

# Does Host Countries' Institutional Environment Affect China's Foreign Direct Investment?

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**Abstract.** The panel data of 152 countries from 2003 to 2009 has been selected to investigate the influence of host countries' institutional environment on China's FDI. Static OLS and SYS-GMM methods are used to test the full sample. The SYS-GMM method is designed to verify the developed and developing countries' samples. The results show that high corruption control, political stability and government effectiveness attract China's FDI while high voice and accountability, regulatory quality as well as rule of law hinder China's FDI. The influences on China's FDI of the developed and developing countries are different. Finally we put forward relevant policy suggestions to avoid institutional risks.

## Introduction

In 2011, China's FDI created a new record, reaching \$74.65 billion and saw year-on-year rise of 8.5%. At the same time, China's FDI stock reached \$424.78 billion and ranked 13th in the world. Institutional environment not only affects and determines the cost of FDI directly but also constitutes a risk of FDI thus arouses great interests of theorists and investors.

The literatures on institutional theory show the importance of the institutional environment's influence on tempo and mode of multinational's foreign investment. From the empirical point of view, Li et al.(2007) showed that high quality of governance environment was more conducive to the introduction of FDI. On the contrary, Cui(2009)<sup>[1]</sup> found that the poor institutional environment of the host countries attracted more foreign direct investment by Chinese enterprises.

Overall, choosing the same indicators often tends to get conflicting conclusions due to the different sample selection, quantify institution methods and data sources (Egger and Winner, 2005). In addition, the research on the influence of host countries' institutional environment on China's FDI is few and variables are not comprehensive. So the marginal contributions of this paper are as follows. Firstly, this paper intends to explore the inner mechanism of how the institutional environment affects China's FDI and carry out empirical tests. Secondly, this paper tries hard to make the institutional environment variables more scientific and complete on the basis of existing research. At last, this paper attempts to explore the regional difference in the impact that the host countries' institutional environment put on China's FDI.

## Model Building, Variable Selection and Description

To investigate the influence which was made by the host countries' institutional environment on China's FDI, this paper constructs the basic model:

$$FDI_{it} = \alpha_i + \beta_1 GOV_{it} + \gamma X_{it} + \varepsilon_{it} . \quad (1)$$

Among them,  $i$  represents the host countries to which China's FDI flows and  $t$  is time. 152 host countries are included and the time spans from 2003 to 2009. FDI is China's foreign direct investment which is represented by flow. GOV stands for the host countries' institutional environment and is the core explanatory variable. Kaufmann et al.(2007)<sup>[2]</sup> synthesized the environmental management index of national level which is based on three dimensions. The first dimension is the political system, which is measured by voice and accountability(VA) and political

stability and absence of violence(PSAV). The second dimension is the government's ability to formulate and implement policies, which is measured by government effectiveness(GE) and regulatory quality(RQ). The third dimension is the system of the relationship between the management regime and citizens, which is measured by rule of law(RL) and control of corruption(CC). This paper will choose the six indicators as institutional environment variables.

Besides, X stands for the control variables. This paper sets 8 control variables refers to previous research. (1)Market Size(MS).The OIL theory<sup>[3]</sup> emphasized the important role of MS in determining the enterprises' FDI behavior. In this paper, it is measured by the real GDP of 152 countries. In general, the real GDP both represents the size of host country's economy and reflects the purchasing power of host country(Xiang Benwu, 2008). (2)Natural Resources(NR). China's fuel and mineral products are more and more dependent on foreign countries. (3)Trade Links(TRADE). The enterprises can replace the original traded goods by investing directly to foreign countries and producing<sup>[4]</sup>. (4)Infrastructure(INFR). The complete infrastructure in the host country can reduce the cost of China's enterprises and improve production efficiency. (5)Technical Level(TECH). Enterprises can make use of local technical resource. (6)The Exchange Rate(ER). Bilateral exchange rate is the monetary factor that affects China's FDI. (7)Geographical Distance(DIST). DIST influences transportation cost and has an impact on trade. (8)China's FDI Stock(FDIS). With the investment experience in the host country accumulated by a domestic enterprise, it will be more conducive to domestic enterprises' FDI in this host country.

This paper will use static and dynamic panel models, focusing on the results of dynamic panel model. Considering the continuity of FDI, we will add last year's FDI stock to observe this effect on the static panel model. More details are as follows.

$$FDI_{it} = \alpha_i + \beta_0 FDIS_{it-1} + \beta_1 GOV_{it} + \gamma X_{it} + \varepsilon_{it}. \quad (2)$$

Among them, FDIS stands for last year's China's FDI stock.

$$FDI_{it} = \alpha_i + \beta_0 FDI_{it-1} + \beta_1 GOV_{it} + \gamma X_{it} + \varepsilon_{it}. \quad (3)$$

The third equation is the basic dynamic panel model of this paper. Blundell and Bond(1998) further proposed the system GMM to eliminate the influence of weak instrumental variables and small sample bias on the basis of differential moment estimation. So this paper adopts the system GMM(SYS-GMM) to estimate and report the results. In addition, the variable data is chosen from the World Bank, Statistical Bulletin of China's FDI, China Statistical Yearbook and so on.

## Empirical Analysis

**The Full Sample of The Host Countries' Institutional Environment's Impact on China's FDI.** Firstly, we use static OLS and SYS-GMM methods to test the full sample. The results show that the models fit well\*. From the OLS estimation results, it is basically consistent with expectation of this paper. However, only NR, TRADE and FDIS indicators are significant so that system moment estimation method will be used. Considering that institutional environment variables may be endogenous, we adopt lagged institutional environment variables as instrumental variables, carrying out Sargan test and differential error term's serial correlation test on them. AR(1) indicates that the residuals are first-order autocorrelative. AR(2) shows that the residuals have no second-order correlation. From SYS-GMM estimation results, there is a significant relationship between two kinds of institutional environment and China's FDI. Different from Zhang Hong and Wang Jian's(2009) conclusions, China's FDI will increase 22% significantly when CC index rises 1 per unit. This is because that corruption will increase the probability of bribery and the cost of rent-seeking. However, China's FDI will decrease 33% significantly when VA index rises 1 per unit. The reason may be that China's enterprises which grow up in domestic 'greenhouse' environment lack the experience in dealing with industrial relations thus makes FDI flow to the countries with

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\* Due to the limited space, static OLS and SYS-GMM estimation results of the full sample are not listed, please contact author if necessary.

low quality of VA. PSAV and GE's coefficient is positive while RQ and RL's coefficient is negative. As a kind of incomplete and fragmented contractual relationship, the cost of contract execution is relatively low in short term so that countries and regions with low VA and RL as well as high RQ have become one of the main host countries to which FDI flows. But in the long term, low-level institutional environment has relatively high hidden costs and greater uncertainty so that countries and regions with low-level institutional environment may not be the ideal host countries<sup>[5]</sup>.

From the results of other factors, different from Li Meng and Yu Jinping's(2011) conclusion, NR and INFR significantly affect China's FDI. Host countries with abundant mineral resources have a strong appeal to China's FDI recently because that mineral-seeking investment is gradually increasing. INFR has significant effects on China's FDI which means that China is investing and building more factories in the host countries recently. TRAD and ER have a significant influence on China's FDI which reflects that China is turning from foreign trade to foreign investment in the process of globalization. But MS and TECH have not become significant determinants of China's FDI which shows that China's FDI is still in its infancy currently and can't integrate into the environment and system of host countries' economy and society organically. The results of static OLS model show that if FDIS rose 1%, the flow of FDI would increase about 0.86% significantly. The results of SYS-GMM model show that if the flow of last year's FDI rose 1%, the flow of FDI would increase about 0.35% significantly this year. These illustrate that China's FDI is continuous. This may because that the competitiveness and profitability of China's enterprises in the host countries are enhanced and they share experience in the host countries' markets gradually.

**The Regional Difference of The Impact That The Host Countries' Institutional Environment Puts on China's FDI.** Distinguish and analyze between the developed and developing countries is helpful to further understand the law of China's FDI. This part still uses dynamic GMM panel model. From the estimation results\*, the institutional environment of the developed and developing countries has different effects on China's FDI. Overall, the developed countries' PSAV index rises 1 per unit, China's FDI will increase 70.7% significantly. RQ index rises 1 per unit, China's FDI will increase 127.9%. RL index rises 1 per unit, China's FDI will increase 63.9%. CC index rises 1 per unit, China's FDI will increase 52.5%. The developing countries' RQ index rises 1 per unit, China's FDI will decrease 38% while the other institutional environment variables are not significant. The developed countries have institutional advantages so that China's FDI can use them for institutional arbitrage. In comparison, the developing countries' institutional risk may strengthen China's enterprises' bargaining power. Thereby the internal mechanism of the developed and developing countries' impacts on China's FDI is different. From the point of institutional factors, China's FDI prefers institutional advantages in the developed countries and low cost advantages in the developing countries. However, we find that China's FDI tends to flow into countries with low quality of VA based on all the countries' samples. It is more obvious in the developed countries and is the same as the results of the full sample.

Meanwhile, TRAD and ER between China and the developed countries as well as INFR, NR of all the countries have become important factors for China's FDI. But the effects of MS, TECH and DIST are uncertain and non-significant which reflects that China's enterprises' internationalization strategy has transformed from export to direct investment.

## Conclusions and Policy Implications

From the above analysis, some conclusions can be drawn as follows. Different institutional environment has different impacts on China's FDI recently. High CC, PSAV and GE attract China's FDI. On the contrary, high VA, RQ and RL hinder China's FDI. Both the high level of institutional environment in the developed countries and the low level of institutional environment in the

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\* Due to the limited space, GMM model estimation results of the developed and developing countries are not listed, please contact author if necessary.

developing countries attract China's FDI. This reflects the strategy choices that China's FDI makes in different institutional environment according to the comparative advantages of host countries.

In this regard, the enlightenment and suggestions drawn by us are as follows. Enterprises need to increase the feasibility study before invest. They should pay attention to protect local resources and take social responsibility. The government should increase the strength of research and information gathering. The society should strive to foster local risk assessment agencies. At last, the most fundamental method is to transform the pattern of economic growth and improve resource utilization to reduce dependence on foreign resources.

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