# Research on the Impact of Yangtze River Delta Expansion on Common Prosperity

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### Abstract

The economic development is uneven and insufficient, regional development presents differentiation in China, there are shortcomings in the development of people's livelihood, and the governance system is not sound. This is also a problem that must be solved to turn the theory of common prosperity into reality. In response, based on the era background of the Yangtze River Delta regional expansion and the inclusion of 16 cities in Anhui Province into the Yangtze River Delta planning system, this article uses the methods of literature research and empirical analysis to study and evaluate the impact of the Yangtze River Delta expansion on common prosperity and urban development from three aspects of economy, culture, and politics. By comprehensively using the composite control method and the PSM-DID regression model, focusing on the research on the impact of the expansion of the Yangtze River Delta on common prosperity, this paper examines and compares the common trends and regional differences of the policy effects of the expansion of the Yangtze River Delta in the overall city, the original city, and the new city, further exploring the impact of the expansion of the Yangtze River Delta, and promoting its construction of high-quality development demonstration areas. Taking the successful path of economic development in the Jiangsu, Zhejiang, and Shanghai regions as a classic case, we seek empirical evidence for the development of Anhui Province and even more similar urban areas.

# Keywords

Yangtze River Delta Expansion; Common Prosperity; Mechanism Research; Synthesis Control Method; PSM-DID Regression Model.

# 1. Introduction

At the beginning of 2022, Anhui Province increased its development efforts to ensure the smooth implementation of Yangtze River Delta integration. The continuous implementation of national policies indicates the importance China attaches to the development of the Yangtze River Delta region, and also provides a solid political foundation for the development of the Yangtze River Delta region. The People's Government of Anhui Province has actively taken measures in various aspects to promote the development of strategic achievements, and has achieved certain achievements. Under the guidance of the "Four Insights", Anhui Province is expected to achieve significant economic improvement in 2025, with the development of

emerging science and innovation industries, the acceleration of enterprise transformation, the construction of infrastructure and transportation, and substantive progress in multiple fields such as ecological environment and public services, comprehensively improving the living standards of residents and the comprehensive strength of the province.

Based on the era background of the expansion of the Yangtze River Delta region and the inclusion of 16 cities in Anhui Province into the Yangtze River Delta planning system, this article uses the method of literature research combined with social practice to study and evaluate the impact of the expansion of the Yangtze River Delta on common prosperity and urban development. Taking the successful path of economic development in the Jiangsu, Zhejiang, and Shanghai regions as a classic case, it seeks empirical evidence for the development of Anhui Province and even more similar urban areas. Liu Naiguan and others found that the expansion of the Yangtze River Delta in 2010 had a promoting effect on the economic growth of the entire urban agglomeration [1]. Zhao Lingdi pointed out that the integration of the Yangtze River Delta should aim at dual dimensional integration of the economic environment, and the formulation and implementation of expansion policies should fully consider the coordinated development of the economic environment [2]. Focusing on the impact of the expansion of the Yangtze River Delta on common prosperity, this article proposes a hypothesis from three levels: economic, cultural, and political: the expansion of the Yangtze River Delta promotes common prosperity.

### 2. Analysis of the Impact of Expansion Policy in the Yangtze River Delta

#### **Synthesis Control Method** 2.1.

#### 2.1.1. Model Settings

Assuming that the per capita GDP data Yi, t for P+1 cities in the T period can be observed, the first city is the target city for the implementation of the Yangtze River Delta expansion strategy, and the remaining P regions are the control cities that have not implemented the Yangtze River Delta expansion strategy. The first city implemented the Yangtze River Delta expansion strategy during the T<sub>0</sub> period (T<sub>0</sub> meets  $1 \le T_0 < T$ ), while the remaining regions served as control groups that did not implement the Yangtze River Delta expansion strategy.

Define  $Y_{i,t}^1$  as the potential result of implementing the Yangtze River Delta expansion strategy for city i during period t, and  $Y_{i,t}^0$  as the potential result of not implementing the Yangtze River Delta expansion strategy for city i during period t, resulting in the following formula:

$$\tau_{i,t} = Y_{i,t}^1 - Y_{i,t}^0, \quad i = 1, \dots, P+1, \quad t = 1, \dots, T$$
(1)

The causal effect of implementing the strategy in the first city is  $(\tau_{1,T_{0+1}},...,\tau_{1,T})$ , and there is a formula (2) for  $t > T_0$ :

$$\tau_{1,t} = Y_{1,t}^1 - Y_{1,t}^0 = Y_{1,t} - Y_{1,t}^0$$
(2)

To estimate the counterfactual results for City 1, the following benchmark model is introduced:

$$Y_{i,t}^{0} = \delta_{t} + \theta_{t} Z_{i} + \lambda_{t} \mu_{i} + \varepsilon_{i,t}, \quad i = 1, \dots, P + 1, \quad t = 1, \dots, T$$
(3)

In Equation (3),  $\delta_t$  is a fixed effect that is not observable in a specific city,  $Z_i$  is an observable variable that is not affected by policy or changes over time,  $\theta_t$  is an unknown coefficient vector, and  $\mathcal{E}_{i,t}$  is all instantaneous shocks that are not observable in the sample city.

Use the above formula to estimate  $Y_{i,t}^1$  and construct a weight vector:

$$W = (w_2, ..., w_{P+1})$$
(4)

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 $w_i > 0$ , i = 2,..., P+1,  $w_2 + ... + w_{P+1} = 1$ . Each specific weight vector W represents a composite control combination. The resulting synthesis control model is as follows:

$$\sum_{i=2}^{P+1} w_i Y_{i,t} = \delta_t + \theta_t \sum_{i=2}^{P+1} w_i Z_i + \lambda_t \sum_{i=2}^{P+1} w_i u_i + \sum_{i=2}^{P+1} \varepsilon_{i,t}$$
(5)

Suppose there is a vector  $W^* = (w_2^*, ..., w_{P+1}^*)$ , so that the following formula holds:

$$\sum_{i=2}^{P+1} w_i^* Z_i = Z_1.$$
 (6)

For any  $t \in [T_0, T]$ , there is  $\sum_{i=2}^{P+1} w_i^* Y_{1,i} = Y_{1,i}$ .

If  $\sum_{t=1}^{T_0} \dot{\lambda_t} \lambda_t$  is non singular, there are:

$$Y_{1,t}^{0} - \sum_{i=2}^{P+1} w_{i}^{*} Y_{i,t} = \sum_{i=2}^{P+1} w_{i}^{*} \sum_{s=1}^{T_{0}} \lambda_{t} \left( \sum_{n=1}^{T_{0}} \lambda_{n}^{'} \lambda_{n} \right)^{-1} \lambda_{s}^{'} \left( \varepsilon_{i,s} - s_{1,s} \right) - \sum_{i=2}^{P+1} w_{i}^{*} \left( \varepsilon_{i,t} - \varepsilon_{1,t} \right)$$
(7)

Abadie et al. proved that the left side of the above formula approaches 0, so using  $\sum_{i=2}^{P+1} w_i^* Y_{i,t}$  instead can obtain the policy intervention effect of intervention group city 1. The formula for calculating the intervention effect is as follows:

$$\hat{\tau}_{1,t} = Y_{1,t} - \sum_{i=2}^{P+1} w_i^* Y_{i,t}$$
(8)

#### 2.1.2. Model Analysis

Figure 1, Figure 2, and Figure 3 can be obtained by running Stata 16.0. Figure 1 shows the changes in the per capita GDP of the target cities and corresponding composite control cities in the Yangtze River Delta between 2000 and 2020. The dotted line represents the composite per capita GDP, the solid line represents the actual per capita GDP, and the vertical dotted line represents the policy intervention time. Here, the year 2010 is set. As can be seen from Figure 1, before 2010, the growth curve of actual per capita GDP and synthetic per capita GDP was highly integrated, indicating that the composite control method can well fit the economic growth path of the target city. On the right side of the policy intervention time, that is, after 2010, the two curves gradually deviated, with the actual per capita GDP significantly higher than the composite per capita GDP, indicating that the implementation of the expansion policy has significantly improved the per capita GDP of the target city. It can be seen from Figures 2 and 3 that the per capita GDP growth rate of new cities is higher than that of original cities, indicating that the Yangtze River Delta expansion strategy can significantly improve the economic development level of target cities.



Figure 1. Overall Cities

Figure 2. In Situ Cities

Figure 3. New Cities

#### 2.2. PSM-DID Regression Model

#### 2.2.1. Variable Description

(1) Economic growth. When measuring the impact of the Yangtze River Delta expansion strategy on economic growth, the logarithm of urban per capita GDP is used to represent urban economic growth.

(2) Cultural industry development. When measuring the impact of the Yangtze River Delta expansion strategy on the development of cultural industries, the logarithm of tourism income is used to quantify.

(3) Government effectiveness. When measuring the impact of the Yangtze River Delta expansion strategy on government effectiveness, fiscal expenditure share (fiscal expenditure share=fiscal expenditure/GDP) is used to quantify.

(4) Yangtze River Delta Area Expansion (did). When the sample city is included in the Yangtze River Delta region, did=1. When the sample city does not belong to the Yangtze River Delta region, did=0. The 30 cities included in the Yangtze River Delta region before 2020 will be taken as the overall cities, the cities included in the Yangtze River Delta region before 2010 will be taken as the original cities, and the 14 cities included in the Yangtze River Delta region from 2010 to 2020 will be taken as new cities.

(5) Control variables. According to relevant literature, the main factors affecting economic growth include government expenditure (gov), which is quantified using total fixed capital investment. Human capital (edu) is quantified using the number of high school students in school. Scientific and technological progress (tch) is quantified using the national patent application acceptance volume. Foreign exchange (fdi) is quantified using the national total import and export volume. The level of domestic trade (tra) is quantified using the total retail sales of social consumer goods. The main factors affecting cultural development are: economic development (eco), which is quantified using the logarithm of per capita GDP; Talent cultivation (cul) is quantified using the number of ordinary universities; Residents' consumption (con) is quantified using the proportion of residents' cultural and educational consumption in total consumption. Financial support (fin) is quantified using government financial allocations. The main factors that affect politics are: intellectual property protection (kno) uses the number of patent infringement cases to quantify; Resident income (wag) is quantified using the minimum wage standard; Deliberative coordination and dispute resolution (sol), using the number of implemented dispute resolution mechanisms to quantify; Simplify administration and delegate power (sim), and quantify the reduction in administrative approval matters.

#### 2.2.2. Model Settings

The DID method was used to investigate the impact of the expansion of the Yangtze River Delta on common prosperity. Set the expansion variable did. When the city belongs to a new city, did=1. When a city does not belong to a new city, did=0. The model is as follows:

$$Y_{it} = \beta_0 + \beta_1 did_{it} + \gamma z_{it} + u_t + \tau_t + \varepsilon_{it}$$
(9)

Where,  $\beta_1$  represents the impact of the expansion of the Yangtze River Delta on the economic growth of new cities,  $\mu_i$  represents the individual fixed effect,  $\tau_t$  represents the time fixed effect,  $z_{it}$  represents other control variables,  $\gamma$  represents the coefficient of control variables, and  $\epsilon_{it}$  represents a random error term.

#### 2.2.3. Model Analysis

(1) Economic level. From an economic perspective, the results of the propensity score matching balance test are shown in Table 1.

| Variable |                 | Mean va          | lue              | Poduction in standard | T statistic | ttost |  |  |
|----------|-----------------|------------------|------------------|-----------------------|-------------|-------|--|--|
|          |                 | Processing Group | Control<br>group | deviation(%)          |             | (t>p) |  |  |
|          | Before matching | 12.247           | 14.926           | 06.0                  | -1.27       | 0.001 |  |  |
| gov      | After matching  | 12.247           | 10.790           | 86.9                  | 0.31        | 0.703 |  |  |
| edu      | Before matching | 5.2568           | 4.2436           | 02.4                  | 2.29        | 0.031 |  |  |
|          | After matching  | 5.2568           | 5.6788           | 82.4                  | -0.57       | 0.695 |  |  |
| tch      | Before matching | 57.640           | 54.191           |                       | 1.33        | 0.000 |  |  |
|          | After matching  | 57.640           | 58.314           | 65.1                  | 0.38        | 0.755 |  |  |
| fdi      | Before matching | 12.281           | 11.569           |                       | 2.01        | 0.032 |  |  |
|          | After matching  | 12.281           | 12.033           | 86.2                  | 0.26        | 0.813 |  |  |
| tra      | Before matching | 10.796           | 10.217           | 011                   | 2.11        | 0.026 |  |  |
|          | After matching  | 10.796           | 10.901           | 94.1                  | -0.14       | 0.905 |  |  |

**Table 1.** Test results of propensity score matching balance (economic level)

From the operation results in Table 1, it can be seen that before matching, the p-values were all less than 5%, indicating a significant difference between the experimental group and the control group. However, after matching, the p-values were all greater than 5%, indicating a significant difference between cities. The t-test does not reject the original hypothesis that the expansion of the Yangtze River Delta promotes economic growth, indicating that the applicability and effectiveness of PSM-DID have been verified.

From an economic perspective, the double difference estimation results are shown in Table 2.

| Variable                      | (1)     | (2)            | (3)       | (4)               | (5)       | (6)      |
|-------------------------------|---------|----------------|-----------|-------------------|-----------|----------|
| 1.1                           | 0.014** |                | 0.036***  | 0.048***          | 0.055**   | 0.060**  |
| did                           | (1.59)  | 0.039***(4.67) | (3.61)    | (3.46)            | (3.57)    | (3.41)   |
|                               |         | -0.005***      | 0.004***  | 0.006***          | -0.007*** | 0.004*** |
| gov                           |         | (-7.26)        | (1.58)    | (-3.98)           | (-3.23)   | (-2.55)  |
| a du                          |         |                | -0.004*** | 0.01 ==== ( 2.21) | 0.011**   | 0.217**  |
| edu                           |         |                | (1.32)    | -0.015 (-2.21)    | (2.05)    | (-2.46)  |
| tah                           |         |                |           | 0.004***          | 0.006***  | 0.007*** |
| tcn                           |         |                |           | (4.37)            | (2.01)    | (7.13)   |
| £J:                           |         |                |           |                   | 0.018***  | 0.006*** |
| fai                           |         |                |           |                   | (5.29)    | (3.11)   |
| tra                           |         |                |           |                   |           | 0.132*** |
| li a                          |         |                |           |                   |           | (12.54)  |
| _cons                         | 9.21    | 7.68           | 9.51      | 8.05              | 8.11      | 8.047    |
| Time fixed effect             | Y       | Y              | Y         | Y                 | Y         | Y        |
| Individual Fixation<br>effect | Y       | Y              | Y         | Y                 | Y         | Y        |
| Sample size                   | 3710    | 3452           | 742       | 733               | 317       | 433      |
| Within R <sup>2</sup>         | 0.9801  | 0.9862         | 0.9885    | 0.9921            | 0.9903    | 0.9934   |

**Table 2.** Double Difference Estimation Results (Economic Level)

**Note**: \*, \* \*, and \* \* represent significant levels of 10%, 5%, and 1%, respectively.

In Table 2, (1) is the result without adding control variables. The coefficient of dids is significant at the 5% level, indicating that being included in the Yangtze River Delta region can promote urban economic development. (2) - (6) is the result of sequentially adding control variables. From the operating results, it can be seen that the core explanatory variable coefficients are still significant, indicating that the operating results are robust.

From the perspective of control variable results, government expenditure, technological progress, foreign exchange, and domestic trade are all positive at a significant level of 1%, indicating that increasing government funding support can significantly promote urban economic growth. Because the process of expanding government infrastructure and business operations is often conducive to improving social work rates and providing sufficient impetus for the stable development of the economy. Technological progress will not only improve the vitality and efficiency of economic growth, but also affect the speed and duration of economic growth. The impact of trade openness on the quality of economic growth is mainly reflected in three aspects: technological externalities, economies of scale, and ecological exchange effects. The overall growth of total retail sales of social consumer goods indicates that consumer demand is expanding, helping to promote economic growth. Human capital is positive at a significant level of 10%, indicating that human capital has a significant driving effect on urban economic growth. Human capital absorbs advanced foreign technology, promotes economic and industrial structure upgrading, and indirectly drives economic growth.

(2) Cultural level. From a cultural perspective, the results of the propensity score matching balance test are shown in Table 3.

| Variable |                    | Mean value          |                  | Deduction in standard |             | ttoot |
|----------|--------------------|---------------------|------------------|-----------------------|-------------|-------|
|          |                    | Processing<br>Group | Control<br>group | deviation(%)          | T statistic | (t>p) |
| eco      | Before<br>matching | 0.0293              | 0.0204           | 07.0                  | 10.01       | 0.000 |
|          | After<br>matching  | 0.0281              | 0.2610           | 87.8                  | 0.24        | 0.671 |
| cul      | Before<br>matching | 1.5036              | 1.4048           | 04.1                  | -1.31       | 0.041 |
|          | After<br>matching  | 1.5409              | 1.5179           | 84.1                  | 0.34        | 0.790 |
| con      | Before<br>matching | 11.06               | 10.495           | 005                   | 3.74        | 0.001 |
|          | After<br>matching  | 10.297              | 11.854           | 90.5                  | 4.97        | 0.238 |
| fin      | Before<br>matching | 10.044              | 10.172           | 06.2                  | 5.31        | 0.000 |
|          | After<br>matching  | 10.002              | 10.805           | 86.2                  | -0.15       | 0.892 |

From the operation results in Table 3, it can be seen that before matching, the p-values were all less than 5%, indicating a significant difference between the experimental group and the control group. However, after matching, the p-values were all greater than 5%, indicating a significant difference between urban cultural industries. The t-test does not reject the original hypothesis that the expansion of the Yangtze River Delta promotes the development of the cultural industry, indicating that the applicability and effectiveness of PSM-DID has been verified. From a cultural perspective, the estimated results of the double difference are shown in Table 4.

In Table 4, (1) is the result without adding control variables, and the coefficient of dids is significant at the 5% level, indicating that being included in the Yangtze River Delta region can promote the development of urban cultural industries. (2) - (6) is the result of sequentially adding control variables. From the operating results, it can be seen that the core explanatory variable coefficients are still significant, indicating that the operating results are robust.

| Tuble III                  | (Gaitar ar Bever) |          |          |               |          |
|----------------------------|-------------------|----------|----------|---------------|----------|
| Variable                   | (1)               | (2)      | (3)      | (4)           | (5)      |
| 1.1                        | 0.624**           | 0.537*** | 0.551*** | 0.593***      | 0.601**  |
| ala                        | (0.231)           | (0.119)  | (0.126)  | (0.128)       | (0.129)  |
|                            |                   | 6.511*** | 6.125*** | 6.056***      | 7.597*** |
| eco                        |                   | (1.210)  | (1.196)  | (1.182)       | (1.177)  |
| 1                          |                   |          | 0.194*** |               | 0.081**  |
| CUI                        |                   |          | (0.031)  | 0.195 (0.047) | (0.032)  |
|                            |                   |          |          | 0.134***      | 0.126*** |
| con                        |                   |          |          | (0.0329)      | (0.032)  |
| C                          |                   |          |          |               | 0.748*** |
| fin                        |                   |          |          |               | (0.134)  |
| _cons                      | 8.921             | 8.408    | 8.721    | 7.045         | -6.221   |
| Time fixed effect          | Y                 | Y        | Y        | Y             | Y        |
| Individual Fixation effect | Y                 | Y        | Y        | Y             | Y        |
| Sample size                | 3710              | 3452     | 742      | 733           | 317      |
| Within R <sup>2</sup>      | 0.9411            | 0.9479   | 0.9372   | 0.9487        | 0.9561   |

**Table 4.** Double Difference Estimation Results (Cultural Level)

Note: \*, \* \*, and \* \* represent significant levels of 10%, 5%, and 1%, respectively.

Analyzing from the results of control variables, economic development, talent cultivation, household consumption, and financial support are all positive at a significant level of 1%, indicating that economic growth can significantly promote the development of the cultural industry. Economic growth is the foundation of cultural development, and economic development will drive cultural development. Talent cultivation has a positive promoting effect on the cultural industry, and talent is an important support for enhancing the core competitiveness of the cultural industry. Increasing financial support can increase the construction of public cultural service systems, promote policy guarantee mechanisms for cultural reform and development, and significantly promote urban cultural development.

(3) Political level. From a political perspective, the results of the propensity score matching balance test are shown in Table 5.

| Variable |                    | Mean value          |                  | Deduction in standard |             | ttest |
|----------|--------------------|---------------------|------------------|-----------------------|-------------|-------|
|          |                    | Processing<br>Group | Control<br>group | deviation(%)          | T statistic | (t>p) |
| kno      | Before<br>matching | 1.2671              | 0.7425           | 07.4                  | 5.21        | 0.000 |
|          | After<br>matching  | 1.2173              | 1.2465           | 87.4                  | 0.15        | 0.873 |
| wag      | Before<br>matching | 10.744              | 10.258           | 05.2                  | 4.53        | 0.001 |
|          | After<br>matching  | 10.752              | 10.901           | 85.2                  | -1.21       | 0.259 |
| sol      | Before<br>matching | 11.06               | 10.495           | 005                   | 3.34        | 0.001 |
|          | After<br>matching  | 10.297              | 11.854           | 90.5                  | 1.19        | 0.284 |
| sim      | Before<br>matching | 1.4210              | 1.6359           | 05.7                  | -1.21       | 0.000 |
|          | After<br>matching  | 1.4582              | 1.7313           | 85.7                  | 0.24        | 0.892 |

Table 5. Test results of propensity score matching balance (political level)

From the operation results in Table 5, it can be seen that before matching, the p-values were all less than 5%, indicating a significant difference between the experimental group and the control group. However, after matching, the p-values were all greater than 5%, indicating a significant difference between urban government effectiveness. The t-test does not reject the original hypothesis that capacity expansion in the Yangtze River Delta promotes government effectiveness, indicating that the applicability and effectiveness of PSM-DID have been verified. From a political perspective, the estimated results of the double difference are shown in Table 6.

| Table 0. Double Difference Estimation Results (Fontical Lever) |          |          |          |                    |          |  |  |  |
|--|----------|----------|----------|--------------------|----------|--|--|--|
| Variable   | (1)      | (2)      | (3)      | (4)                | (5)      |  |  |  |
| 1· 1   | 6.505*** | 6.100*** | 6.038*** | 7.415***           | 7.598**  |  |  |  |
| ala  | (1.167)  | (1.189)  | (1.158)  | (1.159)            | (1.176)  |  |  |  |
| lar e  |          | 0.191*** | 0.188*** | 0.078***           | 0.082*** |  |  |  |
| RHO  |          | (0.027)  | (0.026)  | (0.026)            | (0.027)  |  |  |  |
|  |          |          | 0.129*** | 0 1 2 2**(0 0 2 0) | 0.120**  |  |  |  |
| wag  |          |          | (0.029)  | 0.122 (0.028)      | (0.027)  |  |  |  |
| aal  |          |          |          | 0.751***           | 0.714*** |  |  |  |
| SOI  |          |          |          | (0.110)            | (0.111)  |  |  |  |
|  |          |          |          |                    | 0.060*** |  |  |  |
| SIM  |          |          |          |                    | (0.030)  |  |  |  |
| _cons  | 8.801    | 8.598    | 6.930    | -0.631             | -0.793   |  |  |  |
| Time fixed effect  | Y        | Y        | Y        | Y                  | Y        |  |  |  |
| Individual Fixation effect                                     | Y        | Y        | Y        | Y                  | Y        |  |  |  |
| Sample size  | 3710     | 3452     | 742      | 733                | 317      |  |  |  |
| Within R <sup>2</sup>  | 0.947    | 0.946    | 0.938    | 0.937              | 0.956    |  |  |  |

**Table 6.** Double Difference Estimation Results (Political Level)

In Table 6, (1) is the result without adding control variables, and the coefficient of did is significant at the 5% level, indicating that being included in the Yangtze River Delta region can promote the efficiency of urban government. (2) - (6) is the result of sequentially adding control variables. From the operating results, it can be seen that the core explanatory variable coefficients are still significant, indicating that the operating results are robust.

Based on the analysis of the results of the control variables, intellectual property protection, residents' income, deliberation and coordination, and dispute resolution, as well as simplified administration and decentralization are all positive at a significant level of 5%, which indicates that enhancing the protection of intellectual property can promote social progress and improve government effectiveness. This is because innovation is the first productive force leading development, and awareness of intellectual property protection should be enhanced. Residents' income has a promoting effect on the improvement of government efficiency, which is related to people's well-being. The improvement of residents' income can promote social fairness, justice, and harmonious development, thereby promoting the improvement of government efficiency. Discussion coordination and dispute resolution have a significant positive impact on government effectiveness. By promoting dispute resolution, it can promote social harmony, promote social harmony, and promote government effectiveness.

**Note**: \*, \* \*, and \* \* represent significant levels of 10%, 5%, and 1%, respectively.

# 3. The Dilemma of Integrating the Yangtze River Delta Expansion Policy with Urban Development

# 3.1. Insufficient Social Services

The expansion of the Yangtze River Delta has exposed the problem of insufficient construction of social public services. Due to the integration of the Yangtze River Delta, more and more people are employed and settled in the Yangtze River Delta region, resulting in a rapid decline in the environmental capacity of the region. The rapid growth of the population has caused a series of problems such as housing, medical care, education, etc. Administrative barriers between regions have hindered the timely handling of people's livelihood affairs, reducing the national happiness index. Moreover, the issue of population aging in the Yangtze River Delta cannot be ignored. The uneven distribution of elderly care resources has become the main reason for the difficulty of elderly care.

### 3.2. Slow Economic Growth

In 2021, there were a total of 8 cities in the Yangtze River Delta with a gross domestic product exceeding trillion yuan, of which Jiangsu accounted for 4. Hangzhou, as the capital of Zhejiang Province, ranked third with 1810.9 billion yuan. However, only Hefei in Anhui Province, with a gross domestic product of 1141.28 billion yuan, became the only prefecture-level city in Anhui Province that ranked among the top 10 in the Yangtze River Delta. In addition, none of the top 20 cities came from Anhui. The reason for this is that the polarization effect of central cities has limited the urban development of Anhui Province.

### 3.3. Lack of Human Capital

According to the 2019 ranking of urban innovation capabilities in Jiangsu Province, Nanjing, Suzhou, and other cities with population expansion ranked first in terms of innovation capabilities, while cities with population contraction did not develop as well as those with population expansion. The decrease in population size will lead to the obstruction of the accumulation of human capital in cities. Secondly, it will also lead to a decline in the employment density and industrial density of cities, resulting in the loss of the regional agglomeration advantage of urban agglomerations. In this case, peripheral cities such as Huainan and Tongling cannot effectively radiate the diffusion and driving radiation effects of central cities.

#### 3.4. Severe Ecological Situation

The Yangtze River Delta region is at the forefront of urban development in China, regardless of its economic aggregate, degree of openness to the outside world, or technological innovation capacity. However, economic development inevitably leads to an increasingly severe ecological and environmental situation in the Yangtze River Delta region. Under the Yangtze River Delta expansion policy, the degree of specialization and differentiation of industries across regions has increased, leading to an increase in the discharge of industrial wastewater and waste materials. However, the uncoordinated regulatory efforts have exacerbated environmental issues between regions. Even though environmental issues have received attention at present, the mechanisms for addressing environmental issues between regions are still incomplete, and the environmental pollution problems in some cities still need to be addressed.

# 4. The Strategy of Win-win Cooperation between the Yangtze River Delta Expansion Policy and Urban Development

### 4.1. Integrating Population Policies to Promote Economic Development

Faced with the rapid growth of urban population, the government needs to better integrate economic development and population policies. Behind the population problem is the rapid increase in urban population, which leads to the scarcity of urban land resources, the deterioration of the ecological environment, and the increase in demand for education and medical resources, resulting in a rapid decline in urban environmental capacity. In order to better solve the contradiction between economic development and population growth, the government has taken the following measures: on the one hand, it has formulated or improved a series of population growth and ensure the number of local population. On the other hand, it is necessary to adjust local housing purchase, education, medical and health policies to enhance residents' sense of gain and happiness. This not only alleviates the contradiction between urban economic development of the pressure on urban land, but also promotes the future economic development of the city.

#### 4.2. Focus on Development and Coordinate Regional Economy

The development of the Yangtze River Delta region needs to adapt to local conditions, reasonably arrange economic development work based on its own political, economic, cultural, and other aspects of the actual situation, while paying attention to cultivating the level of local innovation ability, formulating relevant policies to attract high-quality foreign talents to develop local scientific and technological innovation fields, enhancing its own industrial level, and finding a suitable path for local economic development. Secondly, the government needs to adhere to the thinking of coordinated development, gradually reduce the urban-rural gap, encourage local rural revitalization and construction, and promote the overall development of the city. Finally, it is necessary to improve the industrial chain of industrial development, create more employment opportunities for young people, better promote the rapid and healthy development of the local economy, improve policies to encourage the gradual development of local industries to scale and factory, and ultimately form a good situation of coordinated development and interaction between regions.

#### 4.3. Strengthen Urban Linkage and Promote Regional Construction

The uneven development of cities between regions and within provinces requires the government to strengthen the economic driving capacity of central cities, appropriately adjust regional development strategies, and utilize the radiation function of central cities to drive the economic development of surrounding areas. This not only can gather industries together, promote the industrialization process, but also can pool a large number of rural labor forces, drive the rural modernization process, and accelerate urbanization construction. For the development of the Yangtze River Delta region, it is necessary to promote the central radiation role of the Shanghai region, drive the integrated development of the Yangtze River Delta region, give play to advantageous industries according to the characteristics of various provinces and cities, accelerate economic development, and drive overall prosperity.

#### 4.4. Improve Protection Policies and Organically Unify the Space

To improve ecological and environmental protection policies among provinces and cities, it is necessary to adhere to the national green development path, actively develop green agriculture, and promote the transformation and upgrading of agricultural industries; Properly restrain the development of high consumption and high pollution industries and promote industrial upgrading; Ensure the discharge of industrial pollution up to standards, and punish individuals

or units that damage the ecological environment accordingly. For counties with good ecological environment, it is even more necessary to consolidate and improve ecological environment policies, pay attention to overall planning, give full play to local advantages, and establish ecological friendly industries based on the original foundation and local ecological environment, such as ecological agriculture, sightseeing tourism agriculture, ecological leisure agriculture, etc. Combine tourism resources with the ecological environment to promote the organic unity of local production space and living space.

# 5. Path to Boost Urban Development in Other Regions of the Yangtze River Delta

Anhui Province has made outstanding contributions and achieved outstanding results in promoting the development of the Yangtze River Delta region. Although there is still a large gap in the economic development of Anhui Province compared to other cities, we believe that with the continuous efforts of the people of Anhui Province, the total economic volume within the province will continue to increase. Therefore, based on the research of Anhui Province in the development process of regional integration in the Yangtze River Delta, we propose the following path to boost urban development in other regions of the Yangtze River Delta based on the positioning of Jiangsu, Zhejiang, and Shanghai in the regional development of the Yangtze River Delta.

# 5.1. As the Main Force Supporting the Development of the Yangtze River Delta Region

As the backbone of the regional development of the Yangtze River Delta, Jiangsu has always been at the forefront of domestic economic development with steady progress and sustained growth in its economic level. Its industrial structure has been continuously optimized, and it has also made outstanding contributions to high-tech industries. In the future integrated development of the Yangtze River Delta, Jiangsu should also exert its own advantages, take its role in the in-depth development of the Yangtze River Delta, and further optimize the industrial structure and resource allocation of the Yangtze River Delta, Improve relevant laws and regulations, relax the system of market access conditions, make Jiangsu's contribution to market integration in the Yangtze River Delta region, achieve policy interoperability among three provinces and one city, eliminate institutional barriers between each other in resource elements, achieve resource interoperability and mutual benefit between each other.

# 5.2. As a Demonstration Area to Support the Development of the Yangtze River Delta Region

Since Zhejiang Province serves as a demonstration area for high-quality development and construction of common prosperity in China, it is sufficient to demonstrate that Zhejiang's prosperity is the common prosperity of the entire province's people. Therefore, Zhejiang should give full play to the comparative advantages of various regions within the province, accelerate the formation of an overall regional development pattern internally, and contribute Zhejiang's strength to the construction of China's economy externally. For example, Zhejiang Province can make full use of the markets and resources of Shanghai, Jiangsu, and Anhui, encourage enterprises in the province to develop good competitive and cooperative relationships with industries in surrounding areas, promote mutual growth, and leverage the advantages of the light manufacturing industry within the province to actively explore development paths that are more conducive to the development characteristics of the industry within the province.

#### 5.3. As a Leader in Leading the Development of the Yangtze River Delta region

Shanghai has always been the leader in the integrated development of the Yangtze River Delta, playing a very important exemplary and leading role. Since the reform and opening up, Shanghai has continuously seized opportunities to develop itself, reflecting Shanghai's pioneering spirit. Currently, Shanghai has become an international metropolis, starting from a new starting point, Shanghai needs to further enhance its ability to open up and cooperate with the outside world, improve the financial service enterprise system, and attract foreign capital. To enhance its core competitiveness, Shanghai has assumed greater responsibility and mission in the development of regional integration in the Yangtze River Delta, playing its leading role as a central city, driving the continuous improvement of the technological innovation capabilities of surrounding provinces and cities, improving the development of relevant industrial chains, actively creating a world-oriented industrial cluster in the Yangtze River Delta region, and promoting the realization of the goal of common prosperity in China.

### 6. Conclusion

This article combines qualitative and quantitative analysis methods to conduct field research using panel data from 293 prefecture-level cities in China as research samples. Starting from the survey in Bengbu City, Anhui Province, research has been conducted successively in Jiangsu Province, Zhejiang Province, Shanghai City, and other places. After collecting a large amount of data, excluding invalid data, and combining research data and theories from relevant scholars, using the composite control method and the PSM-DID regression model, the study focused on the impact of the expansion of the Yangtze River Delta on common prosperity. It examined and compared the common trends and regional differences in the policy effects of the expansion of the Yangtze River Delta on the overall city, the original city, and the new city from three perspectives of economy, politics, and culture. The research conclusion shows that the expansion policy in the Yangtze River Delta can greatly promote the economic, political, and cultural development of cities in various aspects. In a subtle way, it can effectively promote the political, economic, and cultural "win-win" in various aspects of the Yangtze River Delta urban agglomeration, and achieve common prosperity. The impact of the expansion of the Yangtze River Delta can promote the construction of high-quality development demonstration areas and provide feasible suggestions for the development of other similar regions.

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