

Fiscal policy and foreign direct investment in China

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Using sub-national panel data for China, this paper discusses many policy factors attracting FDI. Therefore, it focuses on the comparison of public policy and other characteristics of provincial governments. Using a panel data set of 29 provinces in China for the period after reform and opening, we apply a panel regression model with fixed effects. We find that the tax burden has a significant effect on the location of FDI. In contrast with other research findings, this paper argues that local wages don't have a positive effect on the location of FDI. Then, this paper discusses the effects of disaggregated public expenditure on the inflow of FDI. Ultimately, we find that the quality of Chinese governance does not have a significant effect on FDI.

Keywords: tax burden, public input, inflow of FDI, panel regression

1. Introduction

When referring to the factors shaping foreign direct investment (FDI), most research focuses on the effects of the tax burden and the cost of labor. Using international panel data, the factors impacting FDI have been studied among different countries. There have also been papers discussing factors that attract FDI in the United States (Friedman, Gerlowski, and Silberman, 1996).

However, in recent years, researchers have considered the effects of public input, especially disaggregated fiscal expenditures (Buettner, 2002). On the other hand, research on China's factors attracting FDI is increasingly important, because there is fiscal competition between local governments. China has emerged as the largest recipient of FDI among developing countries. China has been the second largest recipient in the world since 1993. Therefore, it has been closely following the United States. Although, some papers like Cheng & Kwan (2000) and Ali & Guo (2005), have discussed this question; these researchers have not incorporated some important factors into public finance. At the same time, few studies have taken into account the different government expenditures. Therefore, this paper incorporates many factors, especially the tax burden and public input, to provide an empirical test of public policy and other economic factors among sub-national Chinese governments. This makes this paper more comprehensive and up

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This research is the Fund Project of Education Ministry for Younger of Humanities and Social Science (10YJC790416); it is also a project funded by the Priority Academic Program Development of Jiangsu Higher Education Institutions(PAPD).

to date than other past studies, and it allows us to compare the relative impact of taxes, public input, changes in infrastructure, privatization, labor cost, college attendance, and corruption. The use of fixed provincial effect controls for agglomeration, since the regression coefficients will be reflecting variation within a province.

The evidence indicates that lower taxes, higher total public expenditure, and better infrastructure are conducive to attracting FDI. With regard to the structure of fiscal expenditures, we find that in China, there is no fiscal structural effect for the attractiveness of FDI.

The remainder of this paper is organized as follows. Section 2 surveys the recent research on the effect of public policy on the location of FDI; Section 3 represents the econometric results from the panel data set; and Section 4 presents conclusions.

2. Survey of the factors affecting FDI and methodological aspects

Previous literature has identified a number of important factors. The costs and benefits of FDI have been presented as control variables have often been taken into account to investigate the reasons for FDI inflow. The factors are as follows.

Tax burden: this variable is most used in previous literature. Furthermore, most of the literature for the effects of taxation on FDI point to Hartman's papers between 1984 and 1985, as a starting point, because these are the first to point out a way in which certain types of FDI may surprisingly not be very sensitive to taxation. Wheeler and Mody (1992) utilized a taxation measure to assess its effect on FDI. However, They found no impact on taxation. A recent study by Goodspeed, Vazquez, and Zhang (2006), argued that the tax burden has a significant constraining effect on attracting FDI. The latter has done this making use of international panel data in 47 countries. On the whole, the estimated elasticity of the tax burden varies significantly. Depending on the data set used and whether the researcher has cross-sectioned or paneled.

Effects of public expenditures: Bartik (1991) holds that neglecting the provision of public services will lead to a downward spiral in estimates. These factors will hurt local taxing differentials on the local economy. It can be inferred to utilize controls for the supply of fiscal expenditure in empirical research. In fact, the effect of public expenditure is rarely discussed in the study of FDI inflow. The only exceptions are Hines (1996) and Buettner (2002). These papers do not do significant research on the effects of disaggregated public expenditure.

Per capita (GDP): this variable is often used to test whether there is a market size effect on the extent to which FDI is used for consumption in the host country rather than for export. This index has another interpretation, which aims at the Abundance of Capital Effect, first suggested by Edwards (1990).

Infrastructure condition: infrastructure condition is also an important factor in shaping local attractiveness of FDI. With different kinds of indexes in infrastructure, Cheng & Kwan (2000) highlighted its positive effects in Chinese sub-national areas when running FDI. With the *IMD World Competitive Yearbook*, it is possible to make use of the infrastructure ranking on international levels to investigate the effects on FDI inflow. Goodspeed, Vazquez, and

Zhang (2010) do a careful examination and find that FDI shows sensitivity to the host country's infrastructure quality in both developed and developing host countries.

Labor cost: higher labor cost is often expected to deter FDI. However, the labor cost factors in areas within a country may not be that significant. For instance, Chen (1996) argues that there are no obvious effects from the labor cost in China.

Export or trade: export or trade is also included to capture the potential effect on the FDI decision. It is expected that export or international trade on GDP may be positively associated with FDI. For example, Jost (1997) shows that the regional structure of the German FDI abroad is almost proportional to the distribution of its exports. Ekholm, Forslid, and Markusen examined its effects in 2003, and Goodspeed, Vazquez & Zhang (2010) find that lagged exports have a positive effect on the choice of FDI.

Governance quality: government control has been taken into account because we can use the data from the Department of Transparency in International Corruption Perceptions Index. A second way to adopt this proxy is to use a corruption indicator, constructed for internal use by the World Bank. The World Bank has the same serial assessments of most countries. The assessment provided by the World Bank is called, the Country Policy and Institutional Assessment (CPIA). Wei (2000a; 2000b) controversially discusses the effects of local governments on FDI from the data available. Wei's papers show that a variety of corruption indexes are strongly and negatively correlated with FDI. Other studies do not find such evidence.

Agglomeration effect: Wheeler and Mody (1992) conduct an early and important study on foreign investment determinants. They find that agglomeration measured by infrastructure quality is an important determination. On the other hand, taxes are not a significant determinant.

There are other factors by which to interpret the reasons for FDI inflow, such as institutions, exchange rates, trade protections, and so forth. Blonigen (2005) surveys most of these factors.

In terms of research objectives, most studies emphasize international comparative studies through international panel data. Few studies investigate the effects of these factors among local governments within a country, except for Hines (1996). Correspondingly, there are fewer studies on the effects of each factor on China's FDI locations. Although, Cheng and Kwan (2000) examine the effects of per capita income, education, infrastructure and policy, important policy factors, such as tax burden and public input, have not been considered.

To comprehensively reexamine the effects of different policy factors focusing on Chinese FDI inflow, we perform empirical research in this paper, especially for those based on the panel data of Chinese sub-national governments. The impact of disaggregated public expenditure and corruption has been studied. So the general regression analysis takes the following form:

$$\ln FDI_{it} = \alpha_0 + \alpha_1 \cdot Year_t + \sum_{n=2} \alpha_n \cdot X_{it} + u_{it} \quad (1)$$

Where *Year* represents a year dummy, X_{it} represents collecting vectors of the control variables discussed above. Included are the tax burden, public input, per capita GDP, labor cost, and infrastructure conditions. In order to control for unobserved regional differences that are correlated with the variables of interest, this paper adapts to a panel data set and employs fixed

regional effects estimation.¹ In equation (1), the small letter t represents the years 1994 to 2010, analyzing the ‘in between’ effects of total public expenditure.

As a matter fact, FDI may also affect Chinese public input, leading for example into potential endogeneity in a single variable. For instance, Alesina and Wacziarg (1997) argue that openness had a significant effect on fiscal expenditure, which is one of many problems that could manifest. Therefore, we chose an exogenous variation, PUBSER as an instrument variable. It indicates the following groups, public management, and social-organizational personnel employed by each sub-national government.

When investigating disaggregated public expenditure and the corruption effect, the small letter t is constrained from 1994 to 2006. It is, therefore the most up-to-date data of newly added factors up to 2006. Region I had 29 researched objects. Although, we have 31 sub-national governments in China, Chongqing is autonomous from Sichuan Province but only became a centrally administered municipality in 1997. Thus, this paper drops them since it’s very difficult to combine their data into a provincial set or to obtain a complete analysis for 1994 to 1997 individually.

3. Measurement of each factor and regression results

3.1. Measurement of tax burden and other factors

The main objective is to estimate and compare the impact of a host region’s taxation, public input, infrastructure quality, and quality control in its stock of FDI. In addition, we test for differences among the kinds of fiscal expenditure that occur in the country. To do this we will use a panel data set with a ‘dummy’ for the time-specific effect to represent the public-economic opening policy.

We utilize an aggregate measurement on FDI for region I in the year t , using data from the *China Compendium of Statistics* (1949–2011) and *China Statistical Yearbook 2011*. To show the additional increase of FDI, we take the logarithm of FDI for each and show other shock effects.

The independent variables described below are the same for both datasets, except for each type of public expenditure and total corruption case prosecuted.

The main policy variables are taxes, public input, infrastructure quality, and governance quality. These variables represent some measurement challenges in dealing with missing data. We could not obtain accurate statistics for tax burden on foreign companies in each of these areas. However, the tax burden variable can be computed by two measures, instead of adopting a statutory tax rate. The statutory tax among local governments in China is the same because of the unity of foreign investment taxation laws. Therefore, we have to take other measurements to assess the real burden of foreign investment. The first measure is to aggregate the measurement of foreign investment. This can be the index of the ratio in total taxation paid by foreign companies for FDI. The second measure adapts to corporate-income taxation paid by foreign investors.

¹ Hausman tests indicate that fixed effects are preferred to random effects in the specifications presented.

These measures may be an effective tax rate in the local government. Therefore, it helps to accurately reflect the true tax burden on FDI.

The second main policy variable is public input. This paper represents the interpretation from two measures. The first measure that we use is for total fiscal expenditure. The second is disaggregated on the levels of their share of GDP, based on the nominal data from each year's *Statistical Yearbook of Public Finance*. These measurements are also used by Buettner (2002) and Goodspeed, Vazquez, and Zhang (2010). The other measure is to adopt the per capita fiscal expenditure.

The third policy variable is a general indicator. The infrastructure level in each region is shaped by adding up all of the transport routes from 1994 to 2010 and dividing them by the total land mass in each area.

After Wei (2000a, 2000b) first considered the corruption index, then there was a study of its effect on FDI. This variable, regarded as a quality variable, is often considered in the later literature. There are some indicators to represent government quality on the international level. For example, we can make use of the International Corruption Perceptions Index provided by the Department of Transparency. However, there are no assessments towards sub-national governments within each country. By means of dividing total corruption cases prosecuted per thousand public servants in each province, this paper is the first to take government quality in China into account, which is also not included by Cheng & Kwan (2000). With the intention of avoiding mistakes, we lagged the measure of corruption by two periods. This is because higher FDI may lead to more wealth and hence more corruption, but current FDI cannot affect the corruption level two years previously. In the year before the FDI really comes in, top management staff of foreign company may contact local public servants and lead to corruption. For this reason, we adopted this measure lagged by two periods.

More and more papers pay attention to the effect of Per capita (GDP). This is to measure whether it has abundance of capital, as suggested by Edwards (1990). This factor is also considered in this paper. Real GDP is based on 1978 and adopted into this analysis.

In order to show the market size or the investment climate in each area, the privatization factor is also used in this paper. There is also the fact that China is still a transitional country. Therefore, this paper takes the ratio of employees in non-public sectors to the total as an index. It is further represented in the extent of privatization and accessibility of the local market.

The cost of labor is an important factor in examining the effects on FDI. This is based on the theory of international division of labor. Specifically, the logarithm of the average of real wages in firms is given in this paper to represent a wage measure amongst different regions. These wages are likely to be bid up with an FDI increase. In order to avoid the endogeneity, this paper lags this variable.

Human resources effects are also discussed in this paper. We take two different variables to show the effects individually, implementing the same methods of Cheng and Kwan (2000). This paper uses the ratio of university students in the total population as one measure. The other substituted variable is the proportion of those in elementary and secondary school to the total population.

With the same method of Buettner (2002) and Goodspeed, Vazquez, and Zhang (2010), exports

to GDP is used as an index for external factors in analyzing the incentive effect of FDI decisions. In particular, this paper makes use of lagged exports to GDP as one of the independent variables.

3.2. Regression results

Before regression, all data are adjusted by means of China's historical price index. We will discuss the regression results in some detail below. However, the main results concern the impact of tax burden, public input, labor cost, infrastructure, privatization, corruption level, college attendance, and particularly disaggregated fiscal expenditure on FDI. The number in the brackets at the top of the table means that we regressed with different measurement to some variables.

Generally, the level of regional economic development shows the abundant capital effect on FDI. The results are very obvious from specification (1), (2), (3), and (4).

The results in Table 1 confirm that tax levels negatively affect the FDI inflows. The results are significant at 99% across the board. The effect is consistent with Altshuler, Grubert, and Newlonand (2000) who took the United States as their research object.

With respect to public input, the results of the two measures are all significant and positively associated with the FDI inflow. However, the indicator of public expenditure over GDP is more significant than the other measure. This result shows consumption in the public sector is one of the most important markets for foreign investment companies.

The first market is privatization, since it is significant in attracting FDI. It is an indicator of economic market resource allocation and it is conducive to FDI inflow.

From specification (1), (3), (5), and (7), exports have little or no effect on the location of FDI.

The effect of labor cost in each area does not have very significant negative impact in the results of time-specific dummies. This is contrary to the results of Cheng and Kwan (2000), although, labor cost should have a negative effect on FDI in theory. In reality, more developed areas in China, which are higher-wage areas, have more FDI inflows. There are two interpretations for this result. On one hand, it means that the investors often consider more factors than labor cost in deciding the location of FDI. For instance, Ali and Guo (2005) argue that in China, market size is a major factor for FDI, especially for U.S. firms. At the same time, average labor cost is examined concretely in this paper, without comparison with the host or other base countries. On the other hand, high average wages mean the following: high efficiency in economic development and regional comprehensive investment climate- with available resources to exploit.

To better understand this result, it is necessary to analyze the relationship between FDI stocks and the average wage in 2010.

Figure 1 shows FDI for high average wage regions and low average wage regions at the end of 2010. This paper takes 29 samples and ranks them by average wage. Then, through dropping the 15th sample, this paper obtains the result stated above. We find that the total volume of new added FDI in high average wage areas was 1.33 times-in contrast to that in low average wage areas in 2010. Shown as follows, high average wage areas are characterized by high FDI inflows. From Figure 1, we can expect that high wage areas can still own high FDI stock, because of the agglomeration effect suggested by Wheeler and Mody (1992).

Table 1
Testing the effects of each factor on the location of FDI (1994–2010)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Per Capita (GDP)	-0.0003 (-9.07) ^{***}	-0.0003 (-7.94) ^{***}	-0.0003 (-7.43) ^{***}	-0.0002 (-6.30) ^{***}	0.00002 (0.34)	0.00003 (0.29)	0.00001 (0.19)	0.00002 (0.79)
FDI Corporate Income Taxation	-1.198 (-9.45) ^{***}	-1.059 (-9.53) ^{***}					-0.902 (-4.96) ^{***}	-0.728 (-4.06) ^{***}
FDI Taxation			-0.179 (-8.83) ^{***}	-0.156 (-9.34) ^{***}	-0.060 (-1.13)	-0.121 (-4.88) ^{***}		
Per Capita Total Public Expenditure	0.0015 (9.43) ^{***}	0.0013 (8.88) ^{***}	0.0013 (7.67) ^{***}	0.001 (6.75) ^{***}				
Total Public Expenditure/GDP					15.09 (3.99) ^{***}	8.391 (5.10) ^{***}	13.067 (7.08) ^{***}	14.02 (5.33) ^{***}
Infrastructure Level	0.366 (3.66) ^{***}	0.233 (2.33) ^{***}	0.370 (4.52) ^{***}	0.336 (2.74) ^{***}	0.471 (2.49) ^{***}	0.313 (3.57) ^{***}	0.359 (1.68)	0.217 (1.39)
Privatization	2.774 (5.59) ^{***}	1.87 (3.71) ^{***}	1.803 (4.77) ^{***}	1.300 (2.66) ^{***}	1.10 (1.73) [*]	2.05 (3.83) ^{***}	1.14 (2.14) ^{**}	1.987 (2.23) ^{***}
Labour Cost	-0.458 (-2.23) ^{**}	-0.349 (-1.09)	-0.447 (-2.19) ^{**}	-0.083 (-0.45)	-0.39 (-2.88) ^{***}	0.433 (1.97) ^{**}	-1.401 (-3.46) ^{***}	-0.167 (-8.43)
Lagged Export/GDP	0.018 (8.08)	0.279 (0.73)	0.123 (0.44)	0.106 (8.31)	-0.252 (-8.43)	-0.909 (-2.43) ^{**}	0.300 (0.33)	0.268 (0.44)
College Attendance	17.56 (2.93) ^{***}	15.25 (2.48) ^{***}	15.385 (2.83) ^{***}	11.65 (2.27) ^{**}	3.33 (0.36)	11.98 (2.03) ^{**}	0.521 (0.06)	10.09 (1.02)
Constant	7.385 (9.49) ^{***}	6.418 (6.53) ^{***}	7.24 (9.46) ^{***}	5.809 (7.43) ^{***}	12.321 (4.73) ^{***}	2.96 (3.55) ^{***}	8.841 (6.88) ^{***}	3.531 (1.30)
Friedel Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Dummies	No	Yes	No	Yes	No	Yes	No	Yes
Observations	464	464	464	464	464	464	464	464
R-squared	0.454	0.365	0.48	0.385	0.396	0.461	0.343	0.277

Notes: Absolute values of t-statistics in parentheses; *** significant at 1%; ** significant at 5%; * significant at 10%.

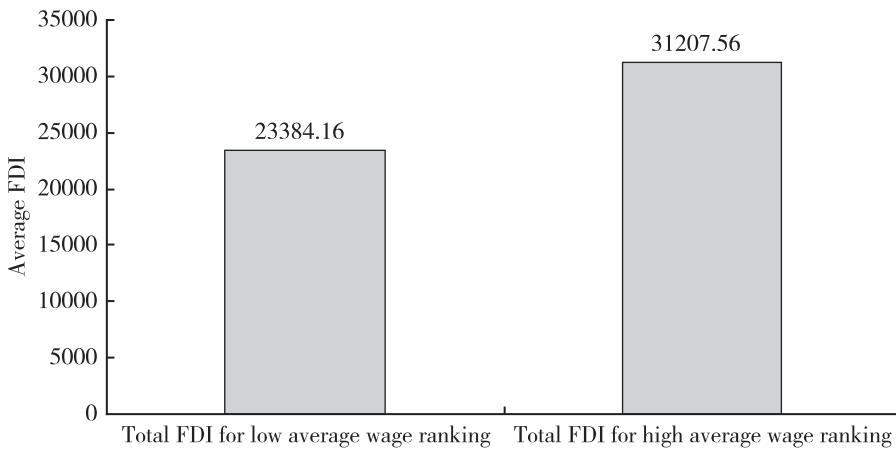


Figure 1. Average wage ranking and FDI inflow, 2010 (\$ Million)

We include the measure of human resources, and the results from specification (5) to specification (8) show that the effect of university attendance is weak. The effect of university attendance was significant in specification (1), (2), (3) and (4). From specification (5) to specification (8), once controlling for yearly FDI effects, these are common across regions with time specific effects. The results are significant only in specification (6).

Table 2 adds other control variables to Table 1 in the specifications. It focuses on the effects of disaggregated public expenditure and government control. Because of the available data, this paper confines the analysis to a balanced panel of 29 regions over a 13-year period from 1994 to 2006. In Table 2, the odd specification is a fixed effect, while the even specification adds time dummies.

The effects of disaggregated fiscal expenditure in Table 2 do not represent an obvious structure effect in attracting FDI. The effect of disaggregated fiscal expenditure is more important than taxation.

Public administrative expenditure is very significantly associated with FDI inflow, maintaining 99% significance. This implies that higher public administrative expenditure means higher sharing of the ‘fruits and benefit’ of economic openness. ‘Free trade equals peace’ (Friedman, T., 2005). This is also consistent with Buettner (2002), who states that higher levels of spending imply an additional tax burden falling onto investors in the home country rather than an improvement of productivity.

Expenditure for the Public Security Agency is conducive to FDI inflow. In the gradual opening of the economy, higher expenditure on the Public Security Agency only indicates that it will take the government extra labor and cost to deal with financial risk. These are the issues of national security in the process of the bilateral or opening of the economy. Furthermore, expenditure on the judicial system and public security can be conducive to decreasing the crime rate on the issue of economic openness. It is also an important determination for an attractive investment climate. Thus, the location of FDI may respond to expenditure on the Public Security Agency or there may not be a significant change, as shown in specification (16).

Table 2
Regression with disaggregated public expenditures and corruption (1994–2008)

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Per capita GDP	-0.0007 (-4.79) ^{***}	-0.0007 (-4.81) ^{***}	-0.0007 (-3.10) ^{***}	-0.0007 (-3.18) ^{***}	-0.0003 (-4.32) ^{***}	-0.0001 (-3.99) ^{***}	-0.001 (-3.38) ^{***}	-0.001 (-2.31) ^{**}	0.00003 (0.80)	0.00002 (0.41)
FDI Inflow	-0.101 (-3.38) ^{***}	-0.124 (-3.23) ^{***}	0.016 (0.22)	-0.022 (-0.35)	-0.026 (-0.50)	0.031 (0.43)	-0.043 (-0.59)	-0.043 (-0.59)	-0.139 (-4.63) ^{***}	-0.131 (-3.88) ^{***}
Per Capita Total Public Expenditure	0.003 (4.74) ^{***}	0.002 (4.87) ^{***}								
Per Capita Expenditure for Capital Construction			0.004 (3.23) ^{***}	0.004 (3.33) ^{***}						
Per Capita Administration Expenditure					0.0008 (3.32) ^{***}	0.013 (9.17) ^{***}				
Per Capita Expenditure for the Agency in Public Security							0.038 (3.27) ^{***}	0.038 (3.27) ^{***}		
Per Capita Expenditure for Agriculture										
Le-Corruption	-0.00001 (-0.00)	-0.001 (-1.50)	-0.005 (-8.13) ^{***}	-0.005 (-1.35)	-0.014 (-8.63) ^{***}	-0.051 (-2.63) ^{**}	-0.067 (-1.49)	-0.067 (-1.49)	0.011 (8.19) ^{***}	0.012 (3.43) ^{**}
Infrastructure Level	0.234 (1.49)	0.105 (0.66)	0.444 (1.40) [*]	0.434 (1.42)	0.360 (2.31) ^{**}	1.240 (2.81) ^{**}	1.063 (2.13) [*]	1.341 (2.05) [*]	-0.049 (-2.38) ^{**}	-0.055 (-2.32)
Education	1.875 (3.14) ^{***}	3.395 (4.43) ^{***}	3.49 (2.43) ^{**}	6.392 (3.17) ^{***}	1.149 (1.60)	4.242 (3.86) ^{***}	-3.23 (-2.02) [*]	-4.43 (-1.89) [*]	0.694 (2.79) ^{**}	1.015 (3.28) ^{***}
Labour Cost	-0.474 (-1.70) [*]	-0.873 (-8.31) ^{***}	-0.783 (-1.41)	-0.786 (-8.87) ^{***}	-1.024 (-3.61) ^{***}	-0.515 (-8.99) ^{***}	-0.811 (-1.28)	-0.512 (-0.79)	-0.703 (-2.13) ^{**}	-0.315 (-0.85)
Logged Expend/GDP	3.394 (3.45) ^{***}	2.337 (3.34) ^{***}	3.061 (3.80) ^{***}	1.331 (1.34)	1.412 (1.72)	1.389 (1.38)	7.077 (2.89) ^{**}	8.48 (2.31) ^{**}	-1.881 (-2.13) ^{**}	-1.37 (-2.11) ^{**}
Control	40.203 (3.00) ^{***}	51.73 (3.10) ^{***}	69.01 (2.24) ^{**}	123.34 (2.77) ^{***}	-18.36 (-8.84) ^{***}	68.89 (2.14) [*]	-30.37 (-0.92)	14.26 (0.40)	-28.33 (-1.38) [*]	-17.84 (-0.88)
Constant	7.378 (2.12) ^{**}	5.93 (6.63) ^{***}	8.33 (4.13) ^{***}	6.039 (4.07) ^{***}	12.139 (8.36) ^{***}	6.69 (3.43) ^{***}	9.36 (3.71) ^{***}	8.22 (2.94) ^{**}	8.26 (8.87) ^{***}	6.363 (4.37) ^{***}
Observations	319	319	319	319	319	319	319	319	319	319
R-squared	0.282	0.217	0.251	0.220	0.234	0.221	0.138	0.097	0.167	0.114

Notes: Absolute value of t-statistic in parentheses; *, **, *** significant at 10%, 5%, 1% respectively

Agricultural expenditure has a positive effect on attracting FDI and its coefficient is significant at least 95%. With the higher levels of agricultural expenditure, the enhancement of consumption demand will give Chinese farmers additional land productivity. Chinese farmers made up 50.05 percent in the total population at the end of 2010.¹ The latter will also be effective in attracting foreign investments.

Finally, corruption has had insignificant negative impact on inward FDI. This is inconsistent with Wei (2000a) and Goodspeed, Vazquez, and Zhang (2006). When adding the time specific effect, such as the ‘turnover’ of provincial governors and the implementation of local preferential policies, the countervailing effect of corruption is also insignificant. This paper argues that corruption has had an ambiguous impact in China, even though it is theoretically taught that corruption is harmful to the attraction of FDI. It is common that corruption practices occur in a transition country such as China, and it is impossible to fundamentally solve corruption without political reforms. These are the systems of adaption to enter into the economic environment and are the preferred options for foreign companies in order to enter the Mainland market or make use of cheap labor. Thus, foreign companies will hire Chinese managers to cope with rent-seeking activities for local public officials. Some Chinese managers often take the initiative to provide rent for gain in the convenience of capital investment.²

Campos, Lien, and Pradhan (1999) confirm that corrupt regimes are predictable and have a lesser negative impact on investment than those that are less predictable. Thus, under equivalent conditions of other factors, corrupt areas in China may attract more FDI because these areas decrease the uncertainty of capital investment. This result also looks like the argument of Leff (1964) and Egger and Winner (2005). Using a data set of 73 developed and underdeveloped countries, Egger and Winner (2005) found that corruption is a stimulus for FDI. This is partly consistent with this paper’s result.

4. Conclusions

This paper takes China as an important case in the study of FDI. China has enjoyed a special fiscal federalism. Furthermore, the country has also experienced homogeneous economic competition between local governments since 1992. The capacity to attract FDI is an important part of economic competition strategies among sub-national governments in China. There are various policies that the regional government may implement to show attractiveness to foreign investors. These range from preferential taxation policies to building a satisfying transportation system for better infrastructural conditions. In the empirical analysis of this paper, we confirm the significant effects of public input on the location of FDI. These were omitted by previous studies

¹ This is from the statistical results of the National Bureau of Statistics of China, 2010. These results are based on the registered permanent residence in China and the actual proportion of farmers in the population, which should be more than 53.41%.

² For instance, according to the Foreign and Corrupt Practices Act of March 24th, 2010, the Department of Justice in the United States accused Daimler AG of bribing 22 countries’ public officials to acquire economic contracts, including China.

centered on China. We also note in this paper that public expenditure is more effective than tax policy in attracting FDI. Therefore, not only should we decrease tax competition or preferential policies on land use, but we should also cancel obscure forms/laws under the Corporate Uniform Law for Income Taxation.

In addition, the proportion of total public input to GDP is positively associated with the inflow of FDI. The effects of disaggregate public expenditure are also positively associated with the inflow of FDI. We can find that China does not have fiscal structural effect for the attractiveness of FDI with its problems and shortcomings.

This paper finds that FDI responds to the average wage insignificantly. This highlights some regions that have assembled the comprehensive ability to attract FDI. This paper suggests that some regions can abandon the policy of utilizing cheap labor to attract FDI.

We find no strong evidence in the role of local government, whether considering time specific effects or not. The empirical analysis provides only weak support for the countervailing impact of local corruption on FDI locations.

To summarize, an important implication of this paper is that fiscal policies are much more important in China than other policies. Specifically, public input is more important than tax policy.

Appendix A1 Definition of variables

1	FDI stock	Logarithm of the cumulative FDI in each area at the end of year t
2	Per capita (GDP)	Real regional GDP based on the 1978 total population
3	FDI Taxation	The total tax paid by foreign companies /FDI, etc.
4	FDI Corporate Income Taxation	The corporate income taxation tax paid by foreign companies /FDI
5	Per capita Total Public Expenditure	Real total public expenditure based on the 1978/total population
6	Total Public Expenditure/GDP	Total public expenditure/GDP
7	Expenditure for Capital Construction/GDP	Regional expenditure on capital construction/GDP
8	Expenditure for Government Administrative /GDP	Regional expenditure on public administrative/GDP
9	Expenditure for Public Security Agency/GDP	Expenditure on the public security agency, preoccupation agency, court and judicial agency/GDP
10	Expenditure for Agriculture/GDP	Regional agricultural expenditure /GDP
11	Infrastructure level	Length of transport routes per unit of land mass (km/km^2 of land mass)
12	Privatization	The employees in non-public sectors as a proportion of the total
13	Labor cost (one-period lagged variable)	Logarithm of average real wages in firms
14	Lagged export/GDP	The ratio of regional export value /GDP in year $t-1$
15	College attendance	The total number of College Students/ total population
16	LnCorruption (two-period lagged variable)	Corruption cases prosecuted per thousand public servants

Appendix A2

Data source and additional explanation

Original data	Source	Data Years
FDI		
GDP		
Length of transport routes		
Employees in non-public sectors		
Total number of College Students, elementary and secondary students	China Compendium of Statistics 1949-2010 China Statistical Yearbook 2010	1994-2010
Total population		
Total public expenditure		
The value of total export		
Total taxation paid by foreign companies		
Total corporate income taxation paid by foreign companies	Tax Yearbook of China 1995-2010	1994-2010
Expenditure for capital construction		
Expenditure for government administrative		
Expenditure for public security agency	Finance Yearbook of China 1995-2007	1994-2006
Expenditure for agriculture		
Average real wage in the firms	China Labor Statistical Yearbook 1995-2010	1994-2010
Total corruption case prosecuted in each province	Pre and Post-occupation Yearbook in China 1995-2010	1994-2006

Note: The original data was obtained from various issues of the *Chinese Statistic Yearbook 2011*.

Appendix A3

Descriptive statistics of variables used in regressions

Variable	Mean	Std. Dev.	Min	Max
Ln FDI	5.80	0.83	1.22	7.29
Per capita (GDP)	4165.82	4524.27	548.64	36501.75
FDI Taxation	0.12	0.18	0.00	1.61
FDI Corporate Income Taxation	0.50	0.87	0.01	14.54
Per capita Total Public Expenditure	685.19	861.61	54.81	6975.39
Total Public Expenditure/GDP	0.17	0.13	0.05	1.09
Infrastructure level	0.53	0.45	0.02	2.94
Privatization	0.21	0.17	0.00	0.73
Labor cost	4.07	0.30	2.82	4.82
Export/GDP	0.17	0.20	0.01	0.99
College attendance	0.01	0.01	0.00	0.05
Expenditure for capital construction	155.13	335.45	0.00	2891.53
Expenditure for government administration	98.98	126.96	0.00	1202.45
Expenditure for public security agency	69.80	93.94	0.00	732.35
Expenditure for agriculture	113.64	179.40	0.00	2251.55
LnCorruption	2.675	2.181	0.619	13.064
PUBSER	37.85	22.19	2.00	105.72

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