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Allianz Research

Olympic Games

The economics of hosting the biggest sporting event in the world

Foreword

The local flavor of globalization



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And the Allianz Research Team

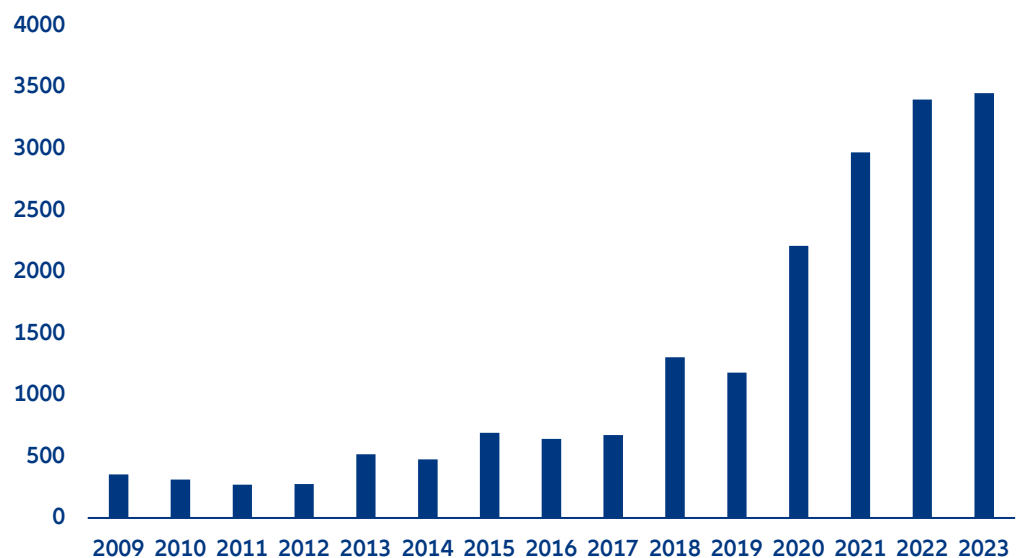
The Olympic Games Paris 2024 are just around the corner, and the fervor is already palpable. When I asked my team at Allianz Research whether they wanted to do something on the economics of the Olympics (not the costs, which have unfortunately become Parisians’ latest obsession), there was a resounding yes. We all secretly dreamt of being an Olympian, of representing our country in the world’s most famous and historic gathering, and of uplifting millions of people through the higher moral values of participation, grit and surpassing oneself.

Let me start by sharing where I find economic value in the Olympics. For me, the Games should remind us that globalization has always a local flavor, that together we are stronger, simply put: to “make trade not war”, to quote my late friend Philippe Martin’s seminal paper in the Review of Economic Studies.

The golden era of global trade may well be behind us: until recently, tariffs were going down and free-trade agreements going up. Sovereignty and strategic autonomy have now replaced open borders and partnerships in most politicians’ roadmap. Trade may be more inflationary for people, and definitely more complicated for companies and investors. But, globalization is not dead, it’s just changing, and we will have to adapt.

Since 2017, rising geopolitical tensions have made protectionism the new normal. Last year, economies around the world implemented over 3000 trade barriers, five times more than in 2017. The upcoming US elections could ring in the return of the trade war, should Donald Trump secure a second term. Even if it will likely be more moderate and targeted this time around, it could still send US tariffs to the highest levels since the mid-1970s. At the same time, conflicts and climate change are highlighting the very real risks of choke points on vital trade routes, from the Red Sea to the Panama Canal. Innovation and knowledge exchanges may be more subject to regulation and taxation, just like the financial sector which has also been taken into the deglobalization vortex.

Figure 1: Number of protectionist measures

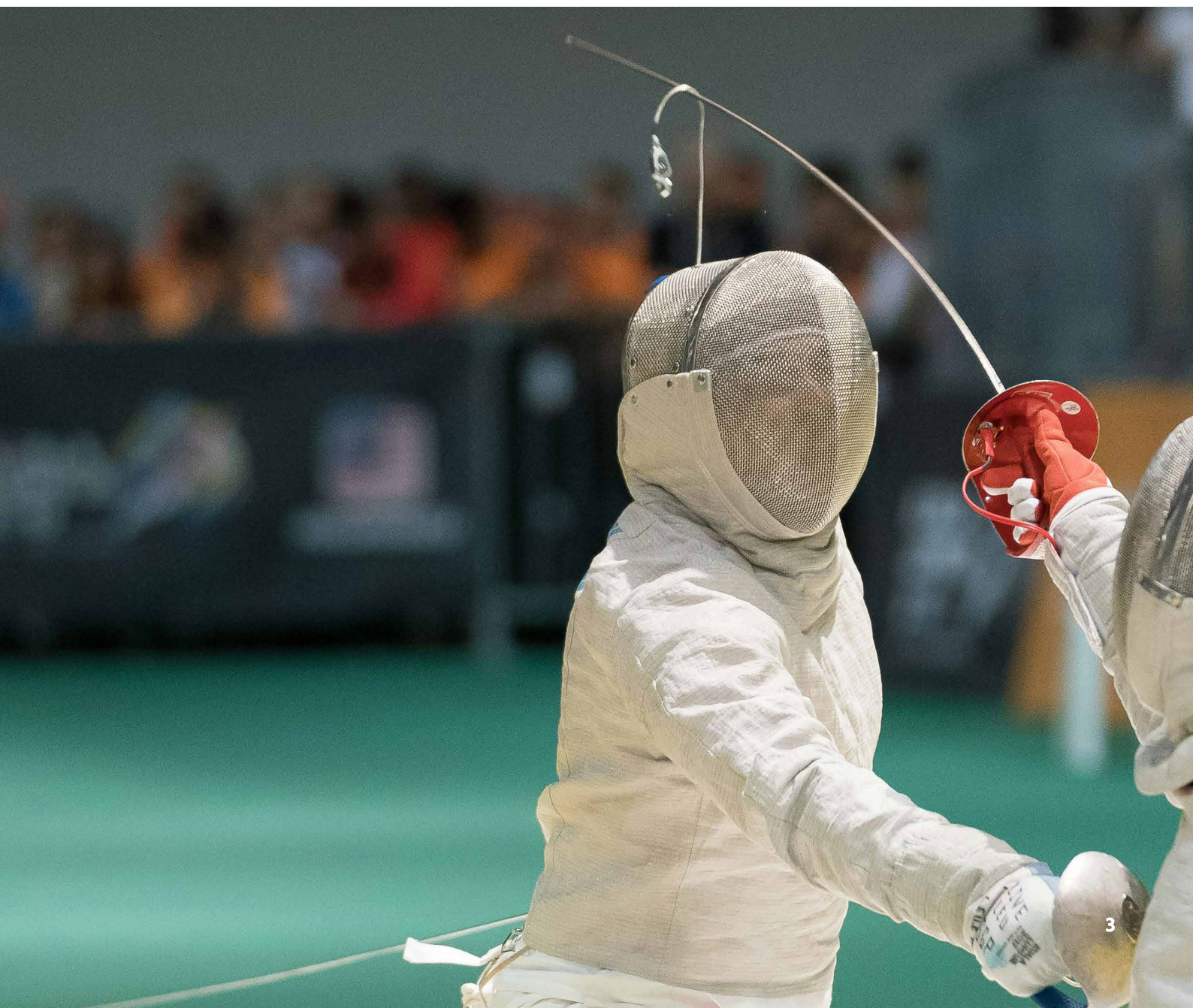


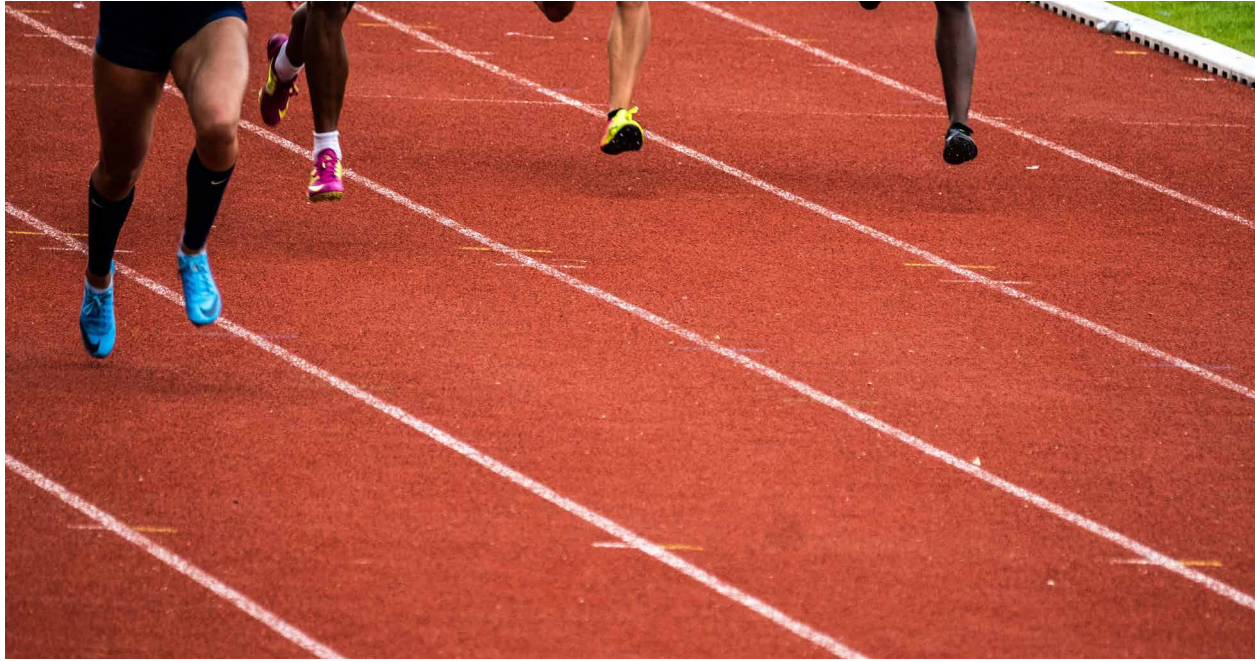
Sources: Global Trade Alert, Allianz Research

The answer? Trading successfully in this environment will require different strategies: stronger public affairs, building strategic stocks, securing alliances for critical input supply, diversifying again and again, creating more value locally, etc. All in all, managing frictions will become central to CEOs around the world, after enjoying a flat world.

The Olympics are a unique moment of unity and transcendence. They remind us that the world can be flat every couple of years. So when businesses lose hope as sanctions and barriers mushroom, they may well think of the Olympic creed, Pierre de Coubertin's words "The important thing in life is not the triumph, but the fight; the essential thing is not to have won, but to have fought well".

Enjoy the read!





From values to economics

The Olympic Games could be the spark to get more active and boost health

Studies show that even simply watching a sport, no matter if in the stadium with other fans or on television, has a positive effect on personal well-being. The long-term health effects would be even greater if the Olympic Games Paris 2024 inspire more people to get active. The World Health Organization (WHO) recommends at least 150 minutes of moderate-intensity aerobic physical activity and muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups twice a week. Besides the well-established positive effects on blood pressure and fitness, physical activity can also reduce the risk of anxiety, depression and dementia, as well as improve bone health, reducing the risk of osteoporosis and falls. Moreover, physical activity reduces the risk of obesity, which is one of the main risk factors for several forms of cancer, type 2 diabetes, stroke and chronic cardiovascular disease.

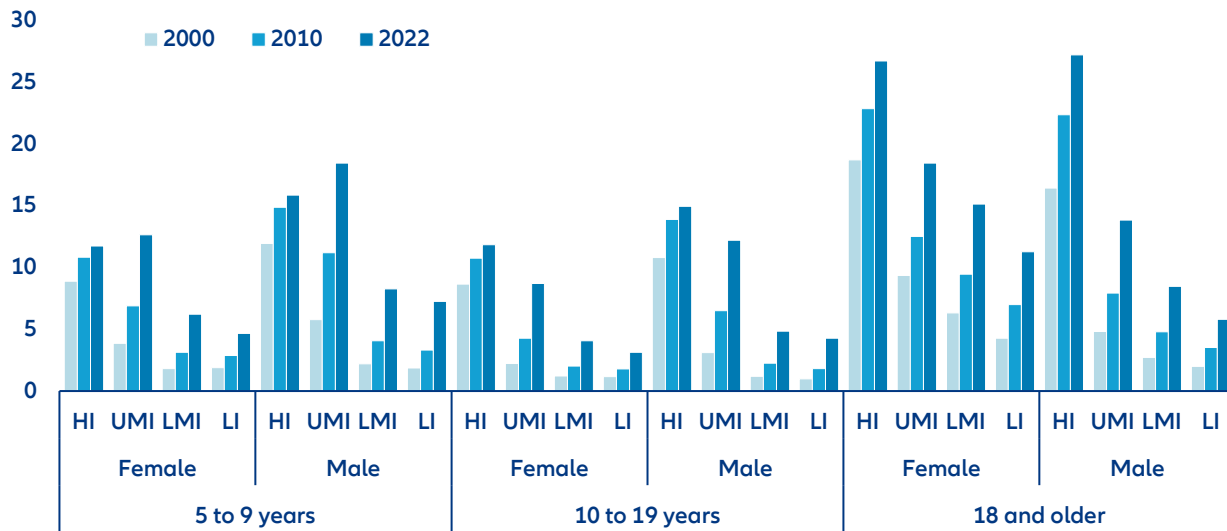
Unfortunately, the spillover effect has been rather small in the past. Physical activity rates among the total population have not improved.¹ In fact, 23.7% of the adults in the US and 45% of the population in the EU27 do not exercise regularly at all. The latest available data on the physical activity levels of adolescents and young adults

do not hint at marked improvements, either. In the US, the share of 18- to 24-year-olds who do not engage in any leisure-time physical activity has slightly increased against the overall trend to 17.4% in 2022, while the share of adolescents who are physically active daily has declined from 28.7% in 2011 to 23.2% in 2019. In the EU 27, only 47% of 15-to-24-year olds were at least performing aerobic physical activity, while merely 26.9% engaged in aerobic and muscle-strengthening as recommended by the WHO.

Increasingly sedentary lifestyles are contributing to the rising prevalence of obesity worldwide. In 2022, 18.3% of adult females and 13.7% of males aged 18 and older were obese, compared to 10.3% and 6.2%, respectively, in 2000. Most alarming is the rapid increase of obesity in upper- and lower-middle income countries as well as among children and adolescents. In the upper middle-income countries, in 2022, 18.5% of boys aged five to nine and 12.7% of girls were obese compared to 5.8% and 3.7% in 2000, even higher shares than in high-income countries (Figure 2).

¹ Bauman et al. (2021): An evidence-based assessment of the impact of the Olympic Games on population levels of physical activity, in: The Lancet, Vol. 398, July 31, 2021, p. 456-464, published online July 21, 2021, [https://doi.org/10.1016/S0140-6736\(21\)01165-X](https://doi.org/10.1016/S0140-6736(21)01165-X) (accessed April 17, 2024)

Figure 2: Prevalence of obesity, by age group (in %)



Source: World Health Organization

Taking inspiration from the Olympics could also prevent almost 500mn new cases of non-communicable diseases and mental health conditions until 2030. This would save global public health systems around EUR25.7bn per year. Hence, investments to increase the levels of activity would pay off; the OECD estimates that in the EU27 every euro invested would return EUR1.7 in economic benefits. Therefore, efforts should be stepped up to turn the

Olympic Games, with their broad range of disciplines, into the spark that inspires people to get more active. A good starting point is how Paris 2024 has successfully advocated for a daily 30-minute exercise period in French primary school – an initiative that was rolled out to 36,800 schools aiming to reach 4.2 million pupils nationwide.

Female empowerment: What’s sports got to do with it?

There is a plethora of research on the barriers that women face to enter male-dominated domains. One of the most common findings is that gender equal participation and leadership in politics and public life are a sine qua non requirement to achieve gender equality. Sports have demonstrated their enormous capacity to propel women and girls’ empowerment, not only through practicing sport and teaching women the value of self-reliance, perseverance and teamwork, but also as a tool to deliver positive messages to mass audiences.

The Olympic Games have become an enabler of accelerating efforts to promote women’s leadership and gender equality in governance models. They are also engaged in preventing and responding to gender-based violence, as well as closing the gap in investment in women’s sport and promoting equal economic opportunities for women and girls. Moreover, the Games

are working to promote women’s equal participation and bias-free representation in media and to provide equal opportunities for girls in sports, physical activity and physical education.

Research shows that women and girls who participate in sports are less likely to engage with narcotics, be in abusive relationships or have unwanted pregnancies. Furthermore, they are more likely to graduate from high school, receive post-graduate degrees and earn more income than those who did not play sports.² In fact, playing sports can help women develop the skills that pay off in leadership positions later in life. Even though women make up just 3.4% of CEOs (chief executive officers) worldwide, a Future Leaders survey from EY³ shows that 94% of women in the C-suite played sport – and a staggering 52% of them at university level.

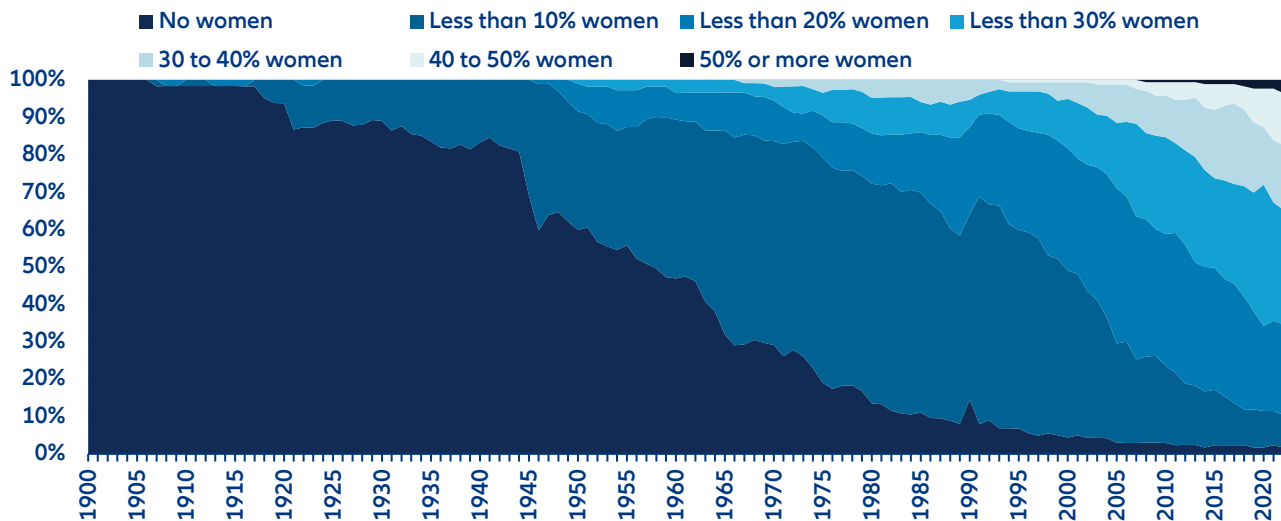
² Women’s Sports Foundation. 2016. Benefits – Why Sports Participation for Girls and Women. Link: <https://www.womenssportsfoundation.org/advocacy/benefits-sports-participation-girls-women/>

³ EY and espnW. 2023. Where will you find your next leader? Link: https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/elite-athlete-program/ey-where-will-you-find-your-next-leader.pdf?download

On top of the impact that sports can have on female labor participation and career outcomes, having exposure to strong female figures has an unexpected effect: a reduction of gender bias. Prior exposure to female leaders improves perceptions of female leader effectiveness and weakens stereotypes about gender roles in public and domestic spheres. While female political representation has dramatically increased since the Suffragette movement in the late 19th century (Figure 3), there is still room for improvement. In this context, using a quota system could improve the chances for women to stand for and win elected positions and produce changes in voter attitudes.

There are substantive effects of female representation on policies. In developing countries, the increase in female political representation has resulted in a better provision of public goods, especially with regard to education and health. Meanwhile, in developed economies, while female representation has no effect on public spending, the changes in parliamentary deliberations and policy choices has improved public institutions via more governance and less rent-seeking.⁴

Figure 3: Countries by share of women in parliament, World



Sources: V-Dem, Allianz Research

⁴ Hessami, Z. and Lopes da Fonseca, M. 2020. *Female political representation and substantive effects on policies: A literature review*. Link: <https://doi.org/10.1016/j.ejpoleco.2020.101896>

The quest for more sustainable Games : Paris 2024's challenges and the way forward

The Olympic Games Paris 2024 has set an ambitious goal of reducing the Games' footprint by half compared to London 2012 and Rio 2016. These claims center around significant reductions in greenhouse-gas emissions compared to previous Games. For example, the London 2012 and Rio 2016 Games each emitted approximately 3.5mn tons of CO₂, while Paris 2024 aims to limit its emissions to about 1.6mn tons. This reduction will be the result of a combination of factors, including a reliance on 95% existing and temporary infrastructure, thus minimizing construction emissions. Electricity will be sourced from renewable sources, and spectators will be offered 'low carbon' menus that feature more plant-based ingredients. To address cooling without traditional air conditioning, an underground water-cooling system, similar to that used by the Louvre during recent heatwaves, will be installed beneath the Olympic Village. Post-Olympics, the Athletes Village, located by the River Seine in Seine-Saint-Denis, will transform into a low-carbon, eco-friendly residential and commercial neighborhood. Initially hosting 15,600 athletes and officials during the Olympics and 9,000 during the Paralympic Games, the site will eventually accommodate 6,000 new residents starting in 2025. The Olympic Games Paris 2024 represents a significant case study in the evolution of sustainability in global sporting events and demonstrates that a different model is possible, one that aligns more closely with global sustainability goals like those outlined in the Paris Climate Agreement.

In the future, a climate-friendly approach could be to rotate the Games among the same few cities to avoid the costly cycle of building new infrastructure. This is particularly relevant for the Olympic Winter Games as climate change is limiting the number of cities capable of hosting the event, potentially leading to a permanent rotation among a few select cities.⁵ The Olympic Winter Games Milano-Cortina 2026 are set for Italy, and the French Alps are the frontrunners for 2030. Salt Lake City has been favored by the International Olympic Committee for the Winter Olympic Games in 2034, marking a significant return to the city after hosting the LA28 Olympic and Paralympic Games. This could herald a decade of multiple Olympic and Paralympic Games in the US.

⁵ Gene Sykes, chair of the US Olympic & Paralympic Committee, emphasized this during a media summit in New York, noting the impracticality of continuing to use past Winter Games host cities due to changing climate conditions.

Next-Gen Olympics: Transformative impacts of AI and emerging technologies in Paris

Given the event's long history, the Olympic Games are no stranger to technological advancements. In 1896, the Olympic Games Athens saw the introduction of automatic timing devices, revolutionizing how race times were measured to ensure more accurate results. The Olympic Games Berlin 1936, the world witnessed the first live television broadcast of a sports event, significantly expanding the audience and changing how people engage with the Olympics forever. The Olympic Games Tokyo 1964 debuted the use of computer technology to process results, marking the beginning of the digital age in sports. The Olympic Games London 2012 utilized social media platforms to bring athletes and fans closer than ever before, showcasing the growing influence of digital connectivity on global events.

Today, with the rise of generative AI, the world is on the verge of another transformative shift. Recent, AI models are already being used in medicine to identify rare diseases and discover new drugs, help manufacturing sectors to optimize processes and detect fraudulent activity on financial markets. With the launch of ChatGPT many of us have come to realize the potential of AI, along with all the challenges it brings. Considering the significant impact of emerging technologies, it is unsurprising that both AI and other innovative solutions have found their way into the Olympic Games Paris 2024. An initial impact of the new technologies can be seen in the construction of Olympic venues. Using a technology called "digital twinning", organizers can now design locations in the digital world. The technology can simulate camera positions, sun movements and even light reflections, which can help to design venues more quickly and efficiently. Another novelty that could be employed in Paris is the Judging Support System (JSS) for gymnastics competitions. This advanced AI-powered technology utilizes three-dimensional imaging to analyze athletes' movements with a level of detail that surpasses human visual capabilities. While it will not replace human judges, the system can be consulted in ambiguous situations to provide a clearer, more precise evaluation. Further enriching the

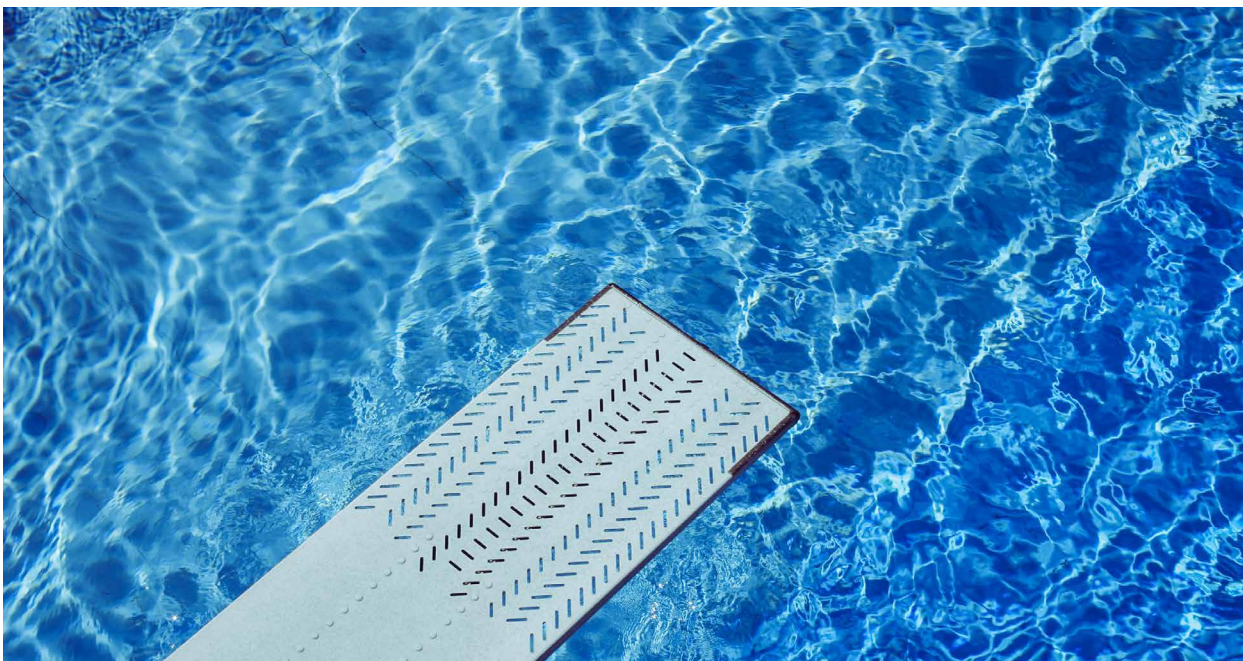
spectator experience, the Olympic Broadcasting Service is employing AI to advance live broadcasting. This includes the use of drones and augmented reality to provide unique views from athlete villages, alongside AI-generated real-time captions and tailored highlights, creating a more immersive viewing experience.

On the safety front, the International Olympic Committee and the city of Paris are deploying advanced technologies to ensure security during the Olympic and Paralympic Games. Innovations include social media monitoring tools to protect athletes from online abuse and an AI-enhanced surveillance system that detects abnormal crowd behavior, abandoned objects and potential medical emergencies. These technologies not only enhance security but also have the potential to improve urban safety over the long term. However, the benefits must be carefully balanced against concerns for privacy. In response to these concerns, French authorities have affirmed that the new surveillance tools will not be equipped with facial recognition software.

According to the IOC's new AI Agenda, new technologies will play a crucial role not only in improving athletes' training regimens to enhance performance and avoid injuries, but also in scouting promising talent. Together with Intel, the IOC has conducted a project identifying talent in several remote villages in Senegal. This new technology, that is also used in football by companies such as AI.io, has the potential to level the playing field between developed and developing nations by providing equal opportunities to talented individuals.

The long-term impacts of the Olympics on the AI leadership ambitions of France are yet to be seen. However, the country, currently ranked seventh on the Oxford Insights Government AI Readiness Index, has a unique opportunity to showcase itself and the Paris technology hub to the world. This exposure could attract talent and investment, potentially replicating recent tech startup success stories like Mistral AI and Dust.

⁶ Government AI Readiness Index by Oxford Insights



Focus on France

Fiscal in the vicinity of the Olympics

The Olympics effect on government finances is limited.

Figure 4 shows the cyclically adjusted primary fiscal balance of countries hosting the Olympic Games before and after the event took place. The median line does not show any statistically significant effect, both for the Summer and Winter editions of the Olympic Games. While costs for Olympics have increased over time, the effect on the total budget of a country seems negligible compared to other factors. France is a good example: While so far France is trending below the median line, this is mostly due to other forces – most notably the aftermath of two major supply side shocks on the economy: the global pandemic and the energy shock due to the Russian attack on Ukraine. Similarly, the most significant downside outlier is Japan, which hosted the Olympic Games Tokyo 2020. The large primary deficit had nothing to do with the Olympics but rather with the Covid-19 crisis in that year, which eventually even led to the postponement of the Games to 2021.

The financial impact is observed at the micro level, not the macro level.

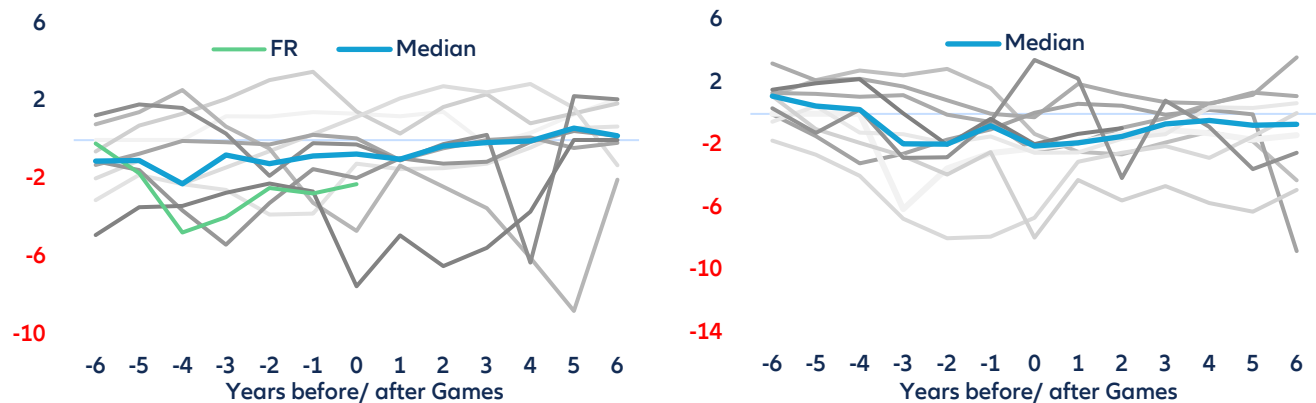
Following Madden (2006) we support that there is a modest positive fiscal impact can occur at a regional level.⁷ However, the rationale for hosting extends beyond fiscal reasons, including enhancing international profiles, improving national image and culture and forging long-term alliances.⁸ The ambition around hosting the Games must center around benefitting all local project leaders, virtuous economics for the climate and social justice, not just during the Games, but beyond the summer of 2024. Our independent estimates support those released by the Centre de droit et d'économie du sport as well as the French ministry for tourism, in which the economic impact of the Games Paris 2024 in the Île-de-France region is estimated to be between EUR6.7bn and EUR11.1bn over a 17-year period (preparation phase in 2018 through 2024 and then a inheritance period up until 2034).⁹ In the figure on the following page, we can observe our estimated primary fiscal balance for France in that period which is clearly below the median of other host countries.

⁷ Madden, J. R. (2006). Economic and Fiscal Impacts of Mega Sporting Events: A General Equilibrium Assessment. *Public Finance and Management*, 6(3), 346-394.

⁸ Li, Y. (2023). Research on the Economic Impact of the Olympics on Host Countries. In: Li, X., Yuan, C., Kent, J. (eds) Proceedings of the 6th International Conference on Economic Management and Green Development. Applied Economics and Policy Studies. Springer, Singapore.

⁹ Ministère Chargé des Entreprises, du Tourisme et de la Consommation (2024). Présentation de l'étude d'impact économique ex-ante des Jeux Olympiques et Paralympiques de Paris 2024. Link: [NAR - Présentation de l'étude d'impact économique ex-ante des Jeux Olympiques et Paralympiques de Paris 2024 - Presse - Ministère des Finances \(economie.gouv.fr\)](#)

Figure 4: Cyclically adjusted primary fiscal balance in % of potential GDP for Summer (lhs) and Winter (rhs) editions of the Olympic Games



Sources: IMF, OECD for data pre-2002, Allianz Research

The economics of Paris 2024: EUR10bn boost to French GDP, no cost for public finances

Tourism channel to support GDP by EUR1.8bn.

The first channel through which Olympic Games support economic activity is through additional spending from tourists, both residents and foreigners. Sporting events draw in more visitors, especially if the host city has an elevated tourism capacity to host more people – as is the case for the Paris region. Against this backdrop, the tourism boost can be mitigated by fewer regular tourists who defer their visits because they are not interested in the Games and are deterred by potentially higher accommodation and transportation prices.

In all, we estimate that the total number of tourists in France (residents and foreigners) will increase by +6% in 2024: this amounts to an additional 5.4mn people relative to last year, for a total of 95.2mn (see the section on tourism “Tourism wide open”). However, it is important to note that many of these tourists would have come anyway: the number of tourists increases each year (+1.5mn on average between 2011 and 2019), while tourism has been increasingly sharply since 2022 as it continues to recover from the pandemic. We estimate that out of the 5.4mn additional tourists in 2024, 1.5mn will come specifically for the Games. Assuming that each visitor spends EUR250 daily on average (including accommodation and transportation) and stays for five days¹⁰, this means that “Olympic Games” tourists will spend EUR2.6 bn in total, or 1.3% of French tourism spending. How much of this will translate into increased

GDP? As Olympic Games consumer spending should be skewed more towards services spending than goods spending, “import” leakages should be limited (services typically have a low import content). On the other hand, corporate pricing power during the Olympic Games could lessen the economic benefits. In this context, we assume a “multiplier” (how much of tourism spending translates into GDP) of 0.7 (consistent with conventional multiplier), which would translate to EUR 1.8bn of GDP from the tourism channel. This transmission channel is broken down into 5 commitments priorities: the circular economy, reducing the carbon impact and the preservation of the environment, social innovation, inclusion of public, workers and users, disability situation, and the creation of value in the territories. Our methodology and estimates support the figures released by the Centre du Droit et d’Economie du Sport from the University of Limoges.

Public and private spending on infrastructure, organization and security to support GDP by EUR8.3bn

The second channel of economic impact is through increased spending on infrastructure, the organization of the Games (advertisement, marketing, human resources, etc) and security. General (public transportation, accommodation) and specific infrastructure (upgrade of sports infrastructure, athletes’ village etc.) are funded through the SOLIDEO¹¹ budget. Total costs are estimated at EUR4.4bn, of which 40% are public funds. Expenses for the organization of the Games are funded

¹⁰ This is a bit less than the 6.7 days that international tourists stay on average in France, because we assume that French resident tourists will spend less time.

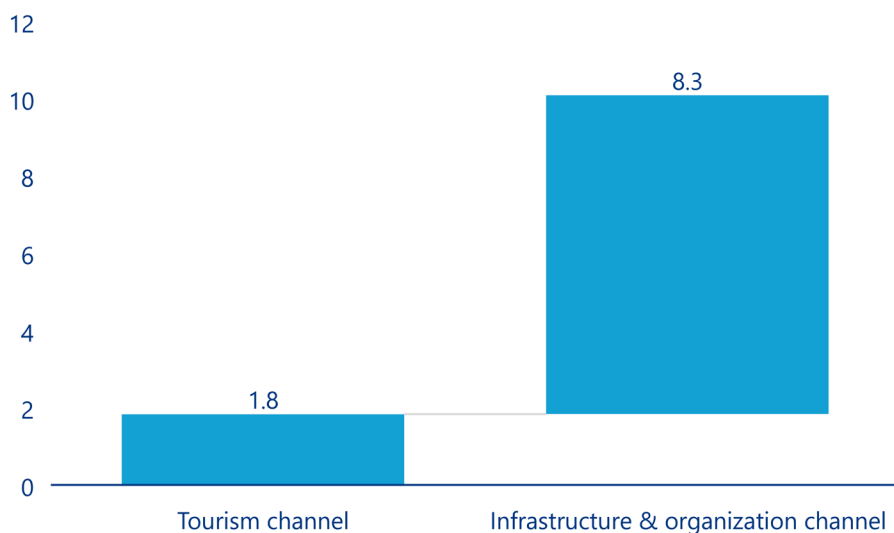
¹¹ Société de livraison des ouvrages olympiques.

¹² Comité d’organisation des Jeux olympiques et paralympiques.

by the COJOP¹² budget, at EUR4.4bn as well, but funded at 96% by private funds. Finally, the French government will boost spending on homeland security. The costs are not known yet (they include a premium of EUR1,900 granted to police officers), but we can assume that they would come at around EUR3bn¹³. Thus, in total, EUR11.8bn of spending has already or will be unleashed for the organization and the security of the Paris 2024. However,

we take a fairly conservative view that the multiplier will be below 1, at 0.7: evidence from prior sporting events suggests that the economic dividends of infrastructure are often over-estimated, while some of the money spent (eg. on advertisement) may not be redirected to the local economy. In all, we estimate a GDP boost of EUR8.3bn from the spending channel ($= 0.7 \times 11.8$).

Figure 5: Estimated GDP impact of Paris 2024 (in EUR bn)



Source: Allianz Research

We estimate that the Paris 2024 will boost French GDP by to EUR10.1bn (0.4 % of GDP) and inflation by a modest 0.1pp.

Our own estimates above put the total boost to French GDP at EUR10.1 bn, split between a tourism channel (EUR1.8bn) and a direct spending channel (EUR8.3bn). This amounts to 0.4% of GDP, around two-thirds (0.3% GDP) of which will be supporting 2024 GDP. What about the impact on consumer prices? While temporary spikes in tourism venues (mainly in Paris) are possible, the overall impact on French inflation should be very mild. Basic regressions suggest that each 1pp of GDP lifts inflation by 0.4pp in France; therefore we estimate that the boost to 2024 inflation should be around 0.1pp.

No cost for French public finances.

French public expenditures amount to EUR3bn on security and EUR1.9bn from the COJOP and SOLIDEO budgets, i.e. around EUR5bn (in line with what is estimated by the Chairman of the Cour des Comptes P. Moscovici). On the revenue side, increased economic activity should support tax revenues (eg. higher VAT receipts), to the tune of EUR5.4bn, which is high because of the high tax intensity of the French economy¹⁴. Thus, we estimate that the balance between revenues and expenditures will be slightly positive at EUR0.4bn.

¹³ For the 2004 Olympics in Athens, the cost of security was estimated at EUR1.4bn, or EUR2bn in 2024 euros.

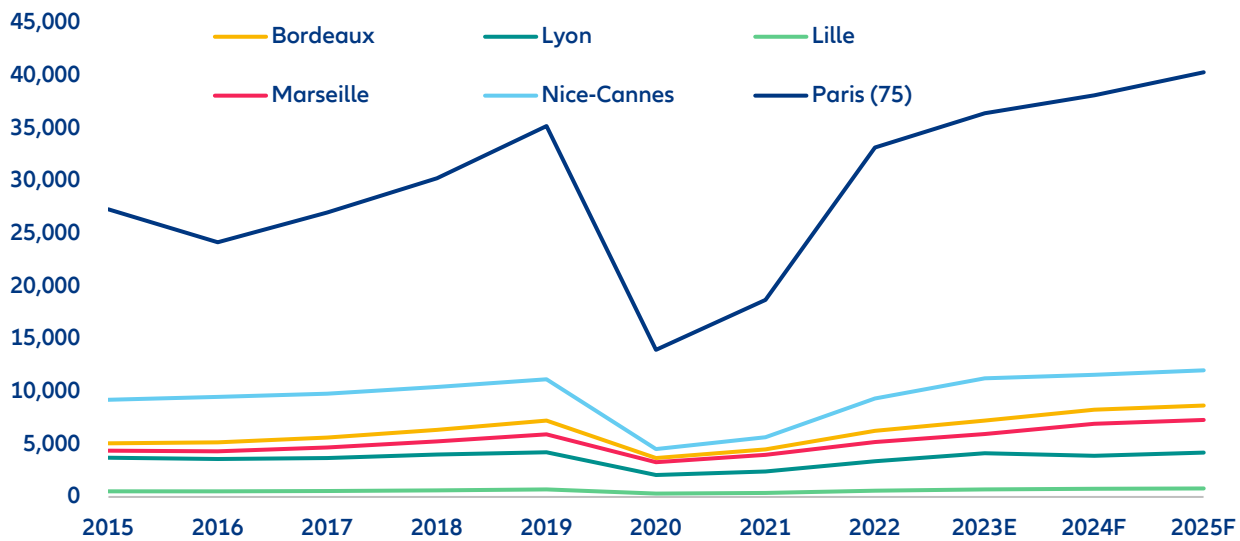
¹⁴ Typically, each billion of increased economy activity yields 0.53bn of additional government revenues in France (i.e. roughly the tax-to-GDP ratio).

Paris 2024 – Tourism wide open

Let the Games begin! Running from 26 July to 11 August, and from 28 August to 08 September, the Olympic and Paralympic Games Paris 2024 will feature 32 different sports (22 Paralympic) in 35 different venues (18 Paralympic) across France, with 329 Olympic and 549 Paralympic Games that will feature 14,900 athletes. Over this period, the country is expecting to host a total of 15mn tourists, of which 13.5mn are nationals and 1.5mn foreign. For comparison, the Rugby World Cup, held in nine French cities between September and October 2023, had a total attendance of only 2.4mn people, of which around 600,000 were international visitors. According to the French Government, last year’s Rugby World Cup resulted in an economic boost of EUR1.5bn for the Parisian region. This looks relatively tiny when compared to our estimate of a EUR10bn boost from the summer edition of the Olympic Games.

Ready. Paris. Go! Setting the Covid-19 pandemic aside and going back to 2019, France was the most visited country in the world, receiving 90.9mn tourists before travel was disrupted, surpassing Spain (83.5mn), the US (79.4mn), Italy (64.5mn). This figure fell by half in 2020, but managed to recover rapidly, reaching 89.7mn visitors in 2023 (99% of pre-Covid level). For 2024, boosted by the Olympic Games, we expect to see an increase of around +6.0% y/y for a total of 95.2mn people visiting France, a record high never seen before. The capital city, Paris (including the Parisian suburbs) receives the largest number of visitors per year. In 2023, it welcomed 47.5mn people (+8% y/y), of which 55% were national and 45% international, largely represented by American, British, Italian and Chinese visitors.

Figure 6: Number of international tourists (in thousands) across selected French cities

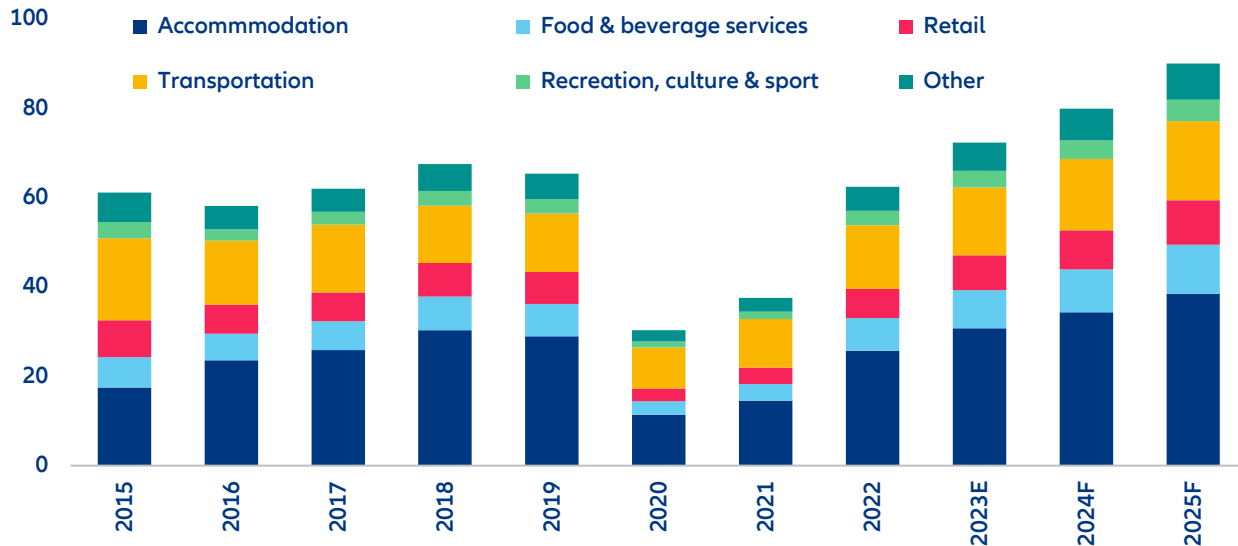


Sources: Oxford Economics, Allianz Research

For the Olympic Games Paris 2024, a total of 15.3mn visitors are expected to visit Paris. This can look intimidating when we considering that that the population of the Île-de-France region¹⁵ is 12.3mn people. However, without a doubt, this event will have a very positive

economic impact for the country, with all sectors benefiting from increased demand. Around USD224bn will be spent in the country this year in sectors directly related to tourism, of which USD80bn will be spent by inbound travelers (Figure 7), a +10.5% y/y increase.

Figure 7: France - Inbound travel spending by category (USD bn)



Sources: Oxford Economics, DGE (Ministry of Economics and Finance), OECD, Allianz Research

Accommodation and transportation are on the watchlist.

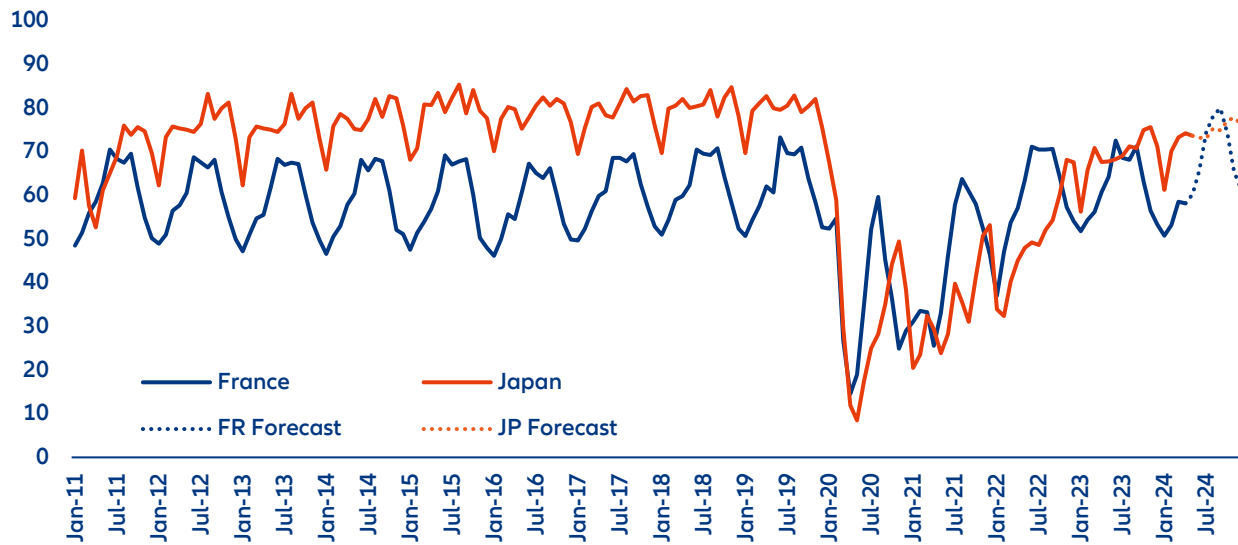
Accommodation tends to account for 43% of total tourist spending, followed by transportation (21%). Although it is true that both sectors will have guaranteed high demand this summer, each will face a different challenge. While hospitality should find the right prices that don't scare away visitors, air and road transportation should meticulously organize their logistics to satisfy visitors expectations for mobility, both within and between cities.

France offers a wide variety of hotels for all types of budgets, but recently the most demanded have been three-star hotels (39% of bookings) and four-star hotels (25%). The offer is in fact so wide that even in the most

visited months of the year (June, July and August) the hotel occupancy rate has never exceeded 75% (Figure 8). It was on average at 70.9% in summer 2019 and at 67.3% during the Rugby World Cup. Tokyo 2020's occupancy rate – impacted by the pandemic – was barely at 40% during the previous Olympics. We believe France's figure can jump to a level of around 78% this summer boosted by the Olympic Games but also contained by the increase in other types of accommodation such as residents renting out their apartments/rooms. Finding a competitive but rewarding price should be the key for hotels and property-owners to ensure the highest volume of clientele over the period.

¹⁵ Ile-de-France: a region made up of eight administrative departments: Paris, Essonne, Hauts-de-Seine, Seine-Saint-Denis, Seine-et-Marne, Val-de-Marne, Val-d'Oise and Yvelines.

Figure 8: Hotels occupancy rate, monthly

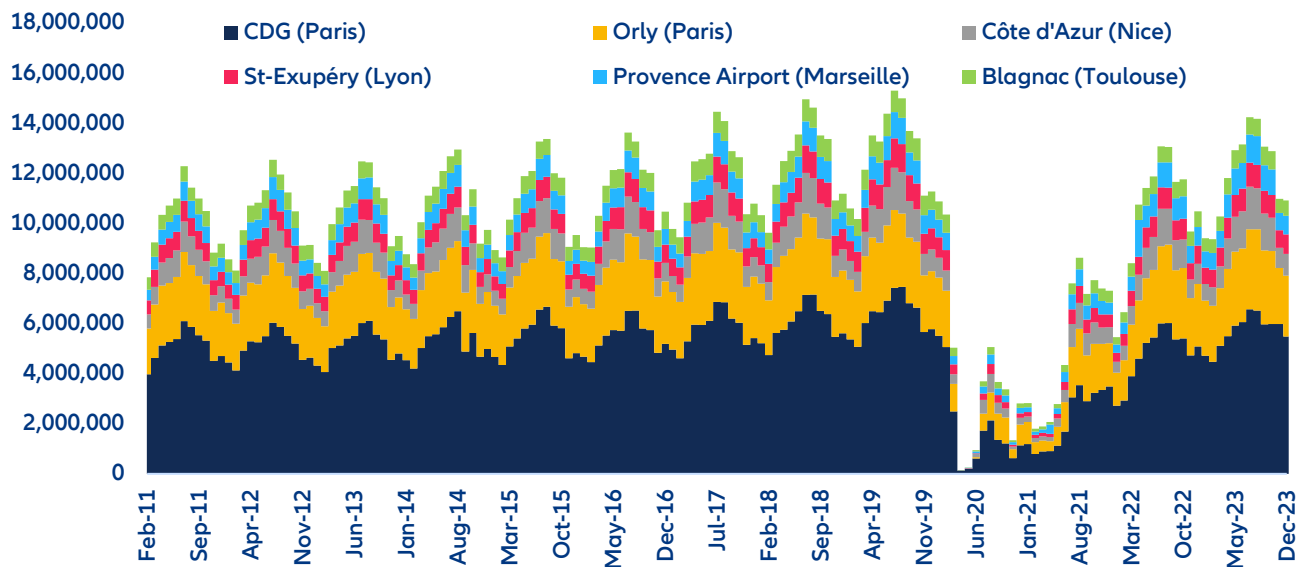


Sources: Bloomberg, INSEE, Japan Tourism Agency, Allianz Research

From a list of 100 countries, France ranked seventh in 2023 in terms of the air connectivity index¹⁶ (vs 9th in 2019), according to IATA, which means the country has today a better ability to create linkages with the rest of the world than before. However, airports and personnel capacity will soon be tested. In summer 2023, 41.6mn people landed in France’s biggest airports (Figure 9). This was +9.4% above the level recorded in summer 2022 but 93% of the level of passengers received in summer 2019. Indeed, we believe air traffic for summer 2024

will be at its highest level ever, and logistics (notably baggage handling) will be the main challenge for airlines, particularly those operating in Paris’s Charles de Gaulle and Orly airports, as the two account for 60% of all the country’s air arrivals. Nevertheless, being a hub for Europe’s rail network, Paris is well connected to other European capitals by train, which should relieve some pressure on Paris’s airports this summer.

Figure 9: Passenger count at main French airports, monthly



Sources: Bloomberg, Allianz Research

¹⁶ This index measures connectivity as scheduled passenger capacity weighed by the relative economic scale of destinations served, reflecting how well a country is connected to cities around the world.

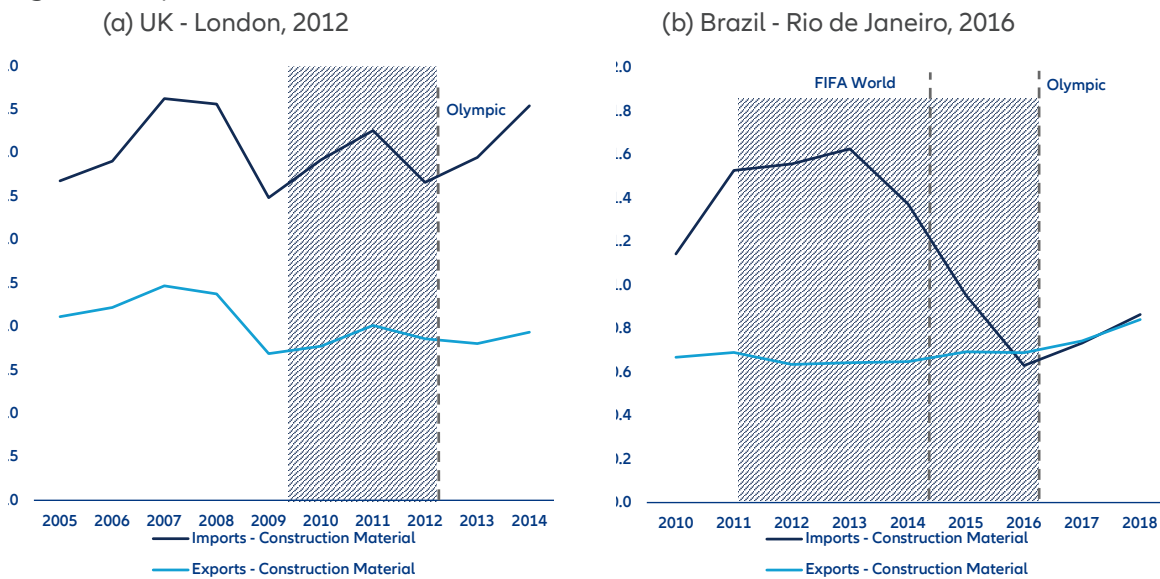
Paris will always be a good idea. Going further, we can also expect tourism in France to continue flourishing during the post-Olympics period, given that the Games are anticipated to have a global TV audience of 4bn.. Indeed, the number of people visiting France in 2025 and 2026 is expected to jump by +3.5% and +4.2%, respectively, for a record high of 103mn tourists coming in 2026.

Going for Gold: Hosting the Olympic Games is good for trade

Infrastructure investments for major sporting events boost imports of construction materials, but strategic long-term investments are necessary to support overall growth. These mega events require significant investments in infrastructure, with a large portion of funds allocated to public projects. Anecdotal evidence from the UK and Brazil indicates a surge in construction imports prior to such events while exports of these materials remain flat (Figure 10a and 10b). This development is driven by investments

in venues, infrastructure upgrades and housing improvements. However, tying infrastructure decisions to such mega events can hinder overall development. While the short-term demand spike during the two and a half weeks of the Olympics is evident, sustainable growth may be compromised if investments are not strategically planned beyond the needs for the event itself.

Figure 10: Imports of construction materials for the UK and Brazil, in USDbn

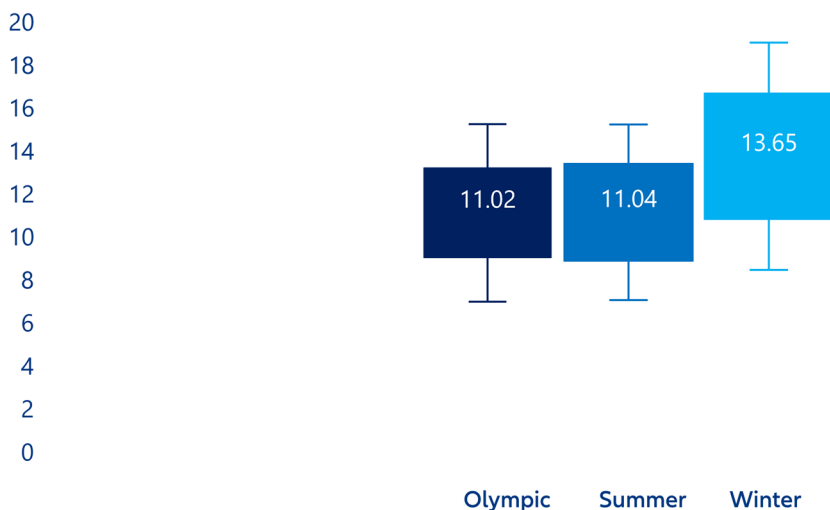


Sources: UNComtrade, Allianz Research

The Olympics serve as a catalyst for trade liberalization by creating an environment where reverting to protectionist policies is economically very costly. A mega sporting event might have a magnifying effect as tourists are attracted to host-city venues and products following their exposure during the Games;.. The timing of liberalizing steps tied to the award of the Olympic Games is not merely coincidental, as seen in China's completion of trade negotiations with the WTO shortly after being granted the rights to host the Olympic Winter Games Beijing 2022. Historical examples such as Italy's movement towards currency convertibility, UN membership and pivotal negotiations leading to the Treaty of Rome and the establishment of the European Economic Community (EEC), a predecessor to the EU, after being awarded the Olympic and Paralympic Games Rome 1960 and Japan's entry into international economic organizations corresponding with the Olympic Games Tokyo 1964 illustrate this trend. Furthermore, the Olympic and Paralympic Games Barcelona 1996 awarded in 1986 coincided with Spanish EEC membership, while Korea's political liberalization coincided with being awarded the 1988 Games. Hence, bidding for mega sporting events coincides with trade liberalization efforts as it signals irreversible investments and establishes a political climate where reverting on either hosting the event or trade openness is deemed too costly.

Hosting the Olympics significantly boosts exports by 11% on average. This costly yet effective signal of trade openness and competitiveness outweighs associated costs. Our analysis explores this concept, showing that hosting the Olympic Games leads to a 11% increase in exports on average (Figure 11). Previous research, while not factoring in zero trade flows, indicated an even larger impact of nearly triple the size (as seen in Rose and Spiegel, 2011). Specifically, our findings demonstrate that hosting the Summer edition of the Olympic Games yields a similar export increase of 11%, while the Winter edition of the Olympic Games results in a trade boost of almost 14%. These results are further supported by lead effects, particularly evident for the Summer edition of the Olympic Games, indicating anticipation effects following the Games' host country selection. Examining individual impacts, key drivers include the Olympic Games: Beijing 2022, Los Angeles 1984, Atlanta 1996, Montreal 1976 and Munich 1972.

Figure 11: Olympic Games effect on bilateral exports - elasticities of exports to hosting the Olympics, in %



Source: Allianz Research; Notes: Dots represent the coefficient of hosting the Olympic Games based on a gravity model from 1960 to 2021 (excluding the Olympic Games Beijing 2022 due to Covid-19 restrictions). The whiskers represent the 95% confidence bands. While the box plot shows the estimated elasticity coefficient surrounded by its 25 and 75 percentiles. The dependent variable is goods exports. Estimation is performed using the Poisson Maximum Likelihood (PPML) estimator including zero trade flows. The estimation accounts for regional trade agreements and exporter GDP, exporter- and importer-specific fixed effects (FE), bilateral FE, yearly FE, and importer-year FE. Standard errors are robust.

For SMEs, the important thing is not to participate, but to win tenders

Around EUR7.5bn for the winning bidders. With a more restrained budget than for previous Olympics Games, the potential windfall for companies directly involved in Paris 2024 looks smaller, but still significant. As of mid-April 2024, the latest available budget revision showed an overall budget of almost EUR9bn, combining the latest budgets of the Organizing Committee of the Olympic Games (OCOG) and the company in charge of supplying the equipment needed to stage the Games (Solideo) – each totalling EUR4.4bn. that is significantly lower than the expenditure incurred since 2000 for editions that were fairly similar both in terms of the number of competitions (over 300 on average, excluding the Paralympic Games) and the number of athletes (10,500 on average), with an average cost of EUR10bn excluding infrastructure and EUR25bn including infrastructure, which was massive for Beijing 2022, Tokyo 2020 and Athens 2004. However, the proportion of the budget actually allocated to contracts must on one hand exclude operating costs – administrative expenses and remuneration of the staff of the various organizational bodies – which according to public information are around 15%, and on the other hand keep the reserves for contingencies and unforeseen events, particularly in view of safety issues. All in all, the total budget potentially open to companies is around EUR7.5bn, equivalent to 0.3% of France's GDP and, more significantly, 1% of the GDP of the Ile-de-France region, where 80% of the events are concentrated.

At least EUR2bn worth of contracts 'promised' to the 25,000 SMEs in the starting blocks. The organizers of Paris 2024 have made a commitment to reserve at least 25% of contracts for local SMEs and social economy structures. In terms of infrastructure, the opportunities were more in the renovation and development of temporary sites (such as the athletes' village, training sites, media and press center etc.), since most of the sites to be used were pre-existing (95%), with only six of the 41 competition sites to be built. However, as is often the case in these sectors, the potential for VSEs/SMEs was less in direct response to public procurement contracts and more as subcontractors and/or suppliers to major principals or operators who had won contracts. For VSEs/SMEs, on the other hand, the potential was more open regarding the organization and staging of the Olympics Games, with a wide variety of contracts offering opportunities for companies of all sizes, for example in communications, marketing, human resources, catering, safety and security, transport and logistics, travel and movement of people, technical resources and various general services such as cleaning – not forgetting the organization of the Olympic Torch Relay route and the Opening and Closing Ceremonies. The competition was very open, with some 25,000 companies registering on the platforms created for the occasion (ESS 2024 and Entreprises 2024), but selective, not least because of the resources required to participate in the tenders, with no compensation for the losers. But for the winners of the calls for tenders, the Olympic Games are an undeniable boost, more than welcome to stand out from competitors in a period of weak economic growth.



Olympics and infrastructure

“Olympics represent far more than sports” holds true also for infrastructure, which typically enjoys a boom in the host city that goes beyond sport venues.

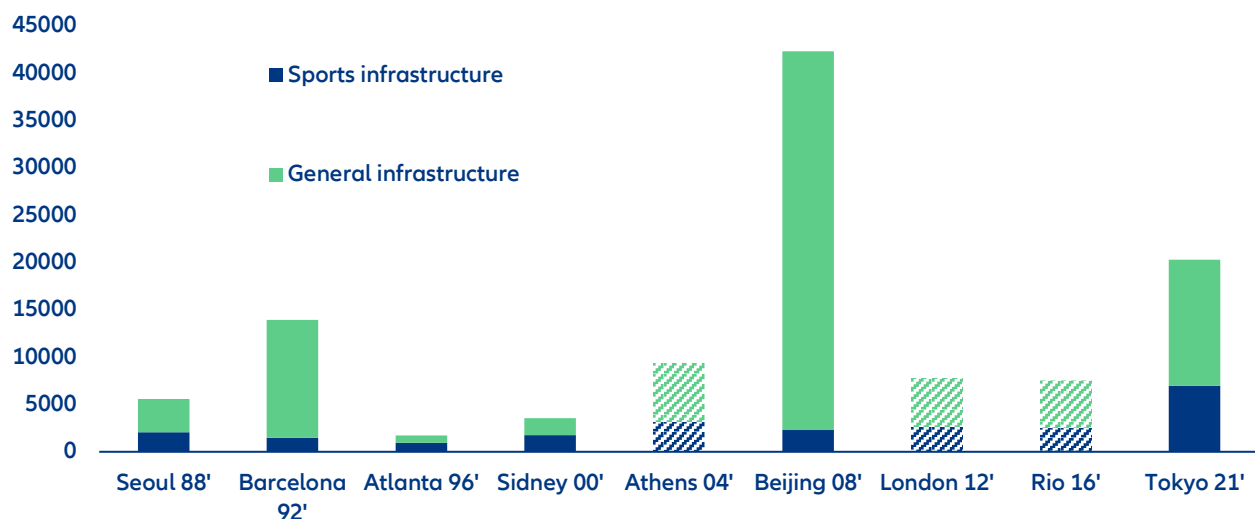
Indeed, some of the most iconic construction bequeathed to us by ancient civilizations were sports related. But accommodating thousands of athletes, not to mention the accompanying media and tourists, from 206 NOCs and territories, necessitates a meticulously organized logistical framework. This includes ensuring smooth connectivity to venues hosting competitions in 50+ disciplines. Such a vast undertaking requires extensive planning and development of a wide range of infrastructure, from transportation networks and accommodation facilities to media centers and security systems. Each of these elements must be carefully coordinated to manage the immense influx of people and ensure that the events proceed seamlessly.

Boosting infrastructure development is one of the clearest benefits of organizing the Olympics. While the direct economic impacts can vary, the infrastructural legacies often include improved transportation systems, enhanced telecommunications and new or upgraded sports facilities. The Beijing 2008 highlighted this with significant investments in public transit and airport

expansions that continue to benefit the city. Similarly, Barcelona 1992 and London 2012 transformed previously neglected areas into vibrant economic zones. Additionally, the Los Angeles 1994 and Munich 1972 Games repurposed athletes’ villages into student housing, showcasing the versatility of Olympic infrastructure. The Grand Paris express project, accelerated to be ready for the upcoming Paris 2024 Olympic Games, is a prime example of how Olympic deadlines can expedite infrastructure projects. While the broader project is planned for completion by 2030, specific segments have been fast-tracked to meet Olympic needs.

Critics often argue that the literature has not demonstrated a unique multiplier effect from these investments compared to other infrastructure projects at different times. Yet, this perspective frequently misses two crucial benefits: hosting the Olympics can serve as a catalyst for broader development (see Figure 12) and imposes a strict timeline that helps prevent the common delays seen in other infrastructure projects. Indeed, some studies suggest that even the act of bidding to host the Olympics positively impacts infrastructure development as it sets plans into motion.

Figure 12: Infrastructure investments on total cost of the Summer edition of the Olympic Games (billions, 2015 USD).



Sources: *Going for the Gold: the economics of the Olympics*, Baade R.A. and Matheson V.A., various national sources, Allianz Research. Graded columns indicate figures contain AZR assumptions.

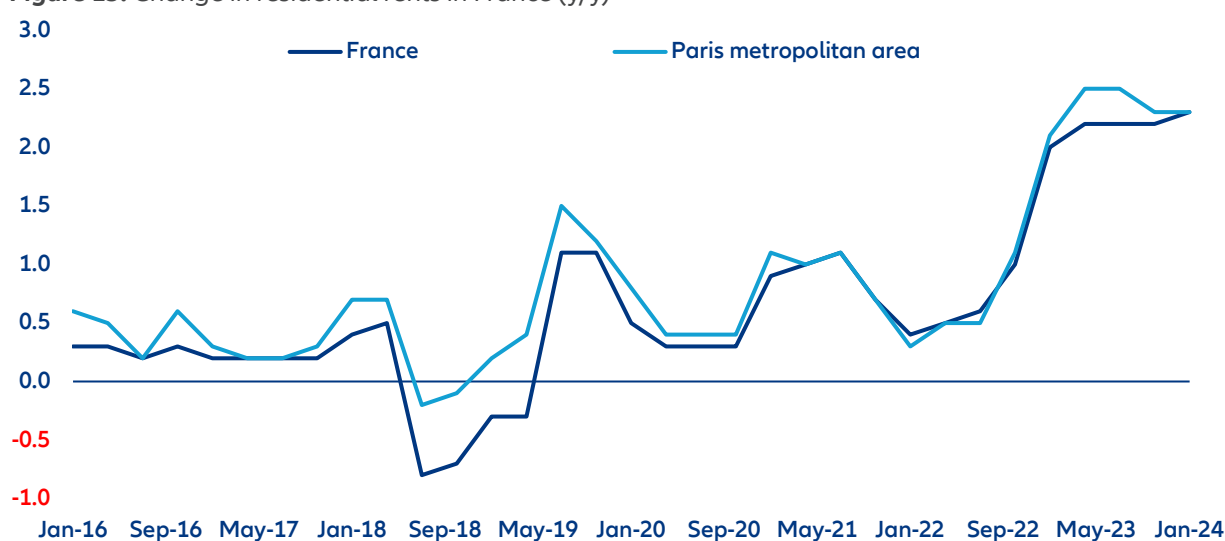
Building futures: The lasting impact of the Olympics on housing

The visitor numbers during the Olympics will surge.

Paris has long been renowned as a prime destination for tourists from around the globe. However, hosting the Olympic Games is poised to elevate its status to new heights, drawing an unprecedented surge in visitor numbers. The event is expected to attract 10,500 athletes, 34,000 journalists and 15.3mn visitors to Paris and its surrounding regions. This influx necessitates significant accommodation capacity to host all visitors. According to Airbnb, Paris 2024 is set to become the biggest hosting event in the company's history, with more guests staying in local homes on the platform than at any previous event.

With increasing availability from alternative sources, the average hotel price in Greater Paris has cooled from its previous peak of EUR759 last September to EUR522 in February, but it is still well above the usual rates. In addition, the impact on the rental market is already visible – the rise in residential rents have accelerated since the beginning of 2022. On average, rents in Paris and other regions in France have increased by +4.4% from January 2022 to January 2024 (Figure 13).

Figure 13: Change in residential rents in France (y/y)



Sources: Insee, Allianz Research

The improved connectivity and infrastructure resulting from the city's preparation for the Olympic Games will contribute to the long-term livability of the city, thereby enhancing the attractiveness and value of residential areas.

One of the key highlights of Paris' bid for the Olympic Games is "Great Express Paris", an infrastructure project that includes four new metro lines and extensions of two existing metro lines around Paris. The project will add 200 kilometers of new track and 68 new stations, connecting major economic areas of the region. Although the project was initiated as early as 2011, the Olympic Games have fast-tracked the process with additional funding and resources available. The expanded public transport network will not only ease the traffic pressure during the Olympics, but also reinvigorate some of the neglected areas outside of the city center. With shorter commuting times, suburban areas will become more attractive as residential options, thereby being better utilized and easing the housing pressure as Paris continues to experience population inflow amid a tight housing supply.

The northern suburbs of the Greater Paris, an underprivileged part of the region, are poised to be the biggest beneficiaries of the Olympic Games. The new Olympic Village, which will house more than 10,000 athletes during the Olympics, was built on a former industrial wasteland located across three communes in the northern suburban area of Greater Paris: Saint-Denis, Saint-Ouen-sur-Seine and L'Île-Saint-Denis. Although this region is characterized by low education levels, high crime rates and a high unemployment rate, the development of the Olympic Village and a new Aquatics Centre, which together account for 80% of the total public investment, along with the improved access to city center, is expected to bring about positive changes. After the Games, the village will be transformed into a community comprising student housing, residential housing, offices, hotels and relevant services, leaving a sustainable legacy of urban renewal and economic revitalization.

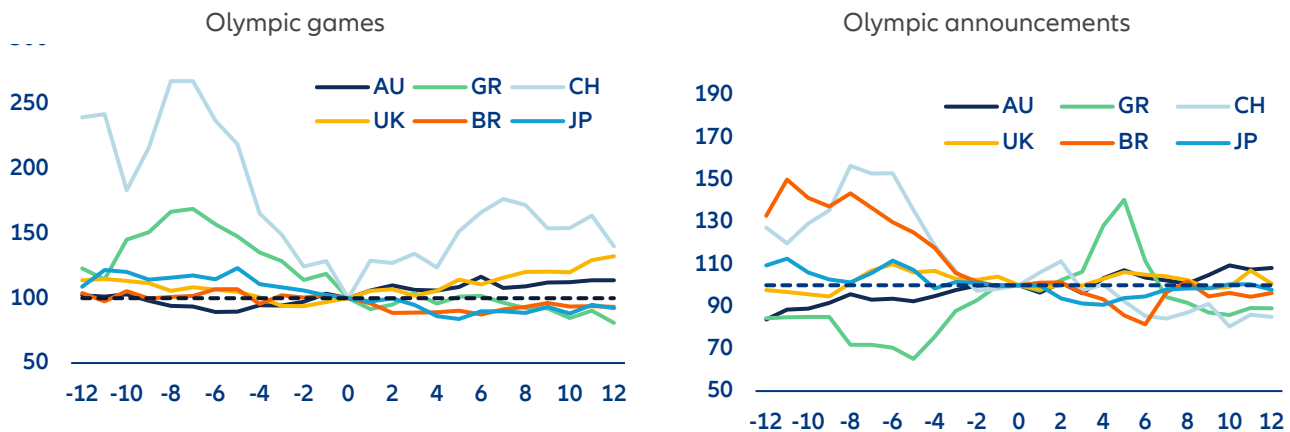
The Olympic dividend

The relationship between capital markets and the Olympics is complex as the multiple variables influencing market valuations make it challenging to isolate the direct effects of the Olympic Games. But there is a compelling argument in its favor as hosting the Olympics typically prompts substantial infrastructure investments in host cities – upgrades to transportation, housing and sports facilities are common. These developments stimulate local economic activity and can positively influence the stock prices of companies involved in these sectors. Furthermore, the influx of tourists during the Games can boost local businesses and elevate the stocks of entities within the tourism and hospitality industries. Sponsorship deals also tend to increase visibility and brand recognition for participating companies, potentially boosting sales and positively affecting their stock prices. However, the financial burdens of hosting the Olympics can be considerable and may not always yield proportional economic returns, potentially leading to increased public debt and adversely affecting credit ratings. After the Games, there can also be a noticeable slowdown in structural demand, which might impact corporate earnings negatively.

With these considerations in mind, various studies have examined the so-called “Olympic dividend” for capital markets. Some research suggests that host cities may reap a long-term economic benefit, manifesting as enhanced trade and investment flows even 20 years post-Olympics. Conversely, other analyses indicate that the immediate market uplift seen during the Olympics could be offset by long-term costs, which may overshadow short-term gains.

In summary, while the Olympics can generate temporary economic and stock market boosts through infrastructure spending and tourism, the long-term outcomes are less predictable and greatly depend on the management of the event and the prevailing economic conditions in the host country. The overall impact of the Olympics on capital markets therefore remains a complex and debated issue and will always depend on the actions taken by the host country (Figure 14).

Figure 14: Relative performance travel & tourism vs broad equity market around Olympic Games (left) and Olympic Games location announcements centered around the date (right) (rebased to 100 in months)



Sources: LSEG Datastream, Allianz Research



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