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## The rational role of government in the process of attracting foreign direct investment in China

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**Abstract** Based on consumer and manufacturer behaviors, this research describes local governments' unique role in the process of "attracting foreign direct investment (FDI)". Drawing from a sample of 28 provinces plus four cities throughout China from 1998 to 2004, we construct an econometric model in this paper to analyze the common factors that influenced the result of "attracting FDI". The main finding of this paper is that in the process of "attracting FDI", local governments play a decisive role, which puts consumer surplus, producer surplus and the other social welfare into a basket to construct its plan for "attracting FDI". The common factors which influence the result of "attracting FDI" are local costs, the number of foreign-invested company, the market share of local companies, and the market share of foreign-invested companies.

**Keywords** promotion of FDI, role of local governments, micro-mechanisms

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### 1 Introduction and literature review

As the reform in China goes deeper and further, the role of "foreign direct investment (FDI)" in China's economy becomes more important than ever. From 1998 to 2003, the total actual FDI accumulated to 279.62 billion dollars, with an

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average growth rate of 3.31%, together with an annual actual use of FDI 46.6 billion dollars, representing 1.6 times of that from 1992 to 1997. Since 1993, China has ranked first in using FDI for 13 consecutive years among developing countries. It also ranked first in 2003 among all countries in the world in this aspect. All top five provinces of using FDI are located in the east region of China, namely, Jiangsu, Shandong, Guangdong, Shanghai, and Zhejiang. Their total use of FDI is 33.2 billion dollars, which accounts for 68.33% of the total in China.

Foreign direct investment has special functions to local economic development. In terms of provincial distribution, provinces at different levels of economic development differ greatly in the use of FDI (see Fig. 1). The number of foreign-invested companies, the FDI contracts, and the actual use of FDI in east region of China account for 87.39%, 87.22% and 87.38% of the total, respectively.

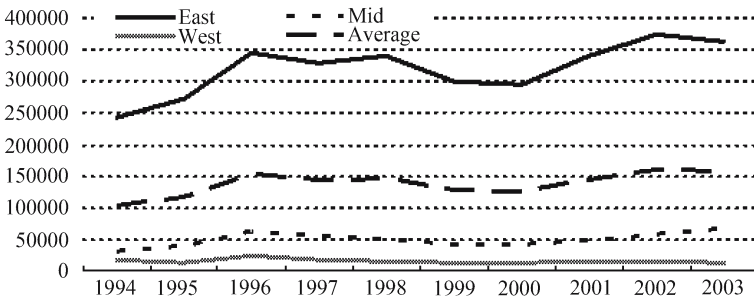


Fig. 1 Foreign direct investment in different regions (1994–2003)

The growth rate of the use of FDI in Central China is higher than the other regions. The trend of growth is strong. Since 1993, the growth rate of foreign-invested companies and the actual use of FDI in Central China have been 20.51% and 32.25%, which are much higher than the average growth rate of 11.22% and 11.29% of all the provinces. Compared with the situation in Central China, the growth rate of FDI contracts is much higher than other regions, but the actual use of FDI is weaker. The growth rate of foreign direct investment contract is 41.26%, which is higher than the average growth rate of 5.38% of all the provinces. Its growth rate of the actual use of FDI is 4.12%, lower than the average growth rate of 16.79% of all the provinces. The provinces ranking last five in the use of FDI are all situated in the west region of China, namely, Xinjiang, Guizhou, Gansu, Qinghai, and Tibet. Especially, there is little FDI in Qinghai and Tibet. On the other hand, different regions' policies toward attracting FDI vary from place to place.

This phenomenon has become the focus of many researchers, the papers of Xie (1998), Yuan (2001), Xiao (2001), Wu (2003) respectively described the situation of Zhejiang, Wuxi, Guangzhou, and North Zhejiang provinces and regions. Those papers' main finding is that under the local governments' policies of attracting FDI, the FDI is mainly occupied by the labor-intensified industry. The above researches are mainly about the relationship between the industry distribution and FDI, but fail to explicitly expound on the common factors which influence the result of "attracting FDI" (especially the special role of local government in the process of attracting FDI). On the other hand, Liu (2001) points out the regional differences of the Changjiang Delta development zone by comparing the differences in terms of the scale of FDI, the structure of industry, the city framework, and the export-oriented economy among Shanghai, Jiangsu, and Zhejiang. In all the researches about the differences between different areas, Lu (2002) points out that the over-heating policy of attracting FDI among the different local governments is a common phenomenon to which we should pay attention. We should take some measures to control the over-competition of local governments in order to avoid any damage to China's overall economy in the future. In recent years, this over-competition problem is enlarged and spread nationwide. If such over-competition is allowed to continue, it will have a negative effect on China's export-oriented economy. He also puts forward a new measure to control the over-competition among the local governments. Chen (2004) points out that the local government should not intervene in the local companies' decision but give the freedom to local companies to do what they want in the market. The local government's main function in the process of attracting FDI is to organize and to coordinate. He points out the role of local government in the process of attracting FDI but he does not specify the mechanism of this promotion. Cai (2005) points out that the local government should intensify the degree of promotion policies in order to attract more FDI, which would lead to countless favorable policies in promotion of FDI. But he does not point out the local government's micro-motivation and micro-foundation to attract FDI. Although the above-mentioned researches all give us some ideas about what happened in the process of attracting FDI in China, as a whole, they still lack in analysis on local government's micro-motivation and micro-foundation which determine the degree of local government's policies of attracting FDI.

All in all, there are three major shortcomings exist in the former researches about the favorable policies for attracting FDI:

- 1) the missing micro-motivation of local government which determines the degree of local government's policies of attracting FDI;
- 2) the focus of former researches is about the economic motivation, as to the local government's behavior, in other words, from the aspect of political economy,

there is still no answer to what are the common factors that influence the result of “attracting FDI”;

3) the former researches are mainly qualitative analysis, focusing on individual example of different regions, lacking in a consistent theoretical framework, especially, lacking in analysis from the side of political economy based on the micro-foundation of consumer and producer.

On the basis of above reasons, our researches are mainly about the following aspects:

1) establishing a consistent theoretical framework, based on the consumer and the producer’s behavior to analyze the local government’s unique role in the “attracting FDI”;

2) using a sample of 28 provinces plus four cities, we take the quantitative method to test our theoretical result and find the common factors which influence the result of “attracting FDI”.

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## 2 Micro-foundation model

Grossman and Helpman (1994, 1996) pointed out the “endogenous” problem of government’s behavior in modern economy. In the performance of modern economy, the government does not appear as the neutrally independent “third part” between the consumer and the producer, but becomes a participator of modern economy. Such a point is consistent with the performance of Chinese local government in the process of attracting FDI by favorable policies. Li and Chen (1998) describe the local government’s ability to seek “economic rent” from the multinationals. This will cause a game for the favorable policies among the local governments, the multinationals and the local companies. Foreign direct investment has two tier functions to the local government: on one hand, it can stimulate the growth of local economy and fiscal income, which contributes a lot to local government’s outstanding achievement; on the other hand, it will influence the local companies’ profit, giving a down side pressure to the latter. Zhu (2005) indicated that China’s present anti-dumping has involved 22 countries all round the world, and the cargoes involved are obviously higher than the international average level, the final win rate of all cases being 85.7%. The local government has to balance the growth of local economy and fiscal income and the potential damage caused by the foreign-invested companies. The main concern for multinationals to choose a certain region for investment is the profit level, which is heavily influenced by local government’s favorable policies. That is also a game among local governments, multinationals and local companies. In this section, we establish a micro-foundation model on the basis of Feenstra (2002) to describe the common factors which influence the result of “promotion of FDI”. The variable of favorable policies is our paper’s unique contribution.

The assumptions are as following: we completely treat all the 34 provinces and cities in China as different regions. Compared with Young’s (1997)’s<sup>1</sup> paper, our unique point is that the policy competition between China’s 34 provinces and cities. In other words, all the provinces compete for FDI with their different favorable policies toward multinationals. Furthermore, all the provinces compete for FDI to keep the intensity in their own regions by more favorable policies. At the basic model, assume the consumer preference given by

$$U = x_0 + \left( \frac{\theta}{\theta - 1} \right) \left[ n_h x_h^{\frac{\varepsilon-1}{\varepsilon}} + n_m x_m^{\frac{\varepsilon-1}{\varepsilon}} + n_f x_f^{\frac{\varepsilon-1}{\varepsilon}} \right]^{\frac{\varepsilon(\theta-1)}{\theta(\varepsilon-1)}}, \quad \theta > 0 \text{ and } \theta \neq 1 \quad (1)$$

where  $x_0$  denoted as one numerical good,  $x$  denoted as a continuous differentiable goods, which is CES aggregated set of three kinds of goods. There are three sources for  $x$ :  $n_h$  varieties are produced by local companies;  $n_m$  varieties are produced by multinationals (foreign-invested companies); and  $n_f$  varieties are imported from abroad. In Eq. 1,  $x_h$  denotes the consumption of product produced by local companies;  $x_m$  denotes the consumption of product produced by multinationals; and  $x_f$  denotes the consumption of good imported from abroad. Considering the problem of consumer’s utility maximization, we let  $P_h$  denote the price of goods produced by local companies,  $P_m$  denote the price of good produced by the multinationals, and  $P_f$  denote the price of good imported from abroad.

Assuming the cost for local companies is the same all over the country, we denote  $c_{hi} = c$  ( $i = 1, 2, \dots, n$ ). Cost for goods produced by multinationals is  $c_f$ ; cost for goods imported from abroad is  $c_f$ . For the imported goods, the importer has to pay import tariff denoted as  $\tau$ . Another fee the importer has to pay is the transport cost denoted as  $c_{if}$ . All in all, the total cost for the imported goods is  $c_f + \tau + c_{if}$ . Then multinationals and firms at home and abroad maximize their profits. All the parameters are decided by the following process of profit maximization

$$\begin{cases} \pi_h^i = (p_h - c_h)x_h^i & i = 1, 2, \dots, n \\ \pi_m^i = (p_m - \omega_i c_m^i)x_m^i & i = 1, 2, \dots, n \\ \pi_f = (p_f - \tau c_f - c_{if}^f)x_f \end{cases} \quad (2)$$

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<sup>1</sup>Young’s analysis based on that trades between different provinces were rare, so his conclusion is that different regions of china are separated from each other. When he describes the different regions in china, he uses different parameters. But our paper assumes that different regions compete with each other for FDI, which makes a difference.

where  $\tau$  denotes one plus import tariff rate (ad valorem tariff rate),  $\omega_i$  denotes the favorable policies toward the attracting FDI in region  $i$ , which will low the multinational's unit cost. Its value range is between  $[0, 1]$ . The above processes are the profit maximization process of multinationals, and the firms at home and aboard. All kinds of companies maximize their own profit given by the demand for their products. Finally, at the market equilibrium we can get the level of product price

$$\begin{cases} p_h = \left(\frac{\varepsilon}{\varepsilon - 1}\right) c_h \\ p_m = \left(\frac{\varepsilon}{\varepsilon - 1}\right) \omega_i c_m \\ p_f = \left(\frac{\varepsilon}{\varepsilon - 1}\right) (\tau c_f + c_t^f) \end{cases} \quad (3)$$

Substituting those prices into the profit function of multinationals, the firms at home and abroad, we can obtain the profit function in a new reduction form

$$\pi_j = \frac{p_j x_j}{\varepsilon} \quad j = h, m, f \quad (4)$$

We assume that in the process of production, labor is the only factor for production. One unit of the numeraire is produced only by one unit of labor. Following the above assumption, the wages are the unit for the numeraire product and goods produced by workers in the industry. While the workers in the local companies earn unity, we assume that multinationals (the foreign firms which are invested in this region) will pay the workers a wage premium of  $(w - 1) > 0$  (this came from the economic reality, the one who works for multinationals can get a wage premium). Such being the case, multinationals still invest in china, behind this we can see that it is still cheaper for multinationals to supply local demand from local production even plus the different transport cost across different regions in china. The total cost for multinationals is even cheaper than the cost in imports which is subject to the tariff, so we have the following condition

$$\omega_i c_m < \tau c_f + c_t^f \quad (5)$$

In the process of analyzing the multinationals' decision, we follow Renaud P S (1989)'s method. We consider the following aspects at the same time: the participant in the process of decision making, the participant's payoff function, the influence of government's policy to the participant, policy tool parameters, the constrain condition faced by the participant, and the equilibrium of the argy-bargy. In the process of constructing our model, the participants are China's

central government and local governments where multinationals invest and set up their factories. The payoff functions of those participants are just as what we describe above. The payoff function of central government and local governments will be described in detail in the following section. The policy tools that multinationals faced in our model are import tariff  $\tau$ , which are decided by China's central government. Import tariff  $\tau$  represents one plus tariff (ad valorem tariff rate). The other policy tools faced by multinationals as well are  $\omega_i$ , which are decided by the local government. We treat it as the endogenous variable which will influence the final equilibrium. It represents the favorable policies toward the promotion of FDI in region  $i$ , which will low the multinational's unit cost. In our model, the favorable policy of a region to attract FDI is realized by lowing multinational's unit cost, which is the most import part in our model. Through the above analysis, we can denote the total welfare function of all residents which is described as the function of our policy tools, our model variable, and parameters

$$W(\tau, \omega_i) = L + \left( \frac{\varepsilon - 1}{\varepsilon} \right) \left( \frac{w - 1}{w} \right) p_m n_m x_m + \frac{1}{\theta - 1} (n_h p_h x_h + n_m p_m x_m + n_f p_f x_f) \quad (6)$$

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### 3 The main body of attracting foreign direct investment and special interest group

In the process of promoting FDI, or in other words, attracting FDI, the local governments play a key role by using different policy tools. A lot of FDI projects are promoted by local governments' policies and activities. That is the key aspect of attracting FDI in China. The local governments' behaviors must be described in an exactly right way so we can understand what happened in the process of attracting FDI completely. In our model, we take the new approach of political economy to describe the local governments' behaviors by introducing the function of governments' objective. The objective function of local governments is defined as

$$G_i = C_i(\tau, \omega_i) + aW(\tau, \omega_i) \quad (7)$$

The local government chooses  $\omega_i$  to maximize its own political objective function. This local government's objective function is a linear combination of stated-owned enterprises and total welfare of all residents. In our model, we treat the state-owned enterprises as a special interest group. The reason behind are described as follows.

1) Since now China is transferred from the original plan economy or command economy to a market-oriented economy, the state-owned enterprises hold a special position in the local government's objective function. In the local

government’s objective function, they enjoy more weight than the other interest groups.

2) The state-owned enterprises are the most important resource of the local government’s fiscal income or tax income.

3) The employment in the state-owned enterprises is important for the local government to maintain local social stability.

The above three reasons make us to describe the state-owned enterprises as a special interest group. The local government maximizes its objective function by choosing different levels of favorable policies. Under such a relationship between state-owned enterprises and local governments, the state-owned enterprises’ income is  $n_h\pi_h - C$ ,  $C$  represents the profit in all kinds of conditions which can be measured by money transferred from the stated-owned enterprises to local governments. This can be treated as a mapping of the special relationship between China’s local governments and local state-owned enterprises. The managers of the state-owned enterprises know that once the  $C$  has been settled down, then the local governments will maximize their objective function by choosing different levels of favorable policies. The managers of the local governments also know that they can not make the local governments’ welfare level lower than the level of  $\alpha W^*(\tau, \omega_i)$ , which are the solution of

$$W^*(\tau, \omega_i) = \max_{\tau, \omega_i} W(\tau, \omega_i) \tag{8}$$

So, in a equilibrium model of political economy, we can see that the level of optimal favorable policies is the solution of the maximization of the combined welfare function of local governments and special interest groups. Under such a circumstance, we can describe the level of optimal favorable policies as

$$\begin{aligned} \omega_i^* = \arg \max & \left[ n_h\pi_h + a \left( \frac{\varepsilon - 1}{\varepsilon} \right) \left( \frac{w - 1}{w} \right) p_m n_m x_m \right. \\ & \left. + a \frac{1}{\theta - 1} (n_h p_h x_h + n_m p_m x_m + n_f p_f x_f) \right] \end{aligned} \tag{9}$$

The real level of optimal favorable policies is the solution of maximization of a linear combination of state-owned enterprises, the wage premium caused by the entering of multinationals and the consumer surplus. From the first order condition, after the reduction, we can get the following equilibrium of the level of optimal favorable policies<sup>2</sup>

<sup>2</sup>where

$s_j = \left[ \frac{n_j p_j x_j}{n_h p_h x_h + n_m p_m x_m + n_f p_f x_f} \right] = \left[ \frac{n_j p_j^{1-\varepsilon}}{n_h p_h^{1-\varepsilon} + n_m p_m^{1-\varepsilon} + n_f p_f^{1-\varepsilon}} \right]$ , denoted as the market shares of different kinds of companies.



$$\omega_i^* = \left[ \frac{\left( \frac{\varepsilon-1}{\varepsilon} \frac{w-1}{w} + \frac{1}{\theta-1} \right) \varepsilon}{\left( \frac{1}{\varepsilon} + \frac{a}{\theta-1} \right) \frac{\varepsilon-\theta}{1-\varepsilon} \frac{1}{\varepsilon-1} s_h + \left[ \left( \frac{\varepsilon-1}{\varepsilon} \right) \left( \frac{w-1}{w} \right) + \frac{a}{\theta-1} \right] \frac{\varepsilon-\theta}{1-\varepsilon} \frac{\varepsilon}{\varepsilon-1} s_m + \left( \frac{1}{\theta-1} \right) \left( \frac{\varepsilon-\theta}{1-\varepsilon} \frac{\varepsilon}{\varepsilon-1} \right) s_f} \right]^{\frac{1}{\varepsilon}} c_m^{-1} \quad (10)$$

Then the level of optimal favorable policies is a non-linear function of local cost. The coefficients are the weighted average process of market share of different kinds of companies. Based on the equilibrium condition, we have the following comparative static analysis about the rational role of government in the process of promoting FDI.<sup>3</sup>

**Proposition 1:** the lower the local cost, the higher the level of optimal favorable policies; the higher the local cost, the lower the level of optimal favorable policies, viz.

$$\frac{\partial \omega_i^*}{\partial c_m^i} > 0$$

**Proposition 2:** as multinationals become more and more, the level of optimal favorable policies will become lower and lower, viz.

$$\frac{\partial \omega_i^*}{\partial n_m} > 0$$

**Proposition 3:** keep the invariability of the behavior of the consumer and the producer, the more different the market share of state-owned enterprises, the more different the levels of optimal favorable policies. The fewer the market shares of state-owned enterprises, the higher the level of optimal favorable policies; the more the market shares of state-owned enterprises, the lower the level of optimal favorable policies, viz.

$$\frac{\partial \omega_i^*}{\partial s_h} > 0$$

**Proposition 4:** keep the invariability of the behavior of the consumer and the producer, the more different the market share of multinationals, the more different the level of optimal favorable policies. The fewer the market shares of the multinationals, the higher the level of optimal favorable policies; the more the market shares of the multinationals, the lower the level of optimal favorable policies, viz.

$$\frac{\partial \omega_i^*}{\partial s_m} > 0$$

<sup>3</sup>The reader who is interested in the process of the proving can e-mail to the author.

## 4 Quantitative test

### 4.1 Econometric model's structure and data issues

Based on the theoretical proposition, we set up the following econometric model

$$\omega_{it} = \alpha_i + \beta_1 \underset{(-)}{\text{salary}_{it}} + \beta_2 \underset{(-)}{\text{number}_{it}} + \beta_3 \underset{(-)}{S_{hit}} + \beta_4 \underset{(-)}{S_{mit}} + \beta_5 X + v_{it} \quad (11)$$

$$v_{it} \sim \text{IID} (0, \sigma_v^2) \quad (12)$$

where  $\omega_{it}$  denotes the favorable policy level of different provinces, it is measured by 1 minus the rate of the multinationals' average tax rate to the state-owned enterprises' average tax rate.<sup>4</sup> The data resources are Chinese Statistical Yearbook's main indicators of state-owned enterprises of all provinces and main indicators of multinationals of all provinces in the industry category. The data we used are mainly from the industry category because FDI in China is concentrated in the processing export-industry. Here, we use the data from industry category which can represent the universality.  $\text{salary}_{it}$  denotes the salary of workers in different provinces, which is the proxy variable of local cost in proposition 1, whose forecasted coefficient is negative. This is the test on theoretical result of proposition 1. The data are from the Chinese Statistical Yearbook's indicators of average salary of different provinces.  $\text{number}_{it}$  denotes the number of the multinationals in different provinces, the data are from the China Statistical Yearbook-the number of the multinationals in different provinces at the end of the year. This is the test of our theoretical result proposition 2. There is a negative relationship between the salary and the favorable policy level.  $S_{hit}$  denotes the market share of state owned enterprise of different provinces, whose composition is the rate of the industrial output of state-owned enterprises to the sum of the industrial output of state-owned enterprises, the industrial output of multinationals, the imported industrial goods. The data are from the China Statistical Yearbook of imported commodity category and the output of state-owned enterprises in different provinces. This is the test on theoretical result of proposition 3. There is a negative relationship between the market share of state-owned enterprises and the favorable policy level.  $S_{mit}$ <sup>5</sup> denotes the market share of foreign-invested enterprises in different provinces. Its composition is the rate of the industrial output of foreign-invested enterprises to the sum of the industrial output of state-owned enterprises, the industrial output of multinationals, the imported industrial

<sup>4</sup>  $\omega_{it} = 1 - (\text{the multinationals' average tax rate} / \text{the state-owned enterprises' average tax rate})$

<sup>5</sup>  $S_{mit} = \text{the industrial output of state-owned enterprises} / (\text{the industrial output of state-owned enterprises} + \text{the industrial output of multinationals} + \text{the imported industrial goods})$

goods.<sup>6</sup> The data are from the China Statistical Yearbook of imported commodity category and the output of state-owned enterprises in different provinces. This is the test on theoretical result of proposition 4. There is also a negative relationship between the market share of foreign-invested enterprises and the favorable policy level.

In our econometric model, the panel data are from 1998 to 2004 including 28 provinces plus four cities.

## 4.2 Estimation results

We take the different forms of permutation and combination of the workers' salary, the number of foreign-invested enterprises, the market share of the state-owned enterprises, the market share of the foreign-invested enterprises. Combined with the fixed effect model and the random effect model, we present four types of model. Then we construct Hausman Test two by two. By comparing the sign of certain independent variable of different types of model and whether its sign is consistent with our forecast on theoretical model, we can test the stability and validity of our theory (see Table 1 and Table 2).

**Table 1** Descriptive statistics

Independent variable ( $N = 154$ )	Mean	Maximum	Minimum	Std. Dev.
$\omega_{it}$	0.110	1.000	-2.735	0.576
$salary_{it}$	9907.968	24423	1540	3561.176
$number_{it}$	6820.721	57665	70	9999.965
$S_{hit}$	0.282	0.768	0.059	0.135
$S_{mit}$	0.599	0.906	0.121	0.1951.2

**Table 2** Results of models I-IV<sup>7</sup>

Independent variable	Fixed effect I	Random effect II	Fixed effect III	Random effect IV
Constant	4.183 (1.085)***	2.596 (0.8514)***	2.513 (1.106)**	1.081 (0.957)
Salary			0.000 (0.000)***	0.000 (0.000)***
Number	-0.0000633 (0.00002)*** -4.847	-0.0000311 (0.00001)*** -3.176	-0.0000526 (0.00002)** -3.573	-0.0000279 (0.00001)*** -1.945

<sup>6</sup> $S_{mit}$  = the industrial output of multinationals / (the industrial output of state-owned enterprises + the industrial output of multinationals + the imported industrial goods)

<sup>7</sup>Model I is the fixed effect model excluding the salary; model II is the random effect model excluding the salary; model III is the fixed effect model including the salary; and model IV is the random effect model including the salary.

(Continued)

Independent variable	Fixed effect I	Random effect II	Fixed effect III	Random effect IV
$S_{hit}$	(1.263)*** -2.615	(0.926)*** -1.306	(1.233)*** -2.365	(0.988)** -0.8467671
$S_{mit}$	(1.214)**	(0.946)	(1.146)**	(0.934)
Adj- $R^2$	0.3057	0.2955	0.3876	0.3760
F value	12.51***	38.05***	18.83***	55.02***
Sample		154		
Section		31		

Notes: \*, \*\*, \*\*\* denote the significant level of 10%, 5% and 1%. The number in the bracket is Std. Dev

In all types of model, the signs of the coefficient of the number of foreign-invested enterprises are negative and the validity is significant. The null hypothesis of validity is rejected at the 1% level in models I, II and IV, and at the level of 5% in model III. So, the stability and validity of the estimated coefficients of the number of foreign-invested enterprises are significant. Our quantitative analysis proved that there is a negative relationship between the number of foreign-invested enterprises and the local favorable policy level. The negative influence of the number of foreign-invested enterprises on the local favorable policy level is significant.

In all types of model, the signs of the market share of state-owned enterprises are negative and the validity is significant. The null hypothesis of validity is rejected at the level of 1% in models I–III, and at the level of 5% in model IV. The estimated coefficients of the market share of state-owned enterprises are negative, which are consistent with our theoretical hypothesis. The lower the market share of state-owned enterprises, the higher the level of optimal favorable policies; the higher the market share of state-owned enterprises, the lower the level of optimal favorable policies. After our quantitative analysis, we can see that there is a negative relationship between the market share of state-owned enterprises and the level of local favorable policies; the negative influence of state-owned enterprises to the level of local favorable policies is significant.

To the market share of foreign-invested enterprises, the signs of estimated coefficients are negative. The null hypothesis of validity is rejected at the level of 1% in models I and II, at the level of 5% in model III, but significant in model IV. The estimated coefficients of the market share of foreign-invested enterprises are negative, which are consistent with our theoretical forecast. To the model including the variable of local salary in our quantitative analysis process, we find that the sign of the estimated coefficient of the salary is contrary to our theoretical forecast. Our explanation about this is that the level of local salary and the level of favorable policy to multinationals are endogenous to each other, which is the deep rooted reason that make the sign of local salary inconsistent with our

forecast on theoretical model. This is the shortcoming of our paper. To dealing with this, we have the following explanation: in the part of theoretical model, the local cost is an abstractive definition. In the process of quantitative test, the distortion of the proxy variable can cause the inconsistent sign of the theoretical analysis and the estimated result. The “endogenous problem” is another reason for the contrary sign of the theory and the quantitative analysis. In Chinese actual situation, probably the institutional cost is much higher than the cost of real salary. This is why the above case occurred in the analysis.

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## 5 Conclusions and discussion

Based on the new framework of political economy, this paper constructs a micro-foundation model to describe “the policy of attracting FDI in China”. Using the classical micro-economy method, our paper is the first attempt to apply the new approach of political economy to consider the favorable policies to foreign-invested enterprises. We set up a model of political economy which can be applied to all provinces in China. Based on the theoretical model, we show some new features about the favorable policies to foreign-invested enterprises all over China.

From the point of view of political economy, we have some new considerations about the rational role of government in the process of promoting FDI in China. Using a sample of 28 provinces plus four cities from 1998 to 2004, we construct a micro-econometric model to test the proposition based on our theoretical model. The result of the quantitative test verified the most of the proposition on theoretical model.

There are many directions we can extend our research in the future. The next meaningful step is to consider the competition between different provinces in China. The foreign-invested enterprises can choose whether to stay at the initial province where they invested at the first time or choose to move to another province which offers them more favorable policies. We can introduce a new variable  $t_i$ , the underlying tax rate of local government, into the model. At the same time, we can introduce  $F_i^c$ , the fixed cost of moving to another province which offers them more favorable policies, into the micro-foundation model. Under the above constraint condition, to the foreign-invested enterprise in province  $i$ , staying at the original place means that the following condition must be satisfied

$$(1 - t_i) \frac{P_m X_m}{\varepsilon} - F_i^c \geq (1 - t_j) \frac{P_m X_m}{\varepsilon} - F_j^c \quad \text{for } j = 1, 2, \dots, n - 1$$

The simultaneous problem can not be avoided in our paper’s quantitative test. If we introduce the non-linear econometric method into our econometric analysis,

we can improve the result of quantitative test, which is also an important direction that can be extended in the future. The dynamic movement of foreign-invested enterprises, the favorable policy choice of local government under multi-constraint, and the dynamic equilibriums of Nash game are the most interesting issues for us to explore. The contribution of this paper is to set a foundation stone for getting that dynamic equilibrium.

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