

Skyrocketing Costs of Hosting Olympic Games Belie Expectations of Hosting Cities, Resulting in Asymmetries in the Olympic Movement

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[Abstract: Countries have been competing fiercely to host the Olympics despite overwhelming evidence of the fact that holding the games is a losing proposition for the hosts and the net benefits, if any, are received under very specific and unusual circumstances. Hosting the games has become increasingly expensive of late and the phenomenon of cost overruns is a regular feature. As a result, cities and countries where public opinion matters to the political leadership are shying away from bidding and in some cases have withdrawn from the bid process. Resultantly, trend has been witnessed that the games are being held in the countries where public opinion is not intense in relation to economic concerns. Such a trend results in asymmetries in the Olympic Movement. Construction industry, consultancy services, and technology companies work together to present the legacy benefits of holding the games and encourage the political establishments of countries to use the Olympics as a platform to showcase their economic development and organising skills, thereby spurring GDP. Some countries genuinely perceive Olympics as a platform for demonstrating their technological prowess for larger business and strategic games. The expectations of the public, by and large, are belied and they have been burdened with additional loads of debt and taxation. This paper argues that a few permanent venues can be selected from across different regions of the world where the Olympics can be held in rotation and that the infrastructure at these venues can be used in the intervening period for intensive coaching and training of athletes as well as for holding international events.]

Bridging centuries since the first modern Olympics, the development of the modern Olympic Movement has taken place in an environment of dramatic change in international societies, especially in the last 120 years. Fundamental shifts in the political, social, and economic landscape have taken place along with technological revolution in the areas of communication, travel, and many branches of science, which has enhanced the quality of sports in many ways. The high points have been the decline of the western imperial powers, two world wars, 40 years of tenuous bipolar balance of power, a rapid increase in the number of newly independent states, the rise of new international powers, and widespread religious and ethnic tensions alongside far reaching social, economic, and technological changes which

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together shaped the geopolitical environment within which the Modern Olympic Movement has developed.¹

The first modern Olympics, which took place in 1896 in Athens, featured 280 participants from 13 nations competing in 43 events and were witnessed by 60,000 spectators. When in 2004 the Olympics returned to Athens for the first time in more than a century, nearly 11,000 athletes from a record number of 201 countries competed against each other.² In Rio Olympics (2016), 11,178 athletes from 205 countries and two independent entities, namely Refugee Olympic Athletes (ROA) and Independent Olympic Athletes (IOA), participated in 306 events, covering 42 sports disciplines held across 37 venues.³ As many as 87 countries won medals in the 2016 Olympics compared to 37 countries at Melbourne in 1956. From the point of view of countries that have won medals, it appears that over the years the Olympics have become democratised. In terms of medals won, the medal tally of dominant countries has been declining in percentage terms. This demonstrates that the quadrennial Summer Olympics has become the world's premier sporting event, which is not only keenly contested by a large number of competitors of different disciplines, but also is witnessed on real time basis by a billion audience, thanks to television broadcasts aided by modern communication technologies. The Winter Olympic Games of 1924 were held on a somewhat smaller scale, yet the one held in 2014 in Sochi, Russia welcomed nearly 3000 athletes from 88 countries to compete in 98 events in 15 disciplines, thereby generating substantial revenues and massive television ratings.

Though there is fierce competition among countries to host the Olympics, there is overwhelming evidence to suggest that hosting the Olympics is, by and large, a money losing proposition for the host cities and the positive net benefits, if any, accrue only under very specific and unusual circumstances. Furthermore, the

¹ Beacom, A. (2012), *Perspectives on the Future of Olympics and Paralympic Diplomacy*, Palgrave Macmillan, London. Available at: www.palgrave.com/US/book/9780230424160

² The Olympic Games – Facts & Summary. Available at: <https://www.youtube.com/watch?v=Hzpeu7F-vv4>

³ Maps of World (Undated), "2016 Summer Olympics Participating Countries." Available at: <https://www.mapsofworld.com/sports/olympics/summer-olympics/participating-nations.html>

proposition is worse for cities in developing countries than for those in the industrialised world. Until the late twentieth century, over 90 per cent of all host cities were located in Western Europe, the United States, Canada, Australia, and Japan. Only Mexico City (1968), Moscow (1980), and Seoul (1988) for Summer Games and Sarajevo (1986) for Winter Games deviated from the trend. Even the International Olympic Committee encouraged bids from developing countries and has, on multiple occasions, awarded the games to cities outside the regions that had traditionally hosted the games. Beijing, which hosted the 2008 Summer Games, will also be hosting the Winter Games in 2022. The 2016 Rio Olympics were the first time event in South America. While the 2014 Winter Olympics was held in Sochi, Russia, the next was held at Pyeongchang, South Korea in 2018.

More and more bids for hosting the Games, both Summer and Winter, are coming from developing countries since the year 2000; prior to this only 18 per cent of the bids came from such countries. Since then, over half of the total bids have come from this group, and as stated earlier some of them have hosted both the summer and the winter events.⁴ Even for the 2024 Summer Games, Budapest was a hot contender alongside Rome, Paris, and Los Angeles, even though Hamburg and Boston withdrew from the bid on cost considerations. The continued and increasing interest among developing countries is to be noted in the context of the overwhelming evidence that the final expenditure incurred during any of the Olympics has been consistently in excess of the original budget.⁵

For much of the twentieth century, as stated above, the events were held in developed countries, either in Europe or the United States. Besides, in the era before television broadcasting, the hosts did not expect to make a profit; the games were publicly-funded, with these developed countries better-positioned to bear the expenses due to their larger economies and more advanced infrastructure. As the

⁴ Baade, Robert A. and Victor A. Matheson (2016), "Going for the Gold: The Economics of the Olympics," *Journal of Economic Perspectives*, Vol. 30, No. 2, pp. 201–218. Available at: <http://news.holycross.edu/wp-content/uploads/2016/05/Matheson-Going-for-the-Gold-2016.pdf>

⁵ M.C. Bride, James (2016), "The Economics of Hosting the Olympics Games," Council on Foreign Relations, July 20. Available at: <https://ethz.ch/content/dam/ethz/special-interest/gess/cis/center-for-securities-studies/resources/docs/CFR-The%20Economics%20of%20Hosting%20the%20Olympic%20Games.pdf>

games were growing rapidly with the emergence of new nation states seeking to establish their international identity along with the number of participants almost doubling and the number of events increasing by a third during the 1960s, each Olympic event since 1960 has seen major cost overruns. The killing of protestors in the days before the 1968 Olympics and the fatal assault on Israeli athletes at the 1972 Munich games not only tarnished the image of the Olympics, but also fuelled public skepticism about the debt incurred to host the games. When in 1972, Denver, the first and only city that was chosen to host the games, rejected the offer after failure to gain approval of the public in a referendum to incur public spending for the games. The 1976 Summer Olympics at Montreal brought to light the fiscal risks associated with hosting. The projected cost of \$124 million was more than \$2.6 billion short of the actual cost, largely due to construction overruns of a new stadium, saddling the city's tax payers with billions of dollars of debt that took nearly three decades to pay off. Consequently, in 1979, Los Angeles (LA) was the only city to bid for the 1984 Summer Olympics and it negotiated exceptionally favourable terms with the International Olympics Committee (IOC). Los Angeles relied almost entirely on existing stadiums and other infrastructure rather than promise lavish facilities to entice the IOC selection committee. This combined with a sharp jump in television broadcasting revenue made LA the only city to earn profit by hosting the Olympics, finishing with \$215 million surplus.⁶

The LA model has not been replicated since. Rather, there had been a spurt in bidding, notably by developing countries raring to announce that they had "arrived" on the international scene by exhibiting their progress, capacities, and capabilities. Amongst them, successful countries like China, Russia, and Brazil had to invest massive sums to create the necessary infrastructure. Costs spiralled to over \$45 billion for Beijing's Summer Games in 2008, over \$50 billion for Winter Games in Sochi, Russia in 2014, and an estimated \$20 billion for Rio in 2016. These costs have led to renewed Olympics skepticism, and a number of cities have withdrawn their bids for the 2022 and 2024 games due to cost concerns.

⁶ *Ibid.*

Even the bidding for the Olympics has become prohibitive. Bidding cities are required to invest millions in evaluating, preparing, and submitting a bid. Such costs fall in the range of \$50 million to \$100 million. The city of Trento could not afford the \$60 million necessary for the 2024 bid.

When a city is chosen for hosting the Olympics, it is required to prepare for the influx of athletes and tourists in a fixed time frame, say, seven years. Besides making provisions for accommodating about 15000 athletes and a million tourists, the city has to upgrade its existing infrastructure and transport systems which would, inter alia, call for improvement of roads, rail lines, and airports. Costs on such ventures are in the range of \$5 billion to over \$50 billion. Operational costs make a small but significant chunk of the host's Olympic budget. Security costs have been rising at a rapid rate and are presently around \$2 billion. The events leave behind a trail of white elephants in the form of stadia, etc., which the Olympic host cities have to maintain at unaffordable costs or find alternate uneconomical uses. Revenue generated from the events is only a fraction of the expenses incurred.⁷

While the economic justification for hosting the Games remains in serious doubt despite the perceived positivity of increase in tourism and job potential as well as the overall impact on GDP, there is one service-sector industry that is reaping the rewards, i.e. sports-management consultancy. Bidding and actual organisation of the Olympic Games involves years of planning and tremendous cost. There is a new host, new organisers, at least some new venues as well as complex and unique security, infrastructure, and logistics requirements. Yet all organising committees must consider similar questions. Even the IOC has setup "knowledge management" programmes to pass on the lessons learnt to the next host. Members of the London Organising Committee were present during the 2012 Rio Olympics to do just that. Alongside the official feedback channels, a private industry of sports consultants has also emerged. They travel from one potential bidder to the other and one host city to the next, offering experience in various domains. At the London Olympics,

⁷ The Economist (2012), "Olympic Economic Spin-off." Available at: http://www.banquept.fr/documents/2013/oral_lv_ang/Text%20%20Olympic%20economic%20spin-off.pdf

Australians in particular held key positions as the organising committee members felt culturally closer to the Australians and sought to benefit from the host's experience at Sydney—perceived to be an exhibition of efficiency and fun. Britain started selling its Olympic experience even before it actually hosted the London Olympics in 2012. In 2011 itself, an infrastructure firm that planned the Olympic park in east London won a contract to help Rio build its equivalent. A London based firm worked on successful bidding of the winter Olympics by Russia. Brazil has been a recipient of such consultancies. Though sports is the focus of such ventures, experience in security or transport requirements, press operations, accommodation and catering, and cleaning and waste management are valuable. Appropriately, the British government promised more business for its companies by hosting the Olympics.⁸

Modern technology plays a big part in Olympics, making the events vigorously competitive on the one hand and enhancing the pleasure of viewing these events from both near and far as well as on real time basis on the other hand. The Olympic movement along with its growth has offered tremendous business opportunities to entrepreneurs, encouraging them to innovate upon technologies being developed in different fields worldwide for adapting them to the sporting events, including the Olympics. After successful demonstrations at the Olympic events, some of the innovations have found wider application in other spheres of human activities.

Time-centric games right from the early days of Modern Olympics have engaged the attention of the innovators in evolving technology that will measure the timing of the competitors with increasing accuracy. It has become possible to measure time with great precision with visual display of timing of individual competitors on the screen as the event progresses. Those who are interested in analysing the movement of athletes for performance improvement or those who want to benefit from them can be assisted by such timing and related technologies that are based on improved and sharp photo techniques. Global positioning system

⁸ Topend Sports (Undated), "Technology and the Olympic Games." Available at: <https://www.topendsports.com/events/summer/science/technology.htm>

makes it possible to view rowing events on real time basis.⁹ Technology adaptation has been on the increasing curve from one Olympics to the next. For example, the 1948 Olympics, though held under austerity prevailing after the war, were the first to be televised into homes, with about 50000 people being able to watch. The 1936 Olympics in Berlin were the first to be televised but limited to designated television halls in Berlin, especially built for this purpose. In the 2012 Olympics held in London, the games were broadcast for 5000 hours as compared to 60 hours in 1948 and that too in digital format, enabling people to watch these games while on the move, i.e. away from their homes. According to BBC statistics, in 2012 about 1.9 million people watched the Olympics on their TVs, while 12 million watched them on a smart phone or a tablet. Over successive Olympics, the kits and wearables of the athletes have undergone progressive evolution, resulting in successive record-breaking timings as well as increased and keener competition. Notable events where technology has made a huge impact in recent years are cycling, skiing, and rowing; where the kits used have led to optimum performances. Similar innovations have been witnessed in Winter Games and Paralympics. Swimming events have also adapted to new wears and benefitted from the application of electronic timers for accurate timing.¹⁰ The march of innovations continued in the 2016 Olympics held in Rio. Volleyball and beach volleyball events introduced system of reviewing referee's call with the use of television footage for replays shown on big screen in the arena. Digital Lap counters were introduced in long distance swimming events so that swimmers do not lose track of their lap count and concentrate on their swimming efforts.

Global Positioning System (GPS) technology was used in the Canoe Spring and Rowing events in Rio in more detail than ever before and it was possible to watch the races in real time on big screens and figure out the speed and direction of the competitors. In Archery events, the electronic scoring system replaced the referee's judgment by introducing the targets having high technology sensors though looking like traditional targets. As soon as the arrow hit the target screen, the system yielded the score on the big screen immediately. In Shooting events, the scoring system had

⁹ OCR (Undated), "Technology and the Olympics." Available at: <https://www.ocr.org.uk/Images/77532-ibytes-support-update-issue-05.pdf>

¹⁰ "New Innovations at Rio Olympics." Available at: www.rio2016.com/en/new/rio2016/olympic

been upgraded to incorporate laser technology, replacing the previous acoustic system to yield more accuracy. The presence of radio-frequency identification (RFID) tag on each rifle enabled the organisers to keep track of the location of each weapon at all times. In Weight lifting, systems were introduced to capture body movements of the competitors on the platform from all angles. Besides, payment company VISA introduced bracelet and waterproof rings enabling their use at around 4000 sale outlets at Olympic venues with the use of near field communications technology for transactions made.¹¹

Moving over to Olympics 2020 in Tokyo, one needs to recall that the city has precedence in staging the most technologically advanced games at the time and would be remembered for the introduction of bullet train in the year of the games which featured automatic train control and centralised controlled traffic system. In the 1964 games, colour technology supported by satellite technology enabled people to watch the games all over on real time basis. Japan has set aside 12 per cent of the giga event of 2020 for investing in new technologies with the aim of showcasing Japanese technologies during the games. New generation robots and hydrogen holograms will be on display and in operation on a large scale.¹² Olympic village at Tokyo's Odaiba neighbourhood will have a "robot village." Many of the expected million foreigners could call nearby robots to help with language translation, directions, or beckon for transportation which itself will be robotic car, also known as a self-driving car. Polite robots will co-exist with humans and carry their luggage, check them into their lodging or give sightseeing advice. For facilitating communication between the Japanese and foreigners from different language nations, there would be instant translation technology, both in text as well as voice, by 2020. Application would be available on smart phones to enable the tourists to scan the Japanese signage for instant translation in the language familiar to the tourist. Driverless taxis will be available in 2020. Japanese state television broadcaster NHK plans to air the Olympic Games in 8 k high definition with 16 times

¹¹ Kassens-Noor, Eva and Tatsuya Fukushige (2018), "Olympic Technologies," *Journal of Urban Technology*, Vol. 25, No. 3, pp. 83–104. Available at: <https://www.tandfonline.com/doi/abs/10.1080/10630732.2016.1157949>

¹² Lufkin, B. (2015), "8 Reasons Why the Tokyo Olympics Will be the Most Futuristic We've Ever Seen," *Gizmodo*, September 24.

as many pixels as current HD. Actually 8K TVs are already on sale and have 85' screen 8K display. Japan also proposes to display Algae as an alternate source of energy at the next Olympics. Algae suck in carbon dioxide and convert it into energy and are 60 times more efficient than other vegetable sources. More importantly, growing algae is easy. Its use will cut down the emission levels appreciably. There is yet another plan of displaying abundant hydrogen as an alternate source of carbon free energy by making the entire Olympic village hydrogen powered, complete with at least 100 fuel cell-powered buses, press lounges and athlete dorms. There is a plan to have 6000 of cell powered cars on road. A direct pipeline will funnel hydrogen into the Olympic village. This will exhibit Japan's capability in replacing dependence on nuclear energy post Fukushima disaster.

The technology for showering of manmade meteors across the sky would be unveiled at the opening ceremony, at a price tag of \$4 million.^{13,14}

Investment in technology deployment has continuously been on the increase in successive Olympic Games. Technology is deployed for the management of flow of people (transportation, road systems) and information (television and internet). Technology support is needed for monitoring security threats, and surveillance and related security systems. Newer technologies are required for health management of visitors and athletes, especially security of drug use by participants. Showcasing such technologies on a platform like the Olympics opens up avenues for worldwide exports. Those who benefit from the wider applications of such technologies would continuously influence IOC and be dynamically driven for introducing new technological innovations through Olympic Games is likely to continue post-Tokyo over and above what will be carried forward. Correspondingly, the hosting of the Olympic Games as the trend continues will become increasingly challenging in terms of costs and the urge to do better than the preceding host.

¹³ Jozuka, E. (2016), "Goodbye Rio, Hello Robots: Expect High-tech Cool at 2020 Tokyo Olympics," CNN Philippines, August 22. Available at: <https://cnnphilippines.com/world/2016/08/22/rio-olympics-tokyo-olympics.html>

¹⁴ *Op cit.* 5

Leaders in the heavy construction, hospitality, consultancy, and technology businesses stand to gain most from the hosting of the Olympics. These powerful groups will fan the egos of a country's leaders towards demonstrating their political and economic power in pushing back the economic concerns of hosting of such events like the Olympics. Those who accept to take on the responsibility of the event do so about a decade ahead of the happening when they may not be there and the consequential burden of hosting the actual event will become the responsibility of those leading the country/city during that period and the consequences will be borne by the new generation of leaders and the public. Therefore, the incentive to put the economic concerns in the background at the time of bidding is built in. Nevertheless, the 1970s witnessed a decline in enthusiasm among cities willing to host the games. In 1972, voters in Denver, after having been awarded the 1976 Winter Olympics initially, rejected the proposal in referendum and the IOC had to rescind its offer. Following the financial debacle of the 1976 Montreal Olympics, there was only one bid from Los Angeles for the 1984 games and the bidding host thus was in the bargaining position and was able to restrain its costs by insisting on hosting the games with the existing infrastructure. The Los Angeles event managed to become the only profitable games in the history of the Olympics, with a profit of \$232.5 million. However, the successful hosting of the 1976 games with profits led to multiple cities entering the bidding process, each hoping to cash in on the potential of Olympic windfall. This shifted back the bargaining power to the IOC. The bidding cities started competing among themselves in promising facilities better than one another; as a result, hosting the games has become increasingly expensive. Infrastructures which came up with such unhealthy bidding were bound to become white elephants. Hosting of Olympics has increasingly become economically unviable, so much so that most host nations and cities in the industrialised, democratic west have become reluctant to bid for hosting and those who did withdrew after bidding. For the 2022 Winter Olympics, only Beijing and Almaty remained in the fray till the end; finally, Beijing was selected as host city. This has led the IOC to workout Olympic Agenda 2020 which seeks to promote increased sustainability for host cities and the bidding process to be corruption free and transparent. Olympic Agenda 2020 provides for reducing the cost of bidding and the

cost of holding the Olympic Games. The 2024 bidding process had four cities, namely Los Angeles, Paris, Rome, and Budapest in the field for final selection. The IOC Agenda 2020 was on test if it would still be lured into selecting the city with the fanciest of accommodation, the glamorous stadiums, and the elaborate opening and closing ceremonies. In term of the Olympic Agenda 2020, the choice among the four contenders obviously should have been Los Angeles because its bid largely mentioned the use of existing facilities as it did in hosting the 1984 Olympics with overall surplus. In Its final decision, the IOC has chosen Paris as the next venue and thus, as in the recent past will, it has been lured into going in for impressive state-of-the-art facilities and opening and closing ceremonies.

Skyrocketing costs of hosting the Olympics have the potential of creating asymmetries in the Olympic Movement. Increasingly, hosts are emerging from either those countries whose leaderships are not affected by the opinion of their people on economic concerns or those countries that perceive the Olympics as a platform where their technological prowess can be showcased to further their business and/or strategic concerns. Such a trend is obviously unsustainable in the long run unless the hosting cities demonstrate effectively that the promises made by their leadership, that is of providing significant boost their economy, are being kept. Such feasibility exists if the infrastructure created is at favourable costs and is reusable by drawing a calendar of competitive international events and coaching facilities in the post games period with the objective of developing it as a global facility to be a nursery of competitors for the Olympic events which would follow in the years to come. Such an ongoing facility would also benefit the developing countries which can depute their talented players for training and intensive coaching in the environment of Olympic infrastructure to make them competitive in the future games. Such a venue can be foreseen as hosting pre-Olympic competitions readying the competitors for actual Olympic Games. Over the years, IOC may be setting for a limited number of such venues in different regions of the world who should host the Olympics Games by rotation. Some such arrangement would not only be cost effective, but also ensure that coaching and training facilities are equitably provided to athletes from all over the world at optimum costs, thereby serving the Olympic

Movement cause better. Those who are entrusted with the management of such permanent venues—seeking to host the Olympics in rotation—would also be responsible for constantly maintaining and upgrading their infrastructure on the one hand and embedding the latest technological innovations in furthering the sports and their competitiveness on the other hand, besides enhancing the pleasure of viewing the games from near and far. Such preparedness of the selected venues would not bring sudden demand for material and additional resources when the Olympic events are to be hosted. If the venues remain active all the time, the vision presented to the public—that the venues would be a source of economic benefits to them—would also be within reach.