

Research on the Spillover Effects of Major Sports Events on the Local Economy: An Empirical Analysis Based on the FIFA World Cup

Lerui Li

*Discovery college, Hongkong, China
Lerui135@gmail.com*

Abstract. This study takes the FIFA World Cup, a globally renowned top-level sports event, as the research object and systematically analyzes its multi-faceted spillover effects on the economy of the host country. The study first reviews the relevant theories and literature on the economic impacts of large-scale sports events, clarifying the paths of direct effects, indirect effects, and induced effects. Based on this, the economic spillover effects of the World Cup are divided into three levels: infrastructure investment-driven during the preparation stage, rapid growth in consumption and employment during the event, and industrial transformation and international brand value enhancement during the post-event legacy stage. Through case analysis, it is found that the World Cup has a significant positive impact on the economy of the host country in the short term, but its long-term benefits depend on the subsequent utilization of venues, the continuous operation of tourism brands, and the effective connection of industrial policies. Some host countries face the "white elephant" dilemma and economic slowdown after the event, while Germany and Japan have achieved economic stability and sustainable development through forward-looking planning. The study believes that to fully release the economic spillover effects of the World Cup, it is necessary to break out of the cycle limitation of the event itself, build a long-term governance mechanism and diversified revenue conversion paths, so as to provide theoretical references and practical inspirations for the economic planning of future large-scale sports events' host countries.

Keywords: Mega sports events, FIFA World Cup, Spillover effects, Host economy, Legacy economics

1. Introduction

1.1. Research background and topic

Large-scale sports events have long been regarded as an important engine for promoting regional economic development. From the Olympic Games to the World Cup, the host countries often invest huge amounts of money in building infrastructure and upgrading urban functions and expect that the exposure through the events will drive tourism, trade, and investment growth. The FIFA World Cup,

as the largest single sports event with the largest global audience, has particularly prominent economic influence - the total investment for the 2022 Qatar World Cup exceeded 220 billion US dollars, and the 2014 Brazil World Cup led to an increase of approximately 0.4 percentage points in the national GDP. These data make the economic effect of the World Cup a focus of continuous attention among scholars and policymakers. However, the assessment of the economic effect of the event is not all positive. Baade and Matheson pointed out through a meta-analysis of multiple large-scale sports events that the pre-event economic impact assessment generally adopts an overestimated multiplier effect, resulting in actual benefits far lower than expected, and many events even cannot cover their direct costs [1]. Similarly, Maennig and Richter conducted a comprehensive investigation of a series of major events from the 1996 Atlanta Olympics to the 2006 German World Cup [2]. Their research findings indicated that the existing empirical data were insufficient to support the assertion that "such events can continuously drive regional employment growth and increase residents' income". The gap between expected results and actual outcomes has prompted the academic community to conduct a more cautious reflection on the internal mechanism of the economic effects of sports events: As Preuss pointed out, this influence process is by no means a simple "input equals output" correspondence [3]; instead, it is embedded within multiple transmission paths and is a complex dynamic system influenced by the interaction of numerous exogenous variables.

1.2. Research aims and significance

Regarding the economic impact of sports events, numerous general descriptions have been provided in previous studies. However, there is still a lack of detailed and precise depiction of how the economic spillover effects of mega-events such as the World Cup manifest themselves hierarchically and through what mechanisms they are transmitted. This is precisely the focus of this study - by constructing a hierarchical analysis framework, the economic effects are dissected and examined at different stages and dimensions. In terms of theoretical tools, this paper integrates the Keynesian multiplier theory, the growth pole theory, and the event tourism theory, hoping to establish a more integrated analytical platform for sports event economic research. From an application perspective, the article aims to answer the core question through case comparisons: What conditions must the host country meet to avoid an economic cliff after the event fades away and even transform short-term stimulus into long-term benefits? The refinement of these conditions should be able to feed back into the decision-making process of event planning and heritage management. Of course, an important background is that the empirical basis of most existing literature comes from the 2006 World Cup in Germany and the 2010 World Cup in South Africa. The economic environment at that time was quite different from the current situation. If the old framework is still used to examine recent events, its explanatory power may be reduced. Therefore, this study specifically focuses on the Qatar World Cup and the ongoing World Cup in the United States, Canada, and Mexico, attempting to provide a more dialogic research result that is in line with the current economic reality.

1.3. Research method and structure

This paper adopts a combined approach of literature analysis and case study. Firstly, by reviewing relevant domestic and foreign literature, the theoretical basis of the economic spillover effect of sports events is constructed; Secondly, based on the time dimension and mechanism of effect transmission, the economic impact of the World Cup is divided into three levels: the preparation period, the holding period, and the legacy period; Finally, typical host country cases are selected for

in-depth analysis, and the differences in economic effects under different governance models are compared. The structure of the entire paper is as follows: The second part reviews the literature and elaborates on the theoretical basis; The third part constructs a hierarchical analysis framework for the economic spillover effect of the World Cup; The fourth part conducts case studies; The fifth part summarizes the research conclusions and proposes policy recommendations.

2. Literature review

2.1. Characteristics and economic impact of large-scale sports events

Mega Sporting Events refer to major sports events with global influence, attracting large-scale audience participation and media attention, such as the Olympic Games and the FIFA World Cup. These events have distinct characteristics including large investment scale, short duration, high media exposure, and intensive infrastructure demands. From an economic perspective, large-scale events generate multi-dimensional economic effects on the host location through direct consumption, infrastructure construction, job creation, and tourism revenue. Preuss pointed out that the systematic planning of event legacies is the key to ensuring sustainable economic benefits, and the balance between short-term economic stimulus and long-term development benefits has always been a focus of academic debate [3]. Wang Zhiyuan et al. based on panel data from 280 Chinese cities from 2004 to 2019, using spatial econometric methods, found that professional sports events have a significant promoting effect on economic high-quality development, and the impact effect of high-level leagues is more prominent [4]. This provides new empirical evidence for understanding the economic contribution of events.

2.2. Theoretical framework and mechanism of spillover effects

Spillover Effects in regional economics refer to the positive or negative external impacts that an economic activity in one region has on the surrounding areas. In the context of sports events, spillover effects are mainly transmitted through three mechanisms: First, the mechanism of factor flow, where the capital, talents, and policy resources attracted by the event concentrate in the core cities, creating a "siphoning effect" on the adjacent regions; second, the mechanism of industrial complementarity, where the core area undertakes the functions of providing services and operations for high-end sports events, while the surrounding areas undertake supporting industries such as sports product manufacturing and peripheral tourism services; third, the mechanism of spatial diffusion, where the improvement of transportation infrastructure and the enhancement of brand exposure lead to the overall accessibility and popularity of the region. It is worth noting that spillover effects are not one-way. Studies have shown that large-scale events can generate local economic gains while also potentially causing negative spillover effects on adjacent regions. This "resource competition" effect has been verified in spatial Durbin model analysis. Additionally, the "displacement effect" of events on the leisure industry (i.e., the phenomenon where other leisure activities are crowded out during the event period) is also an important topic in the study of spillover effects.

2.3. Regional economic enhancement through the FIFA World Cup

The FIFA World Cup, as the most globally influential individual sports event, has always been a focus of empirical research on its regional economic impact. The 2014 Brazil World Cup study

revealed that the expected investment failed to fully materialize, expenditures were underestimated while revenues were overestimated, and the actual effectiveness of the event legacy in terms of tourism development and urban transportation fell short of expectations. The 2018 Russia World Cup study provided a more detailed regional analysis perspective. The legacy utilization in four hosting cities in the Volga Federal District and found that the impact of the World Cup on regional GDP showed significant regional differences. The long-term utilization efficiency of tourism infrastructure became the core indicator for evaluating the value of the legacy. The 2022 Qatar World Cup, as the largest investment event in history (exceeding 229 billion US dollars), its legacy planning and tourism transformation received widespread attention. Skift Advisory, based on a survey of 15,000 international travelers from 20 countries, pointed out that the event significantly enhanced the travel intentions of destinations in the Middle East and North Africa. Qatar successfully transformed the country into a MICE destination through the subsequent utilization of event infrastructure (such as hotels, transportation systems, and sports venues). The preliminary research on the 2026 USA-Canada-Mexico World Cup predicted that the event would bring about approximately 40.9 billion US dollars of GDP growth to North America. The host cities in the USA are expected to gain an additional economic activity of 160 million to 620 million US dollars, but the issue of uneven regional income distribution still needs to be paid attention to.

3. Different levels of economic spillover effects of the FIFA World Cup

3.1. Economic growth effect of the host country

3.1.1. Short-term boost to the GDP growth of the host country

The short-term stimulating effect of the World Cup on the GDP of the host country is typically reflected in the quarterly economic data of the year in which the event is held. The 2022 Qatar World Cup provided a rather typical observation sample. During the event, Qatar's GDP growth rate soared from 3.6% in the first quarter to 6.3% in the second quarter, with a month-on-month increase of nearly 57%. The assessment report released by the IMF in the same year also mentioned that the direct impact of the World Cup on Qatar's economy was approximately equivalent to 1% of its GDP, which was roughly at the same level as the short-term stimulating effect of similar large-scale international events. However, if we look at the investment side, the figures are even more astonishing: Qatar invested approximately 200 to 300 billion US dollars in preparing for this event, of which only about 6.5 billion US dollars went towards the construction of sports venues, while the vast majority of the funds were actually spent on the systematic upgrading of urban infrastructure such as transportation, hotels, and communication [5]. These investments were concentrated in the pre- and post-event periods, which undoubtedly created considerable short-term economic pulses, but their nature was more of a "concentrated release" type of pulse rather than a continuous growth engine.

In contrast, the projected scenario for the 2026 World Cup in the United States, Canada, and Mexico appeared to be more "optimistic" - even overly optimistic. In 2025, a report jointly commissioned by FIFA and the World Trade Organization and an independent consulting firm predicted that this event would bring about an additional GDP increase of approximately 40.9 billion US dollars to the three North American countries, with the United States accounting for 17.2 billion US dollars [6]; the expected additional economic activities in the host cities of the United States were estimated to be between 160 million and 620 million US dollars. However, these encouraging figures have sparked widespread skepticism in the academic community [7].

3.1.2. Controversy over the long-term growth capacity of the host country's GDP

Regarding the long-term impact of the World Cup on the economic growth capacity of the host country, there have always been two opposing viewpoints in the academic community. The optimists believe that the infrastructure improvements, accumulation of human capital, and industrial diversification brought about by the event will lay the foundation for sustained economic growth. Qatar saw its non-oil sector's GDP percentage rise from 40% to 45% after the World Cup, and the economic diversification index improved, which is regarded as an example of how the event promoted structural transformation [8]. Data from the Qatar Government Communications Office shows that the direct economic return from the World Cup was approximately 2.2 billion US dollars, and the long-term economic return from 2022 to 2035 is expected to reach 2.7 billion US dollars. At the same time, the number of international tourists increased by 157% after the event.

However, the voices of the pessimists cannot be ignored either. Michael Edwards, a professor of sports finance at North Carolina State University pointed out that most economic impact studies have systematic biases in structure - they tend to calculate the total amount of event-related expenditures and apply economic multipliers to estimate generalized benefits, but often fail to fully account for public hosting costs. More importantly, these studies usually do not compare event-related expenditures with "expenditures that would have occurred regardless of the event", so it is difficult to determine how much economic activity is truly "new" and directly attributable to the event. Based on an analysis of GDP data of previous World Cup host countries since 1982, Goldman Sachs International economists Daly and Njie found that although the World Cup had a slightly positive impact on actual economic output, the statistical significance was not significant, and the long-term impact was almost negligible. This conclusion contrasts sharply with the optimistic predictions of FIFA and the WTO [6].

3.2. Effects on national employment and income growth

3.2.1. Creation of temporary jobs during the event

When it comes to the economic impact of the World Cup, employment data are often the first piece of evidence brought to the fore. During the Qatar World Cup, it was estimated that over 1.5 million jobs were created, with the construction, real estate, and hospitality industries serving as the main employers [5]. The upcoming United States, Canada, and Mexico World Cup in 2026, as reported by Tencent News, is expected to directly provide approximately 3,000 jobs in various cities across the United States, covering areas such as hotels, security, transportation, and event services. For local residents, especially those from the lower-income groups who were previously on the fringes of the labor market, these jobs provided a relatively considerable cash flow during the event period; in addition, the widespread wage premium during the event period significantly enhanced their consumption capacity in the short term.

However, the other side of the issue is that the inherent temporary nature of these jobs determines the fragility of their economic contribution. The end of the event often leads to large-scale layoffs, and this "employment cliff" has repeatedly occurred after each World Cup. The situation in Qatar was slightly better: the continued prosperity of tourism after the event somewhat cushioned the sharp decline in the job market, but the contraction in employment in cyclical industries such as construction was still very obvious, and a large number of workers were unable to smoothly transition to other sectors.

3.2.2. Discussion on income distribution and social equity issues

Income distribution and social equity are the most easily overlooked yet most controversial dimensions in the assessment of the economic impact of the World Cup. The benefits of major events are often highly concentrated in specific industries and regions, while the costs are borne by a broader social group. During the preparation for the 2026 World Cup in Mexico, the San Ursula Coapa indigenous community near the Aztec Stadium was facing multiple pressures such as land deprivation, water resource privatization, and gentrification. The slogan of the community residents, "The World Cup will pass, but deprivation will remain," profoundly reveals the potential harm that large-scale events may cause to vulnerable groups. Low-income residents were forced to move out to make way for the new stadium or transportation routes, losing not only affordable housing but also social networks and cultural identities.

In Qatar, although the event created a large number of jobs, the labor rights of foreign construction workers have long been the subject of international attention and criticism. The impact of rising commodity prices on the living costs of local residents during the event, as well as the competitive allocation of resources between event-related projects and other public services, all exacerbated the inequality in income distribution [5]. The existence of these problems reminds us that the assessment of the economic impact of the World Cup cannot be based solely on total data but must focus on the distribution structure of benefits and the entities that bear the costs.

3.3. Effects on tourism and consumption

3.3.1. Short-term tourist influx and consumption boost during the event

In the economic impact spectrum of the World Cup, the surge in tourism consumption is typically the most significant and easily observable dimension. During the 2022 Qatar World Cup, approximately 1.4 million international tourists entered the country, with a total of 1.18 million visitors in November and December, representing a 300% increase compared to the previous year [8]. During the event, both hotel occupancy rates and average revenue per available room (RevPAR) rose significantly, and consumption in the fields of dining and entertainment also experienced explosive growth. When compared longitudinally, the number of international tourists at the 2010 South Africa World Cup increased by 25%, at the 2014 Brazil World Cup by 10%, and at the 2018 Russia World Cup by over 5 million visitors [9]. These data collectively indicate that the World Cup, as a tourist attraction, has a strong market appeal. It is predicted that the 2026 USA-Mexico-Canada World Cup will attract approximately 6.5 million spectators, and related industries such as tickets, hotels, dining, and transportation will face strong demand [10]. From the perspective of the consumption multiplier, every 1 dollar spent by tourists is expected to drive 2.5 dollars of indirect economic activity, and this multiplier effect reaches its maximum during the event.

3.3.2. Loss of regular tourists and crowding out

However, the influx of tourists during the event period is not without cost. The "Displacement Effect" refers to the phenomenon where accommodation and service prices surge during the event, deterring regular non-sports tourists. Preuss pointed out in his research that unless the host country invests in sustainable tourism infrastructure and marketing, the growth in tourists after the event may quickly fade [3]. The several-fold increase in hotel prices during the event, traffic control and congestion in the city's core area will all have a dampening effect on the regular business and leisure

tourism market. This "Substitution Effect" implies that part of the growth in tourism revenue during the event is merely a result of shifting or advancing consumption that would otherwise occur at other times, rather than representing genuine new demand.

3.4. Effects on infrastructure and urbanization

3.4.1. Upgrades in transportation, communication, and urban infrastructure

Among the various legacies of the World Cup, the role of infrastructure has been particularly prominent. During the preparation period, Qatar built the Doha Metro, expanded Hamad International Airport, and carried out a comprehensive upgrade of the port and road network; after the event, these facilities continued to serve residents' daily travel and business activities [8]. To prepare for the 2026 World Cup, the Dallas-Fort Worth area invested 295 million US dollars in upgrading the AT&T Stadium, while also promoting the "Cotton Belt Multi-functional Pathway" (with an investment of 150 million US dollars) and the DART transportation expansion project. These measures will significantly enhance the city's connectivity and residents' travel convenience in the long term.

From the perspective of urbanization, the World Cup often serves as an important catalyst for urban renewal. Atlanta established its status as a core hub for American football by building the Arthur M. Blank National American Football Training Center; Houston transformed the East District (EaDo) into a permanent entertainment area and invested 50 million US dollars in building a fan festival area [10]. These projects fully utilized the opportunities created by the mega-event and successfully obtained funds and political support that were previously difficult to obtain, thereby accelerating the functional reorganization of urban spaces.

3.4.2. Post-event utilization of sports venues

Among all the legacies of the World Cups, the post-event fate of the sports venues is perhaps the most difficult to handle properly. The shadow of the "White Elephant" project has lingered throughout previous tournaments. After the 2010 World Cup in South Africa, the Cape Town Stadium almost fell into a state of dormancy, becoming a notable case of a significant imbalance between costs and benefits [9]. The legacy of the 2014 World Cup in Brazil was equally unimpressive: many venues were left idle or operated inefficiently after the event, with huge maintenance costs contrasting sharply with dismal operating returns. Even the Russian World Cup, which was relatively more prudent in its investment, failed to achieve satisfactory post-event utilization rates for some venues.

To avoid repeating the same mistakes, Qatar introduced innovative ideas during the stadium design phase. The post-event planning for Al Tamaruma Stadium is representative: the upper tier of the stands will be transformed into a sports clinic and a boutique hotel, while the surrounding plots will be developed into multi-functional sports facilities and retail commercial spaces [8]. At the same time, the application of disassemblable design and modular structures provides a more flexible physical basis for the transformation of the venues' functions. Nevertheless, the actual effectiveness of these forward-looking plans remains to be seen - converting stadiums hosting tens of thousands of people into daily facilities that meet community needs inherently poses a series of complex operational challenges.

4. Conclusion

This article's examination of the economic spillover effects of the World Cup is primarily based on existing research results, covering multiple dimensions such as short-term GDP growth, job creation, tourism consumption stimulation, infrastructure renewal, and the enhancement of international brand influence. At the theoretical level, it integrates Keynesian multiplier theory, growth pole theory, and activity tourism theory, and through horizontal comparisons of events such as the 2022 in Qatar, 2018 in Russia, 2014 in Brazil, and the upcoming 2026 in the United States and Canada, it attempts to extract more general patterns. The consensus of existing evidence is that the World Cup does indeed bring significant short-term economic boosts, but the persistence of these gains is not automatically realized; it highly depends on the host country's ability in heritage planning, post-event utilization of venues, and the coordination of event strategies and overall industrial policies.

However, the applicable scope of such research has obvious constraints. The first is the issue of data sources: a large amount of analysis is based on pre-event predictions and official statistics, and these data often have systematic biases - expected gains are magnified, while the actual costs borne by the public are underestimated [7]. Secondly, although cross-country comparisons are enlightening, they often ignore the structural differences in governance standards, institutional maturity, and existing infrastructure levels among different host countries, meaning that policy experiences cannot be simply replicated across different contexts.

Looking to the future, the academic community needs to introduce more refined longitudinal econometric methods to effectively distinguish the host effect of the World Cup from the fluctuations of the macroeconomic cycle. Synthetic control methods, double difference design combined with extended post-event tracking, have significant value in this direction. Additionally, several emerging issues still require in-depth exploration: the environmental externalities of large-scale events, the new economic spillovers triggered by digital platforms such as streaming media and e-sports, and the uneven distribution of social costs caused by the gentrification promoted by the events. The approaching 2026 World Cup in the United States and Canada, along with its unprecedented tri-national joint hosting model, has brought about regional coordination challenges, making the research on these issues particularly urgent.

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