

The tertiary industry effect of urban football leagues: a Difference-in-Differences test based on the "Jiangsu Super League"

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Abstract. This study employs the Difference-in-Differences (DID) method, using the 2025 Jiangsu City Football Super League ("Jiangsu Super League") as a quasi-natural experiment to rigorously examine the net effect of the Jiangsu City Football Super League on the regional economy. The study constructs an econometric model that includes time effects, regional effects, and interaction terms, and then conducts robustness tests and heterogeneity analysis. The findings show that the establishment of the Jiangsu City Football League significantly promoted the growth of the tertiary industry value-added in Jiangsu Province, with a relative growth rate of approximately 20.28%; the effect is particularly pronounced in medium and small cities such as Taizhou and Suqian. This economic benefit is fully verified by the parallel trends test and robustness tests, has high causal credibility, and provides new insights for the development of the tertiary industry in other cities.

Keywords: Jiangsu Super League, city football league, tertiary industry, Difference-in-Differences method, causal inference

1. Introduction

In 2025, Jiangsu Province established the Jiangsu City Football Super League, marking a new stage in the development of sports in Jiangsu. The "Jiangsu Super League" integrates sports competition, cultural exhibition, and economic effects, and has become an important platform for showcasing Jiangsu's sports stature, promoting sports consumption, and driving the local economy. In recent years, the contribution of the sports industry to economic growth has become a shared concern of academia and policymakers [1], and urban sports events are also regarded as an important lever for boosting domestic demand and promoting industrial upgrading. The development of the sports industry may be both a cause of economic growth and a result of economic prosperity, which creates a problem of "reverse causality"; international sports economics research also shows that the economic effects of sports events vary significantly, and scientific identification methods are needed to distinguish the true effects [2]. Therefore, this study adopts the Difference-in-Differences (DID) method for causal inference [3, 4], makes full use of pre-policy regional and temporal information through a

quasi-natural experiment design, strictly isolates the separate contribution of the Jiangsu Super League event, and provides rigorous econometric evidence for the evaluation of the economic effects of sports events.

2. Theoretical mechanism through which the sports industry drives economic growth

2.1. Multiplier effect theory

According to Keynes's multiplier effect theory, as an economic activity, a sports event generates economic increments greater than the initial input through the transmission of the industrial chain, as initial investment and direct consumption produce economic increments exceeding the initial input [5]. The Jiangsu Super League attracts a large number of spectators and participants, directly driving ticket spending by the spectator group, purchases of related merchandise, and accommodation and catering consumption by the participant group, which are converted into cash flow within the region. Based on the economic growth effect, major sports events have a significant promoting effect on urban economic development, especially the pulling effect on the tertiary industry [6]. The Jiangsu Super League not only drives the development of the sports industry, but also promotes the growth of related industries such as tourism, catering, accommodation, and transportation through the event. This linkage effect is verified in the empirical analysis of this paper—the holding of the "Jiangsu Super League" generated a net increase of about 20.28% in the tertiary industry value-added of Jiangsu Province, which fully proves that sports events activate the consumption level within the region through the multiplier effect, forming a "event + consumption" development model.

2.2. Industrial structure evolution theory

According to the Petty–Clark theorem and Kuznets's industrial structure evolution theory, as per capita income rises, labor and capital spontaneously shift from the primary and secondary industries to the tertiary industry, and the core sign of high-quality economic development is the servitization and upgrading of the industrial structure [7]. As an important part of the modern service industry, the development of the sports industry is itself a manifestation of the optimization and upgrading of the economic structure. The holding of the Jiangsu Super League, through the supply-side reform mechanism, injects high-value-added modern service industry momentum into the regional economy. On the one hand, event operation creates a large number of high-skilled jobs in sports management, media planning, and creative design, optimizing the human capital structure; the high-quality development of the sports industry is an important path for economic transformation and upgrading [1], and the heterogeneity analysis results of this paper further corroborate this theoretical logic: Northern Jiangsu is in a critical period of transition from the late stage of industrialization to the post-industrialization stage, and as an external economic shock, the Jiangsu Super League event effectively compensates for the structural gap in the development of the service industry and accelerates the leap of its industrial structure from traditional industry to modern service industry.

3. Research methods and data

3.1. Principles and content of the difference-in-differences method

3.1.1. Theoretical basis of the DID method

The Difference-in-Differences (DID) method is one of the widely used strategies in causal inference [3]. DID eliminates time-invariant regional differences and region-invariant time trends through the double comparison of the regional dimension and the time dimension, thereby effectively solving the causal identification problem [4].

3.1.2. Basic model specification

The DID baseline model is specified as Equation (1):

$$y_{it} = \alpha + \beta_1 T_i + \beta_2 A_t + \beta_3 (T_i \times A_t) + X'_{it} \gamma + \mu_i + \lambda_t + \epsilon_{it} \quad (1)$$

where:

y_{it} : the dependent variable of region i in period t 's dependent variable

T_i : regional treatment dummy variable (Jiangsu = 1, control group = 0)

A_t : time treatment dummy variable (2025 and after = 1, 2016-2024 = 0)

$T_i \times A_t$: interaction term (β_3 : policy effect)

X_{it} : vector of control variables

μ_i, λ_t : region and year fixed effects

ϵ_{it} : random error term

3.1.3. Parallel trends assumption

The core identifying condition of the DID method is the parallel trends assumption [8]. Before the policy is implemented, the dependent variables of the treatment group and the control group follow the same trend. If Jiangsu's GDP originally had a high growth trend, and we attribute all the rapid growth after 2025 to the Jiangsu Super League event, we fall into a causal fallacy. The parallel trends assumption ensures that the treatment group and the control group can be accurately compared through the comparison of pre-policy data [9].

3.1.4. Falsification test

After the model is established, the parallel trends assumption is verified through a falsification test [10]. The approach is to virtually move the policy time point forward and re-estimate the DID. If the coefficient of the virtual policy is not statistically significant, the parallel trends assumption holds.

3.2. Progress in empirical research on the economic effects of sports events

Existing research mainly adopts the following methods to evaluate the economic effects of sports events. The descriptive statistics method counts the direct income, employment, and tax revenue created by events, but it is difficult to distinguish "causality" from "correlation"; the event study method uses a more flexible time window to analyze the impact of events on specific indicators, but there may still be confounding variable bias. The DID method achieves strict causal identification through quasi-natural experiments and has been applied in multiple fields [11, 12].

3.3. Specific specification of the DID model

This study establishes the following model as Equation (2):

$$\ln GDP_{it}^{3rd} = \alpha + \beta_1 Jiangsu_i + \beta_2 Post2025_t + \beta_3 (Jiangsu_i \times Post2025_t) + \sum_{j=1}^k \gamma_j X_{jit} + \mu_i + \lambda_t + \epsilon_{it} \quad (2)$$

where:

$\ln GDP_{it}^{3rd}$: the dependent variable of region i in year t

$Jiangsu_i = 1$ (Jiangsu), $Jiangsu_i = 0$ (control group)

$Post2025_t = 1$ ($t \geq 2025$), $Post2025_t = 0$ ($t < 2025$)

β_3 : DID estimator (policy effect)

3.4. Definition of key variables

Dependent variable: $\ln GDP_{it}^{3rd}$

Treatment variable: $Jiangsu_i$ and $Post2025_t$

Using the tertiary industry value-added of each province as the main measure: compared with the total GDP of each province, the tertiary industry value-added better reflects the direct pulling effect of sports events. $Jiangsu_i$ is the regional dummy variable (Jiangsu = 1, others = 0); $Post2025_t$ is the time dummy variable (2025 and after = 1, 2016–2024 = 0).

3.5. Data sources and sample

Sample selection: the time range is 2016–2025, and the regional scope covers Jiangsu (treatment group) and 70 prefecture-level cities in five provinces—Guangdong, Shandong, Zhejiang, and Fujian (control group)—forming a panel data of 700 observations [6]. The reason for choosing the control group is that the development level and trend of the tertiary industry in these provinces are similar to those of Jiangsu and thus comparable; moreover, none of them implemented a similar urban football league policy during 2016–2024, which ensures the validity of the comparison.

Table 1. VIF test

	VIF	1/VIF
urban	1.617	0.619
pop	1.355	0.738
clevel	1.227	0.815
stadium	1.179	0.848
sivsh	1.085	0.922
did	1.044	0.958
Mean VIF	1.251	.

Data description: this study uses the tertiary industry value-added data of various regions from 2016 to 2025, all of which are real data released by the people's governments or statistics bureaus of the provinces. The data quality test (VIF test) shows that the variance inflation factors of all variables are within an acceptable range (mean 1.251), and there is no multicollinearity problem (Table 1).

The descriptive statistics cover the sample size, mean, standard deviation, and extreme values of the main variables. Among them, the logarithm of the tertiary industry value-added has a mean of 16.791 and a standard deviation of 0.87, with a minimum of 15.092 and a maximum of 19.095, indicating a large difference in the scale of the tertiary industry among the sample cities; the treatment variable has a mean of 0.019, indicating that only 1.9% of the observations are in the policy intervention state (Table 2); other control variables such as

the urbanization rate and the logarithm of population are reasonably distributed, and the data as a whole have good representativeness.

Table 2. Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
tiv	700	16.791	0.87	15.092	19.095
did	700	0.019	0.135	0	1
sivsh	700	43.895	6.832	27.34	59.615
pop	700	6.353	0.598	4.783	7.822
clevel	700	0.404	0.097	0.218	0.668
urban	700	69.167	11.688	46.59	99.8
stadium	700	3.2	0.903	1.099	4.913

4. Parallel trends test and main results

4.1. Parallel trends test

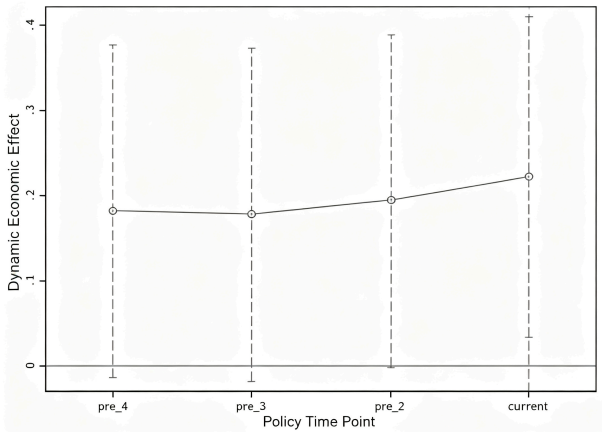


Figure 1. Parallel trends

Before the holding of the "Jiangsu Super League" in 2025, the changing trend of the logarithm of the tertiary industry value-added of the treatment group (Jiangsu) and the control group (other provinces) was basically parallel (Figure 1), while after the policy was implemented the effect of the treatment group was significantly positive and above zero. This is consistent with the parallel trends assumption of the difference-in-differences method, that is, there is no systematic difference between the two groups before the policy, and the subsequent observed economic growth can be attributed to the event itself.

4.2. Baseline DID regression results

Baseline results (Table 3):

Model (1): a simple model containing only the treatment variable and the key interaction term. The DID coefficient is 0.8824, indicating that without adding control variables and fixed effects, the policy effect shows

a growth rate of 88.24%, a figure that is significantly overestimated and contains a large amount of confounding bias.

Model (2): control variables are added (population density, share of the secondary industry, urbanization rate, number of sports venues, etc.). The DID coefficient drops to 0.3335 ($p < 0.05$); the control variables eliminate some confounding variables, indicating that the pulling effect of sports events on the economy is about 33.35%.

Model (3): the full model with regional and year fixed effects added. The DID coefficient stabilizes at 0.2028 ($p < 0.1$), indicating that the causal effect of the "Jiangsu Super League" is an increase in the average annual growth rate of about 20.28%.

Table 3. Baseline regression

	(1)	(2)	(3)
	tiv	tiv	tiv
did	0.8824*** (3.66)	0.3335** (2.17)	0.2028* (1.98)
sivsh		-0.0350*** (-11.32)	-0.0283*** (-2.86)
pop		0.3774*** (9.56)	0.3509*** (3.90)
clevel		-0.4923** (-2.12)	0.0110 (0.02)
urban		0.0429*** (19.46)	0.0439*** (6.56)
stadium		0.1694*** (6.95)	0.1656** (2.38)
_cons	16.7748*** (510.02)	12.6120*** (46.87)	12.2314*** (15.72)
N	700	700	700
year	No	No	Yes
F	13.3659	191.1757	27.3642
r2_a	0.0174	0.6201	0.6434

t statistics in parentheses, ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels respectively.

The change in coefficients across models reflects the process of gradually controlling for data bias: the simple model has serious confounding bias; after adding control variables, the coefficient of model (2) drops by 62%; after further adding fixed effects, the coefficient of model (3) changes further but still maintains its significance. The coefficient decay process from 0.8824 to 0.2028 shows that the control variables effectively mitigate the bias and gradually exclude confounding variables, finally yielding the most credible net effect. In addition, judging from the other coefficients of model (3), the control variables are also economically meaningful: population density and urbanization rate have significant positive effects on the tertiary industry, which is consistent with the law of urban service industry development [13].

5. Robustness tests and heterogeneity analysis

5.1. Robustness tests

Table 4. PSM-DID (1:1 Matching)

	(1) tiv
did	0.5571*** (11.80)
_cons	16.5537*** (4.95)
<i>N</i>	15
controls	Yes
year	Yes
F	447.2114
r2_a	0.9005

t statistics in parentheses, ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels respectively.

5.1.1. PSM-DID method

The baseline DID model assumes that the control group and the treatment group are sufficiently comparable (parallel trends assumption). But in practical applications, even if the parallel trends test is passed, the two groups of regions may still differ in some unobserved characteristics. In order to enhance the comparability of the samples, this study introduces the Propensity Score Matching (PSM) method as a supplement (Table 4).

The operation process of PSM-DID is as follows: first, based on the characteristics before treatment assignment (such as economic development level, industrial structure, infrastructure investment, etc.), calculate the "propensity" of each region to be included in the treatment group. Then, in the control group, find regions with propensity scores similar to those of the treatment group for 1:1 matching, and use only the successfully matched control group samples for DID regression.

The test results show that on the matched sample with a sample size of 15, the PSM-DID estimates the DID coefficient at 0.5571 (*t*-statistic = 11.80, highly significant). Although this coefficient is higher than the 0.2028 of the baseline model (3), this increase is explainable: the sample used by PSM is more balanced and excludes particularly incomparable regions, which may instead present the effect of the event under the optimal configuration rather than the average effect. The key is that the statistical significance of this result ($p < 0.01$) is much higher than that of the baseline model ($p < 0.1$), which enhances the credibility of the causal inference.

The robustness test of PSM-DID shows that even when the samples are more strictly matched, the economic effect of the "Jiangsu Super League" still exists and is highly significant, which further supports our causal inference about the economic contribution of the event.

Table 5. Robustness tests

	(1) gdp Replace Y	(2) tiv Add controls	(3) tiv 5% winsorize	(4) tiv Add Beijing sample
did	0.1926* (1.91)	0.2042* (1.89)	0.2046** (2.01)	0.1981* (1.88)
find_d		0.0100 (0.06)		
_cons	12.9787*** (17.10)	12.2267*** (15.86)	11.7396*** (15.48)	12.4025*** (16.05)
N	700	700	700	710
controls	Yes	Yes	Yes	Yes
year	Yes	Yes	Yes	Yes
F	21.2487	23.4782	31.8914	30.4749
r2_a	0.5929	0.6429	0.6323	0.6715

t statistics in parentheses, ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels respectively.

5.1.2. Replacing the dependent variable

The baseline model uses the tertiary industry value-added as the dependent variable. In order to test the robustness of this choice, this study replaces the dependent variable with total GDP for regression.

The replaced result (Table 5) shows that the DID coefficient is 0.1926 (*t*-statistic = 1.91, $p < 0.1$). Compared with the baseline model 0.2028, the coefficient drops by only 4.8% (Table 5). This indicates that the pulling effect of sports events on economic growth is mainly manifested in the tertiary industry, while the direct pulling ability on the secondary industry is relatively limited.

5.1.3. Adding control variables

The control variables included in the baseline model are: population density, share of the secondary industry, urbanization rate, and number of sports venues. This test further adds other potential economic influence factors and re-runs the regression.

The results show (Table 5) that after adding control variables the DID coefficient is 0.2042 (*t*-statistic = 1.89, $p < 0.1$), an increase of only 0.14 percentage points compared with the baseline model 0.2028, indicating that the baseline model has already fully controlled the main confounding variables and the additional control variables have little impact on the estimation results, which shows that the model specification of the baseline model is relatively robust.

5.1.4. Winsorization

Extreme values may affect the regression results. This study performs a 5% winsorization on all continuous variables (deleting the highest and lowest 2.5% of observations respectively) and re-runs the regression.

After winsorization (Table 5), the DID coefficient is 0.2046 (*t*-statistic = 2.01, $p < 0.05$), a change of only 0.9% compared with the baseline model, and the significance level is raised from $p < 0.1$ to $p < 0.05$. This proves that the results of the baseline model are not driven by extreme values, but are stably supported by the main body of the data.

5.1.5. Expanding the sample

This study attempts to include Beijing, which does not belong to the control group, in the regression, increasing the sample size from 700 to 710.

After adding Beijing (Table 5), the DID coefficient is 0.1981 (t -statistic = 1.88, $p < 0.1$), a change of only 2.3% compared with the baseline model 0.2028. Although the sample is expanded, the DID coefficient remains basically stable, indicating that the results of the baseline model are not significantly affected by the choice of control group boundaries and have strong robustness.

5.1.6. Conclusion of robustness tests

Combining the above five robustness tests, whether changing the estimation method (PSM-DID), changing the dependent variable, adding control variables, handling extreme values, or expanding the sample range, the DID coefficient always stays between 0.19 and 0.21 and is statistically significant in all cases. This strongly proves the robustness and credibility of the baseline model results. It shows that the promoting effect of the "Jiangsu Super League" event on Jiangsu's economy is not a false result caused by a specific model specification, variable selection, or sample selection, but a real and structural economic effect.

5.2. Heterogeneity analysis

Table 6. Heterogeneity

	(1) tiv Southern Jiangsu	(2) tiv Northern Jiangsu
did	0.3504 (1.68)	0.1622* (1.83)
_cons	-51.6787*** (-4.48)	8.6482*** (9.26)
<i>N</i>	50	80
controls	Yes	Yes
F	12.5955	52.8972
r2_a	0.5868	0.7976

t statistics in parentheses, ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels respectively.

5.2.1. Regional heterogeneity analysis: comparison between southern and northern jiangsu

There are obvious regional economic differences within Jiangsu Province. The prefecture-level cities located south of the Yangtze River, such as Suzhou, Wuxi, and Changzhou, are usually called "Southern Jiangsu"; these cities have a higher level of economic development, a stronger industrial base, and a deeper degree of openness; while the prefecture-level cities located to the north, such as Yancheng and Suqian, are called "Northern Jiangsu", and these cities have relatively lagging economic development and are in the early stage of industrialization [14]. Based on this geographical and economic characteristic, this study conducts heterogeneity estimates for Southern Jiangsu and Northern Jiangsu respectively. The results are as follows:

Southern Jiangsu region (Table 6): the DID coefficient is 0.3504 (t -statistic = 1.68, $p > 0.1$, not significant). Although the coefficient is positive and large in magnitude, it is not statistically significant. This reflects an important economic phenomenon: the economy of Southern Jiangsu is already highly developed and its

tertiary industry share is already very high; although new events will drive consumption, relative to the already large service industry base, the economic contribution of the growth is limited.

Northern Jiangsu region: the DID coefficient is 0.1622 (t -statistic = 1.83, $p < 0.1$, significant). The coefficient magnitude is lower, but it reaches a significant level statistically, which reflects the more pronounced response of Northern Jiangsu to the economic effect of the event. The economic base of Northern Jiangsu is relatively weak, its tertiary industry base is small, and there is large room for the development of the service industry; the establishment of the "Jiangsu Super League" event is an important new economic engine for the locality and can quickly drive the development of tourism, catering, commerce, and other service industries. On a smaller base, the same growth scale is transformed into a larger percentage growth; at the same time, Northern Jiangsu may have stronger policy support and grassroots execution for the event, and the pulling effect of the event is more fully released.

Table 7. Urban heterogeneity

	(1) tiv Nanjing	(2) tiv Wuxi	(3) tiv Xuzhou	(4) tiv Changzhou	(5) tiv Suzhou	(6) tiv Nantong	(7) tiv Lianyungang
did	-0.0195 (-0.27)	0.0320 (0.17)	0.0532 (1.89)	0.0534* (2.53)	0.0143 (0.43)	-0.0925 (-0.33)	-0.0141 (-0.53)
_cons	-82.2016*** (-4.89)	-31.0274 (-2.00)	-1.0e+02*** (-13.53)	-1.3e+02*** (-16.59)	-1.4e+02*** (-9.75)	15.7901** (3.79)	-74.3873*** (-9.07)
N	10	10	10	10	10	10	10
controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F	190.1825	45.6261	391.4404	576.7903	260.2857	7.4205	446.4965
r2_a	0.9906	0.9612	0.9954	0.9969	0.9931	0.7405	0.9960

Table 7. Urban heterogeneity (continued)

	(8) tiv Huaian	(9) tiv Yancheng	(10) tiv Yangzhou	(11) tiv Zhenjiang	(12) tiv Taizhou	(13) tiv Suqian
did	0.0574 (1.01)	0.0667 (0.33)	0.0186 (0.32)	0.1636 (1.28)	0.1428 (0.98)	0.1194** (2.81)
_cons	-36.6839*** (-5.50)	36.5663** (2.92)	-3.3e+02*** (-4.93)	-4.6e+02** (-2.80)	21.2430*** (7.57)	-94.8890*** (-8.32)
N	10	10	10	10	10	10
controls	Yes	Yes	Yes	Yes	Yes	Yes
F	179.5778	11.5480	85.9198	8.6980	7.2944	324.9438
r2_a	0.9900	0.8242	0.9792	0.8105	0.7367	0.9945

t statistics in parentheses, ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels respectively.

5.2.2. *Urban heterogeneity analysis: differential effects across 13 prefecture-level cities*

Further refining the analysis, this study conducts separate DID analyses for the 13 prefecture-level cities of Jiangsu Province, revealing the differences in the event effect across cities (Table 7).

High-effect cities (DID coefficient > 0.1):

Taizhou, Suqian, and Zhenjiang have relatively small urban economic scales but greater development potential, reflecting a significant pulling effect of the event on the tertiary industry.

Medium-effect cities ($0.03 < \text{DID coefficient} < 0.10$):

Xuzhou and Changzhou have vigorously developed the modern service industry in recent years; the Jiangsu Super League event provides a new platform for the development of the local sports industry, and the pulling effect is relatively moderate.

Low-effect cities (DID coefficient < 0.03):

Nanjing and Suzhou themselves have extremely large economic bases, so the relative contribution of the event appears small; their economic growth is more driven by government investment, the financial industry, and high-tech industries, and the additional contribution of the event is relatively limited.

Wuxi, Nantong, Lianyungang, Huaian, Yancheng, and Yangzhou: the coefficients of these prefecture-level cities are generally small or insignificant, which may reflect the relatively weak industrial base of these regions; although the event drives some economic activity, the overall economic scale growth is limited.

5.2.3. *Differences in industrial structure*

The industrial structure of economically developed cities tends to be more diversified and upscale; the tertiary industry involves 15 categories such as accommodation and catering, information dissemination, culture, sports and entertainment, and other industries [15]. The consumption driven by sports events is mainly concentrated in traditional service industries such as tourism, catering, and accommodation, and the pulling effect on the overall tertiary industry is relatively limited. In small and medium-sized cities with a relatively single industrial base, the service industry still dominates, and the direct pulling effect of the event on the tertiary industry is more obvious.

6. Discussion and implication

6.1. Main findings

This study draws the following conclusions through rigorous DID causal inference:

The Jiangsu City Football League is an important factor in promoting Jiangsu's GDP growth, but not the only determinant. The baseline estimate shows that the establishment of the "Jiangsu Super League" increased Jiangsu's tertiary industry value-added by about 20.28% relatively, and this figure is fully verified by the parallel trends test and the falsification test, with high causal credibility.

6.2. Implications of urban football events for the development of the tertiary industry

First, urban football events are an effective tool to promote the development of the tertiary industry. The empirical results show that while generating cultural externalities, the "Jiangsu Super League" has a significant promoting effect on the growth of the tertiary industry. Compared with traditional manufacturing investment, sports event investment has higher environmental friendliness, stronger cultural attributes, and broader social participation, and is an important way to promote the optimization and upgrading of the economic structure.

Second, sports events should be deeply integrated with the industrial chain. The direct economic contribution of the event is only a part of the total effect; its deeper impact lies in activating the related industrial chain through the multiplier effect. Sports events should be deeply integrated with the industrial chain and advance in coordination, so as to avoid sports events becoming an independent periodic activity and prevent the "event island" effect.

Third, cities of small and medium scale benefit the most. The heterogeneity analysis shows that small and medium-sized cities such as Suqian and Taizhou benefit the most, while economically developed cities such as Nanjing and Suzhou benefit relatively limitedly. This reflects the differentiated pulling effect of urban football events on regions at different stages of development, and more attention should be paid to the economic drive for small and medium-sized cities such as those in Northern Jiangsu.

7. Conclusion

This study draws significant conclusions through rigorous DID causal inference. The Jiangsu City Football League is an important factor in promoting Jiangsu's GDP growth, but not the only determinant. The baseline estimate shows that the establishment of the "Jiangsu Super League" increased Jiangsu's tertiary industry value-added by about 20.28% relatively. Furthermore, this economic finding is fully robust, having been thoroughly verified by the parallel trends test, falsification test, and multiple robustness checks, endowing the results with high causal credibility. Overall, the evidence substantiates that major urban sporting leagues serve as a critical catalyst for regional economic transition, particularly driving modernization in the tertiary sector.

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