

The Economic Effects of Provincial Games on Host City Economies in China: A Staggered Difference-in-Differences Analysis

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Abstract. Although sporting events are widely studied, sub-national multi-sport events remain largely neglected in the literature. To address this gap, this study uses a staggered difference-in-differences (DID) design based on an unbalanced panel of approximately 280 prefecture-level cities from 2003 to 2020, to estimate the economic impact of China's provincial games on host cities, supplemented by stacked DID and event-study analyses. Results indicate that hosting provincial games raises fixed-asset investment by roughly 8-10%, social retail sales by about 4.5%, and gross domestic product (GDP) per capita by approximately 4%. These effects are mostly seen in the first two to three years after the event, and no statistically significant effects are found for GDP growth, industrial structure, local fiscal revenue, or employment. Findings suggest that the stimulus mainly works through the infrastructure-investment channel and is stronger in eastern and central regions, in small and medium-sized cities, as well as resource-based cities. Overall, provincial games mostly serve as a short-term demand injection and investment catalyst rather than an engine of sustained growth.

Keywords: Provincial games, urban economy, economic impact, staggered difference-in-differences, sporting events

1. Introduction

Provincial games are comprehensive multi-sport events whose host assignment rotates among prefecture-level cities within each Chinese province, making them one of the most widespread but understudied forms of publicly funded sporting events.

A central question in the economics of sport is whether and how sporting events, particularly sub-national events outside the mega-event category, stimulate urban economic development. Current studies have identified various transmission channels, including consumption, infrastructure investment, city image, and industrial upgrading [1-3]. However, these channels also face offsetting forces such as substitution, leakage, and budgetary crowding-out, so the net economic impact of holding events remains an empirical question [4].

Provincial games have three distinct advantages for identifying the causal economic effects of sporting events. First, the rotating system within the province implies that untreated cities are

exposed to identical provincial policies and macroeconomic shocks. Compared to the usual cross-region comparisons, this provides a clearer counterfactual, even though the choice of host city may still reflect the city's readiness [3]. Second, the staggered timing of treatment across cities permits the use of modern staggered difference-in-differences (DID) estimators that are robust to treatment effect heterogeneity [5-7], which is a methodological advance that the sport event literature has not yet adopted [8]. Third, the large number of host cities across diverse economic contexts enables analysis of heterogeneous effects and transmission mechanisms.

This paper offers causal evidence on the economic impact of provincial games in China. It contributes to the literature in two ways: first, this study examines an entire class of sub-national multi-sport events that existing reviews identify as overlooked [8, 9]; second, it tracks the transmission channels through which these events affect local economies. This study seeks to refine the methodology of sport event impact assessment and to offer practically useful evidence for China's urban policymakers.

2. Literature review

2.1. Economic impact of sporting events

The literature on whether sporting events stimulate host economies is divided, partly because studies differ in event scale, empirical method, and outcome measurement. Evidence supporting positive impacts suggests that event-related spending can generate substantial multiplier effects. Duglio and Beltramo found that each euro invested in the CollonTrek trail event generated EUR 17.62–18.92 in economic return [1]. Lee, Mjelde, and Kwon estimated that the 2012 Yeosu Expo produced US\$658 million in output and 19,029 jobs, providing reference evidence on the economic impact of large-scale hosted events [10]. Li, Blake, and Thomas showed that the Beijing Olympics generated economic benefits, though the scale was modest relative to the host economy's size [11]. Crespo Sogas et al. incorporated both tangible and intangible returns (health, tourism image) and found positive net social returns for the MedSailing event [12]. Tian documented how China's National Games accelerated infrastructure upgrading, industrial restructuring, and employment growth in host cities [2]. Gan, Deng, and Zhao demonstrated that city marathons increase inbound overnight tourists by approximately 100,000 per year through pre-event marketing, agglomeration, and legacy effects [3].

Conversely, studies on sports facilities and mega-events suggest that public investment in event infrastructure does not necessarily translate into sustained local economic development. Siegfried and Zimbalist concluded that independent studies uniformly find no statistically significant positive relationship between sports facility construction and economic development [4]. They identified three offsetting forces: the substitution effect (event spending displaces other local expenditure), leakage effects (revenue flows to non-local stakeholders), and budgetary effects (public subsidies crowd out other investments). Wolfe et al. offered a critical perspective through concepts such as "geoporn" and "Potemkin neoliberalism," arguing that mega-events often benefit elite interests while imposing costs on marginalized residents [13]. Massiani systematically reviewed 41 computable general equilibrium (CGE) studies and warned that many overstate net benefits by failing to properly account for substitution effects and the peculiar temporal pattern of event-related outlays [14].

2.2. Methodological approaches

Empirical methods used to assess the economic impact of events can be roughly divided into two types based on the questions they address: structural models estimate the economic flows triggered by the event, while reduced-form designs identify the actual causal effects caused by hosting the activities. The first category is structural modelling, in which input-output (IO) analysis estimates multiplier effects from visitor expenditures [1], while CGE modelling incorporates resource constraints, price adjustments, and intersectoral linkages [14]. The second is reduced-form causal inference: DID uses changes in the timing and location of events to identify causal effects, applied to marathons, large-scale recreational events, and policy interventions studied via staggered DID [3, 15-17]. Structural equation modelling (SEM) has also been employed to examine the social dimensions of event support [18]. Chutipongdech reviewed these approaches and emphasized that method choice depends on data availability, event scale, and the policy question at hand [8].

2.3. Research gap

Despite the breadth of this literature, several important gaps remain. First, the existing evidence base is heavily skewed toward mega-events (Olympics, World Cups, Expos) at one extreme and single-sport participation events (marathons) at the other, with comprehensive multi-sport events at the sub-national level — such as China's provincial games — remaining largely underexamined. Second, the majority of studies focus on a single outcome (typically tourism arrivals or gross domestic product (GDP)) without linking investment, consumption, fiscal, labour-market, and industrial-structure outcomes to specific transmission channels. Third, the empirical literature on sport events has incorporated recent methodological advances in the staggered DID literature only gradually, including estimators that are robust to treatment effect heterogeneity and dynamic event-study designs [5-7]. This paper aims to fill these gaps by combining causal identification, dynamic event-study analysis, mechanism tests, and heterogeneity analysis in the study of provincial games in China, exploiting their within-province rotation structure to achieve credible identification while examining a broad set of economic outcomes and transmission mechanisms.

3. Research design

3.1. Model specification

3.1.1. Baseline staggered DID model

To identify the causal effect of hosting provincial games on urban economic outcomes, this study exploits the staggered adoption of provincial games across Chinese prefecture-level cities as a quasi-natural experiment. Because hosting years differ across cities, the timing of treatment varies across units, making the staggered DID framework appropriate. The baseline specification is as follows:

$$Y_{it} = \alpha_0 + \alpha_1 \cdot Treat_{it} + \sum \beta_j \cdot Control_{jit} + \gamma_t + \eta_i + \varepsilon_{it} \quad (1)$$

where t stands for the year and i for the city. City i 's economic results in year t are represented by Y_{it} , which includes GDP per capita (in log), GDP growth rate, tertiary industry share, fixed asset investment (in log), social retail sales (in log), local fiscal revenue (in log), and employment (in log).

The primary explanatory variable, $Treat_{it}$, is equal to 1 if city i has hosted a provincial game by year t and in every year after that, and 0 otherwise. The term "year fixed effects" (γ_t) refers to all year-specific common shocks, including national policies and macroeconomic variations. City fixed effects, denoted by η_i , account for all time-invariant city-specific features. $Control_{jit}$ is a vector of time-varying city-level control variables. ε_{it} is the random error term. Standard errors are clustered at the city level to account for serial correlation within each city over time.

The coefficient of interest is α_1 , which captures the average treatment effect on the treated (ATT) of hosting provincial games on urban economic outcomes. Because host assignment rotates among prefecture-level cities within each province, untreated cities in the same province share identical provincial policies and macroeconomic shocks, providing a more credible counterfactual for the treated cities than comparisons across unrelated regions.

3.1.2. Dynamic effects: event study approach

The staggered DID estimator in Equation (1) estimates the average post-treatment effect of hosting provincial games. To examine the dynamic evolution of the treatment effect and to test the parallel trend assumption, this study adopts an event study specification following Beck et al. [19]:

$$Y_{it} = \alpha_0 + \sum_k \beta_k \cdot D_{it}^k + \sum_j \beta_j \cdot Control_{jit} + \gamma_t + \eta_i + \varepsilon_{it} \quad (2)$$

where D_{it}^k is a series of relative time dummy variables. k denotes the number of years relative to city i 's first provincial game hosting year, with $k = -M, \dots, -2, -1, 0, +1, \dots, +N$. The period $k = -1$ (one year before the event) is set as the reference group and omitted; the endpoints are binned at $k = -10$ and $k = +10$. The coefficients β_k for $k < 0$ test the parallel trend assumption: if they are jointly insignificant and close to zero, the treatment and control groups followed similar economic trajectories before the provincial game. The coefficients β_k for $k \geq 0$ trace the dynamic post-treatment effects, revealing whether the economic impact is a short-term pulse or persists over multiple years.

3.2. Robustness checks

3.2.1. Bacon decomposition

The conventional two-way fixed effects (TWFE) estimator in staggered DID contexts may be biased when treatment effects are heterogeneous across groups and over time, as an increasing amount of econometric research has shown [20]. The TWFE estimator is a weighted average of multiple 2x2 DID comparisons, potentially problematic comparisons in which already-treated units serve as controls for later-treated units. If these bad comparisons carry substantial weight and the treatment effects are heterogeneous, the TWFE estimate can be contaminated.

Following Goodman-Bacon, this study conducts a Bacon decomposition to diagnose the composition of the TWFE estimator [20]. The decomposition partitions the total TWFE estimate into three types of 2x2 DID estimators: (i) earlier-treated vs never-treated, (ii) earlier-treated vs later-treated, and (iii) later-treated vs earlier-treated. The weight and coefficient of each category are reported to assess the severity of the potential bias.

3.2.2. Robust staggered DID estimators

To correct for the potential bias identified above, this study implements the stacked DID approach, which constructs a clean dataset by stacking event-specific subsamples: for each treatment cohort g , the sub-experiment consists of cohort- g cities and cities that are not treated within the relevant sample window of five years before and after g , and the stacked dataset is estimated with city-by-cohort and year-by-cohort fixed effects [21]. Cohorts whose first treatment year falls in or before 2003 are excluded because no pre-treatment years are observed for them in the sample. Consistency across these estimators provides evidence that the baseline results are not driven by TWFE bias.

3.3. Mechanism analysis

The baseline analysis establishes the average treatment effect of hosting provincial games on urban economic outcomes. To uncover the underlying transmission channels, the analysis employs a mediation framework following Wen and Ye [22]. The mediating effect model is specified as:

$$M_{it} = \alpha_0 + \alpha_1 \cdot Treat_{it} + \sum \beta_j \cdot Control_{jit} + \gamma_t + \eta_i + \varepsilon_{it} \quad (3)$$

$$Y_{it} = \alpha_0 + \alpha_1' \cdot Treat_{it} + \theta \cdot M_{it} + \sum \beta_j \cdot Control_{jit} + \gamma_t + \eta_i + \varepsilon_{it} \quad (4)$$

where M_{it} is the mediating variable. Equation (3) examines the effect of hosting provincial games on the mediator. Equation (4) includes both the treatment variable and the mediator to explain the economic outcome. A mediation effect is supported if: (i) the coefficient α_1 in Equation (3) is statistically significant, indicating that provincial games affect the mediator; (ii) the coefficient θ in Equation (4) is statistically significant, indicating that the mediator affects the economic outcome; and (iii) the coefficient α_1' in Equation (4) is smaller in absolute magnitude than the baseline coefficient α_1 in Equation (1), suggesting a partial mediation.

Three potential mediating channels are considered: infrastructure investment, tourism revenue, and industrial structure upgrading.

First, the infrastructure channel is captured by the logarithm of fixed-asset investment. Provincial games typically require substantial investment in stadium construction, athletes' villages, transport facilities, and urban infrastructure upgrades, and these investments may affect the local economy both during the preparation period and after the event by directly boosting construction-sector activity. The second is tourism revenue, measured by the logarithm of domestic tourism revenue. The influx of athletes, coaches, officials, and spectators during the event period generates additional consumption in accommodation, catering, and transportation, although this short-run effect may be only partially captured by annual tourism revenue data. The third is industrial structure upgrading, proxied by the share of tertiary industry in GDP. The hosting of provincial games may accelerate the transition from secondary to tertiary industries by promoting service-sector development.

3.4. Variables and data

3.4.1. Dependent variables

Following the sport event impact literature, this study selects multiple outcome variables to capture different dimensions of economic impact [23]. The primary outcome is GDP per capita (in log), which reflects overall economic output adjusted for population size. Secondary outcomes include GDP growth rate (short-term economic stimulus), tertiary industry share (industrial structure upgrading), fixed-asset investment (infrastructure investment channel), social retail sales (consumption effect), local fiscal revenue (fiscal return), and employment (labour market effect).

3.4.2. Core explanatory variable

The core explanatory variable, $Treat_{it}$, is a dummy variable that equals 1 if city i has hosted a provincial game in year t or any previous year, and 0 otherwise. The host city and year information is manually collected from the Baidu Baike entry for each province's provincial games and cross-checked with provincial sports bureau announcements and local government work reports. Cities whose first hosting year falls after 2020 are never treated within the sample period and are assigned to the control group.

3.4.3. Mediating variables

Three mediating variables are constructed. Infrastructure investment is measured by the logarithm of fixed-asset investment. Tourism revenue is measured by the logarithm of domestic tourism revenue. Industrial structure upgrading is proxied by the share of tertiary industry value added in GDP.

3.4.4. Control variables

Following existing studies, this study selects control variables from four dimensions: city scale (logarithm of year-end population, logarithm of administrative area), government capacity (logarithm of per-capita fiscal expenditure), human capital (logarithm of university enrolment), and infrastructure and public service level (logarithm of per-capita urban road area, hospital beds per 10,000 persons) [16, 17]. The urbanisation rate is additionally controlled for to capture the stage of urban development.

3.4.5. Data source

The city-level economic data are obtained from the China City Statistical Yearbook (2003-2020) and the China Statistical Yearbook for Regional Economy [24, 25]. The provincial game hosting information is manually collected from Baidu Baike and provincial sports bureau websites. The sample is an unbalanced panel of approximately 280 prefecture-level cities from 2003 to 2020, with variation in observations mainly reflecting differences in data availability across outcomes. Tourism revenue data are supplemented from the China Tourism Statistical Yearbook where available [26].

3.5. Heterogeneity analysis

The economic impact of provincial games may vary systematically across cities with different characteristics. Subgroup analyses are performed by re-estimating Equation (1) using subsamples

defined along three dimensions.

By city size. Cities are classified by their sample-period average year-end total population into small (<2.5 million), medium (2.5-5 million), and large (>5 million) groups. Because the official State Council classification is based on the permanent population of urban districts, which is unavailable for the full sample, the official thresholds of 0.5 and 1 million are therefore scaled upward to match the city-wide population concept used here [27]. Medium and large cities typically have better absorptive capacity for event-driven investment and a more developed service sector, but smaller cities may experience larger marginal effects due to lower baseline economic activity.

For geographic region, the sample is split into eastern, central, western, and northeastern regions using China's official regional classification. Provinces in less developed regions may invest more heavily in infrastructure for provincial games relative to their existing capital stock, potentially generating larger economic returns.

By resource endowment. Following the National Sustainable Development Plan for Resource-Based Cities, cities are classified into resource-based and non-resource-based categories [28]. Resource-based cities, whose economies are dominated by extractive industries, may exhibit weaker linkages between event-driven investment and broader economic growth.

4. Empirical results

4.1. Baseline results

Table 1 reports the baseline staggered DID estimates of Equation (1) for the seven economic outcomes. All specifications include city and year fixed effects and the full set of control variables, with standard errors clustered at the city level.

The coefficient on Treat for log GDP per capita is 0.042 and significant at the 10% level, indicating that hosting a provincial game raises per-capita GDP by approximately 4.3% on average. The effects are considerably stronger and more precisely estimated for the two demand-side outcomes: fixed-asset investment increases by about 10.1% (coefficient 0.096, significant at the 5% level), and social retail sales increase by about 4.6% (coefficient 0.045, significant at the 1% level). In contrast, the estimated effects on the GDP growth rate, tertiary industry share, local fiscal revenue, and employment are all statistically insignificant. These results suggest that the economic stimulus of provincial games is concentrated in investment and consumption rather than in broad-based improvements in growth, industrial structure, fiscal capacity, or the labour market.

Table 1. Baseline staggered DID

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_gdp_pc	gdp_growth	tertiary_share	ln_fai	ln_retail	ln_fiscal_rev	ln_employ
treat	0.042*	-0.254	-0.588	0.096**	0.045***	0.034	-0.025
	(0.022)	(0.301)	(0.476)	(0.044)	(0.017)	(0.021)	(0.027)
ln_pop	0.227***	5.243***	-4.744***	1.351***	0.600***	0.953***	0.782***
	(0.086)	(1.121)	(1.478)	(0.150)	(0.074)	(0.067)	(0.093)
ln_area	0.083***	0.723*	0.235	0.057	0.080***	0.064***	0.169***
	(0.024)	(0.388)	(0.489)	(0.046)	(0.019)	(0.022)	(0.039)
ln_fiscal_exp	0.500***	4.784***	-5.732***	1.060***	0.180***	0.738***	0.051

Table 1. (continued)

	(0.070)	(0.676)	(1.060)	(0.107)	(0.032)	(0.065)	(0.040)
ln_univ_stu	0.041**	0.246	0.143	0.070**	0.022	0.004	0.022
	(0.020)	(0.267)	(0.667)	(0.031)	(0.015)	(0.018)	(0.024)
ln_road_area	0.078***	-0.134	-0.452	0.105***	0.050***	0.040**	0.035*
	(0.016)	(0.203)	(0.350)	(0.026)	(0.013)	(0.016)	(0.020)
bed_pc	0.000	0.004	0.016	0.001	0.004***	0.002**	0.007***
	(0.001)	(0.014)	(0.019)	(0.002)	(0.001)	(0.001)	(0.002)
urban_rate	0.250***	1.340	0.673	0.424***	0.078	0.272***	0.329***
	(0.083)	(1.046)	(1.767)	(0.143)	(0.098)	(0.083)	(0.119)
observation	4825	4829	4838	4843	4831	4843	4828
adjustedR ²	0.952	0.550	0.848	0.942	0.979	0.983	0.948

4.2. Parallel trends and dynamic effects

Figure 1 reports the event-study estimates of Equation (2). For log GDP per capita, the pre-treatment relative-time coefficients are small in magnitude and statistically insignificant, indicating that treated and control cities followed parallel economic trajectories prior to hosting. The parallel-trend assumption is therefore supported.

The post-treatment coefficients reveal a clear dynamic pattern: the effect on log GDP per capita rises after the event and is concentrated in the first two to three years before fading to zero, consistent with a short-run investment-and-consumption pulse rather than a permanent level shift.

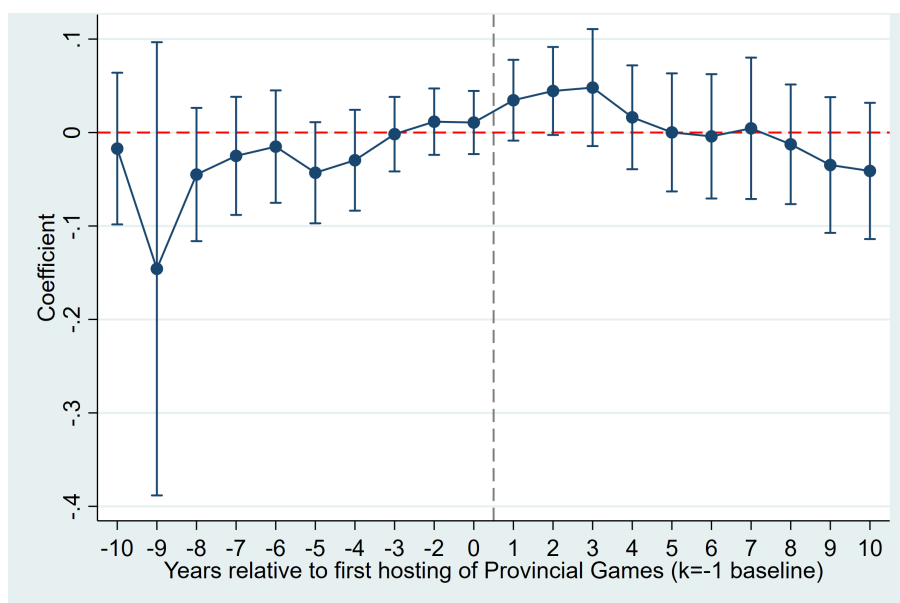


Figure 1. Parallel trends test: ln (GDP per capita)

4.3. Robustness checks

4.3.1. Bacon decomposition

Figure 2 reports the Goodman-Bacon decomposition of the TWFE estimator for log GDP per capita [20]. Comparisons between treated and never-treated cities account for most of the overall estimate, while the weight on the potentially problematic later-treated versus earlier-treated comparisons is small. The TWFE estimates are therefore unlikely to be materially affected by negative-weighting bias.

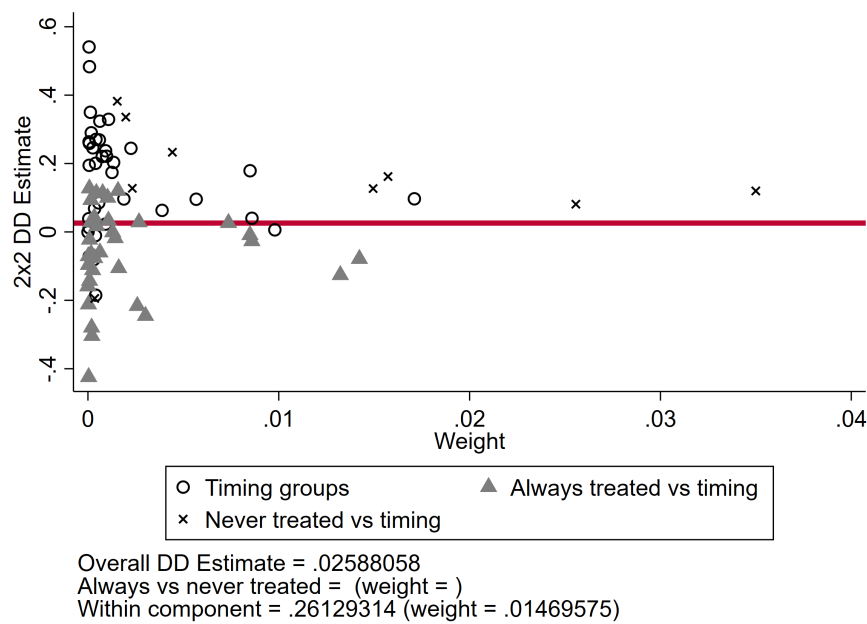


Figure 2. Bacon decomposition

4.3.2. Stacked DID estimates

The stacked DID estimates, based on the stacked dataset of cohort-specific sub-experiments (approximately 15,000 observations), corroborate the baseline findings: the coefficient on the treatment dummy is 0.037 for log GDP per capita (significant at the 5% level), 0.078 for log fixed-asset investment (significant at the 10% level), and 0.045 for log retail sales (significant at the 1% level), while the effects on GDP growth, tertiary industry share, fiscal revenue, and employment remain insignificant. The persistence of the investment, consumption, and per-capita GDP effects in a design that avoids already-treated units serving as controls strengthens confidence in the baseline conclusions.

4.4. Mechanism analysis

The mediation analysis proceeds in two steps (Equations (3) and (4)), with Table 2 reporting the outcome regressions that include the mediator. In the first step (Equation (3)), hosting a provincial game significantly raises fixed-asset investment by 10.1% (significant at the 5% level), whereas the effects on tourism revenue (-0.005) and tertiary industry share (-0.588) are statistically insignificant.

The investment channel therefore meets the first-stage requirement, while the tourism and industrial-structure channels do not.

In the second step (Equation (4)), when fixed-asset investment is added to the outcome equation for log GDP per capita, its coefficient is 0.192 and significant at the 1% level, while the coefficient on Treat declines from 0.042 to 0.023 and becomes insignificant. Similarly, in the equation for log retail sales, the mediator's coefficient is 0.125 (significant at the 1% level) and the Treat coefficient shrinks from 0.045 to 0.033, remaining significant at the 5% level. Both patterns satisfy the criteria for partial mediation: provincial games stimulate investment, which in turn raises output and consumption. By contrast, tourism revenue and industrial-structure upgrading are not supported as mediating channels in the current analysis because their first-stage effects are not statistically significant.

Table 2. Mediation: outcome equation with mediators

	(1)	(2)	(3)	(4)	(5)	(6)
	ln_gdp_pc	gdp_growth	tertiary_share	ln_retail	ln_fiscal_rev	ln_employ
treat	0.023 (0.018)	-0.456* (0.272)	-0.364 (0.459)	0.033** (0.016)	0.024 (0.022)	-0.027 (0.027)
ln_fai	0.192*** (0.021)	1.898*** (0.264)	-2.284*** (0.389)	0.125*** (0.017)	0.113*** (0.021)	0.018 (0.018)
ln_pop	-0.028 (0.089)	3.220*** (1.047)	-1.662 (1.536)	0.431*** (0.072)	0.801*** (0.075)	0.757*** (0.095)
ln_area	0.073*** (0.020)	0.382 (0.307)	0.366 (0.484)	0.073*** (0.017)	0.058*** (0.021)	0.168*** (0.039)
ln_fiscal_exp	0.300*** (0.070)	3.126*** (0.633)	-3.313*** (1.072)	0.048 (0.032)	0.618*** (0.069)	0.032 (0.038)
ln_univ_stu	0.028 (0.018)	0.128 (0.234)	0.304 (0.644)	0.013 (0.015)	-0.004 (0.018)	0.021 (0.024)
ln_road_area	0.058*** (0.015)	-0.207 (0.181)	-0.212 (0.333)	0.037*** (0.012)	0.028* (0.015)	0.033 (0.020)
bed_pc	-0.000 (0.001)	0.008 (0.012)	0.018 (0.018)	0.004*** (0.001)	0.002** (0.001)	0.007*** (0.002)
urban_rate	0.167** (0.075)	0.511 (0.950)	1.634 (1.758)	0.025 (0.099)	0.224*** (0.082)	0.321*** (0.119)
Observation	4825	4827	4838	4831	4843	4828
Adjusted R ²	0.956	0.667	0.853	0.980	0.984	0.948

4.5. Heterogeneity analysis

Figure 3 reports the subgroup estimates of the treatment effect for the seven outcomes. The baseline effects differ substantially across city characteristics.

By city-size group, the stimulus is concentrated in small and medium-sized cities. The investment effect is largest in medium-sized cities (0.149, significant at the 5% level), and the consumption effect is significant in both small (0.074, 10% level) and medium-sized cities (0.041, 10% level). In large cities with more than 5 million people, no coefficient among the seven is statistically significant, suggesting that the marginal effect of provincial games diminishes with the scale of the host economy.

By geographic region, the effects are concentrated in eastern and central China. In eastern cities, fixed-asset investment rises by 14.1% and retail sales by 7.5%, both significant at the 1-5% level; in central cities, investment rises by 10.0% (5% level), although employment declines marginally (-0.110, 10% level). No significant positive effects are detected in western or northeastern cities, where event-driven investment may be limited relative to the local capital stock or absorbed by structural economic constraints.

By resource endowment, resource-based cities exhibit significant gains in fixed-asset investment (0.122, 10% level), retail sales (0.057, 1% level), and fiscal revenue (0.078, 1% level), whereas none of the coefficients is significant in non-resource-based cities. Contrary to the expectation of weaker linkages in extractive economies, provincial games appear to deliver a relatively strong demand-side stimulus for resource-based cities, possibly because these cities face stronger pressure to diversify local investment and consumption channels.

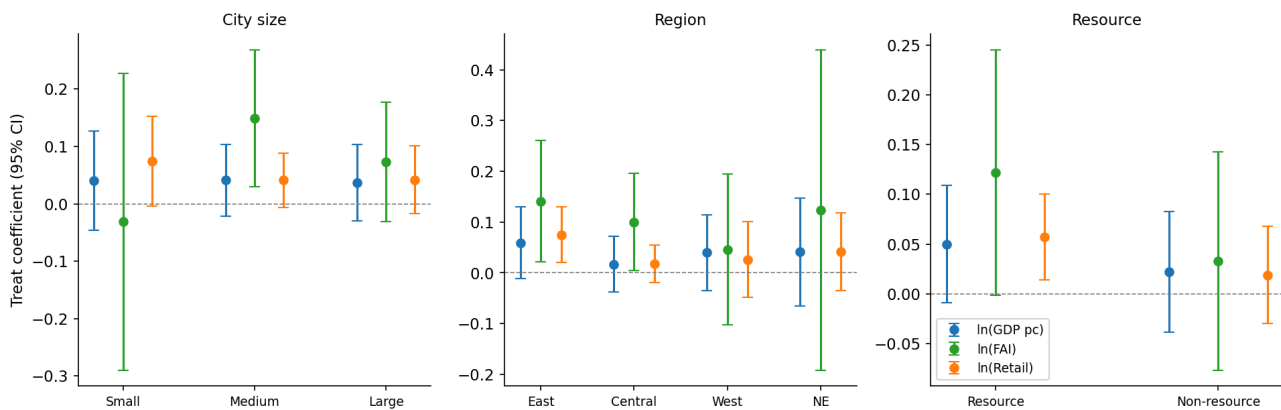


Figure 3. Heterogeneity of treatment effects

5. Conclusions

This paper provides new causal evidence on the economic impact of China's provincial games by exploiting the within-province rotation of host cities in a staggered DID framework applied to an unbalanced panel of approximately 280 prefecture-level cities over 2003-2020.

This study yields three main findings. First, hosting a provincial game produces a measurable but limited economic stimulus: fixed-asset investment rises by roughly 8-10%, social retail sales by about 4.5%, and GDP per capita by approximately 4%. These effects are concentrated in the first two to three years after the event, with no significant effects on GDP growth, industrial structure, fiscal revenue, or employment. Second, the stimulus mainly operates through the infrastructure-

investment channel. Third, the effects are stronger in small and medium-sized cities, eastern and central regions, and resource-based cities.

These findings have clear policy implications. Provincial games mainly serve as an investment catalyst for host cities rather than as an engine of sustained economic growth. City governments weighing bids for the games should moderate expectations of long-term growth and focus on turning event-driven infrastructure into durable productive capacity.

Two limitations qualify the conclusions. First, the selection of host city is not completely random, as hosting rights typically require a formal bid that reflects the provincial government's assessment of city readiness. Second, the availability of data limits the sample to 2003-2020 and the mediation analysis is restricted to observed channels, which may limit the generalizability of the results.

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