

Dishonesty Level, Financial Development and Foreign Direct Investment

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Abstract: Based on the panel data of 244 prefecture-level cities from 2004 to 2018, this paper empirically analyzes the impact of dishonesty level on foreign direct investment, and tests the difference of the impact of dishonesty level on foreign direct investment under different levels of financial development. The empirical results show that: First, the improvement of the level of dishonesty has a significant inhibitory effect on foreign direct investment. Second, when the level of financial development is low, the level of dishonesty has no significant impact on foreign direct investment, and when the level of financial development is high, the level of dishonesty has a significant inhibitory effect on foreign direct investment. Third, from the analysis of regional heterogeneity, the level of dishonesty has a significant inhibitory effect on foreign direct investment, but it is more significant in non-eastern regions than in eastern regions.

Keywords: Faithless, Level of foreign direct investment, Financial development.

1. Introduction

Since the reform and opening up, with the continuous development of China's economy and the continuous improvement of its international status, China has attracted more and more foreign direct investment. According to the data in the statistical bulletin of national economic and social development in 2021, the actual amount of foreign direct investment in China reached 1.1 trillion yuan in 2021, an increase of 14.9% over the previous year, and exceeded 1 trillion yuan for the first time. However, although China's total foreign direct investment is growing continuously, in the long run, the introduction of foreign direct investment in our country is uneven. The eastern region of our country has always occupied the dominant position. In recent years, the opportunities for foreign direct investment in the central and western regions of our country have become prominent, and the scale of absorbing foreign direct investment is gradually expanding [1], but there are still large differences. Factors such as regional economic development, policy factors, business environment and human capital will all affect a region's attraction to foreign direct investment. As an informal system, trust level emphasizes the ethical relationship in the transaction process and will also affect the introduction of foreign direct investment. Higher trust level will increase the amount of foreign direct investment [2].

China's integrity building system is not yet perfect. In recent years, the country has made a lot of efforts to improve social trust. In 2013, the relevant departments of our country issued "Several Provisions on the Disclosure of Information on the List of Dishonest Executed Persons", and in October of the same year, a query platform for dishonestly executed persons was also opened, which enables the timely disclosure of relevant data on corporate dishonesty and improves the transparency of information. According to statistics, over the years, China has added 15.78 million dishonest enforcers, and in 2020, the country has added 2.4984 million dishonest enforcers, of whom 10 million were veterans. The increase of Laolai Enterprises will destroy the city's image and worsen the business environment. At the same time, the increase of

Laolai Enterprises will also lead to the decrease of normal business operation ability and commercial credit and the increase of transaction cost, which will reduce the scale of bank credit and increase the cost of debt financing and credit distortion [3]. It can be seen that when the proportion of dishonest enterprises in a region is high, i.e. the trust environment in the region is poor, not only the old dependent enterprises, but also the normal local enterprises will be affected. Therefore, it may affect the foreign investors' choice of whether to invest or not, thus affecting the introduction of foreign direct investment in the region. The introduction of foreign direct investment has many benefits for the development of the region. For enterprises, it can make up for the shortage of capital sources of the enterprises, and at the same time, it can introduce advanced foreign equipment and technology to improve the productivity and management level of the enterprises. For the regions, the introduction of more foreign investment means greater economic vitality and greater investment capacity, which can promote the development of the local economy and ease the financial pressure.

Therefore, it is of great practical significance to study the impact of the level of dishonesty on foreign direct investment. This paper will use the data of prefecture-level cities from the perspective of the level of dishonesty, and use the panel data of prefecture-level cities from 2004 to 2018 to study the impact of the level of dishonesty on the introduction of foreign direct investment. Secondly, it will consider the differences of the impact of different levels of financial development on the level of dishonesty on foreign direct investment. Finally, it will analyze the heterogeneity by region and city administrative level. The possible contributions of this paper are as follows: most of the previous studies were conducted by foreign scholars on the impact of trust on foreign direct investment in the countries where trust is located, and their studies were conducted from the national level, while domestic researches on the impact of foreign direct investment were seldom conducted from the perspective of social trust. Therefore, this paper will study the impact of dishonesty on local foreign direct investment from

the level of prefecture-level cities, enriching the research in this field; At the same time, considering that there may be differences in the impact of the level of dishonesty on foreign direct investment in different financial development stages, the threshold regression model is used to analyze the critical point (critical region) that generates the mutation. In addition, considering the heterogeneity of different regions and administrative levels of different cities, the heterogeneity analysis can make more accurate recommendations for different cities.

2. Theoretical Mechanism Analysis

2.1. The level of dishonesty and foreign direct investment

The market factor is one of the factors that need to be considered when the foreign direct investment enterprise chooses the investment place. Market factors include market size and market growth potential, market development level, etc. [4]. Investing in a market with larger scale and higher growth potential and development level means that relevant market search costs, information costs, transaction costs, etc. can be reduced and risks can be avoided. The level of dishonesty in a region reflects the low level of honesty in the region, which will aggravate the information asymmetry in the market, resulting in the increase of search cost and information cost, thus affecting the operation efficiency. The level of regional dishonesty may affect the introduction of foreign direct investment from the aspects of corporate financing constraints and transaction costs.

From the perspective of corporate financing constraints, many domestic small and medium-sized enterprises are currently facing serious financing constraints due to the problem of information asymmetry, and Dezhong Ye et al. [3] also found that when a region has more dependent enterprises, the financing constraints of normal enterprises in the region will be greater, i.e. corporate dishonesty will not only affect their own reputation, but also damage the reputation of the whole region. Then in a region with a high level of dishonesty, financial institutions will weaken their willingness to lend, making it more difficult for enterprises to obtain credit. When an enterprise has limited internal accumulation of funds and has difficulty in obtaining credit from financial institutions such as banks due to impaired reputation, it will lead to insufficient investment, affect the normal business activities of enterprises, and affect the investment choices of foreign-invested enterprises.

From the perspective of transaction costs, according to the "economic man hypothesis", people making investment choices are all "economic men" whose goal is to maximize profits. Opportunism will arise due to the uncertainty of the environment and the self-interest behavior of "economic men". The limited rationality and opportunistic behavior of "economic men" lead to the generation of transaction costs, and there is a significant negative relationship between transaction costs and the introduction of foreign direct investment [5]. The higher the level of dishonesty in a region, the worse the business environment, and the higher the transaction costs of foreign-invested enterprises before and after the event. From the perspective of pre-engagement transaction costs, a high level of dishonesty will require foreign investors to invest more in information collection costs and negotiation costs, and at the same time it will take longer to bargain over contracts, prices and quality; From the

perspective of post-engagement transaction costs, a high level of dishonesty will reduce the efficiency of contract implementation, and at the same time will face a higher risk of default, which will lead to an increase in transaction costs, thus affecting the introduction of foreign direct investment. In summary, the following assumptions are made:

H1: The increase in the level of regional dishonesty will inhibit the introduction of foreign direct investment.

2.2. The level of dishonesty, financial development and foreign direct investment

Regional financial development is also an important factor affecting foreign direct investment. Studies by Shangjun Yang [6] and Guoming Xian [7] have found that financial development has a significant negative inhibitory effect on foreign direct investment in China. When a region's financial development level is low, enterprises will face higher financing constraints and financing costs, which will reduce enterprise investment and even affect the normal production and operation activities of enterprises. At the same time, it will limit the profitability of foreign-invested enterprises, which will affect the introduction of foreign direct investment. Therefore, when the financial development level is low, financial development will inhibit foreign direct investment. However, financial development can provide financing opportunities for enterprises, reduce financing costs, and improve the efficiency of the use of resources. The impact of financial development on economic growth presents a "U" relationship[8]. With the continuous improvement of financial development level, financial development can promote economic growth, and when a region's economic growth rate is faster, it can also attract more foreign direct investment. Therefore, financial development can promote foreign direct investment when the financial development level is higher.

Generally speaking, financial development begins with the development of the banking system. Therefore, when the level of financial development is low, only large-scale enterprises can raise funds through banks, etc. These large enterprises often have good reputation and may have relatively few acts of dishonesty, so the impact of dishonesty will be relatively small. Therefore, the level of dishonesty in the region may not be sufficient to affect the introduction of foreign direct investment; As the level of financial development continues to increase, financial institutions other than banks are also slowly developing. More small and medium-sized enterprises that need financing and so on are slowly establishing ties with financial institutions such as banks. Small and medium-sized enterprises are more likely to commit acts of dishonesty than large-sized enterprises. As enterprises' acts of dishonesty increase, their impact will become larger, which will affect the credibility of enterprises, and thus may affect enterprises' financing activities with financial institutions such as banks. Therefore, when the level of financial development increases, the disincentive effect of the level of dishonesty on foreign direct investment may be more significant. In summary, the following assumptions are made:

H2: The effect of financial development level on foreign direct investment is U-shaped, and when the financial development level is low, the effect of dishonesty level on foreign direct investment is not significant. When the financial development level is high, the dishonesty level will have a significant inhibitory effect on foreign direct

investment.

3. Research Design

3.1. Pattern plan

3.1.1. Benchmark regression model

The model used in this paper is a fixed effect model with panel data. In order to test the impact of the level of dishonesty on foreign direct investment, the following model is constructed:

$$fdi_{it} = \alpha_0 + \alpha_1 rate_{it} + \alpha_2 X_{it} + F_i + F_t + \varepsilon_{it} \quad (1)$$

Where subscripts I and T represent cities and years

$$fdi_{it} = \alpha_0 + \alpha_1 rate_{it} + \alpha_2 financial_{it} + \alpha_3 financial_{it}^2 + \alpha_4 X_{it} + F_i + F_t + \varepsilon_{it} \quad (2)$$

After verifying the "U" relationship between financial development level and foreign direct investment, this paper builds a threshold regression model for analysis. The model takes financial development as a threshold variable to analyze

$$fdi_{it} = \alpha_0 + \alpha_1 rate_{it} I(financial_{it} \leq \gamma) + \alpha_3 rate_{it} I(financial_{it} > \gamma) + \alpha_4 X_{it} + \varepsilon_{it} \quad (3)$$

Where financial is the threshold variable, i.e. financial development, $I(\cdot)$ is the indicative function, when the conditions in brackets are met, $I(\cdot) = 1$, otherwise $I(\cdot) = 0$, γ is the threshold value to be estimated.

3.2. Variable definition

3.2.1. Interpreted variable

Foreign direct investment (fdi). The ratio of actual foreign investment to GDP in China City Statistical Yearbook is used to measure the level of foreign direct investment in prefecture-level cities.

3.2.2. Core explanatory variable

Rate level of dishonesty. In this paper, the level of dishonesty in the prefecture-level cities is measured by the ratio of the number of executed enterprises to the sum of the number of industrial enterprises, domestic enterprises, Hong Kong, Macao and Taiwan invested enterprises and foreign invested enterprises. The data of the number of executed enterprises is derived from "the information of the list of dishonest executed persons is published in the inquiry system", and the total number of dishonesty executed enterprises in the prefecture-level cities is obtained after screening and summing up the information of the places where the executed enterprises are located. Other data are from China City Statistical Yearbook.

3.2.3. Threshold variable

Financial development: the ratio of RMB loan balances of financial institutions to GDP at the end of the year. The data are from China City Statistical Yearbook.

3.2.4. Control variable

Referring to the relevant literature of foreign direct investment studied by other scholars, the following variables will also affect it. Therefore, this paper introduces the following control variables:

The level of economic development (pgdp), which is measured by the logarithm of the per capita GDP. The higher the per capita GDP, the larger the local market size, and

respectively, fdi represents the level of foreign direct investment in prefecture-level cities, rate represents the level of dishonesty in prefecture-level cities, and X represents the set of control variables, including economic development level, government intervention, market growth, environment, market potential, trade openness, borrowing level and cultural level. F_i and F_t represent fixed effects of city and time respectively, and ε are error terms.

3.1.2. Threshold regression model

This paper will first use the fixed effect model to test whether the effect of financial development level on foreign direct investment is U-shaped. The model constructed is similar to the benchmark regression model, as follows:

the impact of dishonest level on the introduction of foreign direct investment when the financial development level is at different stages. The model is constructed as follows:

therefore the more likely it is to attract foreign direct investment; Government intervention (gov), which is measured by the ratio of public finance expenditure to GDP. The greater the government intervention, the better the government can provide corresponding policy support for foreign direct investment, and thus the more favorable it is to attract foreign direct investment; Market Growth (rgdp), which is measured by the growth rate of regional GDP. The higher the growth rate, the stronger the market development capacity of the region, and therefore the more likely it is to attract foreign direct investment; Environment (env), which is measured by the non-hazardous treatment rate of domestic garbage. This indicator can reflect the local attention to the environment. The stronger the environmental protection, the more likely the region will attract foreign direct investment; Market potential (mp), which is measured by the ratio of total sales of social retail goods to regional GDP, is an important factor for foreign-funded enterprises to choose to invest. The greater the market potential, the more foreign direct investment will be attracted; Trade openness (open), measured by the ratio of the total import and export volume of local trade to the GDP of the region, can reflect the degree of economic integration between the local and international markets. Therefore, the higher the trade openness, the more foreign direct investment will be attracted; The level of education (edu) is measured by the per capita collection of books in public libraries, i.e. the ratio of the total collection of books in public libraries to the household registration population at the end of the year. Generally speaking, the higher the level of education, the faster the economic development will be. Therefore, the ability to introduce foreign direct investment should also be stronger. All the data are from China City Statistical Yearbook.

4. Analysis of Empirical Results

4.1. Benchmark regression

In this paper, the fixed effect model is used to study the

relationship between the level of dishonesty and foreign direct investment. The test results are shown in Table 1. Among them, model (1) contains only the explained variables and the core explanatory variables in this paper under the condition of fixed effect in the control year and region. Model (2) adds the control variables in this paper on the basis of model (1). According to the results, regardless of whether the control variable is added, the estimation coefficient of the confidence level of the core explanatory variable is significantly negative at the confidence level of 1%, which verifies the hypothesis 1, that is, under the condition that other conditions are unchanged, the increase of regional confidence level inhibits

the introduction of foreign direct investment. In fact, the higher the level of dishonesty in a region indicates that the higher the proportion of enterprises with dishonesty in the local enterprises, it will lead to the deterioration of the local business environment and difficulties in corporate borrowing, and the survival and development of enterprises will be affected, and this will also lead to "collective punishment" by external investors for all enterprises in the region, which will make foreign-invested enterprises more inclined to invest in regions with low level of dishonesty, so the increase in the level of dishonesty will inhibit the introduction of foreign direct investment.

Table 1. Benchmark regression results

VARIABLES	(1) fdi	(2) fdi	(3) fdi	(4) fdi
rate	-0.0139*** (0.00377)	-0.0110*** (0.00367)		
rate_			-0.0163** (0.00792)	
rate__				-0.00622* (0.00364)
Constant	0.274*** (0.00880)	-0.945*** (0.159)	-0.960*** (0.159)	-0.938*** (0.164)
sample size	3,660	3,660	3,660	3,416
Number of cities	244	244	244	244
Time fixation effect	YES	YES	YES	YES
Urban fixed effect	YES	YES	YES	YES

Note: the values of t in brackets, * * *, * * and * indicate the significance levels of 1%, 5% and 10%, respectively

4.2. Robustness test

In order to ensure the accuracy of the regression results, this paper uses two methods to test the robustness: replacing the proxy variables of the core explanatory variables and delaying the explanatory variables by one period. In model (3), the explanatory variable is the ratio of discredited enterprise data to the sum of industrial enterprises, domestic enterprises, Hong Kong, Macao and Taiwan invested enterprises and foreign invested enterprises. According to the results, it is still consistent with the results of the benchmark regression, with only a significant decrease. As the effect of the level of dishonesty on foreign direct investment may lag behind, the level of dishonesty in the current period is likely to affect the introduction of foreign direct investment in the next period. Therefore, the explanatory variable in model (4) is regressed after the first period. According to the results, it is still consistent with the benchmark regression. In conclusion, the benchmark regression results in this paper have certain robustness.

4.3. Threshold regression analysis

In order to study the relationship among the level of dishonesty, financial development and foreign direct investment, this paper adds the first term and the second term of financial development to the fixed effect model. According to the results of the fixed effect model in Table 2, it is found that the second term coefficient of financial development is significantly positive and the first term coefficient is significantly negative, which indicates that it has a significant inhibitory effect on foreign direct investment when the level

of financial development is low; When the level of financial development is high, it has a significant role in promoting foreign direct investment, i.e. the relationship between the two is "U"-shaped, which is in line with hypothesis 2. Therefore, by further using the threshold regression model, it can be seen from the test in Table 3 that the P value of the single threshold test is 0.006 and the P value of the double threshold test is 0.254, which indicates that there is indeed a single threshold in financial development, and the threshold value is 1.3395. According to the results of threshold regression in Table 2, when the level of financial development is less than the threshold, the effect of dishonesty level on FDI is not significant; When the level of financial development is greater than the threshold, the level of dishonesty has a significant inhibitory effect on foreign direct investment, which verifies hypothesis 2. Analysis of the reasons may be that when the financial development level is low, only large enterprises and other enterprises with higher credit rating can obtain loans from financial institutions, and these large enterprises will have less acts of dishonesty, so the level of dishonesty is not enough to affect the introduction of foreign direct investment; When the level of financial development continues to improve, and due to the relevant policy support, financial institutions gradually lend to small and medium-sized enterprises, and small and medium-sized enterprises with small scale and low credit rating are more prone to acts of dishonesty. The ever-increasing acts of dishonesty will make its impact become larger and larger, and even affect the views of other investors on social trust issues in a region. Therefore, acts of dishonesty will affect the introduction of foreign direct investment.

Table 2. Threshold regression

VARIABLES	fixed effects model	Threshold regression model
	fdi	fdi
rate	-0.00875** (0.00367)	
rate(financial) $\leq \gamma$		0.00126 (0.00391)
rate(financial) $> \gamma$		-0.0500*** (0.00581)
financial	-0.146*** (0.0253)	
financial2	0.0162*** (0.00410)	
Constant	-0.764*** (0.161)	-0.834*** (0.158)
Control variable	control	control
sample size	3,660	3,660
Number of cities	244	244
Year fixed effect	YES	YES
Urban fixed effect	YES	YES

Note: the values of t in brackets, ***, ** and * indicate the significance levels of 1%, 5% and 10%, respectively

Table 3. Threshold effect test

suppose	RSS	MSE	Fstat	Prob	Crit10	Crit5	Crit1	Brootstrap times
Single threshold	59.3711	0.0163	78.96	0.0060	22.1513	34.4045	57.6902	500
Double threshold	59.1292	0.0162	14.91	0.2540	23.1814	28.6776	59.6261	500

5. Heterogeneity Analysis

Considering that different levels of economic development in different regions may affect the impact of dishonesty on the introduction of foreign direct investment, this paper divides the regions into eastern regions and non-eastern regions, among which the eastern region has a higher level of economic development than the non-eastern region, and the regression results are shown in Table 4. First, the eastern region, we can see that the level of dishonesty on foreign direct investment is significantly negative at the 5% level, and secondly, the level of dishonesty in non-eastern region has a significantly negative impact on foreign direct investment at

the 1% level, indicating that the level of dishonesty in non-eastern region has a more significant impact on foreign direct investment, and in terms of coefficient, the impact in non-eastern region is more serious than that in eastern region. The reason may be that the eastern region has more advantages than the non-eastern region in terms of economic development level, geographical environment and other factors. Therefore, the importance of social trust factors will be reduced when foreign-invested enterprises choose the place of investment. Therefore, compared with the non-eastern region, the impact of its level of dishonesty is less significant.

Table 4. Analysis results of regional heterogeneity

VARIABLES	east	Non-eastern region
	fdi	fdi
rate	-0.0103** (0.00448)	-0.0381*** (0.00824)
Constant	-0.734** (0.324)	0.109 (0.164)
Control variable	control	control
sample size	1,440	2,220
Number of cities	96	148
Year fixed effect	YES	YES
Urban fixed effect	YES	YES

Note: the values of t in brackets, ***, ** and * indicate the significance levels of 1%, 5% and 10%, respectively

6. Conclusions and Enlightenment

Social trust, as an informal system, will affect all aspects of social economy. As an important component of the current economic development in various regions, foreign direct investment is of great significance to study the relationship

between the level of dishonesty and foreign direct investment. This paper uses the 2004-2018 China City Statistical Yearbook of 244 prefecture-level cities and the data collected from executed enterprises in different regions to study its impact on foreign direct investment from the perspective of dishonesty. It also studies the differences in the impact of

dishonesty on foreign direct investment under different levels of financial development. Finally, it makes a heterogeneous analysis from two aspects of regional and urban administrative levels. Through empirical research, we found that: (1) the level of regional dishonesty is an important factor affecting the introduction of foreign direct investment, and the improvement of the level of dishonesty has a significant inhibitory effect on the introduction of foreign direct investment. (2) The relationship between financial development level and foreign direct investment is U-shaped. Through threshold regression, it is found that when the regional financial development level is low, the influence of dishonesty level on foreign direct investment is not significant, while when the regional financial development level is high, the dishonesty level has a significant inhibitory effect on foreign direct investment. (3) From the perspective of regional heterogeneity, whether in the eastern region or non-eastern region, the level of dishonesty has a significant inhibitory effect on foreign direct investment, and the non-eastern region is more significant than the eastern region.

Based on the empirical results of this paper, the following enlightenment can be drawn: (1) First of all, it can be seen that the lack of integrity in the region will inevitably affect the introduction of local foreign direct investment. Therefore, for the better development of each region, the government should continue to promote the construction of the legal system, improve the corresponding laws and regulations, and reduce corporate dishonesty from the judicial level, so that the trust environment in each region can be improved; At the same time, to improve the social credit information system, the existing information release and inquiry system for the list of dishonest executors should collect and release information in a timely manner, and enhance the transparency of information among the transaction entities. For the enterprises that break the contract and lose their trust, administrative penalties should be increased, the cost of enterprise breach of contract should be increased, and a good business environment should be formed in the region. (2) Secondly, as the introduction of foreign direct investment can be promoted when the level of

financial development reaches a certain level, all localities should improve the level of financial development and comprehensively promote the development of financial reform, thus promoting economic development. At the same time, with the development of finance, the level of supervision and the construction of financial legal system should be strengthened.

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