Tokyo Olympics Impact
Economic and Real Estate Implications of the 2020 Tokyo Olympic Games
November 2016

Executive Summary

PGIM Real Estate assesses the likely economic and real estate impact that the 2020 Summer Olympic Games will have on Tokyo by using a combination of previous studies of other Olympic hosts, focusing largely on the Summer Games, and the latest analysis related to the Tokyo Olympics. The findings were separated into the expected impact on GDP growth, investment and infrastructure, tourism, the labor market, and real estate. On balance, we find that there are economic and real estate benefits to hosting the Olympics but these largely accrue in the pre-Olympic build-up, a roughly five to seven year period from the time the host city wins the bid until the event. Similarly, there are also costs associated with these benefits, unwinding after the event itself.

Potential Positive Economic Effects

- Boost to GDP and employment growth in the pre-Olympic period
- Improvement of infrastructure and redevelopment projects that drive increased economic growth in the pre-Olympic period and meet the long-term needs of the local economy
- A rise in tourism in the host city during the Games and increased exposure that predominately benefits emerging markets

Potential Positive Effects on the Real Estate Market

- A temporary increase in commercial real estate demand during the pre-Olympic period, particularly for hotel, and to a lesser extent, retail and office
- Temporary appreciation in residential prices and rents
- Increased office market investor sentiment and yield compression in host cities
- Improved performance within particular submarkets targeted for redevelopment
Potential Negative Economic Effects
- Economic drag in the post-Olympic period due to a sudden drop in investment and the weight of public debt
- Loss of most Olympic-related jobs immediately following the event, harming income growth and consumption
- Crowding out effect in the pre-Olympic period, causing a labor shortage
- Displacement of traditional tourism and reduced per capita spending during the Games
- Decline or sharp deceleration in international tourism growth in the immediate post-Olympic period

Potential Negative Effects on the Real Estate Market
- Overdevelopment activity may create a hangover effect on the real estate market, particularly within the hotel sector, in the post-Olympic period, causing occupancies and income growth to fall
- A pullback in office and residential values as investor exuberance wanes

Strategic Implications for Real Estate

Investors with long-term horizons should not pursue Olympic-related investment opportunities. Potential positive effects from the event on the real estate market are largely temporary and will not likely contribute to improved asset performance in the long run. Exceptions might be assets in revitalized submarkets that offer long-term growth potential. However, note that Olympic redevelopment projects often fall short of expectations.

There may be opportunities for short-term investors in the pre-Olympic period. Investors may benefit from a temporary improvement in fundamentals and yield compression. However, those looking to take advantage of potential short-term opportunities should do so well in advance of the Games and consider an exit strategy one to two years before the event.
The following table summarizes the potential economic and real estate implications of the 2020 Tokyo Summer Olympic Games.

### Economic

<table>
<thead>
<tr>
<th>Sub-Category</th>
<th>Pre-Olympic Period</th>
<th>Post-Olympic Period</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GDP</strong></td>
<td>Boost to GDP growth; total impact estimated between 0.9% to 1.5% of GDP</td>
<td>Initial economic drag expected; no substantial long-term impact on GDP growth</td>
</tr>
<tr>
<td><strong>Investment &amp; Infrastructure</strong></td>
<td>Direct investment negligible (0.001% of GDP), but indirect investment averages 0.2% of GDP pa from 2014-21; net effect lower due to postponement of unrelated projects</td>
<td>Substantial drop in investment spending and costs incurred from underutilized facilities, though some infrastructure projects, such as road construction, may provide long-term benefit</td>
</tr>
<tr>
<td></td>
<td>Increased spending as public funds subsidize Olympic budget and construction</td>
<td>Possible public budget overruns and debt weigh on future growth</td>
</tr>
<tr>
<td><strong>Tourism</strong></td>
<td>Positive boost to international visitor counts in the year of the Games, but potential displacement of traditional higher spending tourism</td>
<td>No long-term effect on tourist counts or spending</td>
</tr>
<tr>
<td><strong>Labor market</strong></td>
<td>Job creation should support disposable income growth</td>
<td>Increased tax burden and labor market slowdown will likely drag on consumption</td>
</tr>
<tr>
<td></td>
<td>Temporary job creation, estimated at 1.1% of Japanese employment by BOJ, but labor shortage will be a constraint</td>
<td>Job losses are likely in initial period, but no long-term impact on job creation</td>
</tr>
</tbody>
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### Real Estate

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<th>Sub-Category</th>
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<td><strong>Hotel</strong></td>
<td>A temporary lift to occupancies and RevPAR growth is expected from increased demand during the Olympic period</td>
<td>A slowdown in performance is likely, but hangover effect caused by overdevelopment is not expected in Tokyo</td>
</tr>
<tr>
<td><strong>Residential</strong></td>
<td>Possible pockets of rising residential performance in and around areas undergoing redevelopment</td>
<td>Any initial boost to residential value and rental growth in affected nodes should subside in the period after the Olympic Games</td>
</tr>
<tr>
<td><strong>Office</strong></td>
<td>Modest direct impact on leasing activity; slight yield compression possible, but this investor premium will likely wane within one to two years preceding the Games</td>
<td>Modest negative absorption from space giveback of Olympic-related tenants; upward pressure on yields possible</td>
</tr>
<tr>
<td><strong>Retail</strong></td>
<td>Temporary lift to retail spending within specific submarkets in the period of the Games</td>
<td>No significant market-level effect expected</td>
</tr>
</tbody>
</table>

Sources: See footnotes in main body. PGIM Real Estate.
I. Economics

GDP

Pre-Olympics

Evidence shows that GDP normally receives a boost in the pre-Olympic period. The increase to GDP comes from a rise in consumption, government spending, and investment. The bulk of the economic gains occur in the two to five years leading up to the event, coinciding with the planning and peak investment period (Exhibit 1).1

The event may offer some benefit to consumption from a rise in visitors, though the positive tourism-induced effects are often overstated.2 Increased employment, disposable income growth, and confidence3 also support a rise in consumer spending. Since nearly all Olympic Games are heavily subsidized by public sector funds, expanded government spending has a positive contribution to GDP growth.

EXHIBIT 1: AVERAGE ANNUAL GDP GROWTH OF SUMMER OLYMPIC HOST COUNTRIES*

*Simple average of national GDP Growth of Summer Olympic host countries since 1984; excludes Brazil (2016).
Sources: Oxford Economics, Moody’s Analytics, PGIM Real Estate. As of 2016.

The magnitude of this boost varies significantly depending on the size and maturity of host economies. Studies of past Summer Olympic Games that took place from 1988 through 2000 estimate total economic impacts were as follows: 0.1% of GDP in Atlanta (1996)\(^4\), 1.0% of GDP in Sydney (2000)\(^5\), and 2.9% of GDP in Barcelona (1992)\(^6,7\).

While the Tokyo Games are expected to make an initial positive contribution to economic growth, the gains in Japan will likely fall short of government expectations. The Bank of Japan (BOJ) expects the 2020 Summer Olympics to push up national real GDP growth by nearly 0.3% pa from 2015-20. This amounts to a total impact of 1.5% of GDP.

These projections are, however, based on aggressive assumptions. First, the BOJ is projecting a total of 33 million foreign visitors by 2020 — a 67% increase from 19.7 million in 2015. But these projections are not solely an Olympics effect. This increase, if it occurs, would largely be attributed to government policy and currency fluctuations rather than the Games. Excluding this large contribution from tourism, the overall effect falls to 0.9% of GDP. Second, the projections assume a positive contribution from increased exports, but there is no empirical evidence supporting this.\(^2\) Also, the Tokyo Organizing Committee of the Olympic and Paralympic Games (TOCOG) budget as a share of GDP (0.16%) is less than half of the average of other host countries (0.4%)\(^8\), suggesting that the host city already has a well-developed social infrastructure in place.

Post-Olympics

Analysis across Olympic host countries from 1950 to 2009 reveals that hosting the Games has no significant effect on real output growth in the post-Olympic period.\(^9\) In fact, Olympic nations may actually experience an economic drag following the Games when compared to those who were finalists in the bidding process.\(^9\) There is also evidence of a negative impact on output at the regional level as was found for real gross state product in New South Wales, Australia, in the six years following the 2000 Summer Olympics in Sydney.\(^10\)

There are a few key reasons why the Olympic Games have no effect or even weigh on economic growth in the years after the event. First, investment growth decelerates significantly as infrastructure development wanes. As a result, the nation returns to its long-term trend of GDP per capita growth.\(^9\) Second, nearly

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\(^7\) Barcelona was still an emerging market at the time it was awarded the Games and integrated the event with major development and infrastructure plans. On the other hand, Atlanta is located in the largest global economy and had a more advanced infrastructure network at the time of the event, which required less investment.

\(^8\) The Tokyo 2020 Olympic and Paralympic Bid Committee and Tokyo Metropolitan Government (2012) estimate that the total cost of constructing sports facilities and Olympic Village as well as running the event will amount to 756.3 billion yen (0.16% of nominal GDP in 2014). Mitsuhiro Osada, Mayumi Ojima, Yoshiyuki Kurachi, Ko Miura, and Takuji Kawamoto. Economic Impact of the Tokyo 2020 Olympic Games, Bank of Japan (2016).


all Olympic Games have been subsidized by public sector funds. This government spending will either need to be funded through reduced public services or increased taxes that weigh on consumption. This was the case in Greece where large expenditures left the country with budget overruns, adding significantly to the country’s deficit and dragging on its economic growth prospects. Most recently, the city of Rio de Janeiro faced a budget shortfall of $5.6 billion in 2016 due to the combination of recession and excessive expenditures from the Summer Games. Lastly, increased consumption driven by temporary job creation reverts to normal.

Investment and Infrastructure

Pre-Olympics

We expect the direct short-term effects in investment from hosting the Games to be mildly positive. Investment and construction is the largest budget component of the TOCOG. The operating budget of TOCOG is estimated at $2.4 billion by the Nomura Research Institute. Construction and refurbishments of Olympic venues is more than double this amount, projected at $3.6 billion. Even so, the direct impact from Olympic facilities construction will be relatively small, amounting to less than 0.001% of national GDP.

Some venues will be reused from the 1964 Olympics, but 21 of the 36 required permanent and temporary venues will need to be built by 2020. The effect will be greatest on Tokyo since it will host most of the events. In any case, it is difficult to assess the direct effect on the Tokyo metro area since many resources, including raw materials and labor, will need to be imported into the region.

Private and public investment on indirect projects will likely have a larger short-term, positive impact on both economic and employment growth. Development of transportation infrastructure, hotels, commercial properties, and other urban improvements are planned in addition to the construction of Olympic venues. These projects will account for a much larger investment of an estimated $65 billion (1.3% of national GDP).

The BOJ estimates this spending will be spread out across eight years (2014 to 2021), averaging 0.17% of GDP. However, many of these projects merely coincide with the timing of the Olympic Games and likely would have been pursued regardless of whether or not the city had been selected as the event host.

Post-Olympics

The boost from investment will likely quickly fade in the post-Olympic period, and some resulting projects will offer little or no economic benefit over the long run. Public infrastructure and private construction spending typically wanes after the Olympic Games. Some of the constructed facilities will provide no functional use after the event. Even worse, many underutilized Olympic venues are costly to maintain. Historically, one of the most infamous examples of these so-called “White Elephants” is the Bird’s Nest built for the 2008 Beijing Olympics. The arena cost $460 million to construct, and its $10 million annual maintenance cost far surpasses the income generated from its infrequent events.\(^\text{16}\) In addition, operators have difficulty finding ways to cover the annual maintenance costs totaling $4.8 million for the Estádio Nacional in Brasilia whose local league fills less than 10% of the 72,000 stadium seats during games. The stadium was recently used in the 2016 Summer Olympics and was originally built for the 2014 World Cup at a cost of $900 million.\(^\text{17}\)

White Elephants present a risk in Tokyo where 11 of the newly constructed sports venues will be permanent installations.\(^\text{13}\) As the previous host to the Olympic Games and the World Cup, Japan already has many of its own fossilized White Elephants. Five facilities remain in Nagano from the 1998 Winter Olympics, with maintenance costs excessive for a city of its size.\(^\text{18}\) In addition, most of the 20 stadiums built in Japan and Korea for the 2002 World Cup are reportedly no longer in use.\(^\text{19}\)

Certain infrastructure projects could offer long-term economic benefit. Some transportation and redevelopment projects may fulfill the demands of the local population and contribute to sustained productivity growth. However, it is difficult to ascertain which projects are actually tied to the Olympics and those that would have been pursued regardless of hosting the event. There are a number of transportation and commercial real estate development projects that are being timed with the 2020 Olympics, but at least some of these would have been pursued without the Olympics. In any case, the argument is often made that the Games provide an impetus for government to complete major projects that would otherwise have been stalled or even terminated.\(^\text{2}\)

One of the largest potential “legacy” projects tied to the Tokyo Games is the extension of the three expressway loops that circle the city. There seems to be a need to enhance its road network to reduce congestion, which is particularly true in the Ward area. The Tokyo metro area sees three times the amount of cars per day as the national average and the Ward area has an average that is 50% higher than the city level, which considerably slows travel times.\(^\text{20}\) Construction along

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Tourism

Pre-Olympics
The Olympics could provide a temporary lift to tourism, as some recent hosts have seen a boost in foreign visitors in the period of the event. International visitors to Australia grew considerably in the year of the 2000 Summer Olympics. This was particularly true in the month of the event with overseas tourist counts surging by 15.1% year-over-year in September 2000. In Atlanta (1996), international visitors expanded by 14.4% in 1996 from the previous year, which was double the national average of 7.2%, and a big jump from the 0.6% decline in 1995.22

However, the Games have not always had a positive impact on tourism. Historically, the gain in extra Olympic visitors has been offset by other tourists avoiding high prices and crowds due to the event.23 There was a 7.8% year-over-year decrease in London’s foreign tourists during the quarter of the Summer Olympic Games (third quarter of 2012).24 Tourism decreased during the Beijing Games in 2008 from the previous year and outbound tourism in China picked up to 12% during the year.2 Also, evidence shows that average spending during the Olympic period is lower than at other times; Sydney, Athens, and Beijing, saw less consumer spending from the Games visitors than regular tourists.3

In Japan, the regional and global economic environment as well as government policy will likely have a much larger impact on visitor counts than a transitory event like the Olympics. This is particularly true since Tokyo is already a well-known global city with relatively little to gain from the exposure provided by hosting the Games. One study indicated that foreign tourism increases from the year the country is chosen as a host, as is happening now in Japan.25 However, this is likely due to other factors. For instance, the recent surge in foreign visitors to Japan has been driven by the depreciation in the yen and easing of visa restrictions.26

Post-Olympics
Generally, there has been no positive effect on tourism in the post-Olympic period. Tourism is often cited as a long-term benefit for an Olympic host city because it offers exposure to billions of viewers around the world, which may

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then encourage increased tourism to the host over the long run. However, this often does not come to fruition. International arrivals to Australia fell in each of the three years following the 2000 Summer Olympic Games in Sydney, according to the Australian Tourism Export Council. In addition, tourism spending in New South Wales lagged the national average in the six years following the Sydney Games.10 While foreign tourists increased by 2.7% in the United States in 1997, international visitors in Atlanta (1996) fell by 6.0% 1997 after surging by over 14% in the Olympic year.22

The cities that seem to benefit the most in the post-Olympic period are those that are emerging or are less well-known.2 Even in these cases, the effect lasts two to three years and there is little evidence to suggest a longer-term effect. For instance, a significant increase in tourism in Seoul was attributed to the 1988 Summer Olympics within the three years after the event.27 A similar impact was recorded in several smaller Winter Olympic hosts, such as Lillehammer (1994), Calgary (1988), and Albertville (1992), each of which experienced a “three-year novelty effect.” As an already established global city, Tokyo is not likely to see the Olympic-related marketing benefit that is more common in a less familiar host city.

Local government efforts and policies will likely have a more significant bearing on tourism in the post-Olympic period than the Games themselves. In Barcelona (1992), The Bureau of Tourism was created in 1993 that led an aggressive marketing campaign to lure tourists into the city.2 From 1991 to 2010, Barcelona’s tourism growth far surpassed any other major European city in terms of bed nights and total tourism inflow reached 20.7 million in 2001 from less than 10 million visitors in 1992. For Japan, its recent easing of visa restrictions has already contributed to an increase in foreign visitors. Initiatives such as these will likely have a much larger long-term impact than the advertising furnished by hosting the Olympic Games.

### Labor Market

**Pre-Olympics**

The immediate impact of hosting the Olympic Games is positive for employment. Increased investment from the planned infrastructure and refurbishment projects should spur job creation through 2020. A significant positive impact on employment growth was reported in previous Olympics, which is particularly true for Games that required substantial construction and investment. In Atlanta (1996), the most generous projections estimated annual job creation of 11,000 to14,000 on and in the one to two years prior to the Summer Olympics, coinciding with construction activity. This represented about 0.6 to 0.8% of total

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employment over a two to three year period. In Los Angeles (1984), the labor market impact was much more subdued since little investment was needed, with an estimated 5,000 jobs (0.1% of employment) added solely in the Olympic year.

**Japan’s tight labor market will likely restrain employment growth prospects.** The BOJ estimates that demand from the 2020 Olympic Games could generate approximately 700,000 jobs in Japan (1.1% of total national employment). However, this is an overly optimistic assumption. At least some of the resources needed to meet demand will be diverted from other potential activities that would have generated jobs. This is compounded by the fact that Japan faces a labor shortage due to its rapidly aging population and near-zero in-migration. By 2018, the labor force will have shrunk by 3.2 million people from the 2014 level. With a labor pool shortage, the large-scale projects could cause a crowding out effect, impeding other planned development. This will likely drive up labor costs not just for the Games but in some unrelated construction and tourism sectors. From this perspective, the Olympics may turn out to be an economic drag.

**Post-Olympics**

*Hosting the Olympics is not likely to support long-term job growth.* The Olympic-related employment gains are driven by a temporary boost in construction and accommodation/food service industries. In one extreme case, the Greek economy lost 70,000 jobs three months after the 2004 Games in Athens, mostly in the construction sector. In addition, the Summer Olympic Games was shown to have no labor market effect in Los Angeles (1984) and a negative impact in Atlanta (1996) within the year following the event. Similarly, the state of New South Wales likely experienced a drag on job growth immediately following the Games in Sydney (2000).

The International Olympic Committee contends that the projects and activities related to the event offer training that benefits the labor pool over the long run, but the crowding out effect from the surge in development activity counters this argument. There might be some instances in which Olympic projects fall in line with the permanent needs of the local economy, offering some durable benefits to the labor market. However, these are typically linked to long-term regeneration projects as was the case in Barcelona around the time of the 1992 Olympic Games. As a result, the direct labor market impact from the Olympic Games is largely transitory.

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II. Real Estate

Hotel Market

Pre-Olympics

Increased demand tends to boost hotel performance during the event period. This scenario played out in Atlanta (1996) where revenue per available room (RevPAR) spiked by 30% year-over-year in the third quarter of 1996, supported by a rise in visitor counts. Sydney hotel occupancy rates climbed by 13 percentage points to 80% in the month of the 2000 Summer Games, and average room rates jumped by 40%. Despite a decline in international tourists, London saw hotel occupancies rise by nearly eight percentage points to 90% in August 2012 from the previous year. In addition, average daily rates surged by about 87% in 2012 from 2011 levels.

We expect a temporary Olympic boost to the hotel market in Tokyo. The Games should draw increased international and domestic visitors into the city in the Olympic year. This would benefit the local hotel market’s occupancies and RevPAR growth. In any case, this is likely to occur in the preceding years as tourism is already gaining significant momentum, driven by easing government visa restrictions and the depreciated yen.

Post-Olympics

Hotel market performance in the post-Olympic period is often hindered by overdevelopment. For example, after experiencing strong performance during the year of the Games, Atlanta’s hotel market took a hit from the surge in supply. Hotel stock spiked by 17% in Atlanta in 1996 after growing by an annual average of just 0.7% in the previous five years. This led to a sharp drop in RevPAR of 11.5% in 1997 and occupancies declined by about eight percentage points from their 1996 peak levels (Exhibit 2). Hotel stock in Sydney (2000) increased by 30% in the years up to the Olympics, which led to an immediate drop in occupancies following the Games. By 2004, 10 of its major hotels had closed. The hotel market also struggled in Athens (2004) in the post-Olympic period, with occupancies falling by nine percentage points and RevPAR plunging by 17.1% in 2005.

30 According to data provided by CoStar Group, Inc.
EXHIBIT 2: ATLANTA HOTEL MARKET FUNDAMENTALS

While we expect a slowdown in Tokyo’s hotel performance in the immediate post-Olympic period, we do not anticipate a hangover effect on the market caused by overdevelopment. Tokyo’s hotel stock amounts to about 94,000 rooms, which is well above the former Olympic hosts of Athens (17,000 rooms) and Sydney (38,000 rooms) and is closer in line with other global host cities like London (116,000 rooms).31 As a result, Tokyo is much better equipped to handle the demand associated with a mega event like the Olympic Games than the majority of previous hosts. There is some new construction underway or in planning, but there seems to be more focus on refurbishments and redevelopments. JLL predicts total supply growth of 8% (7,500 rooms) in the pre-Olympic period, which is reasonable given the recent double-digit growth in foreign tourism.

Residential Market

Pre-Olympics

The Olympic effect on the residential market has been mixed. Both Barcelona (1992) and Seoul (1988) experienced sharp increases in residential prices that were attributed to the Olympics.32 In Barcelona, home prices grew by 19.6% annually from 1987 to 1991,33 with stronger growth reported in the area of the Olympic Village.32 However, there was no Olympic effect found on the residential market in more mature host cities, including Sydney, Atlanta, and London.34 In Sydney (2000), housing price growth in the Olympic Corridor was just 0.5%

Sources: CoStar Group, PGIM Real Estate. As of 2016.

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higher than the market average from 1996 to 2000.\textsuperscript{35} In London, the city integrated the event with its redevelopment plans of the relatively undesirable East London neighborhood where the 2012 Summer Games took place. Nevertheless, East London residential value growth underperformed that of more established neighborhoods.\textsuperscript{36}

There might be pockets of rising residential performance in and around areas undergoing redevelopment for the Tokyo Olympic Games. This is particularly true in the Tokyo Bay Zone, which includes the Kachidoki, Harumi, Toyosu, Shinonome districts, where much of the Olympic activity will be centered. Within this area, development is focused along the newly constructed Loop 2. However, we do not expect there to be any significant market-level impact from the Games.

**Post-Olympics**

We do not anticipate a long-term effect on the residential market. There was no Olympic impact found on residential markets within more developed cities, such as Atlanta and Sydney. A sharp increase in housing prices and rents in Barcelona (1992) was attributed to the Games, but metro-level home prices declined from 1992 to 1997.\textsuperscript{33} If history is a guide, we would expect that any initial boost to residential value and rent growth in the Tokyo Bay Zone and nearby Olympic-related nodes to subside in the period after the event.

**Office Market**

**Pre-Olympics**

The direct Olympic impact on the office market is limited. The Olympic Games do generate some demand for office, as space is leased by the local organizing committee, professional services firms focused on construction and architecture, and certain government entities.\textsuperscript{37} However, this is not a significant driver of office demand. For instance, it is estimated that about 215,000 square feet of space was leased for Olympic-related activities during the 1996 Atlanta Games, which amounted to 0.9% of total stock.\textsuperscript{34}

Research related to the indirect effects on the office market is mixed, but there might some marginal indirect effects on the office market. First, redevelopment efforts in targeted submarkets related to the Games might prop up office rents and values. Limited success was experienced in East London for the 2012 Summer Games. From 2003 to 2012, commercial rent and value growth in the area actually lagged more established office nodes, such as the London West End and Mid-town.\textsuperscript{36} Second, the visibility that the event provides might encourage investment into the market, even in areas that are not directly tied to the Games.


\textsuperscript{35} “Olympics What Olympics?” Macquarie Bank (2000).


Analysis of central business district (CBD) office yields in Summer Olympic host cities since 1980 indicates that there was a slightly greater yield compression than the regional average, suggesting that the Games lifted investor sentiment (Exhibit 3). However, yields tended to rise in the quarters leading up to the event.

EXHIBIT 3: OFFICE YIELD TRENDS – SUMMER OLYMPIC HOST CITIES*

A very small impact on the Tokyo office market is expected. Although it is unclear how much space is being leased directly as a result of the Games, historical analysis suggests that it is a small share of stock. This is especially true in a massive office market like Tokyo. There might be some investment premium placed on assets due to the Olympics, but there is limited room for cap rate compression in the market. According to data from JLL, yields are already very tight and projected to tick up through 2020. However, the spread between yields and Japanese government bonds might allow for some Olympic-related compression in certain office nodes. But any bump to performance is likely to wane in the immediate period before the Games.

Post-Olympics

There is usually only a modest impact on the office market in the post-Olympic period. In general, there will be some space given back by tenants involved in the planning, operations, and construction activity related to the Olympic Games. In any case, this is typically a minor share of inventory. In some instances, overdevelopment in office space related to the Olympic Games has led to a deterioration in fundamentals as occurred in Barcelona. However, there was no direct link found between office fundamentals and the Olympic Games in more established office markets, such as Atlanta and Sydney. In terms of performance, yields tend to rise slightly in the quarters after the event as investor exuberance subsides.

A very small impact on the Tokyo office market is expected.

* Since 1984; excludes Beijing, Sydney, Rio de Janeiro.
Sources: JLL, IPD, PGIM Real Estate. As of 2016.

38 Based on analysis using IPD and JLL data.
We expect the Olympics to have a negligible effect on the Tokyo office market in the post-Olympic period. As noted, there may be some negative absorption as Olympic-related tenants cease operations or downsize. Plus, office overdevelopment isn’t a concern in this market. Indeed, office development will likely be restrained as construction labor and materials are used for Olympics-related projects. Lastly, there might be some pullback in investment resulting in some upward pressure on yields, but this is likely to be minor.

Retail Market

Pre-Olympics
There might be a temporary boost to the retail market from increased tourism. This effect should be concentrated in specific submarkets since, in some cases, the Olympics coincide with a market-level decline in tourism. In Sydney, an increase in sales was focused in the CBD and nodes in close proximity to Olympic venues. In particular, the Darling Harbour, which was the entertainment center of the Games, saw record activity. The rise in spending was driven by clothing and soft goods along with accommodation and food services. However, sales in Olympic nodes could be detrimental to more established retail areas as happened in London where most of the events took place in the developing East London.

The effect on Japanese retail will likely be similar to that in more established cities. The impact will likely be focused in the time of the event and within specific submarkets in close proximity to the Olympic activities. Newly redeveloped areas in the Tokyo Bay Zone could see some upside from the influx of tourist activity. Established retail nodes, such as Ginza, may also benefit as it is strategically sandwiched in between the main designated Olympic areas: the Heritage and Tokyo Bay zones.

Post-Olympics
There is usually no long-term effect on the retail sector. Any boost to retail sales has historically been short-lived and waned immediately following the Olympic Games. There have been cases in which overdevelopment has negatively affected occupancies and rents. However, a significant market-level impact is not common. There have been examples of long-run gains within particular submarkets targeted for redevelopment. Sydney saw some success with Darling Harbour, an entertainment precinct as did certain parts of East London. We do not expect any long-term effect on Tokyo’s retail market, but there might be some submarket-level impact within the designated Tokyo Bay Zone.
III. Strategic Implications for Real Estate

Research suggests that the Olympic Games have no long-term impact on the host country's economy. The positive effects on GDP, investment, employment, and tourism are transitory. The benefits to the commercial real estate market are tied to economic trends and occur largely in the pre-Olympic period with no measurable long-run positive impact.

These trends provide some guidance for real estate investment. First, investors with long-term horizons should not pursue Olympic-related investment opportunities. Any potential positive effect from the event on the real estate market is temporary and will not likely contribute to improved asset performance over the long run. Exceptions might be assets in revitalized submarkets that offer long-term growth potential, but targeting these properties is a risky strategy since Olympic redevelopment projects often fall short of expectations.

Second, short-term investors might benefit from opportunities in the pre-Olympic period. A potential boost to economic and employment growth may support a temporary increase in demand and improvement in fundamentals. There is evidence that these trends lift investor sentiment and support yield compression in the years before the event. In any case, timing of the investment is key. Historically, yield compression occurs up until a year and a half to two years ahead of the Games. As a result, those looking to take advantage of potential short-term opportunities should do so well in advance of the Games and consider an exit strategy one to two years before the event. Investors may not benefit from some of the potential temporary improvement in fundamentals, such as in the hotel market, but waiting until after the Games could result in selling at a time of softening pricing and values.
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