been a financial burden for the municipality. Approximately eight per cent of the municipality's annual budget goes towards the mortgage and $2.4 million maintenance cost.

[90] http://soccernet.espn.go.com/stats/attendance/_/league/por.1/year/2010/portuguese-liga?cc=5739

In 2011 the municipality of Leiria tried in vain to sell the stadium for $85 million. The municipality has unpaid debts connected to the stadium, and because of this the Portuguese Internal Revenue Service (IRS) has been pursuing a process against the municipality.

It is most likely that this problem will continue for the municipality. The stadium will be without an anchor tenant from the 2011/12 season. The former anchor tenant, União Desportiva de Leiria, was not willing to pay over $23,000 per game in rental charges and chose to relocate its 2011/12 season games to a much smaller venue Estádio Municipal da Marinha Grande, which has a capacity of 6,000, in the neighbouring municipality Marinha Grande.

The relocation of the club is not a big loss for the Leiria municipality considering União de Leiria Desportiva's attendance figures. An average of just over 4,000 spectators is not impressive by the league's standards, but the municipality's loss of its only anchor tenant and important rental income is surely a significant loss in terms of political prestige and the stadium's sporting legacy.

Dr. Magalhães Pessoa's situation is quite similar to the two abovementioned UEFA Euro 2004 venues' – a small municipality as the main funder of a venue which does not fill a real local sporting need after the event and where the municipality and its citizens have to pay for its financial losses.

Estádio do Bessa Século XXI, Oporto

Construction price: 60 million
Capacity: 27,590
Attendance in 2010: 74,796
World Stadium Index: 2.7

It is not the only the Portuguese municipalities that have had financial problems in connection with their venues; the club FC Boavista has also had some sporting and financial difficulties.

Even before Estádio do Bessa XXI Século was opened there was a debate in Portugal as to why a small club like FC Boavista chose not to receive financial support from the municipality or the EU. The stadium cost more than $59 million to construct and the club chose to be the main funder of the stadium, investing more than $48 million. The Portuguese state accounted for the remaining part of the investment.

At the time of construction, FC Boavista played in the Portuguese top division. In the late 1990s and the beginning of the 2000s the club enjoyed international and national sporting success, and between seasons 1998/99 – 2001/02 it was always in the top four on the league table. The club even won its first and, so far only, league title in 2000/01. It was the first time since the mid-1940s that none of the three big clubs, SL Benfica, Sporting Lisbon nor FC Porto, won the Portuguese league. FC Boavista's success continued and in 2002/03 the club reached the semi-final stage of the UEFA Cup.

In 2008 the financial problems in the club became apparent. The club had large debts connected to the stadium and it also had some problems paying the players' salaries. A potential investor appeared who

was willing to invest more than $57 million in the club, but the investor was subsequently arrested by the Portuguese police and prosecuted for serious fraud and forgery.

The problems for the club continued in 2008. Because it struggled to pay debts of more than $7 million to the IRS, the IRS chose to put Estádio do Bessa XXI Século up for sale for almost $44 million. No buyer was found and the club had to renegotiate its debts with the IRS.
In May 2009, Boavista FC was relegated to the Portuguese 1st Division due to a corruption scandal in which the club had been bribing referees. João Loureiro, who was president of FC Boavista at the time, was fined and suspended for four years.

The club now plays in the 2nd Division and therefore there are no attendance data available for the last two seasons. However, in 2008/09 the stadium had 74,796 visitors in total. Three Portuguese Cup matches are not included, but since cup matches in general have a substantially lower attendance figures than league matches, the missing cup matches do not affect the total sum to a great extent.

In 2008/09 FC Boavista had only 44,796 spectators in total. The remaining 30,000 who visited the stadium attended the 15th Super Bock Super Rock Festival, which took place at the stadium in summer 2009.

Although Estádio do Bessa XXI Século's problems are not entirely consistent with the three cases mentioned above, a pattern can be recognised in Portugal. FC Boavista has never been a team to attract big crowds and FC Porto has always been the biggest and most successful team in Oporto. Even before the financial scandals and during the club's successful years, FC Boavista had pretty modest attendance figures[91], which the club must have been aware of when it chose to build and fund the stadium. The construction of the stadium did not result in any sporting or financial success.

The big three

Staging UEFA Euro 2004 meant that the three big clubs in Portugal: SL Benfica, Sporting Lisbon and FC Porto received significant financial support from the Portuguese State to build or renovate their stadiums. The three clubs were in need of new and updated venues so the 2004 event was timely.

Both SL Benfica and FC Porto tore their old stadiums down and built new ones, while Sporting Lisbon chose to make significant renovations, which may explain why both Estádio da Luz and Estádio do Dragão were slightly more expensive than Estádio José Alvalade XXI. A common factor among the three stadiums was that all of their construction costs significantly exceeded the original budgets by an average of $21 million. However, these costs were to some extent covered by the financial support from the Portuguese state as the average financial support from the state was $26 million.

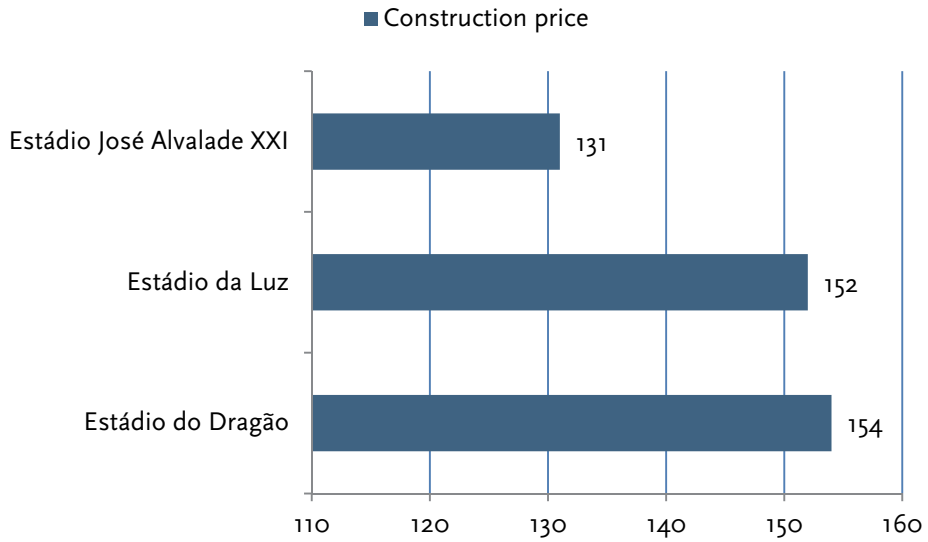
All three clubs have set up similar structures for the operation of their stadiums, i.e. the stadiums are operated by companies owned by the clubs. Estádio da Luz, SL Benfica's home ground, is run by Benfica Estádio. In season 2009/10 the company made a profit of more than $1 million. Benfica SAD, which is

[91] http://www.bigsoccer.com/forum/archive/index.php/t-87307-p-18.html

responsible for the professional football in Benfica, signed a contract with Benfica Estádio in 2010. The contract will run until 2014 and Benfica SAD is to pay $1.5 million annually in rent to use the stadium.

Porto Estádio, which is a part of FC Porto Group, operates Estádio do Dragão. In addition to Estádio do Dragão the company also operates four other buildings that belong to FC Porto Group. Porto Estádio made an annual average profit of $125,000 during seasons 2007/08-2009/10. FC Porto pays over $2.5 million annually in repayments of a loan the club took in connection with construction of the stadium.

Figure 5.4: Construction prices for the stadiums belonging to the 'Big Three' (million dollars)



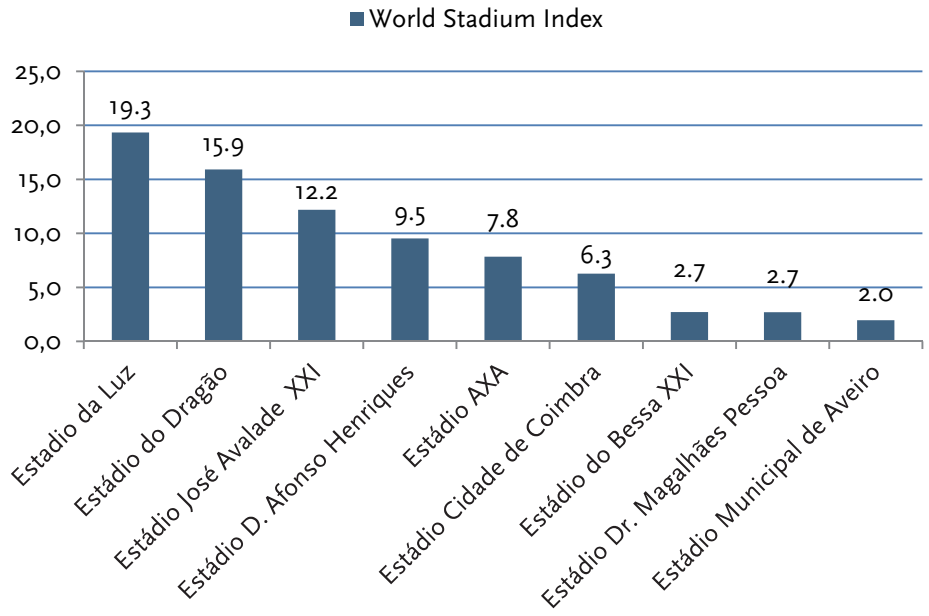
All prices in 2010 dollar value

Sporting SAD, which is responsible for the professional football in the club Sporting Lisbon, pays about $6.5 million annually to the operator Sporting Patrimonies and Marketing SA. Until 2007 the annual rent was about $3 million. During the 2009/10 season Sporting Lisbon received over $11 million in gate receipts. The equivalent figure for SL Benfica was $16 million, while FC Porto's gate receipts ended up being almost $15 million.

This relatively large inflow from gate receipts reflects the fairly high number of spectators that attended events at the three stadiums. As figure 5.5 below shows, the three stadiums had a noticeably better World Stadium Index during 2009/10 compared to the other UEFA Euro 2004 venues.

The stadium with the largest total attendance per season outside the "big three" is Estádio D. Afonso Henriques, Guimaraes, which had nearly 300,000 spectators during the 2009/10 season.

Figure 5.5: World Stadium Index for UEFA Euro 2004 stadiums



Thanks to their high attendance figures, the three big stadiums in Portugal have done really well and have a positive sporting legacy. The attendance figures vary slightly each year depending on the teams' sporting results and which teams they face in the European Cups.

Conclusion on UEFA Euro 2004 in Portugal

As figure 5.5 above shows, several stadiums have quite low attendance figures in relation to their capacities. The three stadiums with the lowest World Stadium Index have indexes of just over 2, which is not good. If Estádio Algarve's data were available their index would have most likely been quite low as well.

As expected, the stadiums with the three biggest clubs as their anchor tenants have the highest index. The table's results also pose the question whether, in terms of sporting legacy, Portugal should have jointly hosted UEFA Euro 2004 or should not have hosted the event at all. The country could have done well as a host with a smaller number of venues in operation for the event.

The three stadiums that have the best indexes are primarily funded by the clubs and would most likely have been built or renovated up to modern standards even if Portugal had not hosted the event.

Significant financial problems connected to many of the UEFA Euro 2004 venues are a major problem for the municipalities concerned as well as some of the clubs. The cases of Leiria, Aveiro and Faro and Loulé clearly show that a venue can become a heavy financial burden for a municipality when realistic and sustainable plans are neglected.

Portugal's choice to use ten venues during the event is also surprising seeing as UEFA only requires eight venues. Eight venues were used for UEFA Euro 1996, 2000 and 2008 and eight venues will also be used for UEFA Euro 2012 in Poland/Ukraine.

What is even more surprising is that Portugal as a sole host country chose to construct and renovate so many stadiums. Since UEFA expanded the tournament from eight to 16 teams, the UEFA Euro has been co-hosted in 2000 and 2008 and will also be co-hosted in 2012. This means that each host country only needs to build four stadiums.

In hindsight, co-hosting the 2004 event with Spain could have been more beneficial for Portugal and could certainly have spared some Portuguese municipalities from experiencing significant financial problems. The stadiums built or renovated for UEFA Euro 2004 contributed to political hopes of a positive economic impact from the event. However, these hopes have not been fulfilled and UEFA Euro 2004 has shown how hosting a major sporting event with a modest sporting legacy can affect municipalities in a negative way financially. The financial problems that are linked to the stadiums are even more burdensome for the affected municipalities, as Portugal, along with many other countries, is in a precarious financial situation which has led to a large internal and external demand for savings and cuts in public finances.

It is surprising that the municipalities have chosen to totally neglect the dominant centralised football tradition in Portugal, where no clubs apart from SL Benfica, Sporting Lisbon and FC Porto have attendance figures that could possibly justify the construction of a 30,000 capacity venue. Their obvious nonchalance has resulted in empty stadiums and long term financial problems.

Table 5.1: Overview UEFA Euro 2004 stadiums

Name	Attendance	Number of events	Average attendance	World Stadium Index
Estádio da Luz, Lisbon (POR)	1,268,988	27	47,000	19.3
Estádio do Dragão, Oporto (POR)	827,380	25	30,800	15.9
Estádio José Alvalade, Lisbon (POR)	609,312	26	23,435	12.2
Estádio D. Afonso Henriques, Guimarães (POR)	286,067	20	13,934	9.5
Estádio AXA, Braga (POR)	236,613	19	13,531	7.8
Estádio Cidade de Coimbra, Coimbra (POR)	185,529	20	9,276	6.3

Estádio do Bessa Século XXI, Oporto (POR)	74,796	19	2,799	2.7
Estádio Dr. Magalhães Pessoa, Leiria (POR)	64,292	18	2,527	2.7
Estádio Municipal de Aveiro, Aveiro (POR)	59,007	19	1,976	2.0
Estádio Algarve, Faro (POR)	N/A	36	N/A	N/A

In the UEFA Tournament Requirement 2016[92] (no 2004 version is available), UEFA underlines that in planning to build a new stadium for UEFA Euro it is important to take the stadium's future use into account. A permanent anchor tenant is recommended by UEFA to ensure the future use of the stadium when UEFA Euro is over.

Although host municipalities and the clubs in Portugal also had a responsibility to ensure their event's legacy, UEFA as the sole institution awarding the UEFA Euro hosting rights could act in a more responsible way when it sets up the requirements for hosting the tournament. The legacy aspect should have a more prominent role in their assessment of bids, and UEFA could be more flexible regarding stadium capacity. UEFA could also take more into consideration whether a country like Portugal is able to host the event without subsequent public deficits and empty stadiums.

Stricter legacy requirements do not mean that smaller countries like Portugal should not be able to host the event. Rather, smaller countries should be encouraged to co-host the event in order to avoid empty stadiums and empty public pockets. Otherwise, a smaller number of venues or more temporary structures should be allowed to increase the sustainability of the bids.

UEFA Euro 2004 in Portugal should be seen as a harsh lesson for smaller countries and municipalities who are bidding for or planning to host a major event in the future.

Three of the stadiums that hosted UEFA Euro 2004 matches have been put up for sale due to severe financial problems and several stadiums have very low attendance figures. In Portugal it has been obvious that building a new stadium does not automatically attract bigger crowds if a local need is not present. Although SL Benfica and FC Porto have the best attendance figures in the Portuguese league, both of the stadium operators' revenues have been relatively modest.

An event stadium's real life starts when the major event is over, something that many of the municipalities obviously have not been aware of as they use public funds annually to pay for more or less

[92] http://www.uefa.com/MultimediaFiles/Download/Regulations/uefa/Others/84/03/26/840326_DOWNLOAD.pdf Section 08. Page 11-12.

empty stadiums. It is important to have a vision and a goal with the stadium, but visions and goals are meaningless unless a sustainable business plan is in place to back them up in the future.

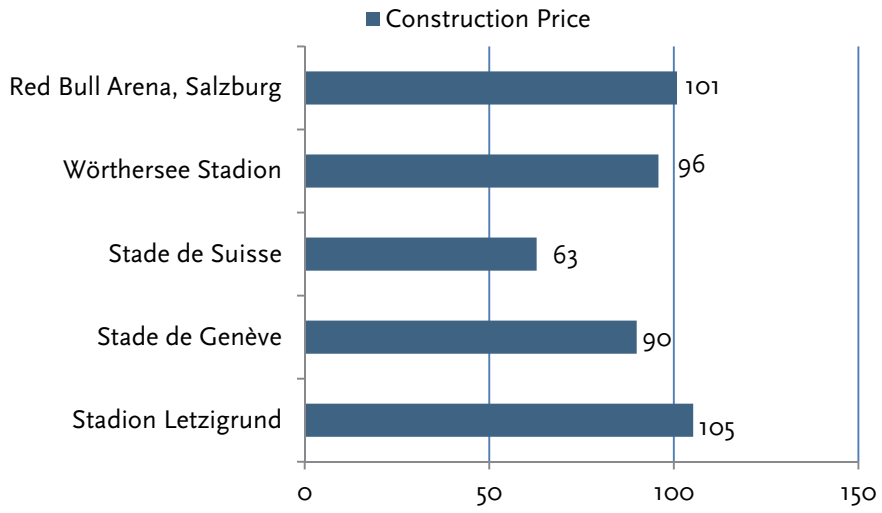
What becomes even more problematic for the Portuguese municipalities is that they do not seem to have a backup plan or an efficient local operational infrastructure in place when audiences do not show up or when anchor tenants relocate their matches to other (smaller) venues. Non-football events at the UEFA Euro 2004 venues are rare, which means that the municipalities become exposed when their original plan or dream to create a lasting sporting legacy fails.

UEFA Euro 2008 in Austria/Switzerland

As in the case of FIFA World Cup Korea/Japan, it has been difficult to find satisfactory data about one of the two host countries for UEFA Euro 2008. In addition to the basic information about the stadiums, we have so far not been able to obtain qualitative information about the stadiums in Austria that were built or had undergone major renovations for UEFA Euro 2008.

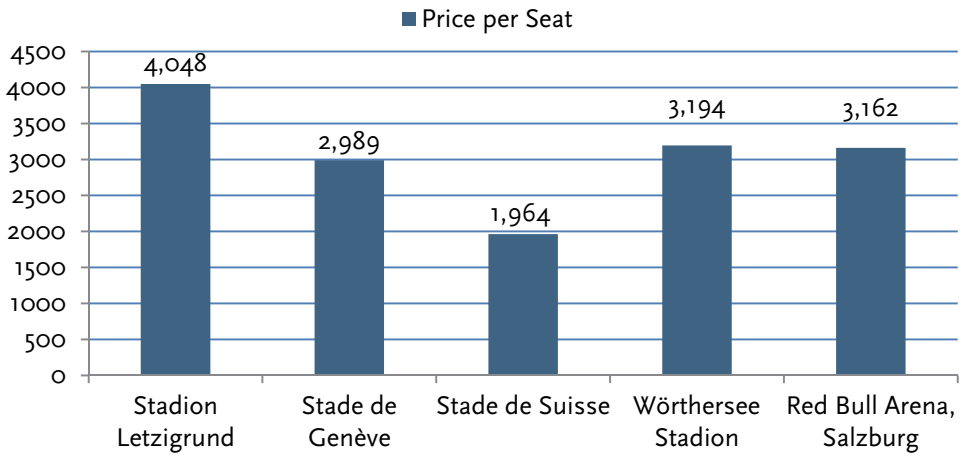
A total of five stadiums were constructed or renovated for UEFA Euro 2008, two in Austria and three in Switzerland. The total construction cost of the five stadiums was almost $455 million.

Figure 5.6: Construction price for UEFA Euro 2008 stadiums (million dollars)



All prices in 2010 dollar value

Figure 5.7: Price per seat for UEFA Euro 2008 stadiums (dollars)



All prices in 2010 dollar value

Stadion Letzigrund, Zürich in Switzerland

Construction price: 105 million
Capacity: 26,000
Attendance in 2010: 527,000
World Stadium Index: 20.3

Stadion Letziground in Zürich, which opened in 2007, is both an athletic and football stadium and cost $105 million to construct. It was the most expensive UEFA Euro 2008 stadium, both in terms of construction price and price per seat.

The initial idea was that the other big stadium in Zürich, Hardturm Stadion, would serve as one of the venues for UEFA Euro 2008. However, the planned renovation of the stadium was constantly postponed and still has not taken place. Due to the delay, the City of Zürich chose to rebuild Stadion Letzigrund so it could be used for the UEFA Euro.

Stadion Letzigrund annually organises Weltklasse Zürich, a prestigious international athletics meeting which has been held since 1928. In addition to athletics the stadium has two anchor tenants, FC Zürich and Grasshopper Club Zürich. Both of the clubs play in the Swiss top football division.

In 2010 the stadium had 527,000 spectators. The majority of the spectators watched a football game, and two concerts featuring U2 attracted a total of about 80,000 spectators. Football is thus significant for the stadium's total attendance figures, but both of the anchor tenants have expressed their intentions to move to Hardturm Stadion. The clubs' relocation depends largely on the citizens of Zürich, who will vote in a referendum[93] in 2013 to decide whether the city of Zürich should invest public money in a new football stadium renovations or not.

[93] http://www.stadionwelt.de/sw_stadien/index.php?folder=sites&site=news_detail&news_id=6892

If the referendum results in a yes vote, it may pose problems for Stadion Letzigrund. Last season FC Zürich had a total 211,500 spectators, while Grasshopper Club Zürich attracted 122,200. A loss of about 300,000 annual spectators will be noticeable for the stadium.

The clubs would like to see a renovation of Hardturm Stadion. Neither of the clubs needs to make a financial commitment to the project and if they do relocate they will be able to play at a pure football ground. Paradoxically, the city of Zürich could be the main provider of funding towards the renovation of Hardturm Stadion and at the same time will have to pay the possible deficits of Stadion Letzigrund if the two teams move.

Wörthersee Stadion, Klagenfurt in Austria

Construction price: 96 million
Capacity: 30,000
Attendance in 2010: 139,800
World Stadium Index: 4.7

The UEFA Euro 2008 venue with the most obvious problems is Wörthersee Stadion in Klagenfurt, Austria. Like Stadion Letzigrund, Wörthersee Stadion is funded by public money and cost nearly $96 million to construct. It is the home of the two clubs SK Austria Klagenfurt and SAK Klagenfurt, which currently play in Regionalliga Mitte, the third highest division in the Austrian league system.

In 2010 the stadium had 36 events of which 30 were sports related. In addition to SK Austria Klagenfurt and SKA Klagenfurt's regular football matches the venue hosted the Eishockey Freiluftsderby game between EC Klagenfurt AC and EC REKORD-Fenster VSV, which attracted 30,500 spectators.[94] Despite the big crowd for the ice hockey game and the relatively high number of events, Wörthersee Stadion's total attendance figure in 2010 was only 139,800.

The main reason for the stadium's low attendance figure is that both of the clubs had remarkably few spectators. SK Austria Klagenfurt only had a total of 9,850[95] spectators in 2009/10 season, while the figures for SAK Klagenfurt were even worse at 3,450[96] in total. During the 2011/12 season both of the clubs improved their attendance figures but they are still very low.[97]

Even though we do not have the economic numbers and figures available, the stadium is most likely an economic burden for the city of Klagenfurt. Considering how many spectators attending the events taking place on the stadium, the stadium is almost empty in relation to its capacity.

Just as some of the stadiums built in Portugal due to UEFA Euro 2004, Wörthersee Stadion should probably not have been built if not Austria and Klagenfurt had hosted games during the 2008 event as

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[94] http://www.mein-klagenfurt.at/aktuelle-pressemeldungen/pressemeldungen-jaenner-2010/30500-zuseher-bei-eishockey-spektakel/
[95] http://www.worldfootball.net/zuschauer/aut-regionalliga-mitte-2009-2010/1/
[96] Ibid.
[97] http://www.worldfootball.net/zuschauer/aut-regionalliga-mitte-2011-2012/1/

there is not an existing local sporting need for a stadium with that capacity. Both anchor tenants could easily play their matches in significantly smaller venues.

Stade de Genève, Geneva in Switzerland

Construction price: 90 million
Capacity: 30,084
Attendance in 2010: 188,494
World Stadium Index: 6.3

The initial budget for the construction of the Stade de Genève was exceeded by CHF 22 million, just over $19 million, and the final cost for the construction of the stadium was almost $90 million.

The stadium was funded by private and public funds and an interest-free loan from Credit Suisse Bank. As the budget was exceeded there was no money left for the final touch of the stadium and the debts related to the construction of the stadium had to be paid by the canton. The citizens of Geneva voted against using public money to pay off the debts but the authorities in Geneva evaded the public opinion by using a special fund to pay off the debts.

FC Servette has been the operator of the stadium since July 2011 and will continue to hold this position for 32 years. The typical event at the stadium is football matches. During the 2009/10 season FC Servette had 53,774 spectators in total. The attendance figures rose slightly to 90,392 during the 2010/11 season as FC Servette managed to get back into the Swiss top division. Although the current season is not yet completed, FC Servette has already raised its figures above last season's, and after ten league games at home a total of 140,117 spectators have attended the club's games.

The stadium has since its inauguration hosted a number of concerts as well as several international friendly matches, but just like the Wörthersee Stadion, Stade de Genève has had problems attracting larger crowds. During the 2009/2010 season the stadium only had 118,494 spectators at all of its events combined.

The construction of the Stade de Genève has contributed to increased competition in the area, especially to host major outdoor concerts. Before the opening of the stadium in Geneva, Stade Olympique de la Pontaise in Lausanne hosted the majority of outdoor concerts. However, the Lausanne's stadium has not hosted many concerts since Stade de Genève opened.

In the beginning of March 2012 the owner of FC Servette declared the club's bankruptcy. The club had gone bankrupt in 2005 as well and was then relegated to the 3rd division. What will happen with the club this time is currently not determined. A new owner of the club has been found but has not been decided if the team will be relegated.

For Stade de Genève a relegation of the operator and anchor tenant FC Servette will surely be devastating. Even before its bankruptcy it was necessary, given the public subsidies involved, to balance the budget. It will certainly not make it easier for FC Servette and Stade de Genève to lose spectators through relegation.

Conclusion on UEFA Euro 2008 in Austria/Switzerland

In comparison to UEFA Euro 2004 in Portugal, the event in Austria/Switzerland was much cheaper to host if only the venue investments are to be taken into account. Austria and Switzerland invested over $450 million in stadiums due to UEFA Euro 2008, which is nearly half of the sum Portugal invested before UEFA Euro 2004. The use of already existing stadiums and minor renovations in several cases to meet UEFA's requirements were the main reasons why the two countries did not invest as much as Portugal.

Although the host countries for UEFA Euro 2008 only used eight stadiums, the aftermath of EURO 2008 has been quite problematic for some of the venues. As figure 5.9 below shows, both Stade de Genève and Wörthersee Stadion have a World Stadium Index which is far from impressive. Their low indexes are present due to the anchor tenant's failure to attract larger crowds. However, before the potential bankruptcy Stade de Genève seemed to have a brighter future than Wörthersee Stadion because FC Servette significantly increased its attendance figures last season while the tenants of Wörthersee Stadion were firmly entrenched in the Austrian 3rd division with low attendance numbers. But as FC Servette will most likely have financial problems the years to come, the future for Stade de Genève is very uncertain.

One additional venue which may face some challenges in the future is Stadion Letzigrund. The stadium host's different kinds of events and currently has a fairly good index, but it will lose a majority of its crowd if FC Zürich's and Grasshopper Club Zürich's desires to move to Hardturm Stadion become a reality. The two teams' possible move would mean a double cost for the city of Zürich as the main funder of the Hardturm Stadion's renovation.

However, perhaps we will see a similar progress in Zürich as had happened in Munich. Although both of the Munich clubs left the Olympic Stadium for Allianz Arena it has not been to the detriment of the public owned Olympic Stadium, which has managed to adapt to the market without an anchor tenant. Like Munich, Zürich is located in a prosperous region and although the Zürich metropolitan area does not have the same number of inhabitants as Munich, it may be possible for Stadion Letzigrund to manage to lift its profile without having a football team.

Although we do not have all data available, it is obvious that the Wörthersee Stadion has a negative sporting legacy and it is likely that the city of Klagenfurt has some financial problems connected to Wörthersee Stadion. The annual attendance figures are low and the rent paid by the anchor tenants to the city is likely to be subsidised and probably does not cover the annual expenditures. However, further data and details of the stadium's economic condition are needed to draw further conclusions.

Table 5.2: Overview of UEFA Euro 2008 stadiums

Name	Construction Price	Capacity	Price per Seat	Attendance	World Stadium Index	Ownership
Stadion Letzigrund, Zürich (SUI)	$105,238,339	26,000	$4,048	527,000	20.3	Public
Stade de Suisse, Bern (SUI)	$62,845,170	32,000	$1,964	509,994	15.9	Private
Stade de Genève, Geneva (SUI)	$89,921,378	30,084	$2,989	188,494	6.3	Private
Wörthersee Stadion, Klagenfurt (AUT)	$95,812,236	30,000	$3,194	139,800	4.7	Public
Red Bull Arena, Salzburg (AUT)	$100,854,985	31,895	$3,162	360,793	11.3	Public
Average	$90,934,422	29,996	$3,071	345,216	11.7	-

All prices in 2010 dollar value

Conclusion on UEFA Euro stadiums

Although stadium investments for UEFA Euro events are not on the same level as the investments necessary to host a FIFA World Cup, the investments made by the UEFA Euro 2004 and 2008 host countries must be seen as substantial. Combined, these countries invested over $1.5 bn. in their stadiums. Portugal chose, as mentioned above, to invest nearly $1 bn. while Austria and Switzerland spent roughly half of this figure.

The formula for a successful stadium investment is simple: Construct a new stadium or carry out major renovations on an established stadium where a team that attracts large regular crowds already exists. If there is no major team present one should consider very thoroughly whether building, renovating or making significant investments in a stadium is worthwhile. It is fairly uncommon that an attractive stadium in itself attracts larger crowds in the long term.

Although it sounds quite obvious, there are many cities and municipalities that have chosen to neglect and ignore the realities. Hopes and visions replace common sense and instead of being an economic catalyst for the region or host city the stadium ends up as an economic burden.

As the study shows, several municipalities in Portugal had, and still have, financial problems related to UEFA Euro 2004, which in turn have left a severe mark on several municipalities' budgets. Even in

wealthier countries like Austria and Switzerland public authorities have contributed significant financial resources in stadiums which means that the teams and operators using the stadiums have been paying low rental costs that are subsidised by the public.

In its bid requirements for the 2016 UEFA Euro tournament[98], UEFA does point out that is important to take the future use of the stadium into account in the planning of a new stadium. It recommends that an anchor tenant uses the stadium after the event to ensure that the new stadium is used to a sufficient degree after the UEFA Euro. UEFA's advice sounds reasonable and well-meant, but it must be remembered that UEFA profits from the race between several bidders to secure the event and leaves those funding the stadiums, typically the public authorities, with all of the responsibility to deal with the legacy problems that often occur after the event.

If UEFA does not intend to change its formal requirements and legacy policy, it should be more careful when choosing the countries and cities it deems suitable to host a UEFA Euro. It is neither appropriate nor sustainable for cities and municipalities to have economic difficulties and empty stadiums after a UEFA Euro event. A real, long lasting sporting legacy should be of priority, even for UEFA.

As Table 5.3 below shows, it is mainly the Portuguese stadiums that have had the most problematic post-UEFA Euro legacy. The three stadiums with lowest indexes are in Portugal. Although the three Portuguese stadiums are at the bottom of the table, some venues in Austria and Switzerland also face major legacy problems.

As mentioned above, a part of Portugal's problems could have been avoided relatively easily if they had chosen to construct or renovate eight stadiums instead of ten. Portugal is a relatively small country and football is concentrated around the three big teams SL Benfica, Sporting Lisbon and FC Porto. Portugal could have also considered co-organising the event with Spain, thereby limiting its investments in stadiums and the current and future expenditures for its clubs and municipalities. A proposal to jointly host the event may have been present, but Spain instead ended up as one of Portugal's main rivals in the bidding process to host UEFA Euro 2004.

With the information available concerning stadiums built or renovated in Austria and Switzerland, we can conclude that their problems have not manifested to the same degree as in Portugal. In Switzerland, two of the stadiums were partly financed with private funds, which have meant that the potential economic risks were spread among different stakeholders and the public did not have to bear the full risk.

[98] http://www.uefa.com/MultimediaFiles/Download/Regulations/uefa/Others/84/03/26/840326_DOWNLOAD.pdf

Table 5.3: Overview UEFA Euro Venues 2000-2008

Name	Construction Price	Events	Attendance	World Stadium Index
Stadion Letzigrund, Zürich (SUI)	$105,238,339	44	527,000	20.3
Estádio da Luz, Lisbon (POR)	$153,294,217	27	1,268,988	19.3
Stade de Suisse, Bern (SUI)	$62,845,170	30	509,994	15.9
Estádio do Dragão, Oporto (POR)	$153,696,564	25	827,380	15.9
Estádio José Alvalade, Lisbon (POR)	$130,896,899	26	609,312	12.2
Red Bull Arena, Salzburg (AUT)	$100,854,985	N/A	360,793	11.3
Estádio D. Afonso Henriques, Guimarães (POR)	$36,613,579	20	286,067	9.5
Estádio AXA, Braga (POR)	$144,975,045	19	236,613	7.8
Estádio Cidade de Coimbra, Coimbra (POR)	$50,829,841	20	185,529	6.3
Stade de Genève, Geneva (SUI)	$89,921,378	50	188,494	6.3
Wörthersee Stadion, Klagenfurt (AUT)	$95,812,236	36	139,800	4.7
Estádio do Bessa Século XXI, Oporto (POR)	$59,547,360	19	74,796	2.7
Estádio Dr. Magalhães Pessoa, Leiria (POR)	$120,704,108	18	64,292	2.7
Estádio Municipal de Aveiro, Aveiro (POR)	$83,151,719	19	59,007	2.5
Estádio Algarve, Faro (POR)	$46,269,908	N/A	N/A	N/A
GelreDome, Arnhem (HOL)	$109,674,976	N/A	N/A	N/A
Average	$96,520,395	27	381,290	9.8

All prices in 2010 dollar value

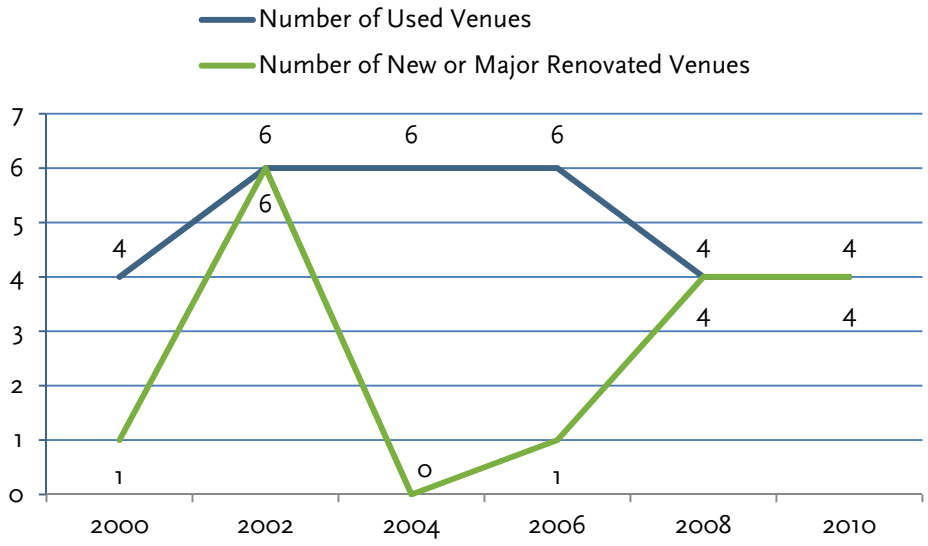
Stadion Letzigrund was completely financed by public funds and has, according to our data, so far been the stadium with the most successful sporting legacy after the UEFA Euro 2008. The stadium has the best World Stadium Index and the best attendance figures of the Austrian and Swiss stadiums. Only the three major stadiums in Portugal have better attendance figures. Largely due to its running track, Stadion Letzigrund, along with Stade de Genève, hosted the most events during 2010. But the running track may

also contribute to both of its current anchor tenants' decisions to relocate to another stadium within a few years. If this turns out to be the case, the stadium will need to find other ways to attract spectators if it wants to maintain it relatively high attendance figures.

6. Africa Cup of Nations stadiums

The first African Cup of Nations (CAN) was organised in 1957 and has been held every two years since 1968. 16 teams have participated in each tournament since 1998. In 2010 the Confederation of African Football (CAF) decided to move the CAN to uneven years to avoid the event clashing with the FIFA World Cup.

Figure 6.1: Africa Cup of Nations stadiums 2000-2010



As the figure above shows, the CAN's host countries have over the last ten years tended to use four to six venues – in contrast to UEFA Euro, in which 16 teams also participate but UEFA's requirements calls for at least eight stadiums.

In the last six CAN tournaments all final venues have had a capacity over 45,000 and an average capacity of just over 58,000, which is comparable to the requirements UEFA has for the stadiums that stage the UEFA Euro final. However, the average capacity of the smallest venues used for the CAN is just 19,500 seats, which differs from UEFA's minimum requirement of 30,000 seats.

Both Tunisia and Egypt, who hosted CAN in 2004 and 2006 respectively, already had a decent number of stadiums available and did not make any major investments in new stadiums. Tunisia hosted the Mediterranean Games in 2001 and leading up to these games they constructed Stade de 7 Novembre, which after the 2011 revolution is now named Stade Olympique de Radès. The stadium also served as the final venue for CAN 2004. From the information available, only Cairo International Stadium underwent significant renovations before CAN 2006. These renovations cost nearly $20 million.

For some of the other host countries, Mali, Ghana and Angola, it has been a different picture. New stadiums were a necessity and all three countries received assistance from China to construct the

stadiums.[99] Information regarding the six stadiums built for CAN 2002 in Mali is scant. However, it has been less problematic to obtain data on the stadiums built for CAN 2008 in Ghana and the 2010 event in Angola.

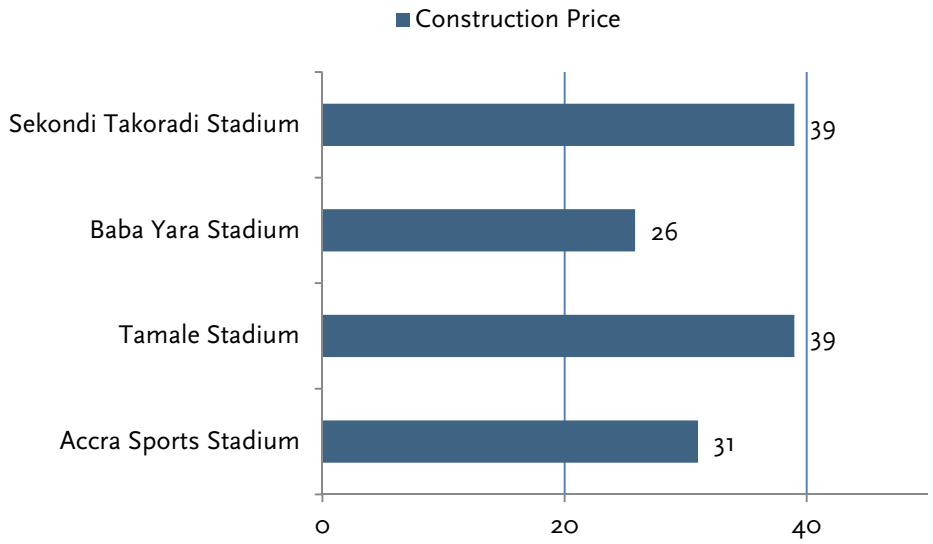
As mentioned above, China and Chinese construction companies have built stadiums for the African Cup of Nations, but they have also played a significant role in the construction of several other stadiums around Africa. In connection with aid projects throughout the continent, China built stadiums in Africa during the 1970s and 1980s, named 'Friendship Stadiums'[100]. The Chinese construction of stadiums in Africa stagnated during the 1990s, but after nearly a decade, China chose once again to build stadiums abroad in the context of aid projects, not just in Africa but in other parts of the world. China's interest in constructing stadiums abroad makes it necessary to include China in this report.

Chapter 8 of the report will discuss the Chinese stadium diplomacy in more detail.

2008 Africa Cup of Nations in Ghana

Two new stadiums were built for the 2008 Africa Cup of Nations in Ghana, while two others underwent major renovations. As Figure 6.2 shows, Sekondi Takoradi Stadium and Tamale Stadium cost equally as much to construct, nearly $39 million, and both of the venues have similar capacities.

Figure 6.2: Construction prices for Africa Cup of Nations 2008 stadiums (million dollars)



All prices in 2010 dollar value

[99] http://www.theafricareport.com/index.php/201007023293023/sports/china-the-master-stadium-builder-3293023.html
[100] http://www.theafricareport.com/index.php/201007023293023/sports/china-the-master-stadium-builder-3293023.html

The stadiums were funded through a soft loan (a loan with a below-market interest rate) from China[101] and it was the Chinese construction company Shanghai Construction Co. Ltd. that built the stadiums.[102] The tender process was subject of discussion as the process was cancelled and the Chinese company was awarded the contract without a selection process.[103] The official statement from Ghana expresses that Shanghai Construction Co. Ltd was more equipped to complete the construction on time and without exceeding the budget.[104] Bur there were most likely other factors that influenced Ghana's choice to award the Chinese company the contract.

Accra Sports Stadium and Baba Yara Stadium were the two other stadiums that hosted games during 2008 CAN. Both of these stadiums were used during CAN 1978 and 2000, but underwent major renovations for the championship in 2008. The renovation costs for the two stadiums were nearly $57 million and a Chinese company was once again awarded the contract.[105]

It has been quite difficult to obtain information about the stadiums' subsequent attendance figures. None of them have websites and neither do most of the stadiums' anchor tenants. The ones that actually do have a homepage do not publish their attendance figures.

Neither the Ghanaian Football Association nor the anchor tenants of the stadiums have information available on their attendance figures and have not responded to our requests via e-mail. However, through desk research and reading various articles we have noticed that Tamale Stadium is not used too much extent. The Minister for Sport and Youth in Ghana admits in one of the articles that the stadium is under-utilised, but hopes that the establishment of a public-private partnership can solve the under-utilisation and generate funds to pay the stadium's maintenance costs.[106]

The lack of attendance figures rules out calculating a World Stadium Index for the Ghanaian stadiums, and seeing as the stadiums are funded by generous loans from China it will also be difficult to establish an accurate GNI Index. But if we assume that Ghana will pay off its loans to China and the sum is constant, the GNI Index of Sekondi Takoradi Stadium and Tamale Stadium are unusually high. As Table 6.1 points out, both of the stadiums have an index of 1.22 – an index no other stadium built for a major football event has reached.

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[101] http://www.ccs.org.za/downloads/DFID_FA_Final.pdf p.40
[102] http://www.theafricareport.com/index.php/201007023293023/sports/china-the-master-stadium-builder-3293023.html
[103] http://www.ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=225255
[104] http://www.ccs.org.za/downloads/DFID_FA_Final.pdf p.40
[105] http://www.theafricareport.com/index.php/201007023293023/sports/china-the-master-stadium-builder-3293023.html
[106] http://www.ghana.gov.gh/index.php?option=com_content&view=article&id=80%3Aministry-to-establish-boxing-gym-in-the-north&Itemid=171

Table 6.1: Overview of 2008 Africa Cup of Nations stadiums

Name	Capacity	Price Per Seat	GNI Index	Ownership
Accra Sports Stadium, Accra (GHA)	40,000	$776	0.48	Public
Tamale Stadium, Tamale (GHA)	20,000	$1,950	1.22	Public
Baba Yara Stadium, Kumasi (GHA)	40,500	$638	0.40	Public
Sekondi Takoradi Stadium, Sekondi Takoradi (GHA)	20,000	$1,950	1.22	Public
Average	30,125	$1,328	0.83	-

All prices in 2010 dollar value

The indexes for the two other Ghanaian stadiums are lower, but in comparison to the stadiums built for 2002 and 2006 FIFA World Cups and UEFA Euro 2000-2008 the indexes are high.

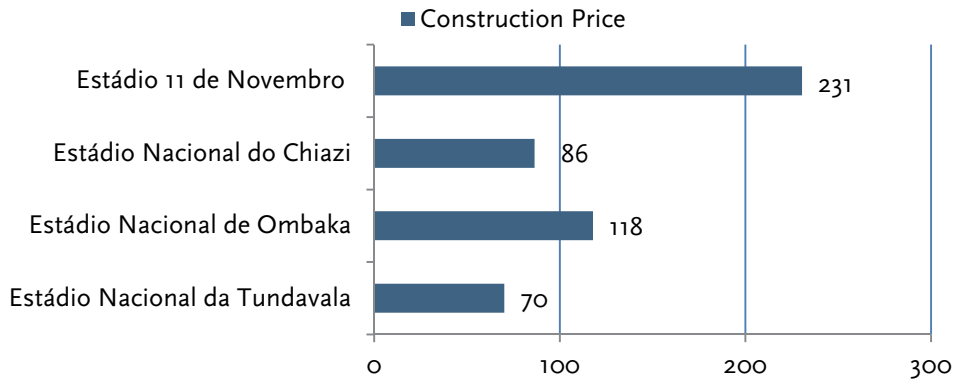
If, however, we take a closer look at the price per seat, the prices per seat for all four venues are unusually low, in particular Accra Sports Stadium and the Baba Yara Stadium. There have been reports suggesting that the stadiums in Ghana are poorly constructed[107], which has also been the case in Uganda[108] where China has constructed at least one stadium. This aspect will be discussed further in chapter 8.

2010 Africa Cup of Nations in Angola

As in the example of Ghana, it has been difficult to find complete information about the stadiums in Angola, including data regarding the attendance. The official websites for the Angolan Football Association and the clubs that are available are poorly updated and do not provide any information about the number of spectators that have attended each game.

[107] Nuttall, I.: Kicking Off. Stadia July 2008
[108] http://www.aercafrica.org/documents/china_africa_relations/Uganda.pdf p.10

Figure 6.3: Construction prices for 2010 Africa Cup of Nations stadiums (million dollars)

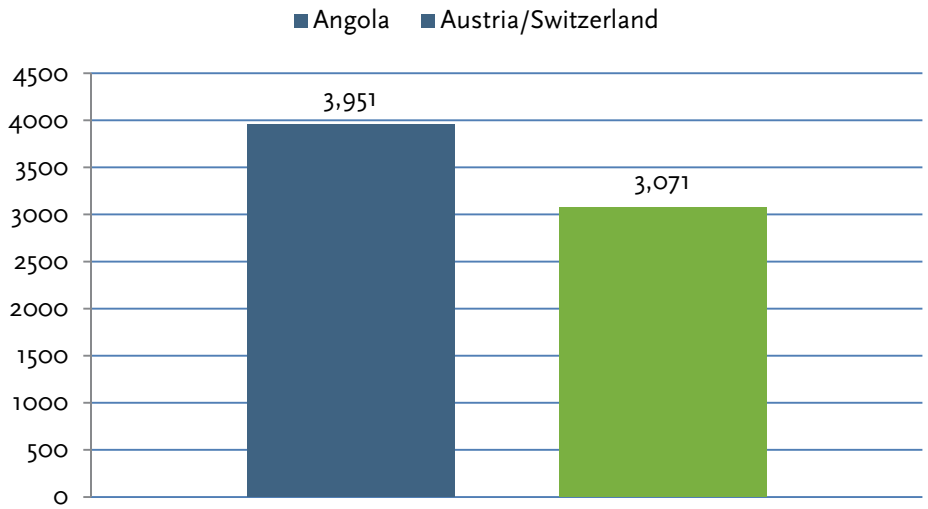


All prices in 2010 dollar value

The construction prices for the four stadiums are, however, available, and just like in Ghana, Chinese companies have constructed the stadiums. The four new stadiums in Angola cost slightly more than $500 million to construct, which is a significantly higher amount that what Ghana through generous Chinese loans had to pay for their four stadiums. The total cost of the stadiums built for the 2010 CAN in Angola can be compared with the sums Austria and Switzerland chose to invest in stadiums for UEFA Euro 2008. A significant difference, however, is that Austria and Switzerland built five stadiums to Angola's four.

Another notable difference between the UEFA Euro 2008 stadiums and the 2010 CAN stadiums is the average price per seat. As Figure 6.5 below shows, the Angolan stadiums are more expensive per seat than the stadiums in Austria and Switzerland, and even the stadiums in Ghana. As China constructed the stadiums in both Angola and Ghana, it may be questioned why the stadiums in Angola were so much more expensive.

Figure 6.4: Average prices per seat 2010 African Cup of Nations and UEFA Euro 2008 (dollars)



All prices in 2010 dollar value

Just like in Ghana, China has funded the stadiums in Angola, which may be a methodical problem when measuring the GNI Index of the stadiums in Angola, as we do not know what China has received in exchange for the funding and the value this may have. But if we overlook the Chinese involvement, none of the stadiums in Angola built for the 2010 CAN have a GNI Index as high as Sekondi Takoradi Stadium and Tamale Stadium. However, the indexes for the Angolan stadiums are still high in comparison to a majority of the stadiums included in this study, which reflects Angola's weaker economy.

Table 6.2: Overview of the 2010 African Cup of Nations stadiums

Name	Capacity	Price per Seat	GNI Index	Ownership
Estádio Nacional da Tundavala, Lubango (ANO)	20,000	$3,507	0.65	Public
Estádio Nacional de Ombaka, Benguela(ANO)	35,000	$3,369	0.62	Public
Estádio Nacional do Chiazi, Cabinda (ANO)	20,000	$4,320	0.80	Public
Estádio 11 de Novembro, Luanda (ANO)	50,000	$4,610	0.85	Public
Average	31,250	$3,951	0.73	-

All prices in 2010 dollar value

Conclusion on Africa Cup of Nations stadiums

If Ghana and Angola were to have a realistic chance of hosting the African Cup of Nations new stadiums were a necessity. There was no adequate stadium infrastructure in either of the countries before the events.

Although the two countries 'only' built or renovated four stadiums each, it is questionable whether the stadiums are going to be utilised as it is doubtful that they are suited to domestic sporting events or that a market exists for such large stadiums in both countries. As shown earlier, several stadiums in countries and markets with larger purchasing power parity have difficulties in this respect and it is likely that the same problems exist in Ghana and Angola.

Both countries' willingness to let China build their stadiums should also be questioned. What does China get in exchange? Is it a win-win situation? What will the final bill be? Who has to pay the long term maintenance and operating costs of the stadiums?

7. The continental sporting events

All-Africa Games stadiums

The All-Africa Games is a continental sporting event that has been held every four years since 1965.[109] The event is organised by the Association of National Olympic Committees of Africa (ANOCA) and the Union of African Sports Confederations (AASC).[110]

Abuja National Stadium, Abuja in Nigeria

Construction price: 426 million
Capacity: 60,491
Attendance in 2010: N/A
World Stadium Index: N/A

In 1973 Nigeria hosted the All-Africa Games for the first time. Due to the event, which was held in Surulere, Lagos, Lagos National Stadium was constructed.

30 years later, Nigeria hosted the event once again, and once again a new stadium was built. Before the games a debate took place over why Abuja National Stadium was built and why the authorities did not renovate the old stadium in Surulere instead. Questions were also raised about whether the government had the will and knowledge to maintain and operate the new stadium in Abuja as many construction projects in Nigeria, including Lagos National Stadium, had already experienced a lack of maintenance.[111]

The worries became reality. During 2011 it became obvious that the stadium in Abuja is in urgent need of renovation due to the lack of maintenance. Other venues built due to All-Africa Games 2003 have also been poorly maintained and are in serious need of renovation if they are ever going to be used in a proper way again.[112]

Abuja National Stadium cost $426 million to construct, making the stadium the second most expensive in this report after Cape Town Stadium in South Africa. Although nothing has been proven, there is information, according to 'The Nigerian Voice', that indicates that a major sum of the construction cost has ended up in private pockets[113] and that the total cost could have been significantly lower.

[109] http://www.aag.org.za/background/index.shtml
[110] http://www.webcaa.org/eng/index.php?option=com_content&task=view&id=784&Itemid=35
[111] http://nigeriaworld.com/feature/publication/edobor/040903.html
[112] http://www.thenigerianvoice.com/nvnews/47295/2/abuja-stadium-fading-away.html
[113] Ibid.

Table 7.1: Overview of Abuja Stadium

Name	Construction Price	Capacity	Price per Seat	GNI Index	Ownership
Abuja National Stadium, Abuja (NGR)	$426,000,000	60,491	$7,053	3.3	Public

All prices in 2010 dollar value

The price per seat is, as shown in Table 7.1, relatively high. However, what is more noticeable is the GNI Index of the stadium which, at 3.3, is by far the highest index of the stadiums included in this report.

One can question why the authorities responsible came to the conclusion that they should construct a new and very expensive stadium in a country with obvious economic challenges. Although the stadium in Surulere was in need of major renovations, it would have been more sustainable for economical and sporting reasons to renovate the old stadium instead of investing $426 million in a new one without any realistic legacy.

Several national sports federations, including the Nigeria Football Association have chosen to hold their events in other parts of the country as their events in Abuja have had major problems attracting larger crowds.[114] It is obvious that just a few private persons have profited from the stadium being built – and that these profiteers have nothing to do with the Nigerian sports movement in a broader sense.

As with many of the other African stadiums we have researched, obtaining attendance figures for Abuja National Stadium has been problematic. But through the information we have available it is likely that the sporting legacy is negative and the World Stadium Index for the stadium is low.

Asian Games stadiums

Just like the All-Africa Games, the Asian Games are held every four years. These games have been held since 1951, and the Olympic Council of Asia (OCA) has been the organiser of the games since 1982.[115]

There have been some difficulties in obtaining qualified data for the venues included in the study. As we lack most of the data for Rajamangala National Stadium in Bangkok, Thailand, which was built before the Asian Games in 1998, we have chosen not include this stadium in the report.

Hiroshima Big Arch, Hiroshima in Japan

Construction cost: 73 million
Capacity: 50,000
Attendance in 2010: 288,976
World Stadium Index: 5.8

[114] http://www.thenigerianvoice.com/nvnewsp/47295/2/pagenum1/abuja-stadium-fading-away.html#continue
[115] http://www.ocasia.org/Council/History.aspx

Hiroshima Big Arch was built up to the Asian Games in 1994 and cost $73 million to construct. Although the stadium has a capacity of 50,000, Hiroshima Big Arc was not one of the stadiums used during the FIFA World Cup 2002, which may seem a bit surprising since Japan decided to build nine new ones.

The anchor tenant of the stadium is the football team Sanfrecce Hiroshima and it was the team's games that contributed exclusively to the stadium's attendance figure of 288,976in 2010.

As Table 7.2 below shows, both the total construction cost and the price per seat are relatively low, which should been seen as positive, but as we do not know the maintenance cost of the stadium we cannot conclude that the relatively low price has led to a low annual cost.

Although the stadium fulfils a local sporting need, it is quite clear that the stadium, in relation to the attendance figures of Sanfrecce Hiroshima, is too big. Sanfrecce Hiroshima could play in a much smaller venue without any problem, as their World Stadium Index of 5.8 indicates.

Khalifa International Stadium, Doha in Qatar

Construction price: 128 million
Capacity: 50,000
Attendance in 2010: 90,000
World Stadium Index: 1.8

Khalifa International Stadium in Doha, Qatar, was built in 2005 for the Asian Games in 2006 and cost nearly $130 million to construct. In addition to the Asian Games, the stadium has hosted the AFC Asian Cup 2011, the equivalent to UEFA Euro and the Pan-Arab Games 2011. Khalifa International Stadium will also be one of the stadiums hosting matches in the upcoming FIFA World Cup 2022 and will be the athletics stadium if Doha is awarded 2020 Summer Olympics. However, the stadium will undergo major renovations before 2022.

The stadium only hosted ten events in 2010 and those ten events only attracted 90,000 spectators in total, which may be seen as a low figure as the capacity of the stadium is 50,000.

Even though the exact figures for 2011 are not available, we can estimate that the attendance figures for 2011 are better. The AFC Asian Cup games that took place at the stadium attracted nearly 175,000 spectators and as the stadium also hosted the Pan-Arab Games it is supposable that the stadium had a total attendance figure of over 200,000 in 2011. This is considerably better than the total of 90,000 of 2010, but is still not a satisfying number of spectators for a stadium with a 50,000 capacity.

What is problematic for the stadium is the lack of an anchor tenant and the fact that too few people attend the events that actually take place at the stadium. From the figures we have available, Khalifa International Stadium has one of the lowest World Stadium Index figures of the stadiums included in this report – only 1.8, which is a very poor index. From this information it appears to be even more doubtful that the stadiums that are to be constructed for the 2022 FIFA World Cup will be sustainable after the event.

Table 7.2: Overview of Asian Games stadiums

Name	Construction Price	Capacity	Price per Seat	Attendance	Events	World Stadium Index
Hiroshima Big Arch, Hiroshima (JPN)	$73,470,000	50,000	$1,469	288,976	22	5.8
Khalifa International Stadium, Doha (QAT)	$128,399,001	50,000	$2,568	90,000	10	1.8
Guangdong Olympic Stadium, Guangzhou (CHN)	$146,601,949	80,012	$1,832	N/A	N/A	N/A
Average	$116,156,983	60,004	$1956	189,488	16	-

All prices in 2010 dollar value

Guangdong Olympic Stadium, Guangzhou in China

Construction price: 147 million
Capacity: 80,012
Attendance in 2010: N/A
World Stadium Index: N/A

Guangdong Olympic Stadium was built as part of China's campaign to be awarded the Summer Olympic Games in 2008.[116] The stadium, which cost over $145 million to construct, hosted the National Games of the People's Republic of China and ten years later the Guangdong Olympic Stadium was the main stadium for Asian Games.

The stadium currently lacks an anchor tenant, but the Chinese Super League team Guangzhou Hengda could be playing at the stadium in the future.

Since the Asian Games, only a few football friendly matches and music events have taken place at the stadium. Just as is the case with the Beijing National Stadium, it has been difficult to obtain official information on the number of people who attended the events in 2010. Our data suggest that the stadium hosted few events in 2010, and it is most likely that the people who attended the events in relation to the capacity of the stadium were few as well.

[116] http://www.architectureweek.com/2002/0501/design_1-1.html

Conclusion on Asian Games stadiums

Even though we lack some data, it is possible to conclude that Khalifa International Stadium is one of the stadiums with the most serious sporting legacy issues. But as money not is a great concern in Qatar, the likely economic issues in connection with the stadium are not necessarily a problem. It is, however, a sporting problem as Qatar is going to host the FIFA World Cup in ten years. Even though there are plans to tear down some of the new stadiums' tiers after the event, several of the new stadiums that will be built for the event will most likely stand empty after the event. The sustainability of such a strategy can be questioned in spite of FIFA's legitimate aspirations to spread the game to new parts of the world.

Pan-American Games stadiums

Olímpico João Havelange, Rio de Janeiro in Brazil

Construction price: 200 million
Capacity: 46,931
Attendance in 2010: 561,812 (only soccer)
World Stadium Index: 12

In 2007 Rio de Janeiro hosted the Pan-American Games. Due to the games, Brazil chose to do minor renovations at Estádio do Maracanã, which was used for the opening and closing ceremonies and some games in the football tournament. Brazil also chose to build a new stadium, Estádio Olímpico João Havelange, which hosted the athletics and some football games. The stadium cost about $200 million to construct which was well above the original budget of $70 million.[117]

We lack information on the number of events that took place in the stadium in 2010, but its anchor tenant is Botafogo de Futebol e Regatas. Even Clube de Regatas do Flamengo and Fluminense Football Club played some of their matches at Estádio Olímpico João Havelange in 2010 as their regular home ground Estádio do Maracanã was closed due to renovations for the 2014 FIFA World Cup.

As far as we know, the three teams attracted in total 561,812 spectators, of which 313,611 attended some of Botafogo de Futebol e Regatas' 21 games.[118] With the combined figures for the three teams, Estádio Olímpico João Havelange has a World Stadium Index of 12 which is fairly good. However, the total number of spectators will probably drop when Estádio do Maracanã is completed and Clube de Regatas do Flamengo and Fluminense Football Club most likely start holding their matches there again.

Botafogo de Futebol e Regatas' attendance figures alone only contribute to a modest World Stadium Index of 6.7, and the stadium's GNI Index of 0.4 is comparable to some of the African venues. The stadium is to be used again for the athletics events at the 2016 Olympic Games in Brazil.

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[117] http://www.ceme.eefd.ufrj.br/ive/boletim/bive200707/imprensa/fsp/pdf_fsp/Abertura%20do%20Engenh%C2%A6o%20ressuscita%20tradi%C3%A7Ses.pdf

[118] http://www.worldfootball.net/spielplan/bra-serie-a-2010-spieltag/1/

Conclusion on Pan-American Games stadiums

Many of the venues built for the Pan-American Games, including Estádio Olímpico João Havelange, were necessary for Rio de Janeiro to host the event. The city did not have a major athletics stadium and Estádio Olímpico João Havelange filled this vacancy. But athletics is not a major spectator sport in Brazil and it is likely that the tracks after the Olympics not will be used to a large extent – just as is the case in many former Olympic stadiums.

Before the Olympics in 2016 the stadium will undergo renovations that are budgeted to cost over $52 million[119] and, once again, the state of Rio de Janeiro will cover the costs as it owns stadium.

Hosting the Pan-American Games was probably one of the steps Brazil took in its strategy to bid for other major international sporting events. If so, is has succeeded. Brazil will now host the 2014 FIFA World Cup and the 2016 Summer Olympics.

The Olympic organisers have budgeted for a cost just over $3 bn.[120] – only covering investments in stadiums and sports facilities – and the Brazilian Football Confederation (CBF) estimates an investment of $1.5 bn.[121] in stadiums for the 2014 FIFA World Cup. $4.5 bn. is a considerable sum, especially considering it only refers to investments made in the venues. However, there is a high probability that the cost of the stadiums will be even bigger as under-budgeting in connection with international sports events is fairly common – and several stadiums included in this study have already become more expensive than anticipated in the original bids.

Although Brazil's economy has grown in recent years and the country's purchasing power parity is the ninth largest[122] in the world, 24 per cent[123] of the population lives below the poverty line. Together with significant differences in income[124] the investments in major sporting events may be seen as a questionable way to invest public money.

Commonwealth Games stadiums

Etihad Stadium, Manchester in the UK

Construction price: 291 million
Capacity: 47,805
Attendance in 2010: 943,000
World Stadium Index: 19.7

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[119] http://urutau.proderj.rj.gov.br/rio2016_imagens/sumario/English/Per%20Theme/Volume%202/Theme_09.pdf p.23
[120] http://urutau.proderj.rj.gov.br/rio2016_imagens/sumario/English/Per%20Theme/Volume%202/Theme_09.pdf
[121] Stadionwelt. Stadionbau 2011. Die Stadien und Arenen der kommenden Sportevents. p. 22
[122] https://www.cia.gov/library/publications/the-world-factbook/rankorder/2001rank.html?countryName=Brazil&countryCode=br&regionCode=soa&rank=9#br
[123] Ibid.
[124] http://hdrstats.undp.org/en/indicators/67106.html

Manchester showed in their applications to host the Olympic Games 1996 and 2000 that the city had an explicit goal to host a major international sporting event, and they eventually fulfilled this goal by winning the hosting rights for the 2002 Commonwealth Games.

The City of Manchester Stadium was built for the Games, which since summer 2011 has been named Etihad Stadium for sponsorship purposes.[125] The stadium cost £140 million to construct, equivalent to $290 million, and the stadium hosted the Games' opening and closing ceremonies and the athletic competitions. After the games the athletics track was removed and a smaller athletic stadium with seating for 5,000 spectators was built nearby.

Etihad Stadium was primarily funded by the British government and UK Lottery Funding. The stadium is owned by the city of Manchester and its anchor tenant is Manchester City FC. The club pays on an annual basis 20 per cent of its gross attendance receipts to the council f city of Manchester. Manchester City FC has one of the highest attendance averages[126] in the Premier League and in 2010 the club had 943,000 spectators in total – a figure which could be regarded as brilliant.

The stadium is also used during the summertime as a concert venue and is one of the biggest in England. However, from 2008-2010 no concerts were held at the stadium as the club wanted to protect the pitch and eventually replace the grass.

In summer 2011 concerts were held in the stadium once again and Take That played eight sold out shows.[127] As Etihad Stadium able to host concerts again it will most likely have over one million visitors per year, which in this report is a comparatively high figure.

National Stadium, Bukit Jalil, Kuala Lumpur in Malaysia

Construction price: 321 million
Capacity: 87,411
Attendance in 2010: N/A
World Stadium Index: N/A

Jawaharlal Nehru Stadium, Delhi in India

Construction price: 209 million
Capacity: 60,000
Attendance in 2010: N/A
World Stadium Index: N/A

We lack sufficient information on National Stadium, Bukit Jalil in Kuala Lumpur, Malaysia, other than its construction cost.

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[125] http://news.bbc.co.uk/sport2/hi/football/14080388.stm
[126] http://soccernet.espn.go.com/stats/attendance/_/league/eng.1/year/2009/barclays-premier-league?cc=5739
[127] http://menmedia.co.uk/manchestereveningnews/tv_and_showbiz/s/1422687_take-that-tour-thats-a-record-breaker

Based on the information we have available for Jawaharlal Nehru Stadium, it can be pointed out that this stadium has an unusually high GNI Index in comparison with the two other venues that have hosted Commonwealth Games and a majority of the stadiums included in this report.

Jawaharlal Nehru Stadium was the main stadium for 2010 Commonwealth Games in Delhi, India. According to the Comptroller and Auditor General of India (CAG), the total cost of the event was $4.1 bn., which exceeded the original budget by $3.8 bn. CAG also states that the net income for the event only ended up being $38 million.

Unrealistic budgets and delays are the main reasons why the event became more expensive than expected. Due to the delays, several contracts for the construction of stadiums and sports facilities were not awarded properly, and the absence of a tender process resulted in added construction costs and a lack of transparency.[128]

The National Stadium in Kuala Lumpur, Malaysia, and Jawaharlal Nehru Stadium in Delhi, India, only have their national football teams as anchor tenants, and even though we do not have adequate information available, it is not likely that the stadiums attract large crowds in relation to their capacity on an annual basis as there is no greater interest in domestic football or the national teams in Malaysia and India.

Table 7.3: Overview of Commonwealth Games stadiums

Name	Construction Price	Capacity	Price Per Seat	World Stadium Index	GNI Index
Etihad Stadium, Manchester (GBR)	$290,998,579	47,805	$6,087	19.7	0.17
National Stadium, Bukit Jalil, Kuala Lumpur (MAL)	$321,169,597	87,411	$3,674	N/A	0.26
Jawaharlal Nehru Stadium, Delhi (IND)	$209,280,000	60,000	$3,488	N/A	0.98
Average	$273,816,059	65,072	$4,416	-	-

All prices in 2010 dollar value

Conclusion on Commonwealth Games stadiums

The construction of Etihad Stadium in Manchester must be seen as a success and as a positive sporting legacy of a major event stadium. A part of the success is the conversion of the stadium after the event, including removing the running track and creating an additional tier. All of this was done to fulfil

[128] http://idan.dk/Home/Nyheder/a073delhi2010.aspx

Manchester City FC's needs and wishes when they moved from their former home ground Maine Road to Etihad Stadium in 2003.

The move helped Manchester City to increase their attendance figures as the new stadium has a capacity of 48,000 in comparison to Maine Road's capacity of 35,000. The figures from the 2009/10 season indicate that the stadium is doing pretty well, and since the anchor tenant, Manchester City FC, got a new owner the club has also improved its performance on the pitch. Sporting success for the anchor tenant and the possibility to host concerts will surely contribute to an increase of the stadium's attendance figures. The long term success of Manchester City FC is yet to be seen seeing as the club is running at heavy losses and is being sustained financially by its owners. Seen as a whole, the football club and the stadium are currently running at a huge loss.

The other two stadiums probably do not have as bright a future as Etihad Stadium. The lack of a high profile anchor tenant is the main reason why both of the stadiums have problems attracting lager crowds. It is not enough for a stadium to host a major sporting event once every third to fifth year – more profile events on a weekly and annual basis are a necessity.

8. China and the Chinese stadium diplomacy

As mentioned above in chapter 6, China and Chinese construction companies have built numerous venues in Africa. According to 'The Africa Report', China had built 52 stadiums in Africa up to spring 2010[129] and, according to our investigations; Chinese stadiums can be found in nearly 30 African nations. But several additional stadiums are currently under construction and China's interest in the construction of stadiums abroad extends not only to Africa, but to Central America, the Caribbean, Oceania and Asia.

Is there an underlying explanation?

China, as do many other countries, has various ways in which it formulates its foreign aid in developing and NIC countries. In the Chinese foreign aid, six key areas are prioritised: agriculture, industry, economic infrastructure, education, health care, and public facilities.[130]

The construction of sports facilities is included together with the construction of public buildings, hospitals, cultural venues and the digging of wells for water supplies[131] in the foreign aid area. In addition to the different foreign aid areas, China has various ways of implementing its aid programs. The form of assistance that China mainly offers when it comes to the construction of stadiums is named 'complete projects'.

When the complete projects are implemented, the Chinese stadiums are built with financial assistance from China in the form of grants or interest-free loans. An important aspect is that China is responsible for the entire process – from the initial planning stage to the stadium's completion.[132] This means that China organises and is responsible for feasibility studies, design and construction; provides Chinese equipment, materials; and sends Chinese engineers and technical staff to lead and organise the projects. Until late 2009, China had built 85 stadiums in the form of foreign aid.[133]

Another essential aspect is the policy that Chinese economic aid and technical assistance is based on:[134] equality and mutual benefits, respect from China of each country's sovereignty and no counterclaims for financial support and technical assistance – 'no strings attached'.[135]

The Chinese policy has meant that China has not taken into account the countries' political situations and has built stadiums in countries with questionable political leadership and public governance, as its stadium projects in Equatorial Guinea and Zimbabwe, for example, have demonstrated.

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[129] http://www.theafricareport.com/index.php/201007023293023/sports/china-the-master-stadium-builder-3293023.html
[130] http://news.xinhuanet.com/english2010/china/2011-04/21/c_13839683_10.htm
[131] http://news.xinhuanet.com/english2010/china/2011-04/21/c_13839683_12.htm
[132] http://news.xinhuanet.com/english2010/china/2011-04/21/c_13839683_6.htm
[133] Ibid.
[134] http://news.xinhuanet.com/english2010/china/2011-04/21/c_13839683_17.htm
[135] Ibid.

Although Chinese-built stadiums only accounted for about four percent of China's complete projects abroad by the end of 2009 [136] and the fact that there are no official counterclaims from China, a pattern appears when looking at the various Chinese stadiums projects abroad that suggests that China has both economic and political objectives it wants to achieve through its stadium projects.

Free trade agreements have been made in connection with the stadium deals, which are naturally said to benefit both the recipient countries and China. [137] [138] However, there were, and still are, concerns that the Chinese goods and contractors out-compete domestic goods and job opportunities.[139] [140]Another financial issue is that in connection with its stadium agreements China has also made agreements regarding access to natural resources in certain countries.[141] [142] The access to natural resources is essential for China as a great part of its population has increased its living standards, which has led to an increased need for both energy and consumer goods.

In addition to the overall Chinese objective of increasing political influence[143] and gaining international recognition, the aim to unify China through the One-China-Policy is also a main objective behind China's interest in building stadiums abroad. Several cases indicate that China, despite its official offer of 'no strings attached', has required recipient countries to cancel their diplomatic relations with Taiwan if it wants new stadiums to be constructed.[144] [145] [146] [147]

But do the Chinese stadiums have any impact on domestic sport? Is it possible to see whether the construction of new stadiums has had an impact on sport in each country?

In the context of sport in general, it is quite difficult to give a straightforward answer. Through our investigation we cannot determine whether participation in sport in each country where China has built stadiums has increased or that sporting structures have improved in other ways. As China has mainly built big stadiums, it is likely that these stadiums have primarily benefited elite sport. Several countries have, thanks to the Chinese stadiums, been able to host international or continental sporting events. As Table 8.1 below shows, we have found that ten Chinese stadiums built abroad have hosted an international or continental sporting event. The majority of the events have taken place in Africa, mainly

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[136] Ibid.
[137] http://www.thefootballramble.com/blog/entry/china-why-costa-rica
[138] http://www.uschina.usc.edu/w_usct/showarticle.aspx?articleID=17566&AspxAutoDetectCookieSupport=1
[139] Ibid.
[140] http://www.theatlantic.com/international/archive/2011/09/in-africa-an-election-reveals-skepticism-of-chinese-involvement/245832/
[141] http://en.radio86.com/china-past-and-present/government-and-country/friendship-and-development-chinas-stadium-building-pro
[142] Nuttall, Ian. Kicking Off. Stadia July 2008
[143] http://en.radio86.com/china-past-and-present/government-and-country/friendship-and-development-chinas-stadium-building-pro
[144] http://www.uschina.usc.edu/w_usct/showarticle.aspx?articleID=17566&AspxAutoDetectCookieSupport=1
[145] http://www.time.com/time/world/article/0,8599,2056147,00.html
[146] http://www.thefootballramble.com/blog/entry/china-why-costa-rica
[147] http://archives.pireport.org/archive/2008/July/07-16-ft.htm

Africa Cup of Nations, but China's stadiums have also helped countries like Fiji, Sri Lanka and countries in the Caribbean islands to host sporting events.

In 2007 the West Indian Federation hosted the Cricket World Cup.[148] The majority of the countries sharing the hosting rights for the event did not have acceptable venues at that time, so it was necessary to for them to build new stadiums. Help came from China and several of the stadiums used during the event were built using Chinese assistance.[149]

Table 8.1: Overview major sporting events with Chinese stadiums

Event	Country	Year
Africa Cup of Nations	(MLI)	2002
South Pacific Games	(FIJ)	2003
South Pacific Games	(CKI)	2007
Cricket World Cup	(ATG), (BAH), (DMN), (GRN), (JAM) and (LCA)	2007
Africa Cup of Nations	(GHA)	2008
Southeast Asian Games	(LAO)	2009
Africa Cup of Nations	(ANO)	2010
Cricket World Cup	(SRI)	2011
All-Africa Games	(MOZ)	2011
Africa Cup of Nations	(GEQ)/(GAB)	2012

The Prime Minister of Antigua and Barbuda states that China was well aware that his country did not have the financial strength to build a new stadium and that the construction of Vivian Richards Cricket Ground would not have been possible without China's help.[150]

[148] Antigua and Barbuda, Barbados, Dominica, Grenada, Jamaica, Montserrat, the then St Kitts-Nevis-Anguilla, Saint Lucia, St Vincent and Trinidad and Tobago
[149] http://en.radio86.com/china-past-and-present/government-and-country/friendship-and-development-chinas-stadium-building-pro
[150] http://en.radio86.com/china-past-and-present/government-and-country/friendship-and-development-chinas-stadium-building-pro

The 2011 Cricket World Cup was hosted by Sri Lanka and once again China was called upon to construct a World Cup venue. It built Mahinda Rajapaksa International Stadium, and although the stadium was opened as recently as 2010, Sri Lanka Cricket (SLC) has found that it cannot afford to maintain the stadium so the stadium has been handed over to the Sri Lankan army.[151]

Mahinda Rajapaksa International Stadium is probably not the only case in which Chinese stadiums have been hit by financial problems. Even if the majority of the stadiums being built by China are gifts or are funded by interest-free loans, additional costs such as maintenance costs will still be present after the stadiums are completed. Maintenance costs have often been ignored or not given top priority (see Abuja National Stadium) or can simply not be paid due to lack of money. A stadium that is not maintained or utilised after the initial event will quickly lose its shine and value in the local community and there is an imminent risk that many stadiums will not be able to be used for sport because they are poorly maintained.

Additional problems have emerged with the Chinese stadiums. As mentioned above in chapter 6, some of the stadiums are poorly constructed;[152] [153] a problem which has also been apparent with other public buildings[154] built abroad by China, although China officially insists that it only uses materials and products of the highest quality[155]. FIFA has noticed the problem and, according to the magazine *Stadia,* it has pointed out the Chinese built Kamanyola Stadium in the Democratic Republic of the Congo as a stadium with serious flaws and weaknesses in security and threatens to close the stadium for international games unless substantial improvements are made.[156]

China continues to construct stadiums abroad and the number of stadiums that have been built through Chinese foreign aid involvement has passed a hundred. Algeria, Cameroon and Cape Verde are among the countries next in line to receive stadiums from China.

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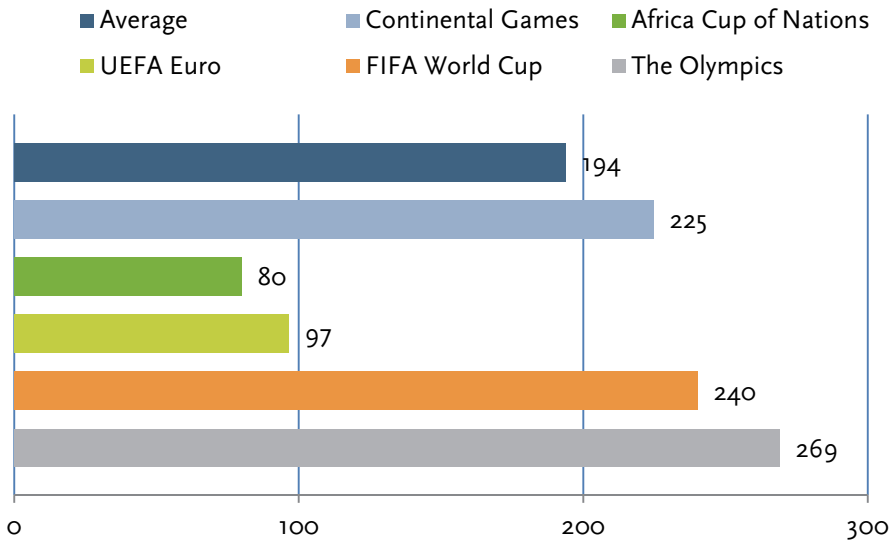
[151] http://www.insidethegames.biz/commonwealth-games/2018/14786-army-take-over-control-of-hambantota-stadium
[152] Nuttall, I.: Kicking Off. Stadia July 2008
[153] http://www.aercafrica.org/documents/china_africa_relations/Uganda.pdf p.10
[154]http://www.aljazeerah.info/Opinion%20Editorials/2011/April/4%200/The%20New%20Imperialism,%20China%20in%20Angola%20By%20Rafael%20Marques%20de%20Morais.htm
[155] http://news.xinhuanet.com/english2010/china/2011-04/21/c_13839683_7.htm
[156] Nuttall, I.: Kicking Off. Stadia July 2008

9. Analysis

This report shows that the 75 stadiums included in this study that have been built or have undergone major renovations in order to stage a major sporting event have cost nearly $14.5 bn. The total cost of these stadiums is even bigger as we have not included the cost of minor renovations.

Figure 9.1: Average construction price for major sporting event stadiums (million dollars)



All prices in 2010 dollar value

Not surprising, the Olympic main stadiums have proven to be the most expensive to construct – $269 million on average. On top of these costs, the host countries and cities also need to construct several sports facilities. Rio de Janeiro, the 2016 host, has a budget of $3 bn. only for sports facilities – and the costs will probably be even more as the construction of stadiums tends to exceed original budgets.

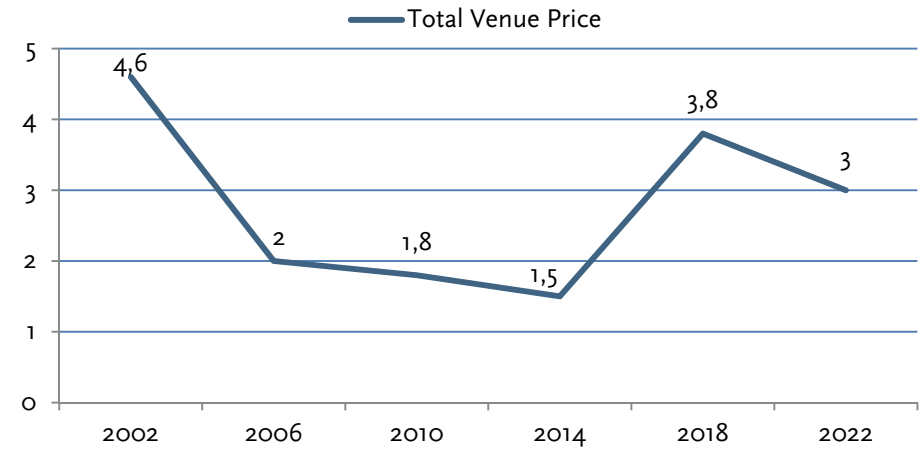
Just like Rio de Janeiro, Qatar has a budget of $3 bn. it is going to invest in stadiums for the FIFA World Cup 2022. A FIFA World Cup stadium is on average the next most expensive to construct after an Olympic main stadium. However, a World Cup stadium has a higher price per seat than a main Olympic venue.

The main reason for the high cost of the World Cup venues is FIFA's requirements. New stadiums or major renovations are often necessary to fulfil FIFA's demands. On average, a FIFA World Cup tournament costs $2.8 bn. in stadium investments alone. As Figure 9.2 below shows, the 2002 World Cup in Korea/Japan pulls up the average as Japan and Korea built or renovated 19 stadiums. However, if the initial budgets for the three future World Cups are not exceeded, which appears unlikely, the average cost for a World Cup stadium will be roughly constant.

As mentioned before, the report has shown that is not unusual for initial budgets to be exceeded and for stadiums to become more expensive than expected. According to sources, South Africa heavily exceeded

the initial stadium budgets presented in its bid, and its stadiums ended up being 16 times more expensive than first estimated.

Figure 9.2: Total stadium prices, FIFA World Cup 2002-2022 (billion dollars)

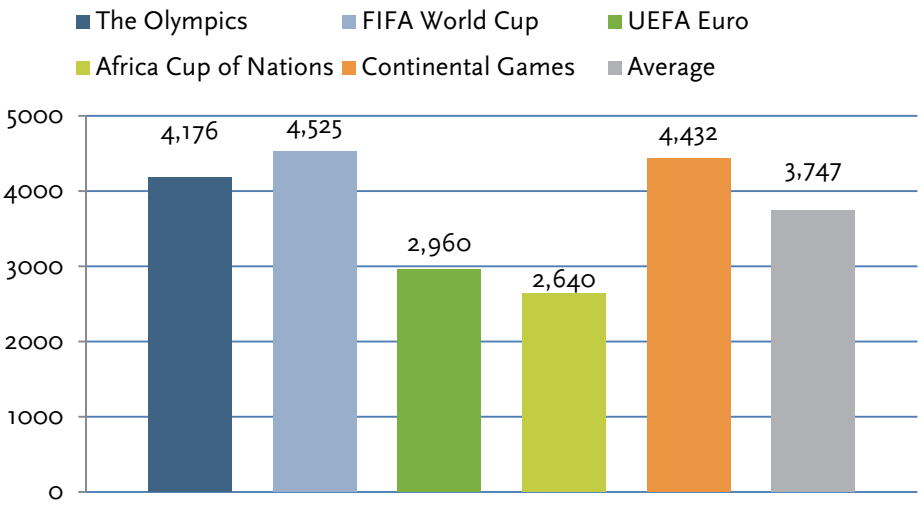


All prices in 2010 dollar value

If a country has an intention to host a major sporting event, but does not want spend $3 bn. on stadiums, hosting a continental football championship could be a less costly alternative.

The stadiums built for the Africa Cup of Nations and UEFA Euro had the lowest average construction costs and were fairly cheap to build compared to the other stadiums included in this study. As Figure 9.3 shows, the CAN and UEFA Euro stadiums had the lowest average price per seat, which was also below the general average.

Figure 9.3: Average prices per seat for major sporting events (dollars)



All prices in 2010 dollar value

However, the construction price of a stadium does not tell much about what the sporting legacy of the stadium will be. As far as we can see, there is no significant connection between the price and the

sporting legacy of the stadiums examined. Other aspects are more crucial and, as the report has shown, a cheaply constructed stadium does not automatically mean that the stadium will be cheap in the long run. Some stadiums have had major problems after having hosted a major sporting event. The lack of a high profile anchor tenant from the outset or weak attendance figures are the main reasons why some stadium owners have financial problems and why several stadiums have negative sporting legacies.

Several stadiums could not be seen as sustainable from financially or a sporting perspective. Does it have to be this way? What can be done otherwise?

The ideal and desirable situation would be if all stadiums built or renovated for a major sporting event had a long lasting legacy and were utilised to a fairly high extent after the event was over. The reality is unfortunately different. But it is essential not to blame one single party for the empty stadiums.

One of the parties with a crucial role, and maybe the most significant responsibility for the current situation, is the international sports federations. They are most likely aware of the problem, but they have not explicitly taken responsibility. More stadiums are and will be built and there is an imminent risk that several more stadiums will be empty in relation to their capacity.

If the international and continental sports federations intend to make the Olympics, the FIFA World Cup and other major sporting events favourable for each host country in terms of financial and sporting sustainability, there are elements in the present awarding process that should be improved. The sports federations should be more accurate and precise when they award a major event and should award the events to a country/countries or city/cities with a realistic chance of converting the short-lived honour of hosting a major event into a long-term stadium legacy. It is very unusual that a sole event creates a long lasting interest if the interest was not present before the event, and even though an event may well attract a large crowd to the stadiums during the event, the stadiums will most likely be under-utilised when daily life returns.

One problem with such a solution is that if these rules were followed only very few countries would then have the opportunity to host a major sporting event, because only a minority of the world's countries have a significant interest in sport or a population base that they can count on to guarantee a long lasting sporting legacy. The major events would then, to a great extent, be held in the same countries and cities time after time – a scenario the international sports federations are not interested in. This challenge could be solved by co-hosting arrangements or looser demands on stadium infrastructure in some countries – but does not appear to be interest to the sports federations either, because they can often pick and choose between several bidders who claim to be able to meet the requirements.

Loosening the demands on stadium infrastructure would not require the sports federations to lower their standards of safety, but instead to reduce their requirements for capacity and the number of stadiums potential hosts need to stage an event.

When a country like Portugal expresses that it is planning to build or renovate ten stadiums, it would be preferable for UEFA to question this number and make it clear that only six or eight stadiums would be needed based on the experience from previous events that indicates that ten major stadiums will most

likely be under-utilised in the long run. But this control mechanism is not present at the moment, and it is often up to those who finance the stadiums to determine if the stadiums will be utilised in the future – and these funding bodies are usually politicians who have overly optimistic expectations and lack realistic data on how much a stadium and an event will cost in the long term and how it will be utilised.

Some major international sporting events, including the FIFA World Cup, have already been co-hosted by two countries, and this is likely to remain an attractive option for smaller countries and cities which cannot compete economically or in terms of existing infrastructure with larger ones. But would it be possible to have three or four FIFA World Cup hosts? And when are we going to experience a co-hosted Olympics? Of course there would be some problems connected to such arrangements, but they appear to be easier to overcome than long term legacy problems after the events.

Such problems are also minor compared to the amounts the hosting countries could save in the short and long term. If it is possible for Qatar, a small country and currently in 88th place on the FIFA World Ranking[157], to host a FIFA World Cup by itself, then it should not be a too hard to solve the problems that might occur with three or four hosting countries.

However, it is not just the sports federations' fault that several stadiums stand empty. Of course, the host countries and cities also have a responsibility as they are ultimately (almost every time) paying the bill. Countries and cities should have a greater awareness of what the impacts of hosting an event really are and should hold a longer time perspective and be more focused on what the legacy will be after the event is over. In their eagerness to host an event several host countries and cities seem to forget about the long term perspective and most likely neglect the negative consequences that an event may result in.
As the study shows, several cities have paid a significant price for their ill-considered decisions and several venues have been put up for sale as a consequence of the countries' and cities' lack of self-awareness. But even some cities that were aware of the potential risks and wanted to elude them still ended up with empty stadiums. Cape Town had intended to upgrade an already existing stadium for the 2010 FIFA World Cup, but after pressure from the South African government and FIFA it had to build a new one.

Paradoxically, Cape Town Stadium is, after Nissan Stadium in Japan, the most expensive stadium built for a World Cup (more than $535 million) and after the World Cup it has been one of the stadiums with the greatest legacy problems. There are certainly several other cases where cities have felt obliged to build a new stadium even though there is no real need for one, but the allurement of hosting an international sporting event gets too big for them to resist the external pressure.

Countries and cities would be better to build stadiums in accordance with their national and local sporting needs and then the international and continental sports federations can decide whether it is reasonable to award the country and the city the event or not. This would partly contribute to the utilisation of the stadiums after the event, and may partly even lead to the stadiums attracting larger crowds as there would be no over-construction of stadiums in the country or city.

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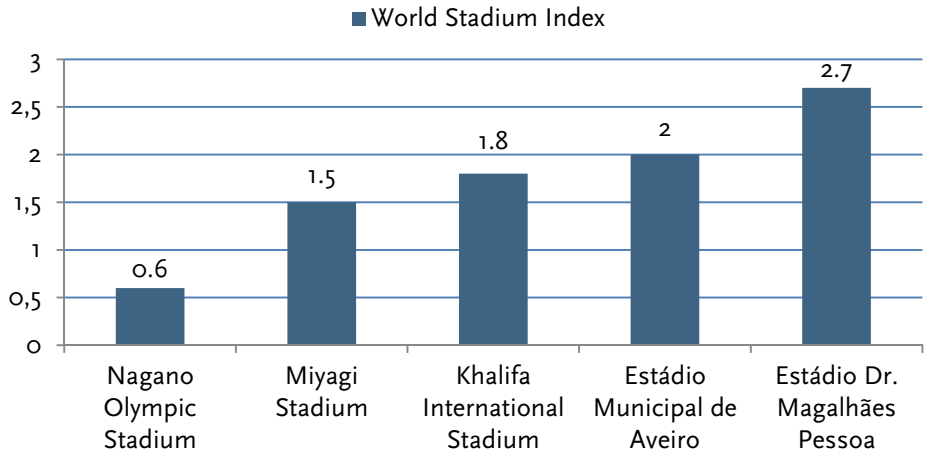
[157] http://www.fifa.com/worldranking/rankingtable/index.html

Since public authorities seem to replicate the same problems with their excessive underestimations of construction costs from the initial bidding phase to the actual construction phase and unrealistic sporting and financial legacy plans for many venues, a nasty questions remains – who profits from all of these stadiums in spite of the solid evidence of legacy problems attached to mega events? This certainly underlines the need for research and public debate based on solid empirical data in connection with future host city and region decisions.

The poor and the good ones

Portugal has, as the figure below shows, two stadiums among the five stadiums with the lowest World Stadium Index. This highlights the thought that the UEFA Euro 2004 in Portugal should either have been co-hosted or hosted by another country to avoid empty stadiums and an over-construction of stadiums.

Figure 9.4: Last 5 World Stadium Index



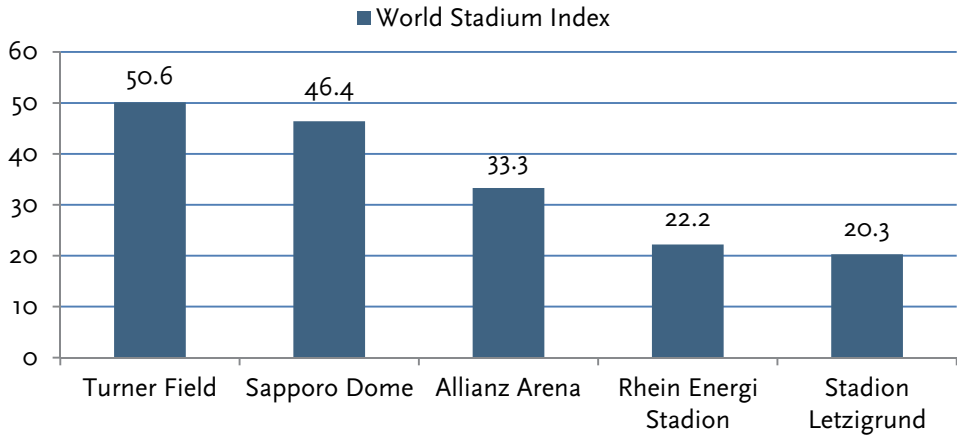
All five of the stadiums above have had significant problems in attracting spectators after their major events have finished. All of their indexes are proof of how hollow the sporting legacy can be if there is no real sporting need present.

Although the international sports federations and future host countries and cities have a lot to keep in mind in order to avoid empty stadiums and financial problems, there are stadiums that have been built for major international sporting events that have done well after the event and have a positive sporting legacy.

Popular local baseball teams have contributed to the success of both Turner Field in Atlanta and Sapporo Dome in Japan. The two baseball teams do not have higher average audience figures than the majority of the German football teams playing at the World Cup 2006 stadiums, but as baseball teams in both the U.S. and Japan play more than 70 games per season, Turner Field and Sapporo Dome have a higher total attendance figure per season. In Atlanta they had a clear idea of what do with their main stadium, Turner Field, after the Olympics and, largely thanks to a reduced capacity and an adaption to local sporting needs, Atlanta has had a successful legacy.

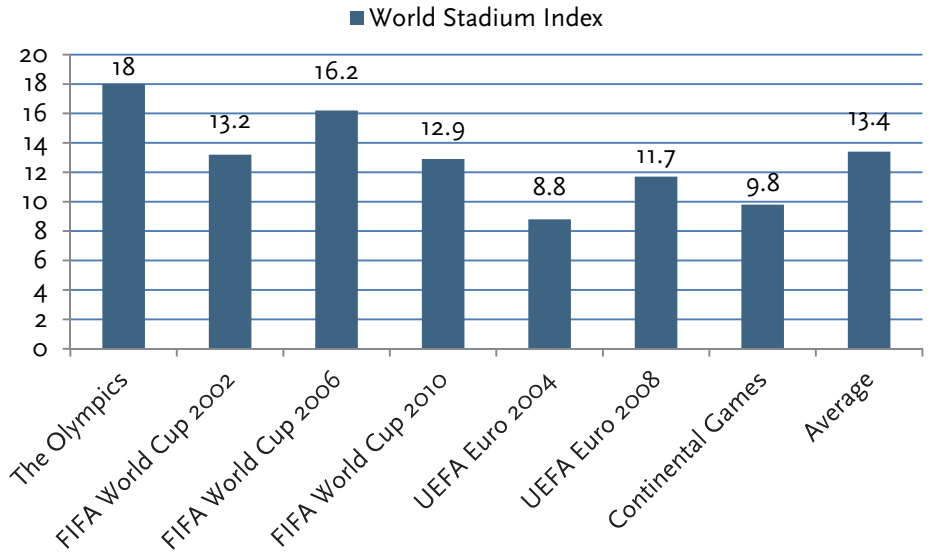
The 2006 FIFA World Cup in Germany is the only major sporting event that has two stadiums in the top 5. Above all, Allianz Arena in Munich has a very impressive index. FC Bayern Munich is the main reason why the stadium has been so successful because the club has a high average attendance. Allianz Arena's other anchor tenant, TSV 1860 München, which also provides good figures for the venue.

Figure 9.5: Top 5 World Stadium Index



The German Bundesliga already had strong attendance figures before the 2006 FIFA World Cup, which ensured that the stadiums would be packed after the major event. So Germany's good index figures are thus not a surprise. Despite the German stadiums' good indexes, the stadiums for the 2006 FIFA World Cup did not have the best average index among the included events. Instead is it the Olympics stadiums that have the best average, which is largely due to Turner Field and the fact that we do not have the data from Atatürk Olympic Stadium or Beijing National Stadium. Had the data from Turkey and China been available, the Olympic stadiums would most likely have had a lower average.

Figure 9.6: Average World Stadium Index



10. The Future

This study has shown that several stadiums have had a rather problematic sporting legacy since they hosted a major international sporting event. But even though there are cases to learn from, more half-empty stadiums are still likely to be built in the future.

2012 is a big year for sport and a big year for sport means that new major stadiums have been built. The major sporting events in 2012 are primarily the UEFA Euro in Poland and Ukraine and the Summer Olympics in London, UK. How will the future look for the new stadiums built to host these major events?

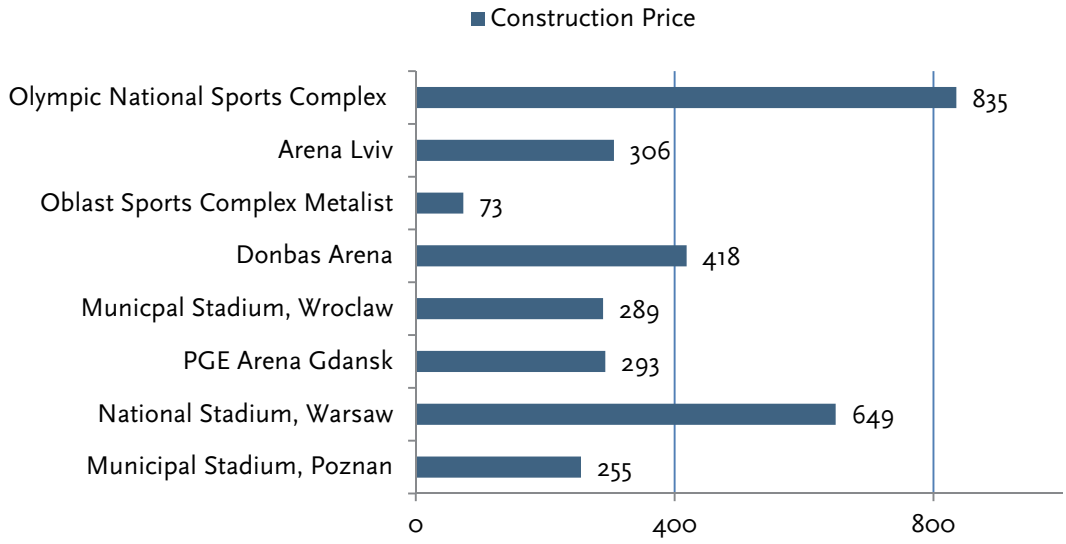
UEFA Euro 2012 in Poland/Ukraine

For this summer's UEFA Euro in Poland and Ukraine, eight stadiums will be used – four stadiums in each country. Two stadiums in Ukraine were completed in 2009 while the majority of the remaining stadiums were completed in 2011.

In addition to Oblast Sports Complex Metalist in Kharkiv and Donbas Arena in Donetsk, both in Ukraine, the other six stadiums that will be used for the event are publicly owned.

The total cost of the eight stadiums is about $3 bn., making the venues for UEFA Euro 2012 three times more expensive than the stadiums built for UEFA Euro 2004 in Portugal.

Figure 10.1: Construction prices for UEFA Euro 2012 stadiums (million dollars)



In addition to the eight stadiums, four other stadiums have been built in Poland and Ukraine largely because of the event: Dnipro Stadium, Dnipropetrovsk, and Chornomorets Stadium, Odessa, in Ukraine and Silesian Stadium (Stadion Slaski) and Stadion Miejski im Henryka Reymana, Krakow, in Poland were all promised in the initial application from Poland and Ukraine as reserve stadiums and have cost about $500 million to construct.

As Figure 10.1 above shows, the Olympic National Sports Complex (NSC Olimpiysky) in Kiev, Ukraine, was the most expensive stadium to build and the stadium is, along with the new national stadium in Poland, National Stadium, Warsaw (Stadion Naradowy w Warszawie), the stadium with the most uncertain future.

Although the Olympic National Sports Complex has had an anchor tenant in FC Dynamo Kyiv since December 2011, the new tenant needs to improve its attendance if the stadium is going to have good weekly attendance figures and not be dependent on other events. In 2010/11 FC Dynamo Kyiv had 256,721 spectators in total and if we calculate these figures against the capacity of Olympic National Sports Complex the stadium only has an index of 3.7. At the time of writing FC Dynamo Kyiv had played four games in the league at the stadium with an average attendance of 47,526.[158]

Problems concerning the sporting legacy of UEFA Euro 2012 may also occur with the new national stadium in Warsaw. The stadium can only hope the Polish national football team will be a regular tenant because the two major teams in Warsaw, Legia Warszawa and Polonia Warszawa have smaller and more suitable stadiums as their home grounds. The maintenance cost for the stadium is estimated to cost $10 million a year, and it will be necessary for the stadium to host several more events in addition to the national team's games to be financial sustainable.

For the two privately funded stadiums, Donbas Arena and Sports Complex Oblast Metalist, the future looks a bit brighter. Both stadiums have anchor tenants that had fairly good attendance figures last season, and the potential World Stadium Indexes of 16.2 and 14.3 are comparable to a majority of the German World Cup stadiums.

The fourth stadium in Ukraine, Lviv Arena, has FC Karpaty Lviv as its anchor tenant. The team does not have the same attendance figures as Donbas Arena and Sports Complex Oblast Metalist's tenants, so Lviv Arena's World Stadium Index is under 10 – which is insufficient.

When the two clubs Slask Wroclaw and Lechia Gdansk moved into their new home grounds for the 2011/12 season after Municipal Stadium, Wroclaw (Stadion Miejski we Wrocławiu) and PGE Arena Gdansk were completed, both of the clubs significantly increased their attendance figures in comparison to the season before. The significant increase is, however, not enough to for the stadium to score over 10 on the index scale. If one includes the two teams' current attendance averages for 2011/12 season and assumes these numbers will be constant, Municipal Stadium, Wroclaw will have a World Stadium Index of 5.9, while PGE Arena Gdansk will have an index of 6.7.

Municipal Stadium, Poznan (Stadion Miejski Poznan) opened in 2010 and during its first year 458,735 attended events held at the stadium. The stadium in Poznan seems to be the UEFA Euro 2012 venue with the brightest future in Poland. Its index of 10.7 is solid without being impressive.

[158] http://www.worldfootball.net/alle_spiele/ukr-premyer-liga-2011-2012/

The average attendance figure of the teams playing at the three venues in Gdansk, Poznan and Wroclaw is 15,991,[159] while the average capacity of the three venues is 42,793. The figures indicate a potential sporting legacy problem, which reflects that the stadiums in Poland are too big in comparison to the actual need. A significant increase in attendance figures is necessary if a negative legacy is to be avoided.

Apart from the opening game and the host countries' games, games in the group stage only require stadiums with a net capacity of 30,000 – but all of the UEFA Euro stadiums in Poland have a net capacity of over 40,000. In addition to the national stadium in Warsaw, which has a net capacity of 58,000, just one more 40,000 seat stadium would have been enough to meet UEFA's requirements. Poland would still have been able to host quarter- and semi-finals, and the two other stadiums would have been more suitable to host domestic games and meet the actual local need after the event.

2012 Summer Olympics

London Olympic Stadium

The London Olympic Stadium has cost £486 million to construct,[160] equivalent to more than $780 million, making it the most expensive stadium included in this report. The stadium has a capacity of 80,000 and the price per seat is thus $9,750.

Wembley Stadium, opened in 2007, could have been an option for the London's main Olympic stadium as it has the capability to host athletics with only a minor reconstruction, but the stadium is just going to be used for Great Britain's group matches and the finals in the football tournament.

It still remains unclear who is going to be the Olympic Stadium's tenant after the Olympics.[161] In January 2011, no agreement with a prospective tenant had been signed[162] and, as London was awarded 2017 IAAF World Athletic Championships, the running track will remain in the stadium. This aspect makes it quite problematic for one of the possible tenants, West Ham United FC, to move into the stadium as the club prefers a pure football ground.

If West Ham becomes the anchor tenant its plan is to reduce the capacity to 60,000, but although this is a reduction of 20,000 seats, it is still likely that the stadium will be too big in relation to the team's average attendance. West Ham United FC play in the Championship (1st division) 2011/12 and currently have an average attendance of just over 30,000.[163] Compared to a majority of the anchor tenants using the stadiums included in this report, the figures of West Ham United FC are very good, but if they are going to move into a stadium with a 60,000 capacity they have to improve their figures dramatically to avoid having a half empty stadium.

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[159] http://www.worldfootball.net/zuschauer/pol-ekstraklasa-2011-2012/1/
[160] http://news.bbc.co.uk/sport2/hi/olympics/london_2012/15149865.stm
[161] http://www.telegraph.co.uk/sport/olympics/8875423/London-2012-Olympics-World-Athletics-Championship-bid-given-boost-with-news-of-athletics-99-year-lease-in-the-stadium.html
[162] http://www.telegraph.co.uk/sport/olympics/9021454/West-Ham-concerned-about-new-rental-terms-for-Olympic-Stadium.html
[163] http://www.worldfootball.net/zuschauer/eng-championship-2011-2012/1/

Both Live Nation and Anschutz Entertainment Group (AEG) have shown interest in becoming the operator of the London Olympic Stadium,[164] and it would probably be preferable with one of the two major actors running the stadium to secure a certain number of high profile events beyond football.

The legacy of the stadium has been controversial. Will the athletic tracks be removed or kept? Who will be the anchor tenant? Influential people contributed to a London application to host 2017 IAAF World Athletic Championships in order to secure the stadium as an athletic venue. But while awarding London the 2017 event has made some people pleased, athletics is not a big spectator sport on a daily basis and most of the athletics events that will take place in the stadium up to 2017 will not attract large crowds. The tracks make the stadium also less attractive to potential anchor tenants.

The Olympic Stadium in Athens, which still has its athletics tracks, has a relatively high index thanks to two of Greece's most popular football clubs playing in the stadium. In Atlanta and Sydney, it was decided to remove the track and adapt the Olympic stadiums to fill present local sporting needs, which has proven to be successful, especially in Atlanta. If not for sport politics, London could look beyond athletics and instead think about what could make the stadium successful, both from a short and long term perspective.

It had been quite easy for London to look at Manchester and Etihad Stadium for advice on how to have a successful sporting legacy in the U.K. – no tracks and a pure football ground. However, such a strategy probably would have left London without the right to host the Olympics.

[164] http://www.telegraph.co.uk/sport/olympics/9021454/West-Ham-concerned-about-new-rental-terms-for-Olympic-Stadium.html

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Appendix 1: World Stadium Index

Table A1.1: Utilisation, capacity and price of stadiums

Name	Sporting event	Capacity	Construction price	Attendance 2010	World Stadium Index	Number of events	Average
Turner Field, Atlanta (USA)	1996 Summer Olympics	49,586	$346 million	2,510,119	50.6	85	29,532
Nagano Olympic Stadium, Nagano (JPN)	1998 Winter Olympics	30,000	$107 million	17,828	0.6	11	1,621
ANZ Stadium, Sydney (AUS)	2000 Summer Olympics	83,500	$583 million	1,195,696 (2006)	14.3	N/A	N/A
Rice-Eccles Stadium, Salt Lake City (USA)	2002 Winter Olympics	46,178	$67 million	332,482	7.2	9	36,942
Olympic Stadium Spiros Louis, Athens (GRE)	2004 Summer Olympics	69,618	$373 million	1,234,379	17.7	49	25,191
Beijing National Stadium, Beijing (CHN)	2008 Summer Olympics	80,000	$428 million	N/A	N/A	19	N/A
BC Place, Vancouver (CAN)	2010 Winter Olympics	54,320	$104 million	1,000,000 (2009)	18.3	200	5,000
Atatürk Olympic Stadium, Istanbul (TUR)	Bidding city	76,092	$144 million	N/A	N/A	N/A	N/A
Miyagi Stadium, Rifu (JPN)	2002 FIFA World Cup	49,133	$318 million	73,767	1.5	79	934
Sapporo Dome, Sapporo (JPN	2002 FIFA World Cup	42,328	$426 million	1,965,944	46.4	83	23,686
Ecopa Stadium, Fukuroi City (JPN)	2002 FIFA World Cup	50,889	$301 million	184,296	3.6	137	1,345
Kashima Soccer Stadium, Kashima (JPN)	2002 FIFA World Cup	40,728	$195 million	415,273	10.2	48	8,652
Nissan Stadium, Yokohama (JPN)	2002 FIFA World Cup	73,327	$621 million	541,047	7.5	67	8,075
Ooita Bank Dome, Ooita (JPN)	2002 FIFA World Cup	40,000	$203 million	535,516	13.4	23	23,283
Saitama Stadium, Saitama (JPN)	2002 FIFA World Cup	63,700	$360 million	882,182	13.8	61	14,462
Misaki Park Stadium, Kobe (JPN)	2002 FIFA World Cup	34,000	$232 million	242,979	8.1	88	2761
Tohoku Denryoku Big Swan Stadium, Niigata (JPN)	2002 FIFA World Cup	42,300	$283 million	572,099	13.5	100	5,721
Busan Asiad Stadium, Busan (KOR)	2002 FIFA World Cup	53,769	$224 million	N/A	N/A	N/A	N/A
Daegu Stadium, Daegu (KOR)	2002 FIFA World Cup	66,433	$293 million	N/A	N/A	N/A	N/A
Daejeon World Cup Stadium, Daejeon (KOR)	2002 FIFA World Cup	40,535	$142 million	N/A	N/A	N/A	N/A
Gwangju World Cup Stadium, Gwangju (KOR)	2002 FIFA World Cup	38,269	$157 million	N/A	N/A	N/A	N/A
Incheon Munhak Stadium, Incheon (KOR)	2002 FIFA World Cup	47,384	$121 million	N/A	N/A	N/A	N/A
Jeju World Cup Stadium, Seogwipo (KOR)	2002 FIFA World Cup	34,000	$124 million	N/A	N/A	N/A	N/A

Jeonju World Cup Stadium, Jeonju (KOR)	2002 FIFA World Cup	41,720	$131 million	N/A	N/A	N/A	N/A
Seoul World Cup Stadium, Seoul (KOR)	2002 FIFA World Cup	66,806	$197 million	N/A	N/A	N/A	N/A
Suwon World Cup Stadium, Suwon (KOR)	2002 FIFA World Cup	43,188	$149 million	N/A	N/A	N/A	N/A
Ulsan Munsu Football Stadium, Ulsan (KOR)	2002 FIFA World Cup	42,638	$149 million	N/A	N/A	N/A	N/A
Allianz Arena, Munich (GER)	2006 FIFA World Cup	69,901	$473 million	2,326,000	33.3	44	52,864
ESPRIT Arena, Düsseldorf (GER)	2006 FIFA World Cup	55,400	$313 million	576,522	10.4	19	30,343
CommerzBank Arena, Frankfurt am Main (GER)	2006 FIFA World Cup	51,500	$175 million	985,146	19.1	32	30,786
Red Bull Arena, Leipzig (GER)	2006 FIFA World Cup	44,345	166 million	181,000	4.1	45	4,022
Olympiastadion, Berlin (GER)	2006 FIFA World Cup	74,064	$347 million	863,008	11.7	N/A	N/A
RheinEnergi Stadion, Cologne (GER)	2006 FIFA World Cup	50,997	$166 million	1,132,000	22.2	N/A	N/A
Mercedes-Benz Arena, Stuttgart (GER)	2006 FIFA World Cup	55,896	$69 million	1,064,579	19	N/A	N/A
easyCredit-Stadion, Nürnberg (GER)	2006 FIFA World Cup	46,780	$79 million	745,746	15.9	N/A	N/A
Fritz Walter Stadion, Kaiserslautern (GER)	2006 FIFA World Cup	49,780	$106 million	635,484	12.8	N/A	N/A
AWD-Arena, Hannover (GER)	2006 FIFA World Cup	49,000	$92 million	650,206	13.3	N/A	N/A
Cape Town Stadium, Cape Town (RSA)	2010 FIFA World Cup	55,000	$536 million	849,840	15.5	N/A	N/A
Soccer City, Johannesburg (RSA)	2010 FIFA World Cup	94,736	$402 million	N/A	N/A	N/A	N/A
Peter Mokaba Stadium, Polokwane (RSA)	2010 FIFA World Cup	45,500	$134 million	654,500	14.4	N/A	N/A
Nelson Mandela Bay, Port Elizabeth (RSA)	2010 FIFA World Cup	45,940	$207 million	405,530	8.8	N/A	N/A
Moses Mabhida, Durban (RSA)	2010 FIFA World Cup	54,000	$378 million	N/A	N/A	N/A	N/A
Mbombela Stadium, Nelspruit (RSA)	2010 FIFA World Cup	46,000	$137 million	N/A	N/A	N/A	N/A
Estádio Algarve, Faro (POR)	2004 UEFA Euro	30,305	$46 million	N/A	N/A	37	N/A
Estádio Cidade de Coimbra, Coimbra (POR)	2004 UEFA Euro	29,622	$51 million	185,529	6.3	20	9,277
Estádio do Bessa Século XXI, Oporto (POR)	2004 UEFA Euro	27,590	$60 million	74,796	2.7	19	3,937
Estádio do Dragão, Oporto (POR)	2004 UEFA Euro	52,000	$154 million	827,380	15.9	25	33,095
Estádio Dr. Magalhães Pessoa, Leiria (POR)	2004 UEFA Euro	23,835	$121 million	64,292	2.7	18	3,752
Estádio José Alvalade XXI, Lisbon (POR)	2004 UEFA Euro	50,076	$131 million	609,312	12.2	26	23,435
Estádio AXA, Braga (POR)	2004 UEFA Euro	30,154	$145 million	236,613	7.8	19	12,453

Estádio da Luz, Lisbon (POR)	2004 UEFA Euro	65,647	$153 million	1,268,988	19.3	27	47,000
Estádio D. Afonso Henriques, Guimarães (POR)	2004 UEFA Euro	30,029	$37 million	286,067	9.5	20	14,303
Estádio Municipal de Aveiro, Aveiro (POR)	2004 UEFA Euro	30,127	$83 million	59,007	2.0	19	3,106
Stadion Letzigrund, Zürich (SUI)	2008 UEFA Euro	26,000	$105 million	527,000	20.3	44	11,977
Stade de Suisse, Bern (SUI)	2008 UEFA Euro	32,000	$63 million	509,994	15.9	30	17,000
Stade de Genève, Geneva (SUI)	2008 UEFA Euro	30,084	$90 million	188,494	6.3	50	3,770
Wörthersee Stadion, Klagenfurt (AUT)	2008 UEFA Euro	30,000	$96 million	139,800	4.7	36	3,883
Red Bull Arena, Salzburg (AUT)	2008 UEFA Euro	31,895	$101 million	360,793	11.3	N/A	N/A
Accra Sports Stadium, Accra (GHA)	2008 Africa Cup of Nations	40,000	$31 million	N/A	N/A	N/A	N/A
Tamale Stadium, Tamale (GHA)	2008 Africa Cup of Nations	20,000	$39 million	N/A	N/A	N/A	N/A
Baba Yara Stadium, Kumasi (GHA)	2008 Africa Cup of Nations	40,500	$26 million	N/A	N/A	N/A	N/A
Sekondi Takoradi Stadium, Sekondi Takoradi (GHA)	2008 Africa Cup of Nations	20,000	$39 million	N/A	N/A	N/A	N/A
Estádio Nacional da Tundavala, Lubango (ANO)	2010 Africa Cup of Nations	20,000	$70 million	N/A	N/A	N/A	N/A
Estádio Nacional de Ombaka, Benguela(ANO)	2010 Africa Cup of Nations	35,000	$118 million	N/A	N/A	N/A	N/A
Estádio Nacional do Chiazi, Cabinda (ANO)	2010 Africa Cup of Nations	20,000	$86 million	N/A	N/A	N/A	N/A
Estádio 11 de Novembro, Luanda (ANO)	2010 Africa Cup of Nations	50,000	$231 million	N/A	N/A	N/A	N/A
Abuja National Stadium, Abuja (NGR)	2003 All-Africa Games	60,491	$426 million	N/A	N/A	N/A	N/A
Hiroshima Big Arch, Hiroshima (JPN)	1994 Asian Games	50,000	$73 million	288,976	5.8	22	13,135
Khalifa International Stadium, Doha (QAT)	2006 Asian Games	50,000	$128 million	90,000	1.8	10	9,000
Guangdong Olympic Stadium, Guangzhou (CHN)	2010 Asian Games	80,012	$147 million	N/A	N/A	N/A	N/A
Olímpico João Havelange, Rio de Janeiro (BRA)	2007 Pan-American Games	46,931	$200 million	561,812	12	N/A	N/A
Etihad Stadium, Manchester (GBR)	2002 Commonwealth Games	47,805	$291 million	943,000	19.7	31	
National Stadium, Bukit Jalil, Kuala Lumpur (MAL)	1998 Commonwealth Games	87,411	$321 million	N/A	N/A	N/A	N/A
Jawaharlal Nehru Stadium, Delhi (IND)	2010 Commonwealth Games	60,000	$209 million	N/A	N/A	N/A	N/A

All prices in 2010 dollar value

Table A1.2: Price per seat, ownership and GNI Index

Name	Sporting event	Price per seat	Ownership	GNI Index
Turner Field, Atlanta (USA)	1996 Summer Olympics	$6,908	Private	0.15
Nagano Olympic Stadium, Nagano (JPN)	1998 Winter Olympics	$3,571	Public	0.10
ANZ Stadium, Sydney (AUS)	2000 Summer Olympics	$6,978	Private	0.18
Rice-Eccles Stadium, Salt Lake City (USA)	2002 Winter Olympics	$1,448	Private	0.03
Olympic Stadium Spiros Louis, Athens (GRE)	2004 Summer Olympics	$5,361	Public	0.20
Beijing National Stadium, Beijing (CHN)	2008 Summer Olympics	$5,355	Public	0.71
BC Place, Vancouver (CAN)	2010 Winter Olympics	$1,905	Public	0.05
Atatürk Olympic Stadium, Istanbul (TUR)	Bidding city	$1,879	Public	0.12
Miyagi Stadium, Rifu (JPN)	2002 FIFA World Cup	$6,472	Public	0.19
Sapporo Dome, Sapporo (JPN	2002 FIFA World Cup	$10,071	Public	0.29
Ecopa Stadium, Fukuroi City (JPN)	2002 FIFA World Cup	$5,859	Public	0.17
Kashima Soccer Stadium, Kashima (JPN)	2002 FIFA World Cup	$4,787	Public	0.14
Nissan Stadium, Yokohama (JPN)	2002 FIFA World Cup	$8,588	Public	0.25
Ooita Bank Dome, Ooita (JPN)	2002 FIFA World Cup	$5,064	Public	0.15
Saitama Stadium, Saitama (JPN)	2002 FIFA World Cup	$5,646	Public	0.16
Misaki Park Stadium, Kobe (JPN)	2002 FIFA World Cup	$7,711	Public	0.22
Tohoku Denryoku Big Swan Stadium, Niigata (JPN)	2002 FIFA World Cup	$6,699	Public	0.19
Busan Asiad Stadium, Busan (KOR)	2002 FIFA World Cup	$4,159	Public	0.15
Daegu Stadium, Daegu (KOR)	2002 FIFA World Cup	$4,414	Public	0.12
Daejeon World Cup Stadium, Daejeon (KOR)	2002 FIFA World Cup	$3,499	Public	0.14
Gwangju World Cup Stadium, Gwangju (KOR)	2002 FIFA World Cup	$4,090	Public	0.09
Incheon Munhak Stadium, Incheon (KOR)	2002 FIFA World Cup	$2,562	Public	0.13
Jeju World Cup Stadium, Seogwipo (KOR)	2002 FIFA World Cup	$3,660	Public	0.11
Jeonju World Cup Stadium, Jeonju (KOR)	2002 FIFA World Cup	$3,144	Public	0.10
Seoul World Cup Stadium, Seoul (KOR)	2002 FIFA World Cup	$2,951	Public	0.12
Suwon World Cup Stadium, Suwon (KOR)	2002 FIFA World Cup	$3,452	Public	0.12
Ulsan Munsu Football Stadium, Ulsan (KOR)	2002 FIFA World Cup	$3,500	Public	0.12
Allianz Arena, Munich (GER)	2006 FIFA World Cup	$6,763	Private	0.18
ESPRIT Arena, Düsseldorf (GER)	2006 FIFA World Cup	$5,648	Public	0.15
CommerzBank Arena, Frankfurt am Main (GER)	2006 FIFA World Cup	$3,402	Public	0.09
Red Bull Arena, Leipzig (GER)	2006 FIFA World Cup	$3,755	PP	0.10
Olympiastadion, Berlin (GER)	2006 FIFA World Cup	$4,690	Public	0.12
RheinEnergi Stadion, Cologne (GER)	2006 FIFA World Cup	$3,253	Public	0.09
Mercedes-Benz Arena, Stuttgart (GER)	2006 FIFA World Cup	$1,239	PP	0.03
easyCredit-Stadion, Nürnberg (GER)	2006 FIFA World Cup	$1,665	Public	0.04
Fritz Walter Stadion, Kaiserslautern (GER)	2006 FIFA World Cup	$2,137	Public	0.06
AWD-Arena, Hannover (GER)	2006 FIFA World Cup	$1,873	Private	0.05
Cape Town Stadium, Cape Town (RSA)	2010 FIFA World Cup	$9,749	Public	0.95

Soccer City, Johannesburg (RSA)	2010 FIFA World Cup	$4,245	Public	0.41
Peter Mokaba Stadium, Polokwane (RSA)	2010 FIFA World Cup	$2,946	Public	0.29
Nelson Mandela Bay, Port Elizabeth (RSA)	2010 FIFA World Cup	$4,510	Public	0.44
Moses Mabhida, Durban (RSA)	2010 FIFA World Cup	$6,996	Public	0.68
Mbombela Stadium, Nelspruit (RSA)	2010 FIFA World Cup	$3,347	Public	0.33
Estádio Algarve, Faro (POR)	2004 UEFA Euro	$1,527	Public	0,06
Estádio Cidade de Coimbra, Coimbra (POR)	2004 UEFA Euro	$1,716	Public	0,07
Estádio do Bessa Século XXI, Oporto (POR)	2004 UEFA Euro	$2,158	Private	0,09
Estádio do Dragão, Oporto (POR)	2004 UEFA Euro	$2,956	Private	0,12
Estádio Dr. Magalhães Pessoa, Leiria (POR)	2004 UEFA Euro	$5,064	Public	0,21
Estádio José Alvalade XXI, Lisbon (POR)	2004 UEFA Euro	$2,616	Private	0,11
Estádio AXA, Braga (POR)	2004 UEFA Euro	$4,808	Public	0,20
Estádio da Luz, Lisbon (POR)	2004 UEFA Euro	$4,804	Private	0,20
Estádio D. Afonso Henriques, Guimarães (POR)	2004 UEFA Euro	$1,219	Public	0,05
Estádio Municipal de Aveiro, Aveiro (POR)	2004 UEFA Euro	$3,489	Public	0,14
Stadion Letzigrund, Zürich (SUI)	2008 UEFA Euro	$4,048	Public	0,08
Stade de Suisse, Bern (SUI)	2008 UEFA Euro	$1,964	PP	0,04
Stade de Genève, Geneva (SUI)	2008 UEFA Euro	$2,989	PP	0,06
Wörthersee Stadion, Klagenfurt (AUT)	2008 UEFA Euro	$3,194	Public	0,08
Red Bull Arena, Salzburg (AUT)	2008 UEFA Euro	$3,162	Public	0,08
Accra Sports Stadium, Accra (GHA)	2008 Africa Cup of Nations	$776	Public	0.48
Tamale Stadium, Tamale (GHA)	2008 Africa Cup of Nations	$1,950	Public	1.22
Baba Yara Stadium, Kumasi (GHA)	2008 Africa Cup of Nations	$638	Public	0.40
Sekondi Takoradi Stadium, Sekondi Takoradi (GHA)	2008 Africa Cup of Nations	$1,950	Public	1.22
Estádio Nacional da Tundavala, Lubango (ANO)	2010 Africa Cup of Nations	$3,507	Public	0.65
Estádio Nacional de Ombaka, Benguela(ANO)	2010 Africa Cup of Nations	$3,369	Public	0.62
Estádio Nacional do Chiazi, Cabinda (ANO)	2010 Africa Cup of Nations	$4,320	Public	0.80
Estádio 11 de Novembro, Luanda (ANO)	2010 Africa Cup of Nations	$4,610	Public	0.85
Abuja National Stadium, Abuja (NGR)	2003 All-Africa Games	$7,053	Public	3.3
Hiroshima Big Arch, Hiroshima (JPN)	1994 Asian Games	$1,469	Public	0,04
Khalifa International Stadium, Doha (QAT)	2006 Asian Games	$2,568	Public	N/A
Guangdong Olympic Stadium, Guangzhou (CHN)	2010 Asian Games	$1,832	Public	0,24
Olímpico João Havelange, Rio de Janeiro (BRA)	2007 Pan-American Games	$4,263	Public	0,39
Etihad Stadium, Manchester (GBR)	2002 Commonwealth Games	$6,087	Public	0.17
National Stadium, Bukit Jalil, Kuala Lumpur (MAL)	1998 Commonwealth Games	$3,674	Public	0.26
Jawaharlal Nehru Stadium, Delhi (IND)	2010 Commonwealth Games	$3,488	Public	0.98

All prices in 2010 dollar value

Appendix 2: Stadium questionnaire – quantitative

Survey of arenas – number of events

Questionnaire – guidance

The Danish Institute for Sports Studies, which is an independent research institution under the Danish Ministry of Culture, is doing a study on the current use of a number of arenas around the world. The study will focus on ticket sales and numbers of events, which will be complemented by factual/technical information about the individual arenas.

We would be extremely grateful if you could take a little time to assist us in filling in the attached questionnaire and returning it to us. In order to facilitate your work we have already filled in some of the information, and part of this information has already been published on your website or on other sites. In this case, we kindly ask you to verify the accuracy of the information provided, to fill in any missing information and return the questionnaire by Monday 12 September 2011.
If you have questions regarding the questionnaire, you are welcome to contact the researcher Jens Alm, phone +45 32 66 10 30, or the primarily responsible for the study, director Henrik H. Brandt, phone +45 32 66 10 32/+45 29 21 09 72 (mobile).

		Additional comments
Name of arena:		
Opening date:		
Owner(s):		
Operator:		
Capacity:		
Anchor tenant(s):		
Construction price:		
No. of sold tickets: • In 2008: • In 2009: • In 2010:		

No. Of Events 2010: • Within sport: • Within music/shows • Other:		
VIP-boxes:		
Premium seats:		
Major events since opening:		
Running track:		

Appendix 3: Questionnaire – qualitative

Survey of arenas

Questionnaire – guidance

The Danish Institute for Sports Studies, which is an independent research institution under the Danish Ministry of Culture, is doing a study on the current use of a number of arenas around the world. The study will focus on ticket sales and numbers of events, which will be complemented by factual/technical information and some qualitative questions about the individual arenas.

We would be extremely grateful if you could take a little time to assist us in filling in the attached questionnaire and returning it to us. In order to facilitate your work we have already filled in some of the information. In this case, we kindly ask you to verify the accuracy of the information provided, to fill in any missing information and return the questionnaire by Wednesday 30 November 2011.

If you have questions regarding the questionnaire, you are welcome to contact the researcher Jens Alm, phone +45 32 66 10 30, or the primarily responsible for the study, director Henrik H. Brandt, phone +45 32 66 10 32/+45 29 21 09 72 (mobile).

		Additional comments
Name of arena:		
Opening date:		
Owner(s):		
Operator:		
Capacity:		
Anchor tenant(s):		
Construction price:		
No. of sold tickets: • In 2008: • In 2009: • In 2010:		

No. Of Events 2010: • Within sport: • Within music/shows • Other:		
VIP-boxes:		
Premium seats:		
Major events since opening:		
Running track:		

Additional Questions

Local media

	Questions Local Media	**Answers**
1.	Since the construction of the stadium, has there occurred any debate in the local/national media regarding issues in connection with the construction of the stadium? Corruption, construction price, owner condition etc. (also prior to the construction)	
1.1	If your answer is yes, please tell us a little more about the debate, and/or if possible provide us with a link to any relevant articles or reports?	

Events

	Questions Events	**Answers**
2.	After the main event (WC, Asian Games, Africa Cup of Nations, Copa América etc.), what types of events have taken place in the stadium?	
3.	What is the typical event at the stadium?	

Funding and Owner Condition

	Questions Funding/Owner Condition	**Answers**
4.	How was the stadium financed?	
5.	Have it been any financial issues regarding the operator/the maintenance of the stadium since opening?	
5.1.	How is the financial status of the stadium today?	
5.2.	If the stadium is public owned, what is the rent paid by the operator?	
5.3	Which construction company has built the stadium?	

Facilities

	Questions Facilities	Answer
6.	Do other big stadiums exist in the area? If your answer is yes, please tell us a little more about the other stadiums. Construction price, capacity etc.	
7.	In the connection with the construction of the main stadium, have any new supplement facilities been constructed? (Was the construction part of a plan for the 'neighborhood' or a new living area?)	
7.1	Does any competition/cooperation between facilities in the area exist? (E.g. has another stadium in the region lost many events due to the appearance of the new stadium? Or has the new stadium had a positive effect on other local venues?)	
7.2	Was/were any stadium/s demolished due to the construction of the new stadium?	

Tenants

	Questions Tenants	Answer
8.	Who is the using the stadium?	
9.	Has the main anchor tenant/s been the same since the opening?	
10.	Was the anchor tenant included before and during the construction phase?	

Appendix 4: Overnight stays in hotels in Algarve

[QUADRO 7.8] DORMIDAS NOS ESTABELECIMENTOS HOTELEIROS | POR NUTS II

Nuts II	Residentes em Portugal			Residentes no Estrangeiro			TOTAL GERAL		
	2003	2002	Var%	2003	2002	Var%	2003	2002	Var%
Norte	1.930.929	1.959.010	-1,4	1.214.851	1.303.420	-6,8	3.145.780	3.262.430	-3,6
Centro	1.923.265	1.874.508	2,6	994.747	1.001.445	-0,7	2.918.012	2.875.953	1,5
Lisboa	1.852.259	1.921.116	-3,6	4.572.447	4.609.939	-0,8	6.424.706	6.531.055	-1,6
Alentejo	7.06.642	739.435	-4,4	240.739	259.151	-7,1	947.381	998.586	-5,1
Algarve	3.036.433	2.924.652	3,8	11.001.146	11.369.651	-3,2	14.037.579	14.294.303	-1,8
Continente	9.449.528	9.418.721	0,3	18.023.930	18.543.606	-2,8	27.473.458	27.962.327	-1,7
Açores	415.320	441.724	-6,0	388.708	336.211	15,6	804.028	777.935	3,4
Madeira	795.925	785.829	1,3	4.802.060	4.682.877	2,5	5.597.985	5.468.706	2,4
Cont. e Reg. Autónomas	**10.660.773**	**10.646.274**	**0,1**	**23.214.698**	**23.562.694**	**-1,5**	**33.875.471**	**34.208.968**	**-1,0**

Fonte: INE

Appendix 5: Number of guests in hotels, resorts and apartments in Algarve

Número de Hóspedes nos Estabelecimentos Hoteleiros, Aldeamentos e Apartamentos Tu

2002	Total	Aldeam. Turísticos	Apartam. Turísticos	Estalagens
ALGARVE	**2.468.256**	**285.903**	**645.061**	**18.828**
PORTUGAL	769.484	63.190	169.630	3.597
ESTRANGEIRO	1.698.772	222.713	475.431	15.231

2003	Total	Aldeam. Turísticos	Apartam. Turísticos	Estalagens
ALGARVE	**2.478.238**	**263.984**	**672.921**	**17.443**
PORTUGAL	822.999	59.380	192.442	3.220
ESTRANGEIRO	1.655.239	204.604	480.479	14.223

Fonte: INE - Instituto Nacional de Estatística

rísticos

Hotéis Apartam.	Hotéis	Motéis	Pensões	Pousadas
447.170	**892.331**	**21.254**	**140.991**	**16.718**
148.983	293.361	10.489	76.401	3.833
298.187	598.970	10.765	64.590	12.885

Hotéis Apartam.	Hotéis	Motéis	Pensões	Pousadas
447.678	**906.618**	**21.827**	**131.496**	**16.271**
150.124	324.524	11.861	77.075	4.373
297.554	582.094	9.966	54.421	11.898