Bang for the buck
Maximizing the economic returns from mega events
Detailed preparation, dedication and intense rivalry are by no means confined to the competitors in an Olympic Games or World Cup. Drawn to the global spotlight and the chance to invigorate investment, years before the first whistle blows or starting gun fires, cities around the world have jostled for position in their quest to host this type of mega event. However, this prestige comes with a high price tag.

The successful bidder must therefore approach the event with a careful strategy leading to sustainable economic outcomes as the public outlay for mega events is enormous. For example, the Brazil World Cup (2014) cost an estimated US$11.3 billion.1 South Africa spent an estimated US$9.5 billion on its own Cup in 2010.2 The Sochi Winter Olympics (2014) cost an estimated US$50 billion, and the Beijing Olympics (2008) reportedly came with a price tag of US$40 billion.3

Increasingly, mega events cost more than the revenue they generate.4 From a cost perspective, spiraling expenses and under-estimated outlays are the norm. A mega event study suggests Olympic Games overrun expense estimates with 100% consistency, with average real cost overruns of 179%.5 This is far larger than for other megaprojects, including infrastructure.6 Furthermore, these events typically drive a short-term surge in economic activity, through a jump in investment, a temporary influx in tourism and a rise in services spending. This spike can then give way to a long and negative tail in the aftermath of the event. The cost of failure is high. In particular, an excessive build-up of capital stock in the short-term can turn into a fiscal burden in the long-run. There are also detrimental effects from re-prioritization of investment spending to meet mega event needs. These factors mean that economic returns from mega events can be negative overall.

However, mega events can be a significant driver of economic and social development, if planned and executed effectively. To optimize their impact, governments should direct mega event investments to lead to sustainable economic growth and greater social inclusion. There are nine mega channels through which governments can affect a lasting, positive legacy for the massive investment they have made, identified in the chart below. Approached in this way, a mega event can be a meaningful catalyst for broader, positive change in the economy. This is particularly important in a global environment where countries often struggle with fiscal constraints and increasing competition for scarce capital and investments.

There are often sizable disparities between the actual and projected economic impact of mega events. Typical predictive, ex ante, economic impact models for mega events assess their direct impact.7 These models estimate the number of visitors an event is expected to draw, the number of days each spectator is expected to stay, and the amount each visitor will spend. The “direct economic impact” is obtained. This direct impact is then subjected to a multiplier to account for the initial round of spending recirculating through the economy. This additional spending is known as “indirect economic impact.” As a result, the total economic impact is around double the size of the initial spending.

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4. Ibid.
5. Ibid.
However, the actual impact of a mega event is far broader in scope. These events have had diverse implications for economic activity, fiscal management and ongoing economic competitiveness. Economic benefits also come with substantial costs, and the enormous expense involved in hosting an event needs to be taken into consideration.\(^8\) Measuring opportunity cost is also complex, and a particular imperative in emerging markets, such as the South Africa (2010) and Brazil (2014) World Cups, where public financing typically drives investment for the event. Furthermore, mega events have social distribution effects on employment, incomes and displacement. There are also intangible effects, including regional and national pride and international reputation.

Consequently, to capture the true economic impact of a mega event, several substantial factors must be considered. Comprehensive cost-benefit analysis using appropriate multipliers is essential. These multipliers must take into account leakages and substitution effects. In addition, governments must carefully consider crowding out effects for investment, reduced consumption, and long term fiscal burdens caused by the re-direction of financial resources to infrastructure projects. Event assessments that take all of these factors into account should drive estimates of the long-term economic value of mega events. A realistic ex-ante assessment of the impact of a mega event is critical, since recent studies indicates that there have been large discrepancies in estimated impact, with ex-post analyses typically suggesting ex-ante studies overestimated the impact of a mega event, sometimes by a factor of 10.\(^9\)

Consequently, events can have limited, or negative, economic returns overall. This is apparent even in ex-post event impact studies; for example, such a study of the 1994 World Cup hosted by the US suggested personal income was down US$4 billion in host cities.\(^10\) Over time, this payoff can weaken still, as fiscal obligations and unused capital stock come into the picture.

Measurement is ultimately a difficult task, with the long-term impact particularly complicated to capture. As a result, policymakers need to approach mega events from an economic development standpoint. Investment, and expected economic, social and other legacies should be aligned with existing development objectives to maximize the chance of the event adding to the economy’s productive capacity and growth potential.

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\(^8\) See note 7 above.


Mega events that drive negative economic returns share several core characteristics. For one, the event generates a fiscal burden; the host borrows to build. The Montreal Olympics (1976) is a key example. The city ultimately incurred a debt of US$2.8 billion, or about US$11.5 billion in 2013 dollars, which was not paid off until 2006. There are numerous other examples of high debt burdens for mega events, including the Barcelona Olympics (1992), the Athens Olympics (2004) and the Delhi Commonwealth Games (2006).

Second, there is construction leakage. This partly explains why a city or country can see enormous construction investment in preparation for a mega event, but limited economic impact. With businesses sourcing materials and also labor from offshore or outside the region, and associated tax revenues and consumer spending leaving the region, multiplier effects are dulled. Such leakage is expected to have been significant in Sochi, with the city having to import hugely, from engineers to construction workers, construction equipment and materials. They may be even larger for the upcoming Qatar World Cup in 2022.

Third, some events show difficulty managing the demand spike associated with the mega event. The rapid influx of tourists drives a jump in demand that the host country cannot meet, and accordingly squeezes infrastructure. For example, during the Sydney Olympics in 2000, hotel occupancy rates were at 100% in the city, up 49% relative to the first half of the month prior to the event. Congestion was estimated to drive a considerable negative “substitution effect” in local demand and consumption around the event. This is where the local population shifts activity and spending as a consequence of the event, avoiding some areas and reducing local consumption. At the same time, “crowding out” of regular visitors who are displaced by the event can be significant – during South Korea’s World Cup in 2002, the total number of foreign visitors around the event was the same as that at the same time the year before.

Finally, some events are characterized by overbuilding. Specific event infrastructure, such as stadiums, and also additional hotel accommodation, can be constructed to meet the anticipated run-up in demand, though this capital stock is often not productive post the event. There are many examples of such “white elephant” Olympics,

Table 2: Average and median percentage cost overruns (not including London 2012), real terms

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<thead>
<tr>
<th>Metric</th>
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<th>Winter, %</th>
<th>Total, %</th>
</tr>
</thead>
<tbody>
<tr>
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<td>252</td>
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Note that the difference between Summer and Winter Games is not statistically significant, and is presented for comparison purposes only.

Very high commitment of public funds to mega events drives high public leverage, particularly where public investments are the main source of funding for the event, such as in India and South Africa. At the same time, explosive cost overruns add to debt pressures. For example, Athens initially estimated that its games would cost US$1.6 billion, but the final expenditure was closer to US$16 billion. The Sochi Winter Games in 2014 were initially budgeted at about US$12 billion; the projected cost in late 2009 reached US$33 billion, with US$23 billion from public sources.

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13. See note 11 above.
and other mega event sites, such as many of the venues for the 2004 Athens Olympic Games. The Beijing and Sydney Games also left a legacy of several expensive facilities, which are now under-utilized and have expensive, ongoing operating costs.17 This is particularly problematic where public investment is driving capital projects for the event. Investment in world-class sports facilities can represent a re-direction of public funds from other infrastructure investments,18 suggesting financial loss for the government but also a lost opportunity for improving national productivity.

Learning from the best

While the “worst case” for a mega event is represented by excess leverage, capacity squeeze and non-productive capital stock, “best case” events instead are catalysts for change, supporting long-term economic competitiveness, through sustainable capital investments, which raise potential economic growth and productivity. Successful events have several key characteristics.

First, mega events that strengthen competitiveness consider a country’s natural competitive advantage as the starting point. This means public investment is directed to sectors that continue beyond the event date, ensuring the event has a clear strategic objective beyond the event itself. There are several key examples at the city level. For example, for the 1992 Barcelona Olympics, the city used the event to drive infrastructure investment and regenerate the city as a tourism and business destination. Urban development was therefore the focus of Olympics-related investment, as was an upgrade to business infrastructure more generally, with the creation of a digital district in the city. The infrastructure spend for the event was estimated at US$10 billion, of which US$5 billion was on infrastructure and US$2.7 billion on real estate. The 2012 London Olympics also used the event to promote specific sectors, for example with the establishment of a technology cluster and district.

Second, fiscal sustainability is at the forefront. Ensuring the public sector can carry the cost of the investment and its debt service expenses is crucial to containing economic spillovers, including rising interest rates and crowding out effects for other projects. For example, Moody’s estimates suggest government outlays on

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the 2014 Brazil World Cup should not represent a strain on public finances. Even the state most heavily exposed to the event, Mato Grosso, which built a stadium and a light rail system, is estimated to increase debt-to-total revenues nearly nine percentage points to about 515, a level that does not impact its credit rating.¹⁹

Funding models are also important to sustainability, with engagement of the private sector, for example through public-private partnerships (PPPs) advantageous. The 1984 Los Angeles Funding models are also important to sustainability, with included the use of a Build Operate Transfer Model for the China PPPs to drive funding, developing and operating costs. This included the use of a Build Operate Transfer Model for the China National Olympic Stadium.²¹ The winning consortium comprised transnational conglomerate, the CITIC Group, and the State-Owned Asset Management Company. The two entities formed the National Stadium Company, responsible for the investment, construction, design and management for the facility. The Company secured a 30-year concession period starting in 2008, after which the stadium will be transferred to Beijing’s Municipality at no cost. In Barcelona, close to 40% of Olympics investments were funded by the private sector and focused mainly on real estate.

Finally, best-practice mega events ensure investment decisions are integrated into economic development plans. This involves strengthening existing development agendas for infrastructure, employment and private sector development. For example, the South Africa World Cup (2010) left a strong positive legacy for transport infrastructure. Most of the transport infrastructure construction linked to the World Cup was also part of long-term transport planning for the country, such as rapid transit bus systems in Johannesburg and Cape Town.²² In another investment-related initiative, Brazil has changed its foreign investment policy part of its broader economic development plan, to help stimulate foreign capital inflows for direct investment.²³

Support for private sector development through procurement, capacity building and market creation are also important best practice examples. The London Olympics drove such initiatives, including workforce skill development, in areas including digital, media and hospitality; enterprise export promotion support; and specific procurement strategies, including for engaging small and medium sized enterprises. Furthermore, the 2022 Qatar World Cup is supporting private sector development through facilitating participation of SMEs and startups in procurement and tenders for the event.²⁴ Qatari’s plan to use the World Cup to drive economic diversification in the energy-rich state, at the same time bolstering market opportunities for SMEs in the oil and gas industries, as well as a broader range of sectors.²⁵ The ultimate objective is to promote sustainable economic growth, including through a more resilient domestic demand base and through reduced reliance on imports.

And in emerging markets in particular, mega events can be a powerful catalyst for sustainable development.²⁶ They offer the opportunity to drive change to a green economy, including through transport, construction and energy. The Cape Town Green Goal Program, part of the South Africa World Cup (2010), is one such example, with the city prioritizing environmental legacy of its investments, and also running environmental awareness-raising campaigns.

**Going for gold on competitiveness and sustainability**

The core characteristics of “best case” mega events suggest a clear roadmap for optimizing their economic results. For governments wanting to ensure investment made in mega events today will drive sustainable growth and act as a catalyst for economic transformation, there are several key policy steps.

To make the event a catalyst for sustained economic competitiveness, policymakers must ensure that the process of preparing for the event is a driver for broader improvement, rather than focusing solely on the event itself. This means event planning needs to consider baseline competitiveness conditions and national competitiveness goals. Mega events investment decisions can then align with these broader objectives and support meaningful change.

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19. “World Cup will have little impact on Brazil, says Moody’s,” Financial Times website, http://www.ft.com/intl/cms/s/0/770b70c8-b6b7-11e3-8695-00144feabdc0.html#axzz2z3DXT7xKu1, accessed 13 October 2014.


doi: 10.1111/j.1467-9906.2007.00352.x


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Governments should conduct a national competitiveness assessment at the outset of a mega event proposal and planning process. In identifying those sectors and sub-sectors where the country or region has a competitive advantage, and equivalently in identifying shortfalls in regulatory or legal systems, policymakers can optimize mega events investment and launch wider economic reforms.

To do this, policymakers should first establish those sectors and sub-sectors in which they have a competitive advantage. These sub-sectors are distinguished by their ability to meet the direct needs of the mega event, and their likelihood of continuing to grow post-event. This is a step-by-step process, to prioritize sub-sectors. Mapping a country’s GDP to International Standard Industrial Classification sectors is a useful way to segment the economy and systematically assess competitiveness. This map should also be dynamic, showing the expected trajectory and long-term potential of these sectors in a given country’s benchmark economies.

### Step one: map economic competitiveness

<table>
<thead>
<tr>
<th>Section</th>
<th>Divisions</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>01-03</td>
<td>Agriculture, forestry and fishing</td>
</tr>
<tr>
<td>B</td>
<td>05-09</td>
<td>Mining and quarrying</td>
</tr>
<tr>
<td>C</td>
<td>10-33</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>D</td>
<td>35</td>
<td>Electricity, gas, steam and air conditioning supply</td>
</tr>
<tr>
<td>E</td>
<td>36-39</td>
<td>Water supply; sewerage, waste management and remediation activities</td>
</tr>
<tr>
<td>F</td>
<td>41-43</td>
<td>Construction</td>
</tr>
<tr>
<td>G</td>
<td>45-47</td>
<td>Wholesale and retail trade; repair of motor vehicles and motorcycles</td>
</tr>
<tr>
<td>H</td>
<td>49-53</td>
<td>Transportation and storage</td>
</tr>
<tr>
<td>I</td>
<td>55-56</td>
<td>Accommodation and food service activities</td>
</tr>
<tr>
<td>J</td>
<td>58-63</td>
<td>Information and communication</td>
</tr>
<tr>
<td>K</td>
<td>64-66</td>
<td>Financial and insurance activities</td>
</tr>
<tr>
<td>L</td>
<td>68</td>
<td>Real estate activities</td>
</tr>
<tr>
<td>M</td>
<td>69-75</td>
<td>Professional, scientific and technical activities</td>
</tr>
<tr>
<td>N</td>
<td>77-82</td>
<td>Administrative and support service activities</td>
</tr>
<tr>
<td>O</td>
<td>84</td>
<td>Public administration and defence; compulsory social security</td>
</tr>
<tr>
<td>P</td>
<td>85</td>
<td>Education</td>
</tr>
<tr>
<td>Q</td>
<td>86-88</td>
<td>Human health and social work activities</td>
</tr>
<tr>
<td>R</td>
<td>90-93</td>
<td>Arts, entertainment and recreation</td>
</tr>
<tr>
<td>S</td>
<td>94-96</td>
<td>Other service activities</td>
</tr>
<tr>
<td>T</td>
<td>97-98</td>
<td>Activities of households as employers; undifferentiated goods – and services-producing activities of households for own use</td>
</tr>
<tr>
<td>U</td>
<td>99</td>
<td>Activities of extraterritorial organizations and bodies</td>
</tr>
</tbody>
</table>

**Agriculture (1-5)**

**Mining and extraction (6-9)**

**Industry (10-44)**

**Services (45-99)**

- Finance
- Real estate
- Arts
- Education

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**Bang for the buck:** maximizing the economic returns from mega events
Step two: identify competitive sectors for growth

This breakdown provides a baseline assessment of productivity across sectors, demonstrates their growth potential and maps sector activity and expected growth path to a country’s national development agenda. From here, governments can establish a shortlist of sub-sectors to focus on for private sector development. These sub-sectors are typically those with inherent advantages, reflecting the country’s location, resource base or existing regulatory environment. For example, with the 2012 London Olympics, the UK drove expansion in its technology, media and hospitality sectors. Similarly, South Korea used the 2002 World Cup to increase the competitiveness of its IT and tourism sectors.

Step three: leverage the mega event for sector growth and development

Next, policymakers need to determine how to best leverage the mega event to drive growth in the selected sub-sectors. First, this involves a wider review of economic competitiveness, considering the institutions, policies and other factors, such as innovation, that drive a country’s productivity. Using a comprehensive national competitiveness assessment tool, such as the World Economic Forum Competitiveness Index, is an effective approach. This allows policymakers to breakdown competitiveness across efficiency, technology, labor markets, innovation, infrastructure and other critical factors. Government can then map these catalysts to the chosen sub-sectors, to determine what kind of support the sub-sectors need, and which competitive capabilities need to be strengthened. For example, a competitiveness assessment may reveal that the economy has an underdeveloped private sector, poorly developed export capabilities or an environment that discourages local or foreign investment.

| The Global Competitiveness Index Framework: 12 pillars of competitiveness |
|---|---|
| **Basic requirements** | 1. Institutions |
| | 2. Infrastructure |
| | 3. Macroeconomic environment |
| | 4. Health and primary education |
| **Efficiency enhancers** | 5. Higher education and training |
| | 6. Goods market efficiency |
| | 7. Labor market efficiency |
| | 8. Financial market development |
| | 9. Technological readiness |
| | 10. Market size |
| **Sophistication and innovation** | 11. Business sophistication |
| | 12. Innovation |
To further support sustained economic competitiveness, investment in productive infrastructure is crucial. For governments, the imperative is to maximize the use of event infrastructure post-event, and to minimize the associated fiscal burden. As a result, mega event investment plans should be carefully integrated into the national economic development strategy.

Transportation infrastructure, ICT, healthcare facilities and public housing should be the focus of public investment in mega events capital projects. Investment in such productive capital stock should have positive project net present value, which justifies allocating PPP structures, reform procurement regulation, change visa restrictions or establish special economic zones. Similarly, governments could use the event to drive a change to tax or foreign ownership rules, if the target sectors benefit.

**Step four: evaluate financial sustainability of infrastructure investments post-event**

To further support sustained economic competitiveness, investment in productive infrastructure is crucial. For governments, the imperative is to maximize the use of event infrastructure post-event, and to minimize the associated fiscal burden. As a result, mega event investment plans should be carefully integrated into the national economic development strategy.

Transportation infrastructure, ICT, healthcare facilities and public housing should be the focus of public investment in mega events capital projects. Investment in such productive capital stock should have positive project net present value, which justifies allocating the majority of public funds to these types of projects, over fit-for-purpose structures, such as swimming pools or a bobsled run.

Policymakers could develop a financing scorecard to assess prospective investments, which could include total-cost-of-ownership estimates, public debt implications and benchmark returns for alternative capital projects to capture opportunity cost. This would also include metrics on private sector engagement, crucial to maximizing efficiencies and the commercial viability of assets, including through PPPs.
While mega events are a temporary disruption to normal activity where they are hosted, they do not need to represent a short-term spike in the economy. Effective management of mega events strategy can drive long-term gains in productivity and potential economic growth, with the event working as a catalyst for investment in competitive sub-sectors, regulatory reform and for advancing socio-economic goals.

Best-in-class mega events, which advance national economic competitiveness, focus on a country’s natural competitive advantages, deliver fiscal sustainability and are deeply integrated into economic development plans. In contrast, sub-optimal events are characterized by leakage: high leverage and over-investment in uncompetitive sectors and unproductive capital stock. With the economic impact of mega events difficult to measure, maintaining policy focus on economic competitiveness is critical to achieving a positive legacy.
Mega events at EY

Mega events are already part of EY’s DNA as we have been providing support to mega events since the 1984 Los Angeles Olympic Games. We have worked with some of the largest and most complex of events around the globe, with experience throughout the whole lifecycle of an event, supporting all of the significant stakeholders. We are proud to be one of the few professional services organizations that is the Official Supporter and Professional Advisor for two of the world’s biggest multi-sports events: the Rio 2016 Olympic and Paralympic Games and the Glasgow 2014 Commonwealth Games.

EY is the most globally integrated professional services organization - in our mindset, actions and structure – and we want to use this advantage to support our mega event clients in taking their events to all the corners of the world. We are investing in our people and their skills and building a global mega events practice that will support the efficient, effective and economic delivery of mega events around the world.

<table>
<thead>
<tr>
<th>Economic feasibility studies</th>
<th>Bid book preparation for bid committees</th>
<th>Risk services for government delivery authorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>EY’s lead Advisory teams can drive economic feasibility assessments for mega events, including cost-benefit analysis for all projects related to the mega event, including infrastructure. The team can support host cities in pre-bid feasibility studies.</td>
<td>Bid planning and execution is at the core of our mega events business. Our Transaction Advisory Services (TAS) teams coordinate all aspects from the beginning of the bid process, foreseeing challenges and revealing the decisive differential.</td>
<td>Risk Advisory services at EY focus on the full spectrum of risk management, from internal audit, internal controls, to information security and enterprise-wide issues. For mega events clients, teams can provide specialty support, including venue risk management, to mitigate risks and optimize event performance.</td>
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<tr>
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<th>Performance Improvement services for organizing committees</th>
<th>Event Infrastructure and Urban Development</th>
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<tr>
<td>Assurance teams from EY’s global network provide a comprehensive suite of audit services, which can support mega event organizing committees. Vendor selection assurance, capital project assurance and infrastructure assurance are key services.</td>
<td>The EY Advisory Performance Improvement teams can deliver measurable and sustainable improvement in clients’ business performance, by focusing on the areas of Finance, Customer, and Supply Chain. This includes venue operations review and operations observation programs.</td>
<td>Delivering infrastructure and infrastructure legacy planning is a critical aspect of mega events. For governmental clients considering new infrastructure, mega expansions, significant renewal work and/or PPP initiatives, EY’s Infrastructure Advisory business can support the entire investment lifecycle. From initial planning, procurement, and financing, through to construction and exit, our team provides a range of services to facilitate efficient, timely and cost-effective delivery of infrastructure.</td>
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<tr>
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<th>IT Transformation services for organizing committees</th>
<th>Climate Change and Sustainability Services for legacy programs</th>
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<tr>
<td>EY’s global tax teams have the broad capabilities to match the spectrum of tax issues through the life of a mega event. The teams can support host cities on tax challenges, including human capital management, tax regulatory changes and committee tax closing.</td>
<td>EY Advisory Performance Technology services teams help mega events hosts rethink how they architect, deploy and manage technology. The teams can work with you to help accelerate business performance through technology transformation, enterprise intelligence, enabling technology and technology risk and security.</td>
<td>EY’s CCaSS teams can monitor the delivery of the event and support the transition to sustainable legacy. CCaSS can offer expertise in social impact assessments and reporting.</td>
</tr>
</tbody>
</table>
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