Research on the Impact of Innovation-driven Policies on Enterprise Innovation Efficiency Based on PSM-DID Model—Taking Listed Companies in Hubei Yangtze River Economic Belt as an Example

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Abstract. Innovation-driven development is a new way of contemporary economic development. Scientific and technological innovation has been at the core of the overall development of China. Under the background of innovation-driven development strategy, governments at all levels have promulgated a large number of innovation-driven policies. Taking 101 listed companies in Hubei Province as samples, this paper uses the model of PSM-DID to examine the effect of innovation-driven policies on the innovation efficiency of enterprises. Through research, it is found that innovation-driven policies are effective in promoting the innovation efficiency of enterprises, which is reflected in the significant increase in the total number of patent applications of affected enterprises compared with those that are not affected by innovation-driven policies. Further research shows that, for state-owned enterprises, innovation-driven policies have more obvious promotion effect on the innovation efficiency of enterprises. However, there is no more significant effect on the central cities and specific industries within the scope of influence. Based on the above research results, this paper puts forward some theoretical suggestions for policy makers.

1 Introduction

Since the reform and opening up, China's economic growth has gone through the transformation from factor-driven, investment-driven to innovation-driven changes. It clearly emphasizes the central position of scientific and technological innovation in the overall development of the country. In the process of industrial upgrading, one of the important actions for enterprises to adapt to the economic development environment, improve the production and operation situation and improve the efficiency of resource allocation is technological innovation, which is also a complex process innovation. Some scholars believe that China's current innovation policy is in a new stage from making up for the lack of investment in research and development to making up for the lack of innovation activities, focusing on the construction of innovation systems to promote economic and social change and transformation through innovation. With the development of innovation theory and practice, the connotation of innovation policy is constantly enriched, which includes not only the generation and diffusion of innovation, but also the industrialization and commercialization of innovation. Some studies have shown that some policies are meaningless, and even some scholars have pointed out that the economic growth policies in East Asia and Latin America have played a counter effect [1]. So, in practice, can innovation-driven policies have a positive impact on the innovation efficiency of enterprises? If it can really improve the innovation efficiency of enterprises, what factors will affect the effectiveness of policies in the process of its function? Academia has not received a unified answer.

The content of innovation policy is numerous and jumbled, and the existing researches are mostly limited to examining its impact on the development of high-tech industries and the innovation capability of enterprises in cities from the aspects of government fiscal and taxation policies, investment promotion policies and personnel protection policies. A large number of documents show that the independent innovation of enterprises is characterized by very strong
externalities, uncertainties, risks and unequal information. In the process of independent innovation, problems such as imperfect financial input structure, low conversion rate of independent intellectual property achievements and lack of independent innovation environment are often encountered [2]. A good innovation-driven policy should be highly comprehensive. Only when the "visible hand" is strong enough to realize the effective allocation of resources and make reasonable adjustments to the economic structure and industrial structure can the resistance of innovation activities be fully overcome and the transformation of innovation achievements be better realized. However, few scholars choose to evaluate the effectiveness of innovation-driven policies from a macro perspective. The nature of an enterprise's property right, the industry it belongs to, and the place of registration are all likely to strengthen or weaken a company's influence by the government. At present, there are few studies on the above factors.

Based on the above problems, this paper takes the Hubei Yangtze River Economic Belt as the entry point, and uses the PSM-DID model to conduct research on 101 enterprises in Hubei Province, in order to discover the law that the innovation-driven policy has an impact on the innovation efficiency of enterprises. Since the publication of the “Decision of the Hubei Provincial People’s Government of Hubei Province on Accelerating the New Round of Open Development of the Yangtze River Economic Belt in Hubei Province” in 2009, the People’s Government of Hubei Province has successively issued seven policy documents closely related to the Yangtze River Economic Belt. Its new round of open development has greatly accelerated. This series of policies has repeatedly emphasized that the Hubei Yangtze River Economic Belt should be based on the theme of scientific development, with the transformation of development as the main line, with reform, opening up, innovation, and emancipation of the mind as the driving force, and constantly enhance the innovation capability and comprehensive strength of the economic belt. This paper differs from the existing literature in that, based on the Hubei Yangtze River Economic Belt, it explores the impact of innovation-driven policies on the innovation efficiency of enterprises from the perspectives of the target audience, scope of influence, and effectiveness of impacts, trying to find out the shortcomings of existing innovation-driven policies. And give reasonable advice and advice

2 Theoretical analysis and Assumptions

The government's innovation policy is an effective supplement to market failure. On the one hand, it makes up for the dilemma of weak market incentives for innovation subjects, and plays an incentive effect of reducing the input cost of subjects and sharing market risks [3];On the other hand, it has played a regulatory role in adjusting the direction of industrial development, optimizing the allocation structure of innovative resources, and enhancing the vitality of economic growth [4].In the school of economics, scholars have always paid close attention to the relationship between government and market. Based on the analysis of China's current era background, it is concluded that in the strategy of innovation-driven efficiency, the government's function can be reflected in overcoming various problems faced by the market and preventing malfunction. To encourage technological innovation by intervening in the allocation of resources; Give play to the guiding role and realize the efficiency improvement of exploratory innovation and gradual change innovation [5]. The promulgation and implementation of innovation-driven policies mainly affect the innovation efficiency of enterprises from the following angles:

First, when introducing innovation-driven policies, the government mostly uses tax incentives such as tax relief and tax return, and financial subsidies such as special funds as the main support measures. After receiving special fund subsidies and tax concessions, enterprises have reduced their cash outflow and increased their cash inflow, thus increasing their internal cash flow. To a certain extent, this has ensured the funds needed for technological research and development and eased the capital constraints faced by innovation activities. Combining with the endogenous growth theory, we can see that technological innovation is actually a function of the investment in R&D funds and the number of R&D personnel. If the investment in these two aspects is increased, technological
innovation can be promoted to a certain extent [6]. The implementation of reasonable preferential tax policies and financial subsidies can enhance the investment of R&D funds by enterprises, which can further promote enterprise innovation and improve the efficiency of enterprise innovation.

Second, the introduction of innovation-driven policies has provided stronger intellectual property protection for corporate innovation. There is always a natural and inseparable relationship between intellectual property protection and innovation-driven development. The logic of “innovation” driving “development” is to continuously strengthen the protection of intellectual property rights. This is not only the core content of establishing a sound intellectual property system, but also an important initiative in creating a harmonious business environment and upgrading the quality of China’s economic development.[7].

Third, the introduction of innovation-driven policies has strengthened the introduction and protection of talents. Under the positive guidance of innovation-driven policies, scientific and technological talents will gather in the region to promote the improvement of the innovation level and the strengthening of the innovation atmosphere in the region. The "Matthew Effect" will further promote the improvement of the quantity and quality of scientific and technological talents, provide a steady stream of powerful driving force for the development of regional innovation, and gradually form a virtuous circle [8]. Based on the above analysis, we propose the following assumptions:

Assumption: Compared with enterprises not supported by innovation-driven policies, enterprises supported by policies have higher innovation efficiency

3 Research design and Descriptive statistics

3.1 Research samples and Data sources

Based on the "Hubei Yangtze River Economic Belt Opening and Development Master Plan (2009-2020)", this paper selects 101 listed companies in Hubei Province as research samples, taking 2008 as the base year, obtains the data of 16 years before and after, and obtains 777 observation values. The selected samples have been screened according to the following criteria: (1) The samples with continuous missing observation values of main research variables for more than five years are eliminated. (2) In order to eliminate the influence of extreme values, this paper carries out 1% Winsorize processing on the data.

All the data involved in this paper are from the CSMAR database. After processing, regression analysis is conducted by Stata software to explore the effect of innovation-driven policies on the innovation efficiency of listed companies.

3.2 Model setting

The difference in differences method is widely used in the field of policy evaluation. A large number of domestic and foreign researches will choose to use the difference in differences method to evaluate the policy effect. In view of this, this paper chooses to construct a dual difference model to test the relationship between the implementation of innovation-driven policies and the efficiency of enterprise innovation. The model is set as follows:

\[ innovation_{it} = \alpha_0 + \alpha_1 policy_{it} + \alpha_2 year_{it} + \alpha_3 DIFF + \alpha_4 ctrl_{it} + \mu_{it} \]

Among them, \( innovation_{it} \) indicates the innovation efficiency of the enterprise, \( policy_{it} \) indicates the policy variable, \( year_{it} \) is the time dummy variable, \( DIFF \) is the intersection of policy and year, \( ctrl \) is the control variable, and \( \mu \) is the random disturbance term. In addition, among the coefficients of the model, \( \alpha_3 \) is the core coefficient of interest in this paper, which represents the policy effect of the innovation-driven policy on the explanatory variables.

3.3 Variable settings

(a) Explained variable.

The patent applications of listed companies mainly include three types, namely inventions, utility models and designs. Research by Luo Lihua and other scholars pointed out that there is a significant positive correlation between the value of innovation efficiency of enterprises and the output variables of innovation output such as “number of patent applications”, indicating that the indicator based on quantitative perspective is feasible [9], so this paper uses the number of patent applications.
Characterize innovation efficiency as an explanatory variable (innovation)

(b) Core explanatory variables.

This paper uses the policy of innovation-driven policy as the core explanatory variable. The existing literature focuses on the impact of a single policy instrument such as innovation subsidies and tax incentives on the company. But the impact of innovation-driven policies as a comprehensive concept, the use of a single indicator will inevitably lead to complex results due to the interaction of multiple means. This paper draws on the idea of difference in differences. If a company is located outside the city specified by the policy, the value is 0. If the company is within the scope of the policy, the value is 1; the time dummy is set as: before the policy base year, the value is 0, and after the base year (inclusive), the value is 1.

(c) Control variables.

The control variables studied in this paper include:

- the state of the enterprise's property right (state). This variable is determined by the attribute of the final controller of the enterprise. If the final controller is a state-owned unit, it is assigned a value of 1, and if the controller is a non-state-owned unit, it is assigned a value of 0;
- The type of enterprise industry (type). If the industry belongs to the strategic emerging industries such as optoelectronics, high-end equipment manufacturing, biomedicine, new energy, new materials and energy conservation and environmental protection industries, which are strongly supported by the policy, the value is 1; otherwise, the value is 0.
- Whether it belongs to Wuhan (Wuhan). If the registered address of the enterprise is Wuhan, the value is 1; otherwise, the value is 0.

| Variable name | Variable definitions |
|---------------|----------------------|
| innovation    | The total number of patent applications of the company in the current year (including inventions, utility models and designs) |
| policy        | Policy dummy variable, if the company's area is affected by the policy, the value is 1, otherwise the value is 0. |
| year          | Time dummy variable, if the policy is valid in the current year, the value is 1, otherwise the value is 0. |
| DIFF          | The intersection of policy dummy variables and time dummy variables |
| ctrl          | Control variables, including industry categories, property rights, and company registration address |
| type          | Enterprise industry category, if the industry of company is supported by this policy, the value is 1, otherwise the value is 0. |
| state         | The nature of enterprise property rights, if the ultimate controller of the enterprise is a state-owned enterprise, the value is 1; otherwise, the value is 0. |
| Wuhan         | If the registered address of the company is Wuhan, the value is 1; otherwise, it is 0. |
| debt          | Asset-liability ratio, total liabilities / total assets |
| cash          | Free cash flow of enterprises, pre-tax profit after interest + depreciation and amortization - increase in working capital - capital expenditure |
| return        | Return on assets, (total profit + financial expenses) / average total assets. Average total assets = (asset total closing balance + assets total last year ending balance) / 2 |
| investment    | Investment yield, current investment income / (long-term equity investment at the end of the period value + holding-to-maturity investment at the end of the period value + trading financial assets at the end of the period value + available-for-sale financial assets at the end of the period + derivative finance Assets at the end of the period) |

4 The empirical results and Analysis

4.1 Descriptive statistics

To verify the above assumptions, a descriptive statistical result of all variables is compiled, as shown in the following table.
Table 2. Descriptive statistics of main variables.

| variable | total | average | Standard deviation | Min | Max |
|----------|-------|---------|--------------------|-----|-----|
| innovation | 777 | 11.22394 | 32.52523 | 0 | 396 |
| year | 777 | 0.61519 | 0.48686 | 0 | 1 |
| policy | 777 | 0.71171 | 0.45326 | 0 | 1 |
| type | 777 | 0.69498 | 0.46071 | 0 | 1 |
| state | 777 | 0.51737 | 0.50002 | 0 | 1 |
| Wuhan | 777 | 0.48774 | 0.50017 | 0 | 1 |
| debt | 777 | 0.46474 | 0.22513 | 0.02441 | 2.15960 |
| return | 777 | 0.05982 | 0.36530 | -1.21817 | 8.59985 |
| investment | 777 | 0.57356 | 12.48729 | -138.43800 | 306.07420 |
| cash | 777 | 44296468 | 2777160348 | -26292879985 | 69574977219 |

4.2 Panel unit root test

Because the modelling steps of stationary data and non-stationary data are quite different, if the non-stationary data is directly modelled, pseudo-regression phenomenon is easy to occur. Combined with the actual situation, this paper adopts the long-wall unit root test method with fixed coefficient and the Fisher test method for inspection.

The Fisher-style test performs an ADF test and a PP test for each individual's time series, and accordingly obtains N test statistics and corresponding P values. Choi constructed four test statistics for the P values of the ADF test and the PP test. The original hypothesis H0 is that all individuals are non-stationary. The alternative hypothesis H1 is that at least one individual is stable. Due to its characteristics, the Fisher test method can be tested for unbalanced panels. Although this method does not consider the situation related to the same section, in the specific operation of Stata, the section correlation can be improved by selecting the demean option.

Table 3. panel unit root test.

| Testing method | Fisher-ADF test | Fisher-PP test |
|----------------|-----------------|---------------|
| Individual fixed effect term | Contain | Contain | Contain | Contain |
| Time trend item | Contain | Excluded | Contain | Excluded |
| Drift term | Excluded | Contain | - | - |
| Lag order | 3 | 3 | 3 | 3 |
| Inverse normal transformation | -0.838 | 0.201 | -6.617 | 0.000 | -7.918 | 0.000 | -3.453 | 0.000 |
| Inverse logit transform | -0.891 | 0.187 | -6.413 | 0.000 | -15.915 | 0.000 | -5.171 | 0.000 |
| Inverse chi-square transformation | 98.133 | 0.741 | 167.456 | 0.000 | 525.649 | 0.000 | 238.656 | 0.000 |
| Modified inverse chi-square transform | -0.671 | 0.749 | 6.914 | 0.000 | 26.535 | 0.000 | 7.854 | 0.000 |

Based on the above test results, we can see that except for the results obtained by the Fisher-ADF test method with time trend items, the other three test methods show a significant rejection of the null hypothesis, that is, the panel data can be considered to be stable.

4.3 Basic regression analysis

Table 4 reports the results of the basic regression. The first column shows regression results without robustness estimates, the second column uses robust methods for robust regression, and the third column uses bootstrapped iterations for parameters and standard errors 50 times. Among them, robust regression is to apply the method of robust estimation to the regression model to fit the structure of most data, and to identify possible outliers, strong influence points or hypotheses. The opposite structure. If the error obeys a normal distribution, its estimation effect is basically as good as that of the least squares estimation, and when the least squares estimation condition is not satisfied, the result is better than the least squares estimation.

Table 4 reports the results of the basic regression. The first column shows the regression results
without robust estimation, the second column has uses robust method, and the third column uses bootstrapped iteration for 50 times to estimate parameters and standard errors.

The regression results are listed in detail in the table, although the first column showing without robustness estimates shows that the regression results of the crossover diff are only significant at the 10% level, but after using two different robust regression methods, the crossover is used. The regression results of the items are positive at the 1% level.

The regression results can be interpreted that this policy significantly increases the innovation efficiency of the affected enterprises compared to the unaffected enterprises, as shown by an increase in the average number of patent applications by 10 to 11 units compared to unaffected companies. The analysis results successfully verify hypothesis.

To further test the credibility of the results, we use the PSM-DID model for second regression, with corporate free cash flow (cash), debt ratio (debt), return on assets (return), investment yield (investment), industry category. (type), property property (state) as characteristic variable, the experimental group and the control group are based on the common range of difference in differences propensity score matching, using the Probit model regression calculation, and using the kernel matching method to process the data, after processing The regression results are shown in the table, which further proves that the assumption is reasonable.

| Group | 1 | 2 | 3 | 4 |
|-------|---|---|---|---|
| year  | 6.009 | 6.009*** | 6.009*** | 4.742*** |
|       | [4.326] | [0.960] | [1.026] | [0.857] |
| policy| 2.309 | 2.309*** | 2.309*** | 2.501*** |
|       | [0.626] | [0.647] | [0.609] | |
| DIFF  | 10.68* | 10.68*** | 10.68*** | 13.32*** |
|       | [2.761] | [2.511] | [3.421] | |
| α0    | 1.195 | 1.195*** | 1.195*** | 1.033*** |
|       | [0.303] | [0.269] | [0.238] | |
| N     | 777 | 777 | 777 | 640 |
| adj. R-sq. | 0.0585 | 0.0585 | 0.0585 | 0.0732 |
| AIC   | 7573.2 | 7573.2 | 7573.2 | 6111.7 |
| BIC   | 7591.8 | 7591.8 | 7591.8 | 6129.6 |

Note: ****, ***, and * indicate significant levels at 1%, 5%, and 10%, respectively, and the data marked in parentheses are stable standard errors.

5 Further inspection

When formulating a policy, the government often takes into account the specific target of the policy so as to better complete the process of landing the policy. The policy is intended to give full play to the advantages of Hubei as a major province of science and education, and vigorously develop the optoelectronics and biomedical industries, new energy, and new strategic emerging industries such as materials and environmental protection industries, striving to create high-tech industrial strategic highlands. Vigorously develop electronic information and bio-pharmaceutical industries, and expand and strengthen new energy, new materials and environmental protection industries. Companies belonging to the industries mentioned in the policy may receive more support and policy influence in the whole innovation activities than other companies, so this paper divides the samples into industries and further controls them (Group B).

As the overall sample includes enterprises with different property rights, and the degree of political connection between state-owned enterprises and non-state-owned enterprises is quite different between governments, state-owned enterprises are often easier to obtain various fiscal and tax preferential policies because of their important strategic position and the characteristics of their industries. This may lead to greater changes in its innovation efficiency after it is influenced by
innovation-driven policies. However, the correlation between non-state-owned enterprises and the government is often weak, so the impact of innovation-driven policies on their innovation behaviour may be less significant. Therefore, the samples studied in this paper are further divided into state-owned enterprises and non-state-owned enterprises according to the nature of enterprise property rights and controlled (Group C).

As the capital city of Hubei Province, the core city of the Yangtze River Economic Belt, and the strategic support point for the rise of the Central Region, Wuhan has a unique advantage in many cities in the Yangtze River Economic Belt, whether it is educational resources, scientific research foundation or policy inclination. It is very likely that enterprises will rely on this superior location advantage to significantly enhance the company's innovation efficiency under the influence of innovation-driven policies. To further explore whether the innovation-driven policy will be affected by special cities, distinguishing these company according to whether the registration address is Wuhan, and control them (group D).

Based on the above factors, in order to further explore the impact of innovation-driven policies on innovation efficiency, three control variables, industry, property rights and whether the company's place of incorporation is Wuhan, are added. Group E controls the above three policies in order to explore the influence of the three factors on the innovation efficiency of enterprises. The first column (5, 8, 11, 14) of each group uses robust method for robust regression, and the second column (6, 9, 12, 15) uses Bootstrap to estimate parameters and standard errors for 50 iterations. In order to ensure the reliability of the analysis results, the third column (7, 10, 13, 16) uses PSM-DID model for regression analysis, and the characteristic variables are consistent with those in the above processing. The control variables are listed in detail in the table.

From the results of the regression, it can be seen that when only controlling industries or cities, there is little effect on the coefficient of cross-product terms (groups B and D), which can be interpreted as that the policy does not make a good distinction between industries, and does not have an oblique effect on special cities (Wuhan, the regional central city in this study is taken as an example). However, it can be seen from Group C that companies with property rights of state-owned enterprises are more significantly affected by policies, which is consistent with the above analysis.

| Group | B | C |
|-------|---|---|
|       | 5 | 6 | 7 | 8 | 9 | 10 |
| **year** | 5.360*** | 5.360*** | 5.127*** | 6.247*** | 6.247*** | 4.049*** |
|       | [1.075] | [1.052] | [0.993] | [1.224] | [1.121] | [0.854] |
| **policy** | 3.353*** | 3.353*** | 2.918*** | -1.759 | -1.759 | -0.962 |
|       | [0.788] | [0.831] | [0.764] | [1.289] | [1.248] | [1.051] |
| **DIFF** | 10.79*** | 10.79*** | 13.29*** | 11.87*** | 11.87*** | 15.26*** |
|       | [2.969] | [2.792] | [3.535] | [3.218] | [3.023] | [3.663] |
| **aD** | 9.639*** | 9.639*** | -4.278*** | 9.681*** | 9.681*** | -0.901 |
|       | [1.972] | [1.821] | [1.225] | [2.435] | [2.244] | [0.557] |
| **type** | -5.895*** | -5.895*** | 7.697*** | - | - | - |
|       | [1.560] | [1.453] | [1.597] | | | |
| **state** | -1.587 | -1.587 | 7.668*** | | | |
|       | [0.912] | [0.832] | [1.709] | | | |
| **Wuhan** | - | - | - | | | |
| **industry** | Y | Y | Y | N | N | N |
| **State** | N | N | N | Y | Y | Y |
| **Whether Wuhan** | N | N | N | N | N | N |
| **N** | 777 | 777 | 641 | 777 | 777 | 640 |
| **adj. R-sq.** | 0.0758 | 0.0758 | 0.0887 | 0.0771 | 0.0771 | 0.0911 |
### Table 6. Further regression results (2).

| Group | D     | E     |
|-------|-------|-------|
|       | 11    | 12    | 13    | 14    | 15    | 16    |
| year  | 6.009*** | 6.009*** | 4.069*** | 5.638*** | 5.638*** | 4.744*** |
|       | [1.002]  | [0.961]  | [0.724]  | [1.332]  | [1.216]  | [0.988]  |
| policy| -2.831 | -2.831 | -3.45  | -5.361*  | -5.361*  | -5.053*  |
|       | [1.847]  | [1.667]  | [1.993]  | [2.456]  | [2.338]  | [2.431]  |
| DIFF  | 10.44*** | 10.44*** | 14.65*** | 11.58*** | 11.58*** | 13.22*** |
|       | [2.971]  | [2.699]  | [3.451]  | [3.062]  | [2.975]  | [3.397]  |
| a0    | 1.195*** | 1.195*** | 1.033*** | -7.532*** | -7.532*** | -4.983*** |
|       | [0.294]  | [0.303]  | [0.238]  | [1.931]  | [1.827]  | [1.330]  |
| type  | -      | -      | -      | 8.586*** | 8.586*** | 6.871*** |
|       | -      | -      | -      | [1.829]  | [1.716]  | [1.465]  |
| state | -      | -      | -      | 8.392*** | 8.392*** | 5.054*** |
|       | -      | -      | -      | [2.137]  | [2.052]  | [1.498]  |
| Wuhan | 7.765*** | 7.765*** | 8.948** | 7.643**  | 7.643**  | 8.486*** |
|       | [2.576]  | [2.339]  | [2.859]  | [2.389]  | [2.320]  | [2.782]  |
| industry | N       | N       | N       | Y       | Y       | Y       |
| State | N       | N       | N       | Y       | Y       | Y       |
| Whether Wuhan | Y       | Y       | Y       | Y       | Y       | Y       |
| N     | 777     | 777     | 649     | 777     | 777     | 649     |
| adj. R-sq. | 0.0663  | 0.0663  | 0.0882  | 0.0973  | 0.0973  | 0.1006  |
| AIC   | 7550.2  | 7550.2  | 6182.6  | 7526    | 7526    | 6176.6  |
| BIC   | 7573.4  | 7573.4  | 6205    | 7558.5  | 7558.5  | 6207.9  |

### 6 Conclusion

This study uses the total number of patent applications of enterprises to represent innovation efficiency, and finds that innovation-driven policies can indeed significantly improve the innovation efficiency of affected enterprises in the region. In this paper, the sample is controlled by the industry of the enterprise, the nature of property rights and the place of registration, which reflects that the impact of innovation-driven policies on the innovation efficiency of state-owned enterprises is more significant. At the same time, it is found that the implementation effect of a policy is related to whether the enterprise is within the scope of policy influence, but it is not related to whether it is located in a special city.

The policy implication of this paper is that innovation drive is a systematic project, which requires overall planning from policy dividends, industrial innovation, talent incentives, financial subsidies, and knowledge protection. Innovation-driven policies are indeed a significant boost to the innovation efficiency of enterprises. The formulation of policies often stipulates the industries in which are aim. Studies have shown that although the policies have been detailed in divide industries, they have not been able to distinguish the industries well in the implementation. During the formulation of the policy, the leader should pay more attention in more detailed development goals are proposed for the industries so as to better realize the accuracy of the policy. When controlling the registered address of the enterprise, it is found that the influence of the policies of an enterprise in the experimental group will not be significantly changed due to its location. The policy-oriented area is clear, and all enterprises in the region are in an equal position. This is friendly to companies located in non-core cities, which can enhance the vigour of the enterprises in the region and ultimately improve the innovation quality of the overall region.
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