THE POLITICAL DETERMINANTS OF FDI LOCATION IN P.R.CHINA, 1997-2009:

APPLICATION OF A NEW MODEL TO TAIWANESE FDI IN MAINLAND CHINA

Kelan Lu, B.A., M.A.

Dissertation Prepared for the Degree of

DOCTOR OF PHILOSOPHY

UNIVERSITY OF NORTH TEXAS

August 2012

APPROVED:

T. David Mason, Major Professor
Marijke Breuning, Committee Member
John Ishiyama, Committee Member
Tetsuya Matsubayashi, Committee
    Member
Richard Ruderman, Chair of the
    Department of Political Science
Mark Wardell, Dean of the Toulouse
    Graduate School

Lu, Kelan. <u>The Political Determinants of FDI Location in P.R.China, 1997-2009: Application of a New Model to Taiwanese FDI in Mainland China</u>. Doctor of Philosophy (Political Science), August 2012, 163 pp., 1 figure, 14 tables, references, 161 titles.

This research seeks to identify the political determinants that account for the uneven geographical distribution of foreign direct investment (FDI) across Chinese counties. I compare the political determinants of Taiwanese FDI (TDI) and non-Taiwanese FDI site selection across counties in China. I focus on the central-local politics in China, especially the effect of county government autonomy on FDI and TDI site selection. I investigate whether the effect of county government autonomy and its interaction with TDI agglomeration varies across the three economic regions of China (i.e. eastern, central, and western regions).

I argue that county government autonomy is critical to attracting inflows of FDI, and its impact is conditional on the existing level of FDI in a given county. Counties with higher autonomy are able to make greater commitments to and involvement in the market economy, have more flexibility to give preferential treatment to FDI and to improve the local investment environment.

With the political burden that Taiwanese investors face from the special military and political relationship across the Strait, I argue that TDI is more sensitive to county government autonomy not only for the economic gains like other foreign investors but also for pursuing local protection against the political uncertainties from Beijing and the social instabilities of the local population.

 I also argue that county government autonomy's impact on TDI inflow is strongest in the central region due to the less dominating role of the geographic and

cultural advantages enjoyed by the eastern region and its better economic, cultural, political and geographic conditions that are lacking in the western region.

Using the System General Method of Moment model to analyze the county level FDI/TDI panel data sets, I find autonomy's impact on future FDI inflows fades with the increases in the existing level of FDI but gets stronger with the increases in the existing level of TDI inflows. I also find county government autonomy's impact is strongest for the central region when the existing TDI inflows are zero or at the national average level.

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CHAPTER 1

INTRODUCTION

1.1 Background of FDI in China and Research Motivation

In 2004 the People's Republic of China (PRC) passed the US to become the largest single recipient of foreign direct investment (FDI), despite the fact that the PRC is a non-democratic regime with an economy that still has a substantial state-owned sector. FDI has been found to be a driving force for the rapid economic growth that China has experienced over the last thirty years, by virtue of FDI's provision of capital, operational resources, foreign exchange and job opportunities (Li 2007).   Since China opened its economy to FDI in the year 1978, FDI in China has increased from almost zero to about $90 billion in 2009 (US-China Business Council 2010).   This achievement is characterized by two sharp increases of FDI in China, which are shown in Figure 1.1. The first increase began in the year 1991, which led to the annual utilized FDI in China increasing from about $500 million to about $45 billion in the year 1996 (China Yearly Macro-Economic Statistics 2010). Although the 1997 Asian financial crisis ended the sharp increase, the utilized FDI in China remained above $40 billion per year (China Yearly Macro-Economic Statistics 2010). By the end of the year 2001, the second sharp increase of FDI inflows in China began, which peaked at about $92.4 billion in the year 2008 (Reuters 2009). In spite of the slight drop in FDI inflows caused by the 2008 global financial crisis, China is still the world's most attractive FDI destination (FDI Confidence Index, A.T.Kearney 2010).

FIGURE 1.1. FDI (USD 10, 000) Inflows in China at National Level, 1983-2009.
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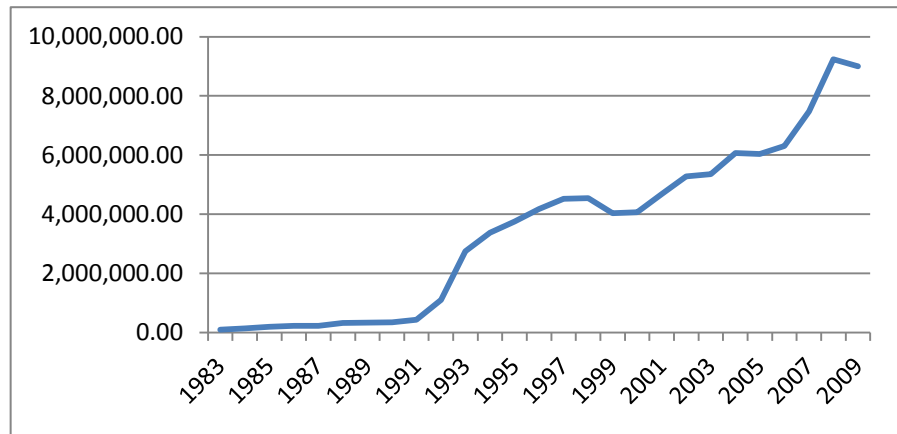
Source: China Yearly Macro-Economic Statistics, 2010

Despite the rapid growth in FDI inflows, the geographic distribution of FDI is extremely uneven in China across regions, provinces, cities and even counties. One observation about the changing patterns of FDI in China constitutes the focal points of this project. Over the last ten years FDI has diffused from the coastal provinces (where it was initially concentrated) to interior provinces and smaller counties (China Yearly Macro-Economic Statistics 2010). According to the Economists (2012), in the mid-1990s, more than 80% of total FDI in China was located in the eastern coastal provinces. However, by the year 2010, the spread of FDI to the inland provinces of China resulted in the proportion of FDI in the eastern region of China dropping to 60%. What explains the spatial pattern of FDI in China? Why do some counties in the People's Republic of China (PRC) attract more foreign direct investment than others? This is the core puzzle of this project. As the largest single source of FDI in PRC, Taiwanese FDI's location selection deserves closer investigation not only because of the long history of military and political tension across the Strait but also because of the distinctive spatial distribution of Taiwanese FDI in mainland China. This leads to the

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second set of puzzles. How are the patterns of Taiwan FDI different from those of other nations? Why do some counties in PRC attract more Taiwanese FDI than others?

In order to explore these puzzles, I start with well-established models of factors that influence site selection choices of foreign firms. On this basis, I build a new FDI location selection framework by taking into consideration three new factors, including (1) the recent trend of political decentralization in China, (2) the dynamic nature of FDI, and (3) the interaction between local government autonomy and FDI agglomeration. Next, accounting for the dynamic nature of the new model, I use system general method of moment (system GMM) estimation method to test the new framework for FDI location selection. After testing the locational framework for general FDI, I apply the same locational framework to Taiwanese FDI to investigate whether site selection behavior differs between Taiwanese FDI and non-Taiwanese FDI.

Moreover, these puzzles are explored at the county level of China not only because of the recent dispersion of FDI from big cities to counties, but also because of the absence of the previous empirical studies on FDI site selection at the county level in China. With the availability of data at the county level ($n = 2{,}073$), this study is the first to be able to explore site selection behavior of firms at the county level.

1.2 Past Research on FDI Site Selection

A number of previous studies have investigated the question of FDI site selection with four major approaches, including neo-classical economic approach, location theory, culturalist and political economy approaches. The economic approach emphasizes the conventional economic factors that play a role in FDI site selection, such as cost of labor, size of market, and economic agglomeration (Hymer 1976; Head Ries and

Swenson 1999; 2004; Liu, Lovely and Ondrich 2010). The location theory approach highlights the role of location-specific factors in FDI site selection, such as geographic proximity to the coastal ports and airports, geographic size, labor quality and quality of life (Coughlin and Segev 2000b; Cassidy 2002; Zheng, Khan and Liu 2010). The culturalist approach argues that foreign investors' site selection is determined by the cultural, psychological and social distance between the host location and the FDI home country (Fu 2000; Hou and Zhang 2001; Gao 2002). The political economy approach proposes that foreign investors' location selections are determined by the political and policy factors, such as government incentive policies (Gong 1995; Head and Ries 1996; Wei et al. 1999), government intervention into the private sectors generally and business operations specifically (Du et al. 2008), corruption (Smarzynska-Javorcik et al. 2005; Du et al. 2008; Cole, Elliott and Zhang 2009), changes in political commitment (Luo 1998) and the lack of institutionalization (Feng 2004; Awokuse and Yin 2010). I will review these research traditions in more detail when I spell out my own theoretical arguments.

In general, this project fits into the FDI location selection literature because it highlights the interaction between political factors and economic elements. Although much of the previous literature has investigated FDI location selection in China with a political economy approach, existing studies suffer from two major weaknesses. First, most of these theories were developed and tested in advanced industrial democracies, which do not necessarily match the special political and economic characteristics of China. More specifically, China is a one-party regime with a Communist Party-led state that plays a central role in the economy as the owner of a large share of the productive

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assets, including all land and a substantial share of China's industrial plant (in the form of state-owned enterprises, or SOEs). These conditions make China fundamentally different from the nations that were the objects of most previous studies' theorizing and empirical testing of FDI location selection. Second, even studies that do focus on China and do consider the special political characteristics of the PRC's political economy, they tend to highlight only a limited range of the political elements (such as corruption) that make China unique. They do not systematically analyze the political system's pervasive and dynamic impact on FDI location selection (such as the ongoing political decentralization in China).

1.3 Unique Contributions of This Study

Although previous studies have produced a number of findings on the location determinants of FDI in general, this project is important for the following unique contributions it makes to FDI location selection studies.

1.3.1 Theoretical Contributions

1.3.1.1 Major Theoretical Contribution

First, this study is the first attempt to incorporate into theory and empirics on FDI site selection behavior in China consideration of China's recent decentralization of economic policy authority down to the county level. Only thirty years ago, China practiced a form of state socialism that did not permit private enterprise, private ownership of productive assets, or foreign direct investments. Beginning in the 1980s, the CCP began allowing limited private enterprise and foreign direct investment. By the mid-1980s the CCP began delegating economic policy authority to local governments through fiscal contracts between successive levels of governments (i.e. fiscal

decentralization) (Tsui and Wang 2004). Under this strategy, successive levels of governments formulate a rule to divide "locally generated revenues as well as subsidies from or remittances to the next level of government" (Tsui and Wang 2004, 73). The highly centralized old system of requiring the remission of all funds from local governments to the central government had discouraged local government initiatives and flexibility devising strategies for developing the local economy. Under fiscal decentralization, local governments have gained their portion of the fiscal pie, the freedom to dispose their shares of revenues, the freedom to raise funds (off-budget resources) through their own ways, and the freedom to run their own local businesses (township and village enterprises, or TVEs) (Wong 1997). Local governments have thus gained a measure of authority over local economic policy making, including FDI incentive policies, policies towards township and village enterprises and even policies towards local state-owned enterprises. Therefore, although the central government sets the general guidelines for foreign direct investments in China, it is not the central government but rather the local governments that are actually dealing with the day-to-day business with the foreign investors. Aiming at profit maximization, foreign investors have to deal with the local government where they locate their investment, and thus local politics should be an important factor in FDI's location selection.

Generally, the central-local relationship is different in non-democratic countries than in democratic countries due to the lack of formal election system. However, this does not mean that in non-democratic countries the local governments are powerless and are absolutely obedient to the central government. According to the selectorate theory argued in The Logic of Political Survival (Bueno de Mesquita et al. 2003), no

matter how authoritarian a government is, it is not without the constraints from its winning coalition. This project aims to extend the selectorate theory to analyze the impact of FDI diffusion across counties and provinces on politics in Beijing. More specifically, with the decentralization of political and economic power down to the local governments, the political survival of the national government officials in Beijing are increasingly dependent upon the local governments, which thus can be defined as the winning coalition for Beijing. In the foreign investors' site selection process, I argue that FDI favor the locations with higher autonomous power because of their compatibility with market economy, their capability to improve investment environment and their policy flexibility to accommodate FDI. Since FDI inflows can help local governments with the increase of off-budget revenue, the growth of local economy, the promotion of local government officials, local governments have the incentive to attract more FDI inflow. One of the most important strategies for local governments to attract FDI inflows is to claim more autonomous power from upper level governments. The recent dispersion of FDI among the 2,073 counties reflects the further political decentralization down to the Chinese counties level. This has had the effect of altering the size and makeup of the selectorate and the winning coalition in the central government and the communist party of PRC, which may result in the changes in policy priorities for Beijing. For example, according to Chien (2007), due to the fast economic growth and high inflows of FDI in Kunshan county, from the year 1991 to 2000 two members of county level CCP secretaries in Kunshan county were promoted to the position of vice governor in their home province—Jiansu Province. One of them, Zhang Weiguo, is promoted as a member of the National People's Representative Congress. Because the county

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governments are the ones who are dealing day-to-day business with the FDI at the county level, they may have totally different policy priority and/or administrative strategies than those traditional Beijing-born national officials.

This project is the first empirical study on whether and how foreign investors' site selection behavior is affected by China's recent decentralization of political power down to the county level nation-wide.

Over the past three decades, provincial and city governments in China have been delegated increasingly more autonomy in attracting FDI, especially under the special economic zone (SEZs) policy, coastal city (COCs) policy and coastal region policy. The SEZs are the areas where the central government granted local governments several preferential policies in the year 1979 and 1988, including the decentralization of the administrative system, the allowance of greater flexibility for local governments to deal with foreign firms, and a widening range of tax concessions that could be used to attract foreign investment (Fu 2000; Ma 2000; Cheng 2008). In order to attract more FDI, the Chinese government further opened 14 coastal port cities (COCs) in 1984 by granting them "some autonomous economic decision making power concerning FDI and special policies toward FDI (together they are referred to as the COC policy)" (Qu 1997, 57). The COC governments are allowed to grant preferential treatment for export-oriented industries and high technology projects and projects over US$30 million located within the COCs' jurisdiction. Moreover, COC governments were allowed to establish economic and technological development zones (ETDZs) and use FDI for upgrading their local production projects. By 1985, the Chinese government further extended the COC policy to three river delta regions, the coastal open regions

(CORs), where the local governments enjoy similar autonomous power as the COC governments.

Another important source of autonomy is the fiscal autonomy. Beginning in1985, a new fiscal system was introduced that allows local government to retain a portion of the taxes collected from local private firms and some state enterprises while the product tax and value-added taxes accrue to the central government (Yeung 2000). Moreover, the local governments were allowed to engage in commercial activities and keep the non-tax levies collected from local enterprises, which are termed "extra-budgetary revenue" (Walder 1995). The new fiscal system stimulated local governments' rush for profits and encouraged them to compete with each other for developing local economies to attract investment, especially foreign investments. Before these reforms, the central government had a highly centralized fiscal system, which required the local governments to remit all funds to Beijing to be disbursed among subordinate governments. The pre-reform fiscal system had a variety of weaknesses. Requiring local governments to remit all funds to Beijing discouraged local government initiative and flexibility in developing the local economy, which thus constrained the size of national revenue. These limits on national revenues created a heavy burdened on the central government's ability to provide public goods nation-wide, including the improvement of infrastructure and the maintenance of the social welfare system, the education system, and environmental protection. The decentralization of fiscal power was intended to relieve the financial burden on the central government, to win the political support from the local governments for Beijing's continuing economic reforms, and to stimulate economic activities at the grass-root level for facilitating national-wide

economic reform (Huang 1996). With the decentralization of fiscal power, local governments have become responsible for financing the provision of local public goods, such as local social welfare benefits, the transportation system, the education system, and environmental protection (Shen 1998). The "gold rush" phenomenon among local governments was not only rooted in the local governments' desire to strive for more economic and political independence from the central government, but also in the local government officials' career ambitions (Yeung 2000). With fiscal decentralization, the cadre management system in China has transitioned from the concentration of all appointment power at the central government to a system where "each tier of government is entrusted with the power to appoint key officials one level below it" (Tsui and Wang 2004, 75). Meanwhile, the central and provincial governments have delegated to their subordinate government units many of their previous responsibilities for the local provision of certain public goods. In order to ensure that local governments are doing a good job providing local public goods, the central and provincial governments have set up an incentive mechanism (i.e. a performance evaluation system)—Target Responsibility System (TRS). Under the TRS, upper level governments lay down contracts for the important tasks and the expected quantified goals (targets) with respect to those tasks, which will "filter down and are then decomposed among subordinate governments, departments and individual cadres" (Tsui and Wang 2004, 76). According to a document of the Central Organization Department in Beijing in the year 1995, the evaluation of local cadres is based upon three major groups of tasks: (1) economic construction (including economic aggregates, state taxation and local fiscal capacity, urban and rural living standards, agricultural

production and development, infrastructure, enterprise operation and development, and state asset management); (2) social development and spiritual and civil construction (including population and fertility control, social stability, education, sciences and technology, culture, sports, and environmental protection); (3) party construction (including ideological and political construction, building of leadership teams, building of democratic centralism and building of party grassroots organizations) (Tsui and Wang 2004). Among the three performance criteria, economic construction is usually weighted the most heavily (Tian 2000), which explains why local governments have been rushing to generate economic growth locally. This is also one of the major reasons why many studies have argued that political/fiscal decentralization has accelerated economic growth in China. Compared to the early "gold rush" at the city and provincial levels, county governments in China started relatively late in gaining autonomy and developing local corporatism. The county is the basic administrative unit of the Chinese economy. County governments have been under the administrative and fiscal control of city governments since the early 1980s (Deng 2009). County government officials' promotion is determined by the city government (Zhang 2009). Under the "city leading county" system, counties lacked economic autonomy to develop their local economies and to attract FDI into their county. Moreover, city government officials tended to put priority on developing the urban districts' economies. Therefore, city governments have turned the counties into resource-providers for developing the urban districts' economy (Deng 2009). More specifically, county governments have to remit a majority of the revenue they collect locally to the city governments, most of which is spent on the urban district of the city because the urban district is usually

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where the city government is located (Liu, et al. 2009). Moreover, when provincial governments provide subsidies for county governments, the distribution of those subsidies is decided by the city government under the city-leading-county system. This creates opportunities for the city governments to retain or delay disbursement of the subsidies for the purpose of using the money to develop the urban districts (Liu, et al. 2009). Furthermore, once a city government finds some well-developed county within its jurisdiction, the city government tends to absorb those rich counties into the urban district (Liu, et al. 2009). Meanwhile, for poor counties, city governments continue absorbing their revenue without giving much financial help (Liu, et al. 2009). Because of the above weaknesses of the "city leading county" system, many well-known highly developed cities in China have extremely poor counties within their jurisdiction (Liu, et al. 2009). This has led to increasing disparity in economic development between urban districts and sub-urban counties.

In spite of the bureaucratic restrictions placed on them by city and provincial governments, county governments have been active in developing their local private sector and attracting foreign invested enterprises (FIEs). County governments preside over 95% of the total land in China, 74% of the total population, 60% of regional GDP and 70% of the labor force (Deng 2009). China's economic reform originated from experiments in several rural counties in the 1970s. In the 1990s, there was another highlight of county government' economic achievement: the rise of successful township and village enterprises (TVEs) (Deng 2009).   TVEs are defined as the "economic units which are either collectively-owned by local residents in the rural areas of China or mainly owned and controlled by the peasants" (Fu et al. 2002, 2). Although TVEs are

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collectively owned, they are run according to market principles. Since the beginning of economic reform in 1978, TVEs have been expanding tremendously. By 1999, TVEs had contributed $927 billion to total output, which accounted to 61% of China's total industrial output then (Fu et al. 2002). More recently, counties have become the new host for large amounts of FDI inflows. Since the mid 1990s, FDI inflows have been spreading beyond coastal regions to interior provinces and, within provinces, from large cities into less populated counties (China Yearly Macro-Economic Statistics 2010). Large Chinese cities, especially those on the eastern coast, have started to focus on high value-added sectors (such as finance, information technology, logistics and advanced technology) rather than labor intensive sectors. The increasing cost of labor and resources, such as land, electricity and water, in the major cities has pushed labor intensive/low value-added foreign investment towards the counties outside of major Chinese cities. Increasingly, these labor intensive investments have been pushed to counties in the central and western provinces of China. Moreover, the Chinese central government has been working on infrastructure improvements in the counties and interior provinces of China. The developing infrastructure coupled with the rich natural resources and the low cost of labor in the interior counties of China increasingly attract more foreign investment. Meanwhile, the political hierarchy in Beijing is under pressure to further decentralize economic policy authority and fiscal authority to the county governments. According to Cao (2000), in recent years, upper level governments have devolved responsibilities (e.g., social welfare, education) all the way down to county governments, and even to township governments and village organizations. With further fiscal decentralization, upper levels of government actually do not control fiscal

resources. Therefore, they do not have money to help finance the responsibilities that are assigned to the county governments. Therefore, the upper levels of governments have to give counties autonomous power to generate the revenues themselves to pay for the provision of local public goods. Realizing the importance of granting autonomy to the county governments, the Chinese State Council issued a new policy in the year 2009 for further reforming the fiscal system. The new policy allows county governments more fiscal and administrative autonomy (Zhou 2009). Moreover, the reform aims at getting rid of the "city leading county" system and establishes instead the "province leading county" system. "City leading county system" is a three-tier administrative system where the provincial government is a higher level administrative unit than the city government, and the city government is a higher level administrative unit than the county government (Zhou 2009). "Province leading county system" is a two-tier administrative system where the city government and the county government are at the same administrative level and are both under the governance of the provincial government (Zhou 2009). According to the new policy issued by the Fiscal Department of the State Council (2009), the central government aims to carry out the "province-leading-city" reform nationwide by the end of the year 2012 except for the minorities' autonomous areas (Luo 2009). The "Province-leading-county" reform mainly involves five aspects. First, county governments and city governments are not allowed to demand that the other share the expenses within each other's own responsibilities (Luo 2009). Second, the provincial government deals directly with the counties with respect to fiscal issues without going through the city governments (Luo 2009).   Third, the county government can have its own fiscal plan without intervention from the city

government (Luo 2009). Fourth, the evaluation and promotion of county government officials cannot be decided by the city government but rather should be responsibility of the province government (Zhou 2009). In this way, there will be less bureaucratic restrictions that impede counties from developing their economies. This paper is aimed at exploring whether and how the newly gained county-level autonomy has impacted the location selection behavior of FDI in China.

1.3.1.2 Additional Theoretical Contributions

Another new contribution for this project is its comparison of the general FDI location selection behavior between urban counties and urban districts across years. More specifically, the author is interested in exploring whether local government autonomy's impact on future FDI inflows differs across different administrative units. As discussed earlier, an urban district is the metropolitan area of a given city while counties are the sub-urban areas of the same county. During the earlier years of political and economic decentralization, the cities and provinces were delegated autonomous power while the counties were not. Under the city-leading-county system, city governments tended to put their priority on developing the urban districts because of their better existing infrastructure, their more developed economies, and their locations as the capital of the county. With the further dispersion of FDI from urban districts to sub-urban counties, will FDI site selection behavior differ across the different administration units? The governments within urban districts may already have many years' of experience working with FIEs on location selections. In contrast, non-urban counties are still new at working on attracting FDI inflows with their newly gained policy autonomy. Will the strategies used by the urban district governments be suitable for

use by the urban county governments? Or are there some differences in urban counties and their governments which make the FDI site selection different? None of the prior studies have investigated the comparison in FDI site selection between urban counties and urban districts. This project will make a contribution in this point.

1.3.2 Empirical Contribution

The second contribution of this project is the empirical analysis of site selection at the county level, which is a much more finely grained analysis than was possible up to now. There is considerable variation within provinces in all measures of economic development, but up to now we were restricted to provincial level data, which meant we could not take into account the variation within provinces—across rural and urban counties, poor and rich counties—in any of our economic analyses of China's 30 years of rapid economic development. This study is the first to do that with systematic data at the county level. Due to the difficulty in finding county level data, none of the prior literature has studied determinants of FDI/Taiwanese FDI location selection at the county level in China. Most prior literature focused their study on FDI in China at the provincial level and regional level. In addition to the studies on Taiwanese investment in China at the provincial and regional level (such as Yang 2009), there are several case studies of Taiwanese FDI within one single county (such as Chien 2007). Counties within the same province usually do not share the same socioeconomic characteristics but manifest a diversity of features from urban counties to rural countries, from rich counties to poor counties. Analyses at the provincial level do not allow us to explore the impact of these differences, such as different costs of labor, variations in quality of life, and different levels of social unrest across counties within a

province.   Moreover, the diffusion of FDI has not just been from coastal provinces to interior provinces, but (maybe more importantly) within provinces, from urban areas to more rural areas. Some of the socioeconomic features at the county level tend to be significant explanatory variables for the variation in the amount of FDI/TDI in different counties. However, these important explanatory variables tend to become insignificant when we aggregate everything toward the province level. For example, the non-coastal provinces in China were less developed than the coastal provinces to begin with. Therefore, they could not provide foreign investors with good industrial facilities, relatively developed infrastructure, education and communications systems. Moreover, the non-coastal provinces of China were not granted the special economic status in the early stages of the economic reform. Not surprisingly, then, when we analyze the determinants of FDI/TDI location in China at the province level, the variable "coastal province" tends to overshadow other important factors that impact FDI/TDI.   In this example, the variable "coastal province" serves as a proxy for the more specific explanatory variables for those counties with high FDI/TDI. Therefore, if we investigate FDI/TDI site selection at the province level, we tend to lose lots of valuable information (the more specific explanatory variables) for explaining the FDI/TDI site selection behavior. Moreover, studies at province level do not allow us to examine determinants of the diffusion of FDI within a province, from urban to rural areas.

This project represents an advance on existing research by testing a new theory (i.e., the impact of local government autonomy and its interaction with FDI agglomeration on the distribution of FDI in China) with the new all-county dataset ($n = 2,073$) and the urban county dataset ($n = 229$) from year 1997 to 2009 because of the

availability of the county level data resources in China across years provided by the China Data Center of University of Michigan. The availability of these data allows me to do two major analyses that could not be done previously. First, by taking advantage of the panel data structure of these data sets, I am able to take into consideration of the dynamic nature of FDI agglomeration at the county level and control for the feedback effects of FDI inflows on county government autonomy. Second, due to the differences among the different counties, the panel data structure can allow me to control county-specific characteristics and estimate the analysis within each county across years.

Moreover, this project also presents two new panel data sets of Taiwanese investments among the 2,073 counties and 229 urban counties in China from year 2000 to year 2009 provided by the Taiwan Economic Journal. This data set is built upon the annual firm-level FDI dataset provided by the Taiwan Economic Journal. None of the previous studies have explored Taiwanese FDI's site selection at the county level in China. This study is the first attempt to do so by collapsing the firm-level yearly data into a county level panel data set. So now we can explore the determinants of the distribution of Taiwan FDI and see whether those patterns are different from what we observe regarding FDI from other nations. Moreover, my theory also explains why the pattern of site selection for Taiwanese FDI would be different from that for non-Taiwanese FDI.

1.3.3 Policy Contribution

The third contribution is the investigation of whether and how county government autonomy impacts the FDI location selections among Taiwanese FDI at county level in mainland China. In spite of the military and political tension across the Strait,

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Taiwanese FDI (TDI) makes up 53.7% of the total foreign investment in PRC (Cross-Strait Economic Statistics Monthly 2010). Taiwanese firms are taking the lead in spreading their investment from the coastal areas to the interior and from the big cities to the small counties in China (Chen 1996; Taiwan Economic Journal 2010). There is a lack of empirical studies on whether FDI from different source nations may have different sensitivities toward county government autonomy and its interaction with FDI agglomerations. In this project, the author argues that autonomy has different effects on location selection between Taiwanese investors and non-Taiwanese investors. For non-Taiwanese investors, the reason for them to choose more autonomous counties is mainly for the economic gains possible in counties with more autonomous power. Such counties fit better with the market economy, have more flexibility to accommodate foreign investors, and are financially more capable of improving the local investment environment. In comparison, due to the military and political tension across the Strait and thus the possible confiscation of Taiwanese assets by Beijing in the event of a military crisis, Taiwanese investors are attracted to more autonomous counties for both political and economic reasons. By investing in more autonomous counties, Taiwanese investors are able to have local governments with a vested interest in Taiwanese investments. As Taiwanese investments spread to more counties, there will be a larger constituency of county, urban and even provincial officials with an interest in Beijing maintaining peaceful relations with Taiwan. As such, the diffusion of Taiwanese investment throughout China could, in the long run, give Taiwan some leverage against the possible hostile policies or actions towards Taiwan.

Moreover, studying the relationship between local government autonomy and FDI has important political implications for our understanding of how local level politics affect the politics of building a winning coalition in the central government, and the impact of these politics on China's foreign policy generally and its relations with Taiwan specifically. County government autonomy may be enhanced by the increasing amount of TDI in a given county. Therefore, spreading FDI in China may affect the relationship and the policy interactions between central party and government authorities and local officials, especially regarding the China-Taiwan relationship. It is possible that Taiwanese authorities may encourage their own firms in the PRC to leverage the Beijing authorities for a peaceful cross-strait relationship. At the beginning of China's open-door policy, Taiwanese investors were only allowed by Beijing to make their investment on the coastal area of China. Local officials there then developed vested interests in encouraging more investment by more Taiwanese firms in their community. Therefore, as Taiwanese investments increase, the central government should face more pressure from more local officials to encourage cross-Strait trade and investment. Those local officials would be able to express their preferences for maintaining a peaceful relationship with the Taiwan Island through the people's representative meetings or through local and provincial officials who hold positions on the Central Committee, the Politburo, or the State Council. Later on, with the further opening of China's economy, foreign investments were allowed into the interior provinces of China. Taiwanese investment has spread into the central and western regions of China. According to Chung (2011), in the first six months of the year 2010, one of the provinces in the central part of China—Guangxi Province— had a 31% increase in investment (US$1.2

billion) from Taiwan, Hong Kong and Macau. Therefore, there are increasingly more local officials from more provinces who have a vested interest in Taiwanese investment. Meanwhile, the number of local officials who desire peaceful relations with Taiwan increases too. We would also expect them to encourage Beijing to avoid military confrontations with the ROC. With economic growth at the local level, local governments have increasingly more influence on central government officials' political survival and thus on Beijing's domestic and foreign policy positions. Therefore, with the decentralizing reforms of the 1990s, it is reasonable to view the selectorate in China as expanding to include more provincial and local government officials. Beijing's ability to sustain the economic development of the past thirty years is increasingly dependent upon the ability of provincial and local officials to generate growth locally so that they have the resources to fulfill the public service responsibilities that Beijing has delegated to them. According to the selectorate theory (Bueno de Mesquita 2005) and the two level game theory (Putnam 1988), expanding the selectorate and even the winning coalition in China to include more local officials who have an interest in maintaining peaceful relations with Taiwan may encourage Beijing to maintain the peace across the Strait. This project is the first effort on investigating the effect (or the channels of influence) of Chinese local political economy's effect on China's foreign policy towards Taiwan.

Another contribution made by this project is the comparison of Taiwanese FDI's site selection behavior at the county level across three major economic regions of China. In the early years of China's open door policy, the geographic proximity factor and cultural similarity factor did make it easier for Taiwanese investors and their

employees to get acclimated to the local environments. Likewise, proximity and cultural

similarities made it easier for the local governments and citizens to accept Taiwanese

FDI, compared to investors from other source nations. This helped Taiwanese investors

reduce the cost of communication (such as labor disputes and the negative impact of

Chinese nationalism) for businesses across the Taiwan Strait. However, in recent

years, the positive impact of geographic proximity and cultural similarity has been

fading, especially in the eastern provinces of China, due to the rapid upgrading of

industrialization and the rising cost of production in the now-highly developed eastern

coastal provinces. Meanwhile, Taiwanese firms have been migrating toward interior

provinces (such as the central region and some parts in the western region) where

Taiwanese firms do not necessarily enjoy the advantage of geographic proximity to their

homeland or cultural/linguistic similarity to their home land. Although many scholars

have admitted the regional differences in China, none of the previous studies have

investigated whether local government autonomy's impact on future TDI inflows varies

across the three regions in China. This project will fill in this research gap.

1.4 Methodology

To test the hypotheses with respect to county government autonomy and its

interaction with FDI agglomeration for FDI generally and Taiwanese FDI specifically, the

estimation method used in this project is system general method of moment (system

GMM). System GMM is appropriate in this study for the following reasons. First, it is

desirable because it relaxes the strict exogeneity assumption (i.e., the regressors are

not correlated with the past, current and future error terms) required by Ordinary Least

Squares estimation, fixed effect estimation, and random effect estimation. Second, it is

more appropriate than the first-differenced GMM because the first-differenced GMM tends to have extra instruments, which causes weak instruments problem and thus reduces the efficiency in estimation.

1.5 The Plan of Study

The core puzzle of this project is whether county government autonomy impacts the location selection of FDI generally and Taiwanese FDI specifically. In order to address this puzzle, this project is structured as follows.

Chapter 2 starts with a review of existing studies on the location determinants of FDI in general and in China in particular. Three groups of determinants of FDI location choice have been identified in the previous literature, including locational comparative advantage factors, economic agglomeration factors, and political factors. After the literature review, Chapter 2 sets forth the new conceptual framework, hypotheses, methodology, variable definitions, data sources and estimation results for the location selection among the general FDI at the county level in China. This chapter explores two major hypothesis based on the theory. Specifically, these two hypotheses are focused on the impact of local government autonomy and its interaction with FDI agglomeration on the likelihood of FDI locating in a county. This chapter also compares the general FDI location selection behavior between urban counties and urban districts across years.

Chapter 3 investigates whether autonomy has different effects on location selection between Taiwanese investors and non-Taiwanese investors. This chapter sets forth the theoretical framework for the Taiwanese FDI site selection in mainland China. This chapter also presents the hypotheses, methodology, variable definitions,

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data sources and estimation results for the location selection among Taiwanese FDI at the county level in China. In addition, this chapter compares the differences in location selections between general FDI and Taiwanese FDI. Finally, this chapter compares Taiwanese FDI location selection across the three major economic regions of China.

Chapter 4 summarizes the findings of the previous chapters and indicates not only the political implications of the general FDI location selection but also the political implications of the location selection behavior among the Taiwanese FDI in China.

CHAPTER 2

COUNTY LEVEL DETERMINANTS OF FDI'S SPATIAL DISTRIBUTION IN CHINA

2.1 Introduction

In 2004 the People's Republic of China (PRC) passed the US to become the largest single recipient of foreign direct investment (FDI) (Li and Park 2006), despite the fact that the PRC is a non-democratic regime with an economy that still has a substantial state-owned sector. However, the geographic distribution of FDI is very uneven across regions, provinces, cities and even counties. More importantly, Over the last ten years FDI has diffused from the coastal provinces (where it was initially concentrated) to interior provinces and smaller counties (China Yearly Macro-Economic Statistics 2010). According to the Economists (2012), in the mid-1990s, more than 80% of total FDI in China was located in the eastern coastal provinces. However, by the year 2010, the spread of FDI to the inland of China had proceeded to the point that the proportion of FDI in the eastern coastal provinces had dropped to 60%. Moreover, FDI has been spreading within provinces from urban areas to more rural counties. These observations define the puzzle for this chapter.

I explore why some counties in the People's Republic of China attract more foreign direct investment (FDI) than others. More specifically, what characteristics of a county seem to make it more or less attractive to FDI? Given the spread of FDI within provinces from urban districts to rural counties, how do the predictors of FDI location selection vary between urban districts and rural counties in China? Given the spread of FDI beyond the coast, how have the predictors changed in recent years, especially since China's accession to WTO? This leads us to an examination of FDI site selection,

for which there is a substantial literature, but not many on China specifically or other formerly state-socialist economies generally (e.g., former Soviet Republic).

As discussed in the introductory chapter, the recent political decentralization down to the county level is influencing FDI location selection strategies. Moreover, there is an interactive relationship between the newly gained county government autonomy and FDI agglomeration, which has an impact on future FDI inflows. To date, there are no empirical studies of FDI site selection in China that are cast at the county level. Using newly available data from the University of Michigan China Data Center, this paper develops just such an analysis. Starting with well-established models of factors that influence site selection choices of foreign firms, the core theory of this project offers three innovations that help to explain how FDI site selection should be different in the PRC, owing to its one-party Communist party regime and the fact that a large part of the economy is still state-owned. First, I develop a theory (and measures) of how county government autonomy (from Beijing as well as from provincial governments) affects on the ability of that county to attract FDI inflows. Second, I explain why the impact of county government autonomy should be stronger in counties with lower existing levels of FDI. Third, I compare the FDI location selection model between urban counties and urban districts to investigate whether FDI site selection patterns differ in urban counties. Moreover, I propose a political learning process based on the FDI site selection model. By learning from FDI-abundant counties, local governments with low levels of FDI within their jurisdiction should seek more autonomy from Beijing in order to enable them to adopt policies that will increase local FDI inflows. In the aggregate, this leads to further decentralization of political power over economic

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policy making and should contribute to the further dispersion of FDI across more of China's 2,073 counties.

This chapter is aimed at exploring the determinants of FDI site selection among Chinese counties. The core puzzle is what makes foreign investors choose some counties in China over others as locations for their production facilities? In other words, as FDI has diffused across China's provinces, what characteristics of counties within those provinces predict whether they will be the target of FDI and, if so, how much FDI will locate there? More specifically, this chapter focuses on investigating (1) whether and how county government autonomy impacts FDI inflows in a given county; (2) whether and how the interaction between county government autonomy and FDI agglomeration impacts FDI inflows in a given county.

Given the complexity of FDI and the locational characteristics, first, this chapter will review various relevant theories in the existing literature. Next, beginning with a baseline model derived from existing research, I will develop a new model of FDI site selection in the PRC that incorporates those characteristics of the Chinese system, especially political decentralization and its interaction with FDI agglomeration. This paper represents an advance on existing research because the availability of new data resources allows me to estimate models at the county level ($n = 2{,}073$) in China. It also represents an advance on existing research by incorporating new theory on the impact of local government autonomy on the distribution of FDI in China. Last, this chapter will explore variations in the model over space, i.e. the differences in the predictors of site selection between urban districts and sub-urban counties.

2.2 Literature Review

Previous empirical studies on the spatial patterns of FDI generally have identified three groups of determinants of FDI location choice. These factors provide us with a baseline model with which to begin to model FDI location choice in China. The three major groups of explanatory variables include: (1) the locational comparative advantage factors (C_{it}) (Hymer 1960; Dunning 1981), (2) economic agglomeration factors (A_{it}) (Smith and Florida 1994; Head et al. 1995; O'Huallachain and Reid 1997), and (3) political factors (R_{it}) (Lee and Mansfield 1996; Brunetii and Weder 1998; Gastanaga et al. 1998; Wheeler and Mody 1992; Wei 2000a, b). Locational comparative advantage factors include geographic (such as proximity to the coast), demographic (such as the educational level of the work force) and original economic characteristics of a given Chinese county (such as original average income level of the population). Economic agglomeration factors (A_{it}) (Smith and Florida 1994; Head et al. 1995; O'Huallachain and Reid 1997) refer to the phenomenon whereby once a foreign firm settles in a certain Chinese county, it tends to stay there and attract more foreign firms to the same county due to the abundance of skilled labor, improved local infrastructure, and enhanced local industrialization brought by the prior FDIs in that county. Political factors (R_{it}) (Lee and Mansfield 1996; Brunetii and Weder 1998; Gastanaga et al. 1998; Wheeler and Mody 1992; Wei 2000a, b) include the quality of the political institutions, the stability of government policies and the stability of the society. It is from these three groups of variables that the foreign investors' strategic site selection originates.

2.2.1 Locational Comparative Advantage factors (C_{it})

The first group of determinants for FDI in China is the locational comparative

advantage factors (C_{it}), which include geographic variables, demographic variables and conventional economic variables.

2.2.1.1. Geographic Variables

The geographic variables are treated as exogenous and relatively stable over time. These include the county's proximity to the coast (Cassidy 2002; Coughlin and Segev 2000b; Liu and Lovely and Ondrich 2010), proximity to an international airport (Zheng, Kahn and Liu 2010), and the county's geographic size (Qu and Green 1997; Zhou et al. 2002). These stable geographic characteristics of a county determine the original attractiveness of the county to foreign investors.

Much of the FDI in China is geared toward production for export or production for the growing Chinese market. Given this, geographic proximity to the coast is advantageous for a firm not only because it means lower cost of transportation to ports for export, but also closer proximity to the largest and wealthiest share of China's domestic market (i.e., coastal provinces). Proximity to the coast also allows more efficient communication with and access to the international market. The coastal provinces are where China's major urban and manufacturing centers are concentrated, and it is also where preferential government policies toward FDI are more widespread and were first implemented (the special economic zones, or SEZs). Beginning in 1984, in order to further open China to the world markets and attract more FDI, the Chinese government allowed more economic openness in fourteen coastal port cities by bestowing on them special FDI policies (SEZ status) and granting local governments the autonomy to make policies toward FDI (Xinhua News Agency, 1984). Since then, the coastal port city policy has been extended to more regions, including the two rivers

delta regions (one is around the Shanghai and the other around Guangzhou) and one triangular area developed by three cities in Fujian Province, including Xiamen, Zhangzhou, and Quanzhou. Similarly, proximity to international airports is also advantageous to foreign investors because it reduces the cost of transportation. Proximity to airports plays an important role in reducing the cost of collecting information, increasing international visits and human capital flows (Xu, Liu and Qiu 2010). Therefore, the closer a county is to the coast and international airports, the more FDI it should receive.

A county's geographic size is another important geographic factor that influences FDI's site selection in China. Counties with a larger territory tend to have more land resources available for foreign investors. Since foreign investors need land to build factories for their future production, a larger county would provide more options for FDI's factory location.

2.2.1.2 Demographic Variables

Unlike the geographic variables discussed above, demographic variables were not given sufficient attention until Dunning's eclectic paradigm (Dunning 1979; 1980). The major demographic variables include: (1) the cultural, psychological and social distance between the host county and the FDI home country (Qu and Green 1997; Fu 2000; Hou and Zhang 2001; Wei and Liu 2001; Amiti and Javorcik 2008; Debaere, Lee and Park 2010); (2) labor force quality (Broadman and Sun 1997; Coughlin and Segev 2000b; Fung et al. 2002; Sun et al. 2002; Cheng et al. 2005a; Liu, Lovely and Ondrich 2010); (3) quality of life (Levis 1979; Schneider 1985; Cheng et al. 2006); (4) size of the labor force (Ismail and Yussof 2003). Unlike the geographic factors, these demographic

factors do vary over time, and their effects on FDI site selection should also vary over time and space in China. Moreover, FDI has feedback effects on these variables. For instance, increases in FDI in a county attract more laborers to that county, especially laborers with skills that are in demand by the foreign firms.

The cultural, psychological and social distance between the host county and the FDI home country can be measured by their social, institutional, and language differences (Qu and Green 1997). There is a large diversity of cultures, dialects and history across China. Foreign investors prefer to locate in counties where they have closer cultural, psychological and social connections to the local population. The reason is twofold. First, it helps foreign investors communicate with the local people and local governments and thus reduces misunderstandings and improves the efficiency of production. For example, a majority of Hong Kong investors choose counties within Guangdong province because of their shared dialect—Cantonese. Second, cultural ties make it easier for foreign investors to develop "Guanxi" (personal relationships) with the local authorities, which is a critical factor for conducting business smoothly in China.

The second important demographic variable is the quality of the labor force. Although Cheng and Kwan (2000a) found no significant relationship between labor quality and FDI, Gao (2003) found that whether labor quality has a significant impact on FDI is dependent upon the nature of the FDI. FDI that involves the use of high technology and advanced managerial practices tends to gravitate to counties with higher quality labor force because they need an educated workforce to operate the advanced machinery. A well-educated labor force is more likely to have the capacity to

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process and understand information and to cope with the difficulties in operating advanced machinery and working under advanced management techniques (Carstensen and Toubal 2004). In contrast, FDI with low technology and more traditional management techniques tends to gravitate to counties with cheap unskilled labor. More importantly, the salience of labor quality varies with time. At the beginning of China's economic openness, FDI was attracted to China mainly for its low cost labor. With time, technology transfers from foreign firms to Chinese firms occurred, increasing the demand for more skilled labor. Meanwhile, advanced skills and managerial practices have spilled over to local firms due to the mobility of human capital. Paired with the Chinese government's emphasis on education, labor quality in China has increased dramatically. This not only satisfies one of Beijing's initial goals of attracting FDI, but also prepares a large reservoir of high quality laborers for FIEs that employ more advanced technology to produce more sophisticated products. With the further upgrading of China's industrialization, labor quality has become increasingly more significant as an indicator for FDI's site selection.

The third important demographic variable is the quality of life. This set of variables has been understudied in prior research. Quality of life is a comprehensive measure of a variety of factors that influence FDI. According to the national level studies of FDI site selection, quality of life is measured by the UN Human Development Index, which is composed of GDP per capita, educational literacy and school enrollment, and life expectancy at birth (Globerman and Shapiro 2003). In studies of FDI site selection at the subnational level, these three indices can also be used to measure the quality of life. Foreign investors are more likely to invest in counties with

higher quality of life for at least two reasons. First, counties with higher quality of life tend to have a more stable social and political environment and thus provide a more reliable labor force and more secure living and working conditions. Second, counties with higher quality of life make it easier for the foreign firms and their employees to settle down with their families, raise their children and thus make a long term commitment to the enterprise. Cheng (2006) found that quality of life's impact on FDI tends to overshadow the effect of labor cost in Japanese FDI's site selection partly because of the lack of variation in wages across localities in China. For the purpose of this study, quality of life will be measured by the level of social welfare.

The fourth demographic variable is the size of labor force. According to Ismail and Yussof (2003), the size of the labor force has a positive impact on inflows of FDI. As one critical input of production process, increases in the supply of labor tends to enhance the FIEs' production capability.

2.2.1.3 Conventional Economic Variables

Conventional economic variables such as the availability of land, labor, capital and raw materials determine a county's maximum production potential when holding the technology level constant (Qu et al. 1997). Those factors are also correlated with FDI. Meanwhile, market size, as another traditional economic variable, has been found to be the most important locational determinant by prior research on FDI inflows in China (Qu et al. 1997). Generally, labor costs and wage rates as well as market size, market potential and market demand have been the most widely used indicators in modeling the determinants of FDI.

At the aggregate level, almost all the prior literature has reached a common conclusion that the cost of labor has a statistically significant effect on FDI inflows among Chinese provinces and regions (Coughlin and Segev 2000; Wei et al. 1999; Cheng and Kwan 2000; Fung, Iizaka and Parker 2002; Gao 2002; and Fung, Iizaka, and Siu 2003). This should not be surprising since the impact of labor cost on FDI is also well established in classical locational theory (Smith 1981) and macroeconomic theory of FDI (Kojima 1982). According to locational theory, the low cost of labor attracts FDI because labor is cheap enough to offset the extra cost of transportation incurred by investing overseas. The macroeconomic theory of FDI argues that the reason that some industries in developed countries moved overseas is because of the high cost of labor and resource shortages in their home countries. However, once FDI flows into a certain country, it may go to the low labor cost region in the host country to exploit cheap labor resources; alternatively, it may go to the regions with higher quality labor to exploit skilled labor resources. In the first case, we may observe that the lower the cost of labor, the higher the FDI inflows into that region. In the second case, since labor with high quality tends to command higher wages, the empirical results may show that FDI tends to flow to locations with higher cost of labor.

Market size is another powerful economic determinant of FDI location. The effect of market size on FDI has been well established by locational theory and international business studies of FDI. According to locational theory, the additional cost of penetrating a foreign market overseas is mainly caused by the extra cost of transportation. If the host county's market is large enough, then a firm can offset the additional transportation costs incurred by moving into a foreign market. According to

international business studies, the additional cost of penetrating a market is not caused mainly by transportation but rather by tariff and non-tariff government restrictions (Qu et al. 1997).

2.2.2 Economic Agglomeration Factors (A_{it})

2.2.2.1 Definition of Economic Agglomeration

Agglomeration economics is a spatial externality concept, which was first developed by Alfred Marshall in the 1890s. It is a theory to explain why firms tend to cluster together in one geographic area (Porter 1998). Agglomeration economics had not been built into FDI theory until Dunning's eclectic approach. In the case of FDI, agglomeration economy means that once a foreign investor locates in one county, it tends to stay there for a long period of time. The skills and technology used by this foreign firm tend to spread out within the county. Moreover, people with the specific skills needed by the foreign investor are likely to gather in the county from the adjacent counties. Other foreign investors requiring the same skills and technology will be attracted to the county because it is easier for these foreign employers to find workers with the specific skills that they need. This advantage of employment plus the concentration of localized foreign investment becomes a fundamental explanation for economic growth in a county (Debaere, Lee and Park 2010).

2.2.2.2 Horizontal vs. Vertical Agglomeration

Foreign investors are more likely to choose locations where there are many local firms, since their presence may suggest knowledge about local conditions and the possibility of technology spillovers, as well as the presence of specialized labor and a pool of appropriate resources. Moreover, foreign investors tend to cluster around

investors from the same country of origin due to uncertainties in their location decisions (Barry, Gorg, and Strobl 2003). Compared to local firms, foreign firms face even more uncertainty and risks. The presence of enterprises from their home country sends a positive signal of the geographic area's attractiveness (Barry, Gorg, and Strobl 2003). This type of agglomeration is called horizontal agglomeration economy. Foreign firms tend to follow the leadership of the major oligopolistic multinational enterprises' location choice to preserve stability among the oligopolists (Qu 1997; Belderbos and Carree 2002).

Unlike horizontal agglomeration, vertical agglomeration refers to the concentration of foreign invested firms in the regions that have easy access to both a large market and the intermediate inputs needed for the final goods. According to Krugman and Venables (1995), Lankes and Venables (1996) and Duranton and Puga (2004), vertical agglomeration will "increase the variety of intermediate inputs or final goods available for choice and lower the average purchasing costs, will enhance the chances of matching and mitigate the holdup problem in contracting between the upstream producer and downstream client, and will generate knowledge spillover through learning" (Du et al. 2010, 94). According to Du et al. (2010), vertical agglomeration is a critically important determinant of FDI in China due to the prevailing regional protectionism by Chinese local governments (Young 2000; Bai, Du, Tao, and Tong 2004; Amiti and Javorcki 2005). Regional protectionism is a phenomenon that has accompanied China's economic reform, especially the 1978 fiscal decentralization reform. Regional protectionism is used by the local governments to protect their local tax base by "shielding local firms and industries from interregional competition" (Bai, et

al. 2004, 398). For example, the local government in a given city or province may subsidize its auto companies to protect them from competition from auto products produced in other cities and provinces, even if the outside products are of better quality and the outside firms are more efficient. Among local firms, state-owned enterprises (SOEs) are especially strongly protected by local governments in China because local SOEs are the government's base of political power and the major provider of private benefits and fiscal revenue for the local governments. Therefore, regional protectionism makes cross-region transactions in goods very difficult and costly in China because of the high level of fragmentation of the economy within China. Foreign invested enterprises find it difficult to transport goods or component supplies from outside of their host county/city/province to other locations in China (Huang 2003). Therefore, foreign investors tend to cluster in locations where there is easy access to the supply of intermediate goods and to consumer markets for their final goods.

2.2.2.3 Major Economic Agglomeration Factors

The major economic agglomeration factors that impact the location of FDI include the level of infrastructure, the degree of local industrialization and the existing level of foreign direct investment.

First, foreign invested enterprises (FIEs) are attracted by high levels of infrastructure development, such as the road system, rail system, power grid and telephone communication system. High level infrastructure tends to reduce the cost of transportation and communication for FIEs. Due to economic agglomeration effects, the more developed a county's infrastructure, the easier it is for the county to build even more high quality infrastructure, and the more attractive the county will be for FIEs. In

other words, infrastructure has self-reinforcing effects. For example, once one road is built, it becomes easier to build the second, the third, …, the hundredth and so on. The first road is more important than the later ones. Therefore, for counties with poor infrastructure, improving infrastructure plays a dynamic role in attracting foreign investment. Wheeler and Mody (1992) find that infrastructure quality is a more important FDI determinant for developing countries than for the developed countries. Cheng and Kwan (2000) find that high quality infrastructure, such as the density of roads, played a significant role in attracting FDI in 29 Chinese regions from 1985 to 1995.

Second, counties with higher levels of industrialization tend to attract more FDI inflows. Higher levels of industrialization facilitate both technology spillover and cooperation among the foreign and domestic firms and help to increase their profits. Improved domestic industries will indirectly improve the investment environment and the consumer market for FIEs. Moreover, higher levels of industrialization tend to generate better living conditions, such as housing, transportation, communication networks, health care, and international education. As a result more industrialized counties tend to attract more FDI inflows.

Third, there are many criteria to investigate when deciding whether a certain county is a good investment site. One easy and more direct way to make a judgment is to refer to other or competing foreign investors' site selection behavior. The existence of foreign investors in a specific county sends out a positive signal to other potential investors that the given county has some favorable attributes. Therefore, the existing level of foreign direct investment in a certain county is a good criterion for newcomers to

use in deciding whether the county is good investment location. Foreign investors are "likely to select the area with an established infrastructure and complementary industries" (Yeung 2001, 144). Especially if the foreign investors in a county are all export-oriented industries, their concentration in one area does not impose competition among them because these investors are not targeting the Chinese domestic market. Therefore, the major motivation for the local governments' competition for the foreign investments is that once the foreign investors settle in one county, that location has a self-reinforcing effect, which means that location will probably attract more FDI inflows, all else being equal.

2.2.3 Political Variables (R_{it})

Political variables have not been given sufficient attention in prior studies on FDI site selection. They are especially relevant to the study of FDI site selection in China because the state's role in the economy is much greater and more intrusive than is the case with market-based democratic regimes. Major political factors at the county level in China include: (1) government incentive policies; (2) local government intervention into the private sector; (3) corruption; (4) change in political commitment; (5) lack of institutionalization (especially the lack of reliability of the legal system).

2.2.3.1 Government Incentive Policies

Prior studies have found that preferential government policies designed to attract FDI do play a positive role in attracting FDI (Gong 1995; Head and Ries 1996; Wei et al. 1999). However, FDI incentive policies have been distributed unevenly in China, which helps to explain the uneven distribution of FDI across territorial units in China.

The uneven distribution of FDI incentive policies can be traced back to the uneven spread of the post-1978 open door policies, which started in the coastal areas of China as experiments and then spread toward the central and western provinces. It was not until 1997 that the Chinese government "implemented a series of comprehensive preferential policies to encourage economic development in China's central and western areas" (Cheng 2008, 360). These preferential policies were accompanied by increasing government investment, expanding and upgrading local infrastructure and the decentralization of fiscal power from the central government to provincial and local governments in the interior regions (Jiang 2002).

The inflows of FDI have introduced market forces into China's centrally planned economy. As a large socialist country, the Chinese government sought to avoid the possible negative consequences from radical reforms by slowly expanding FDI through the use of special FDI polices (such as low taxes) only in specified coastal regions. This strategy would confine any possible negative impact of the open-door policy within manageable bounds. The cities in the coastal regions were divided into three different types according to the different special policies and powers granted to them by the central government. These three types were (1) the special economic zones (SEZs), (2) the coastal open cities (COCs), and (3) the coastal open regions (CORs). The description for each of the three types follows.

First, the SEZs are areas where the central government granted several preferential policies, including the decentralization of some administrative authority, the allowance of greater administrative flexibility, and a widening range of tax concessions (Fu 2000; Ma 2000; Cheng 2008). The first four SEZs were established in late 1979

and the fifth SEZ—Hainan Island—was established in 1988. Within the SEZs there are special laws and regulations on labor policy, tax policy, registration, and foreign exchange with respect to the Equity Joint Ventures (EJVs). For example, within SEZs, there are simplified procedures for the foreign investors to enter and exit the Chinese market. Special rules also simplified the process for foreigners to visit China (Beijing Review, 2009). With respect to the tax rate, some imported goods are allowed exemptions from customs duties (Beijing Review, 2009). In addition, within the SEZs, foreign invested enterprises are allowed to retain part of the profits and remit their profits overseas (Beijing Review, 2009). More specific SEZs policies included "(a) exemption from import/export duties and from after-tax profit remittance, (b) tax rates were 15%, (c) wages 75-80% lower than in Hong Kong, (d) foreign personnel pay no taxes" (Walters 1997, 52-3).

Second, due to the vagueness of SEZ policies and the lack of experience with foreign firms, FDI inflows into China were very limited prior to 1984. In order to attract more FDI, the Chinese government further opened 14 coastal port cities (COCs) in 1984 by granting them "some autonomous economic decision making power concerning FDI and special policies toward FDI (together they are referred to as the COC policy)" (Qu 1997, 57). For example, the COC governments are allowed to grant preferential treatment for the export-oriented industries, high technology projects, and projects worth more than US$30 million located within the COCs. Moreover, the COC governments were allowed to establish economic and technological development zones (ETDZs) and use FDI for upgrading their local production facilities.

Third, by 1985, the Chinese government further extended the COC policy to three river delta regions. The creation of these coastal open regions (CORs) was referred to as the "river delta program" (Cheng 2008). The three river delta regions include the Yangtze Delta Region, the Pearl Delta Region, and the Minnan Delta Region.

After the Tiananmen Square incident in 1989, the Chinese government adopted further policy reforms to win back the trust of foreign investors. These included opening tax free zones, granting foreign investors the rights to land development, encouraging the establishment of high technology and new technology industry development zones (HTDZs) in the capitals of major provinces, revising the laws regulating joint ventures, implementing new laws for entirely foreign owned companies, and accelerating the building of Shanghai as one of the economic hubs of the Pacific Rim.

Due to the widening regional disparity between the coastal area and the interior area and increasing resentment from the interior provinces over regional disparities that have emerged since the late 1980s, Deng Xiaoping promised in 1992 that the central government would adopt policies to help interior provinces catch up to the coast. Deng's promise was realized the same year when China's FDI policies were extended to the interior provinces, including the "ten cities along the Yangtze River, various border cities, and all the capital cities of inland provinces" (Cheng 2008, 359). In order to attract FDI into China's inland provinces, the central government has built 17 national ETDZs in the central and western parts of China since the year 2000 when the Chinese government launched its "go west" development program (Cheng 2008).

In sum, due to the Chinese government's priority in developing the coastal area, most of the early policy incentives for attracting FDI were granted only to the coastal cities and regions. In addition, the prevailing belief at the time was that foreign investors are more wary of the inland areas compared to the coastal region because of concerns over local government intervention and cultural differences (Luo, Brennan, Liu and Luo 2008). Therefore, the central and western regions of China have lagged behind in attracting FDI (Luo and O'Connor 1998). Even within China's inland provinces, the extent of economic development and policy reform varies across locations within a province (Luo and O' Connor 1998).

2.2.3.2 Local Government Intervention into Private Sectors/Business Operations

Before the 1978-economic reform, China was a centrally planned economy where all properties were collectively owned by the state, and there was no private property or private businesses. With the deepening of economic reforms over the last thirty years, the central government has not only encouraged the development of the private sector, but also decentralized much of its economic policy making power to local governments. Local governments' intervention in the private sector reflects the level of protection of private property in that locality. Government intervention may have a positive relationship with the FDI inflows. Due to weaknesses in the development of Chinese law and its court system, government intervention is "a second-best solution to the lack of formal protection of private properties" (Du et al. 2008). Moreover, government intervention may help to resolve labor disputes, strikes, or protests directed at FIEs in China. However, government intervention itself may involve rent-seeking and corruption (Frye and Shleifer 1997; Shleifer and Vishny 1993). FIEs get the advantages

of government protection by bribing local government officials. These sorts of relationships are costly for those FIEs that do cultivate these relationships and impose a competitive disadvantage on FIEs that do not obtain government help. In this sense, government intervention may discourage further inflows of FDIs. In addition, government intervention may also impose extra costs on FIEs. For example, FIEs that cause environmental pollution in their production process may go without punishment in counties with a low level of government intervention. In contrast, counties with high levels of government intervention may punish the polluting FIEs and force them to take on extra expenses to reduce pollution. In this sense, FIEs tend to be attracted to counties with low government intervention because this reduces the cost of complying with local regulations.

2.2.3.3 Corruption

Corruption imposes risk on foreign investors and has negative effects on the attraction of FDI (Wei 2000; Smarzynska-Javorcik and Wei 2005). Corruption has accompanied China's economic reform over the past thirty years (Du et al. 2008). Due to the large amount of private business opportunities, the lack of democracy, the lack of media freedom, and the weak rule of law during China's economic transition, there is a lack of effective supervision over the traditional power of local and provincial governments. The lack of checks and balances leads to the expansion of traditional power and corruption in China's economic reform (Du et al. 2008; Cole, Elliott and Zhang 2009). The major forms of corruption in China include "bribery, misappropriation of public funds, collective illegal possession of public funds, unstated source of large

property, abuse of power, dereliction of duty, and fraudulent practices" (Cole, Elliott, and Zhang 2009, 7).

Bribes given to local Chinese officials by foreign investors contribute to unfair competition and inefficient resource distribution because corrupt officials care more about extracting rents than promoting economic efficiency (Picci 2005). Those investors that bribe government officials gain preferential treatment over those who do not offer bribes. For example, several foreign construction companies may be bidding for a government permit to build a public library in a given county. Bribery may help unqualified foreign investors obtain the building permit, which not only causes inefficiency but also discourages other foreign firms from investing in that county. Another type of corruption in China is misappropriation of public funds. For example, government officials may "attempt to prolong large projects for personal gain or devote their time to inappropriate public projects where it is easier to extract unlawful rents" (Cole, Elliott, and Zhang 2009, 3). The delay in improving infrastructure in a given county may discourage investment from foreign firms. Other types of corruption, such as abuse of power, fraudulent practices and dereliction of duty, tend to increase the risk of confiscation perceived by the foreign investors. By using data on bilateral investment from twelve source countries to 45 host countries, Wei (2000) found that corruption has a deterrent effect on FDI. According to Yeung (2001), the interpretation of the law largely depends on the "individual interpretation and goodwill of local government officials, which leads unavoidably to geographical discrepancies and lack of transparency in the implementation of laws" (Yeung 2001, 119).

2.2.3.4 Changes in Political Commitment

Political commitment to encourage and support foreign investment means that the governments at the central, provincial, city and county levels are committed to their promises of providing preferential policies, easier accessibility, effective assistance and efficient processing of government documents. However, preferential policies can be unstable, especially at the county level of government. For example, according to Luo (1998), many foreign invested enterprises (FIEs) are located in the economic and technological development zones (ETDZs) established by the government. Within the ETDZ, the government provides preferential policies. However, the preferential policies offered by lower levels of government, such as county or city governments, are very unstable. For example, in order to attract FDI some local officials promised the foreign investors free taxation for a certain amount of time. However, once the foreign investors had built their facilities in that county, the officials rescinded their commitment and charged taxes on these foreign investments. As a consequence, "many of these small, lower-level ETDZs have been recently shut down by the central government" (Luo 1998, 128).

2.2.3.5 Lack of Institutionalization

With the deepening of Chinese economic and political reform, there have been on-going changes in political institutions, especially laws and regulations. These changes pose risks for foreign investors. Brunetii and Weder (1998) found a negative relationship between institutional uncertainty and private investment. Institutional uncertainty was measured by four indicators, including the chances that the government stays in power, political violence, instability in government policies, and whether the private firms'

property and contract rights are protected fairly. The reasons that the lack of institutionalization has a negative impact on FDI inflows are as follows.

First, despite China's success at institutionalizing leadership succession at the highest levels of government and party, change in leadership in local governments is not highly institutionalized, which poses risks for foreign investors. For lower levels of government, changes in political leaders tend to be unpredictable and can result in drastic revisions in a given county's FDI policies. For example, some local political leaders favor an economic model driven by export-oriented and labor-intensive production with Hong Kong and Taiwanese investment, while others favor an economic model drive by the high value-added investment from European and American firms. Changes in leadership sometimes mean changes in the economic model in that county, which may disadvantage some foreign investors that have already located in that county. Usually a personal relationship develops between the local government officials and foreign investors, which can create rents for the foreign investors. The cultivation of this personal relationship is usually costly in terms of both money and time for the foreign investors. Leadership changes tend to interrupt the old personal relationships and confront foreign investors with the added costs of cultivating a new personal relationship with the new local political leaders. Therefore, instability in local political leadership imposes risks and costs on foreign investors, thereby discouraging FDI.

Second, according to Feng (2004), the lack of official channels for dissent is another political factor for foreign investors. The institutionalization of channels for dissent is helpful as a way to release public anger and sustain social stability. Without

this institutionalization people turn to risky and often volatile methods, such as the "mass incidents" and protests, to express their dissent. The more mass incidents in a given county, the higher the risk for the foreign investors and the less likely foreign investors will invest in that county. When mass incidents occur within a county without institutionalized dissent channels, the local government usually has to resort to radical solutions, such as shutting down public transportation and public utilities (water, electricity and communication system). Foreign invested companies and/or factories usually produce products within a global production chain. Delay in one part of the chain may create substantial costs globally for the firm. Therefore, foreign investors are more likely to invest in places with more a peaceful social environment.

Third, the absence of effective institutions for sustaining the rule of law is another political factor impacting foreign investors' site selection in China. According to the existing studies, although stronger protection of intellectual property rights helps encourage inventions, it may have positive or negative impacts on FDI (Helpman 1993). On the positive side, scholars argue that protection of intellectual property rights can help FIEs punish and deter illegal imitation by other firms and thus guarantee high returns from the FIE's investment in research and development (Awokuse and Yin 2010). On the negative side, strong protection of intellectual property rights may lead to monopoly power by the FIEs because of reduced competition from other firms producing imitation products. The monopoly power exercised by FIEs may enable them to maximize their profits by reducing other FIEs' output and sales and thus decrease the inflows of FIEs into the locality (Maskus and Penubarti 1995; Smith 1999; 2001).

2.3. New Model of the Determinants of FDI Site Selection in China

Despite previous findings on the location determinants of FDI in general, there are few if any studies that investigate empirically whether and how foreign investors' site selection behavior is affected by China's recent decentralization of political power down to the county level. Moreover, the prior studies on the impact of political factors on FDI location decisions tend to ignore the impact of local government autonomy and its interaction with the local FDI agglomeration. Based on previous research and its application to the China case, I will now present a new model of FDI site selection in China. Given the dynamic nature of the new model, mathematically, the conceptual and theoretical framework, especially the feedback effects, can be summarized in the following system:

$$FDI_{it} = f\ (X_{it},\ FDI_{it-1},\ P_{it},\ FDI_{it-1}*\ P_{it}) \qquad (1)$$

$$FDI_{i1} = f\ (X_{i0},\ P_{i0}) \qquad (2)$$

$$X_{it} = f\ (FDI_{it-1},\ X_{it-1}) \qquad (3)$$

$$P_{it} = f\ (FDI_{it-1},\ P_{it-1}) \qquad (4)$$

where FDI_{it} refers to the yearly FDI inflows in county i at year end t and FDI_{it-1} refers to one-year lagged FDI inflows in county i at year end (t-1). X_{it} refers to the non-political variables that determine FDI location selection. This vector is composed of the location specific variables (including the geographic size of a county, labor quality, size of the labor force, quality of life, and size of the market) and the economic agglomeration variables (including the level of existing infrastructure and the level of local industrialization). P_{it} refers to the political variables that determine FDI location selection. It mainly refers to the local government's autonomy. $FDI_{it-1}*\ P_{it}$ refers to the

interaction between FDI agglomeration and local government autonomy. X_{it-1} refers to the one-year lagged non-political variables. P_{it-1} refers to the one-year lagged political variables. FDI_{i1} refers to FDI inflows in county i at the end of the first year of FDI inflows. X_{i0} refers to the non-political factors in county i the year before the first year of FDI inflows. P_{i0} refers to the political factors in county i the year before the first year of FDI inflows.

The dynamic mechanism of the model begins with the notion that foreign investors are initially attracted to a Chinese county by its locational comparative advantage, the degree of local economic agglomeration and the county's relatively high level of political autonomy (see equation 2). As time goes by, foreign investment is also affected by the existing FDI that occurred one period earlier due to FDI agglomeration effects (see equation 1). With increases in the level of foreign investment in a county, local government autonomy tends to interact with the local FDI agglomeration, and thus autonomy's impact on future FDI inflows depends on the FDI agglomeration level (see equation 1).

The innovation of the new model is two-fold. First, this model investigates how the county government's autonomy impacts FDI site selection behavior in China. Second, this model investigates how the interaction between the county government's autonomy and FDI's agglomeration affects the spatial distribution of FDI in China.

2.3.1 Impact of County Government Autonomy on FDI Site Selection

2.3.1.1 County Government Autonomy—Further Rescaling of Central-Local Politics

Rapid economic reform and growth in China have been encouraged by the continuous decentralization of power from the central to the local governments, which is

termed as the "re-scaling of central-local politics" (Walder 1995; Yeung 2000). Local government autonomy has become critical for the success of FIEs (Yeung 2000) and thus should become an important determinant of FDI site selection in China.

Prior literature has examined the relationship between FDI site selection and local government corruption, intervention into private business, enforcement of the law, and protection of intellectual property rights (Cole, et al. 2009; Luo et al. 2008; Du et al. 2008; Zhu, et al. 2010; Zheng 2010). All of these political factors actually originate from the autonomous power of local governments. However, there is a lack of empirical research on the impact of county government autonomy on FDI site selection in China. Moreover, studying the relationship between local government autonomy and FDI has important political implications for studying how local level politics affect the politics of building a winning coalition in the central government, and the impact of these politics on China's foreign policy generally and its relations with Taiwan specifically.

2.3.1.2 Positive Relationship between County Government Autonomy and FDI Inflows

Levels of autonomy vary across the 2,073 county governments in China. Some counties enjoy high levels of autonomy, almost as high as city governments, such as the Kun Shan County and the Dong Guan County in southern China. Some counties are under tight control by the city government. Generally, improving the local investment environment is highly rewarding for the local governments because the enhanced investment conditions tend to attract more domestic and foreign investments and thus help the local governments create more job opportunities, higher tax revenue, and more opportunities for local officials to get promoted. I assume that all counties in China wish to improve the local investment environment by undertaking such projects

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as building more highways and more efficient public facilities. Such projects cost a lot of money.   Not all counties can freely and independently undertake spending on improving the local investment environment because of constraints imposed on them by higher levels of government (i.e., city and province).   This is not only because the county government has to contribute part of its revenue to the city and province governments, but also because the city and province governments tend to put priority on developing their urban areas.   Therefore, autonomous fiscal power is an important measure of local government autonomy.   Based on studies by Zhu and Xiong (2009), we can use the ratio between a county's expenditure per capita and its provincial government's expenditure per capita as a proxy for measuring a certain county's degree of autonomy.

County government autonomy has a positive impact on FDI inflows.   First, counties with more autonomy fit better with the market economy, which prioritizes profit-maximization.   This helps shorten the institutional distance between the host county in China and the FIEs' home countries.   Second, after gaining autonomy, local government officials rush into establishing township and village enterprises (TVEs) and into fierce competition for FIEs because private business and foreign investment can contribute to their local revenue flows and help county officials get promoted.   This phenomenon is called "local corporatism" (Yeung 2000). In order to attract FIEs, county governments rush to establish industrial parks and special economic zones within the county to provide FIEs with low taxes, cheap land, convenient utilities and other preferential policies.   Therefore, the services and preferential treatments provided by

county government help FIEs settle down in the locale, thus positively impacting FDI inflows into the county.

Some scholars argue that autonomy creates corruption and intervention into the private economy by county governments. However, the local market and the agglomeration of FDI may play an important role in disciplining county governments and improving the quality of the government, thus attracting more FDI inflows into the county. Therefore, the interaction between the autonomy of local government and local FDI agglomeration may serve as an important determinant for the amount of FDI coming into a county.

Hypothesis 2.1: local government autonomy has positive impact on the future inflows of FDI.

2.3.2 Interaction between the County Government's Autonomy and Agglomeration of FDI

The dynamic interaction between county government autonomy and FDI agglomeration is as follows. At the beginning, foreign investors are attracted to a certain Chinese county because of its locational comparative advantage and the local government's flexibility (autonomy) to accommodate the FIEs. As more foreign investors settle down in a certain county, interaction between county government autonomy and FDI has an important impact on the ability of the county to attract additional FDI. I argue that the marginal effect of a county government's autonomy on FDI inflows is conditional on the existing level of FDI in the given county.

When a county government has a high level of autonomy and has high level of existing FDI inflows, it tends to attract more inflows of FDI. First, with the growth of FIEs

in the county, the local government will gain more revenue to improve the investment environment by, for instance, investing in local infrastructure, which will in turn attract more inflows of FDI in the future. Second, the rapid growth of FDI requires the rapid upgrading of local government institutions, especially government efficiency and transparency. Under this demand, counties with high autonomy can respond and satisfy the FIEs' demands much faster than the counties with low autonomy. This helps accelerate the speed of FDI agglomeration in the locality. Third, the development of a county's economy and FDI will help persuade the higher levels of government (the city and the province) that the county government can make good use of its autonomy, which helps the county government gain more autonomy, provide more convenient services to local FDI, and thus attract more incoming FIEs. Therefore, under this situation, the interaction of the county autonomy and FDI agglomeration will create a virtuous cycle. For the same reasons, when a county government has low autonomy and has slow FDI agglomeration, it tends to create a vicious cycle by discouraging future inflows of FDI.

When a county government has low autonomy but high existing level of FDI, it cannot keep pace with the FIEs' demands and thus is not as attractive to incoming FIEs as a highly autonomous government would be, ceteris paribus. In the long run, FDI agglomeration in the county may slow down, thus making that county even less attractive for incoming FIEs. First, if a county government has low autonomy, it has to transfer a large portion of local revenue to the city and provincial governments. This reduces the amount of money it can spend on such things as transportation and education to improve the local investment environment. Second, a low autonomy

government cannot upgrade the local government at a timely pace by making changes in rules and policies set by higher levels of government. This adds extra bureaucratic barriers for FIEs and thus reduces the efficiency of the FIEs' production. In the long run, the low autonomy county government will attract less FDI inflows.

When a county government has high autonomy but low existing level of FDI, it is risky for the FIEs to locate there. There are two possibilities under this situation. First, it is possible that the high autonomous government may be corrupt, intervene heavily into the local private sector, have very inefficient institutions, have weak protection of intellectual property rights, and manifest other bad qualities that do not encourage local FDI development. Second, it is also possible that the location characteristics and basic economic conditions are not suitable for the FIEs. This is a problem for remote counties in the western part of China. Therefore, when a county government has high autonomy and low exiting level of FDI, there tends to be less FDI inflows in the future.

Hypothesis 2.2: the marginal effect of county government autonomy on the future inflows of FDI is stronger when the previous year's FDI level is high; the marginal effect of county government autonomy on the future inflows of FDI is weaker when the previous year's FDI level is low.

2.4 Variation of the Model across Space

2.4.1 Variation of the Model across Space

The baseline model explored how differences among administrative units impact FDI inflows. In the existing literature, authors generally choose "province" as the unit of analysis, largely because, until recently, systematic data were available only at the province level for China. Because there are only 31 provinces in China, the number of

cases did not allow for very sophisticated modeling of FDI site selection. Authors were not able to conduct analyses at the county (n = 2,073) or city level (n = 282) because data at that level of administrative unit were not available. Due to this weakness, there is a lack of studies on how the administrative unit itself has impacted the inflows of FDI. We know that there is wide variation in the distribution of FDI within provinces, but these data limitations prevented any systematic analysis of such variation.

More specifically, there is an absence of studies on the determinants of FDI within urban districts and within counties, given that both urban districts and counties are at the same administrative level, right below the city level of administration in China. There is a possibility that some indicators, such as labor quality, are significant explanatory variables for FDI in the urban areas of a province but are insignificant predictors for FDI in rural areas of the same province. The explanatory power of some statistically significant independent variables may vary between the urban districts and the counties, but province-level analysis would not reveal these differences. Therefore, this project will fill in the gap in the existing literature and explore one additional issue. With the fast progress of urbanization, the gap in economic development between urban districts and rural counties has been expanding. I argue that the marginal effect of autonomy on future FDI inflows is greater in urban districts than in rural counties. The reason is that with longer years of experience than county governments in attracting FDI, urban governments tend to have already established more efficient and effective institutional systems to accommodate foreign investors. Urban governments' higher institutional compatibility with FDI makes FIEs more sensitive to further increases in urban government autonomy than to county government autonomy from higher level

authorities (i.e., provincial and national governments). For example, given the same amount of increase in fiscal autonomy in a given year, urban governments may make better use of it to attract foreign investors than the county governments because urban governments have more years of experience with FIEs and more efficient institutions to improve the investment environment for the foreign investors.

Hypothesis 2.3: the magnitude of the marginal effect of autonomy on FDI inflows is greater for urban district governments than for the county governments.

With the further decentralization of power to county governments, counties today are quite different from counties 20 years ago. Not only can they set their own taxation rate, but they are also in charge of providing utilities and infrastructures to foreign investors. In contrast, urban districts, which have used tax incentives and cheap land and labor to attract foreign investment for many years, have realized that these factors can no longer be used as effective inducements to attract foreign investors to urban areas. The reasons are as follows.

To begin with, population growth and rapid industrial growth in urban areas have driven up the price of land exponentially in urban areas. Urban governments cannot afford to use cheap land to attract foreign investors. Over the years, the strategy of attracting foreign investors by keeping land prices low has lost its attraction because most of the other big cities and urban areas use the same strategy. Intensive land development and extensive construction have driven up the price of land use fees and rents. In contrast, rural counties have much more abundant land than urban districts, and thus the land prices are much cheaper. Therefore, the availability (and cost) of land

is less salient to foreign investors in choosing among counties. Foreign investors are more sensitive to land availability and costs in urban districts than in counties.

Hypothesis 2.4: the cost of land plays a bigger role in attracting FDI inflows in the urban districts than in the rural counties.

Urban districts used to use low cost labor to attract foreign investors. However, in recent year, with the increase in land price and, thus, rental expenses, as well as increases in food prices and utility prices in urban districts, the cost of labor has been increasing too. Over the past 20 years, low wage laborers in urban areas have developed more mature strategies to pressure foreign investors for pay raises, which increase the cost of labor for foreign investors in urban districts. Therefore, foreign investors who focus on labor-intensive industries have been forced to move out of urban districts. According to the natural selection theory, the foreign investments that remain in urban areas are the ones that are more oriented toward the Chinese market and emphasize the quality of labor instead of the cost of labor, urban infrastructure instead of low taxation, and well-located urban office buildings instead of cheap land for building factories.

Hypothesis 2.5: cost of labor plays a bigger role in attracting FDI inflows in the rural counties than in the urban districts; the quality of labor plays a bigger role in attracting FDI inflows in urban districts than in rural counties.

2.5 Research Design—Methodology and Data

2.5.1 Panel Data Analysis

These hypotheses are tested with GMM model by taking advantage of the dynamic panel data structure of the dataset. The primary data set used in this chapter

is the statistics on 229 urban counties in China from the year 1997 to 2009, which is provided by the All China Data Center at the University of Michigan. Later on, I will use cross-sectional analysis as a robustness check among all the 2,073 counties in China to check whether the findings from urban counties are generalizable to all counties in China.

The major reason why this project uses panel data analysis is that it is important to take into consideration of the temporal dimension of the model because of the dynamic nature of the economic variables, especially the FDI agglomeration effect and the interaction between existing FDI and the previous locale-specific characteristics. Moreover, with China's fast changing economic and political environment, Beijing has accelerated its economic transition from a centrally planned economy to a more market oriented economy. This process caused changes over time to many locale-specific factors and to the interaction among local factors (Qu 1997).

Due to the difficulty in finding county level data, no prior studies have studied determinants of FDI location at the county level in China. Most prior literature focused on FDI in China at the provincial level or the regional level. Counties within the same province usually do not share the same characteristics but rather have diverse features, such as different costs of labor, variations in quality of life, and different levels of social unrest. Some of these features at the county level tend to be significant explanatory variables for variation in the amount of FDI in different counties. However, these important explanatory variables tend to become insignificant when we collapse everything toward the province level. For example, the non-coastal provinces in China were less developed than the coastal provinces to begin with. Therefore, they cannot

provide foreign investors with good industrial facilities, relatively developed infrastructure, education, and communications systems. Moreover, the non-coastal provinces of China were not granted special economic status in the early stages of the economic reform. Not surprisingly, then, when we analyze the determinants of FDI location in China at the province level, the variable "coastal province" tends to overshadow other important factors that impact FDI. In this example, the variable "coastal province" serves as a proxy for more specific explanatory variables. Therefore, if we investigate FDI site selection at the province level, we tend to lose lots of valuable information (the more specific explanatory variables) for explaining FDI site selection behavior.

2.5.1.1 GMM Model Specification

In order to carry out the panel data analysis, this paper takes advantage of the dynamic panel data structure of the dataset and employs Blundell and Bond (1998) system generalized method of moments (system GMM) estimation to explore the determinants of FDI locations at county level in China. The GMM estimation method is desirable because it relaxes the strict exogeneity assumption (i.e., the regressors are not correlated with the past, current and future error terms) required by the Ordinary Least Squares estimation, fixed effect estimation, and random effect estimation. Because FDI site selection behavior is endogenous (i. e., the lagged dependent variable, FDI_{it-1} is correlated with the error terms), GMM estimation is more desirable because it allows a feedback effect from FDI inflows in past periods to the current period's autonomy level of local government. Moreover, the standard first-differenced GMM tends to have extra instruments, which causes weak instruments problem and

thus reduces the efficiency in estimation. Therefore, in this paper, I use the system GMM by including the lagged differenced dependent variable as instruments.

Mathematically, the estimated FDI in county i at year t can be expressed as:

$$FDI_{it} = \rho_1 FDI_{i,t-1} + \beta_1 X_{it} + \beta_2 P_{it} + \beta_3 FDI_{i,t-1}*P_{it} + c_i + t_i + u_{it}, \ |\rho_1|<1, \ t= 2, 3, \ldots T \quad (5)$$

where X_{it} refers to the observable location specific characteristics and the economic agglomeration factors, and c_i is the time-constant unobserved location specific characteristics (such as the disparity of resource endowments across counties), and u_{it} is the disturbance term. There are three steps to estimate the above model.

First, because c_i is correlated with the one-period lagged $FDI_{i,t-1}$ and we assume c_i is correlated with X_{it} and P_{it}, we use first differencing to remove the c_i:

$$\Delta FDI_{it} = \rho_1 \Delta FDI_{it-1} + \beta_1 \Delta X_{it} + \beta_2 \Delta P_{it} + \beta_3 \Delta FDI_{i,t-1}*P_{it} + \Delta u_{it}, \ |\rho_1|<1, \ t= 2, 3, \ldots T \quad (6)$$

In spite of the first differencing, ΔFDI_{it-1} is still correlated with Δu_{it}, which causes biased estimation. In order to reduce the biasness, we need instrumental variables. GMM is more desirable than the standard Instrumental Variable estimates because in GMM the number of valid instruments increases as the length of the panel increases (Kinoshita and Campos 2003).

Second, we assume that X_{it} and P_{it} are endogenous. In other words, we assume that X_{it} and P_{it} are correlated with u_{it} and earlier shocks but uncorrelated with future shocks (ie., $u_{i,\,t+1}$, $u_{i,\,t+2}$, ….). Therefore, the Instrumental Variables for ΔX_{it} and ΔP_{it} are FDI_{i1}, FDI_{i2}, FDI_{i3}, …, $FDI_{i,\,t-2}$, X_{i1}, X_{i2}, X_{i3}, …, X_{it-2}, P_{i1}, P_{i2}, P_{i3}, …, $P_{i,t-2}$ because $\Delta u_{it} = u_{it} - u_{it-1}$.

Third, autocorrelation is checked by the Arellano-Bond statistics for the second order correlation of the error term in the first differenced equation (Kinoshita and

Campos 2003). According to Arellano and Bond (1991), only for a homoskedastic error term does the Sargan test have an asymptotic chi-squared distribution and the one-step Sargan test overrejects in the presence of heteroskedasticity. Since I assume that the error terms are not homoscedastic in this study, I use robust standard errors for estimation.

In addition, in order to test the hypothesis 3, 4 and 5, I will test the model on urban districts data and compare the test results with the results from the county data.

2.5.1.2 Data and Measurement

This paper primarily focuses on county level determinants of FDI location in China in order to avoid the county characteristics being washed out in province-level analysis and to take advantage of the large number of Chinese counties over a relatively long history. The method, findings, and conclusions from studies on county level FDI in China may be generalized to county level FDI in other developing countries, especially countries that are non-democratic and experiencing the economic transition from a centrally planned economy to a market economy.

In order for the analysis to be compatible with the dynamic panel data FDI model, I use county level FDI panel data, which are available from the All China Data Center at the University of Michigan. More specifically, since for the total 2,073 counties in China, the All China Data Center only provides full FDI information for one single year—the year 2003 and has serious missing data issue for the FDI information during other years, I cannot conduct a dynamic panel data analysis upon all the 2,073 counties. Instead, since All China Data Center provides much more complete FDI information for a subsample of the 2,073 Chinese counties (i.e., the 229 urban counties) from year

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1999 to 2008, I use the 229-urban-county sample to conduct a dynamic panel data analysis.   The difference between the 229 counties at city level (i.e., urban counties) and the rest of the 1,844 counties is that the former are economically more developed than the latter. Moreover, the counties at city level are different from the regular cities because county at city level is a lower administrative unit than city and does not include urban districts, while almost all of the regular cities have urban districts within them. In other words, a regular city is composed of counties and urban districts; city is a higher administrative unit than county and urban district. Since the panel data analysis is only based upon the 229 urban counties, it is important to check whether the results are generalizable to the rest of the counties in China.

Moreover, In order to compare FDI site selection between counties and urban districts, I use another panel data set for urban districts FDI to test the theoretical model. Table 2.1 presents the data description for the urban county data set and the urban district data set.

The dependent variable is the yearly FDI inflows (measured in US$10,000) in county i at year end t. I argue that this measurement of FDI fits best with the purpose of this project for the following reasons. First, the typical measurement of FDI among the influential previous studies on FDI determinants is the total dollar value amount of investment located in a certain location (McConnell 1980; Moore et al. 1987; Coughlin and Segev 2000b; Cheng and Kwan 2000; Cassidy 2002). Second, since this project focuses on exploring the spatial distribution of FDI inflows among Chinese counties, I am more interested in the aggregate amount of foreign investment in each administrative unit instead of the FDI inflows per capita. Third, I argue that there is a

linear-log relationship between the dependent variables and independent variables because the amount of FDI inflows in a given county cannot increase unlimitedly or decrease unlimitedly but rather level off at some point with the changes in the independent variables. Since all the independent variables are measured in the logarithm form (except the ratio variables), the total dollar value of yearly FDI inflows as dependent variable can reflect the linear-log relationship better than the logarithm form of FDI inflows.

The key independent variable is the county government autonomy, which is measured by the ratio between the county government expenditure per capita and the provincial government expenditure per capita. This measurement of local government autonomy not only serves as the World Bank Fiscal Decentralization Indicator, but also has been widely used as measurement of local government autonomy in cross-national studies (Rodden 2004) and in Chinese studies (Jin, Qian, and Weingast 2005; Uchimura and Jutting 2009). I argue that the higher autonomous power a county government has, the more attractive it is for the foreign investors.

The second key independent variable is the FDI agglomeration, which is measured by the one-period lagged dependent variable. I argue that previous year's FDI inflows in a given county impact current year's FDI inflows. This measurement of FDI agglomeration has been frequently used by the important previous studies (e.g., Mody and Wheeler 1992; Cheng and Kwan 2000).

The third key independent variable is the interaction between local government autonomy and FDI agglomeration. I argue that local government autonomy's impact on FDI inflows is conditional on the existing level of FDI agglomeration. None of the

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previous literature has empirically investigated this interactive effect and its impact on FDI inflows among Chinese counties.

I choose the proper control variables based on three criteria: (1) they are correlated with the government autonomy and its interaction with FDI agglomeration; (2) they are correlated with FDI inflows; and (3) they have been widely used by the previous studies on FDI location selection.

The control variables include geographic size, labor quality, size of the labor force, cost of labor, quality of life, existing levels of infrastructure, economic openness and local government capability (see Table 2.1). Geographic size is measured by the total area in the scope of the administration region and including water area (in Square Kilometers). The quality of labor is measured by the enrollment rate in the secondary schools. The size of available labor force is measured by the percentage of the population who are employed. Cost of labor is measured by the real GDP per capita (in US$10,000). The higher the GDP per capita in a given county, the more expensive the cost of labor is. Quality of life is measured by a proxy of social welfare—the number of beds in hospitals. The more beds in hospitals in a given county, the higher the life quality is in the given county. Existing level of infrastructure is measured by the share of the population who have telephones. The more people have telephones in a given county, the better infrastructure the county has. Economic openness is measured by the total exports value (in US$1,000). The higher exports value a county has, the more economically open it is. Local government capability is measure by the county government revenue at year end (in 100 million Yuan). The higher the county government revenue is, the more capable the local government is.

TABLE 2.1. Data Description for the County Data Sets.

Variable Name	Definition
FDI	value of actually used yearly FDI at year end, in USD 10,000
Geographic size	total area in the scope of the administration region and including water area
Labor Quality	Share of the population who enrolled secondary schools, in percentage points
Cost of Labor	real GDP/total population, in USD 10, 000
Available Labor Size	Share of the population who are employed , in percentage
FDI agglomeration	One year lagged FDI
Infrastructure	the share of the population who have telephones
Autonomy	County government expense per capita/province government expense per capita
Interaction of Autonomy & agglomeration	Multiplication of autonomy with FDI agglomeration
Government capability	County government revenue at year end, in 100 million Yuan
Economic Openness	Total exports value in $1,000

Source: All China Data Center, 2010, University of Michigan

Table 2.2 presents the data summary for the 229 urban county data set—

Statistics for Counties at City Level.

TABLE 2.2. Data Summary for 229 Counties at City Level from Year 1999-2008.

Variable	Mean	Std. Dev.	Min	Max
FDI	6981.45	13610.44	.01	160285
Autonomy	102.98	83.95	3.36	628.29
Economic Openness	367138.1	1543423	20	3.87e+07
Geographic Size	.24	.55	.01	8.56
Social Welfare	.16	.08	.03	.59
Labor Quality	.07	.01	.02	.21
Infrastructure	.25	.30	.03	12.03
Labor Size	.08	.06	.02	.61
Cost of Labor	1.72	1.54	.16	21.74
Gov. Capability	5.35	8.13	.39	115.69
Observation #	1,991			

Source: All China Data Center, 2010, University of Michigan

Another FDI panel data set used in this paper is the "City Statistics (2010 Edition)", which reported 282 urban districts in the period between the year 1997 to year 2009. Urban district is the metropolitan part of a city. Urban district and counties together compose a city. This data set does not have serious missing value problems. Table 2.3 presents the descriptive statistics for the urban district data set.

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TABLE 2.3. Data Summary for 282 Urban Districts from Year 1997-2009.

Variable	Mean	Std. Dev.	Min	Max
FDI	24254.7	70971.58	0	1008427
Autonomy	1.75	2.69	0	40.53
Geographic Size	.19	.23	.01	2.6
Social Welfare	.64	.89	0.02	9.24
Labor Quality	.07	.02	.002	.17
Infrastructure	.35	0.23	0.02	2.99
Labor Size	.19	.11	.02	.95
Cost of Labor	2.34	2.35	.21	34.23
Gov. Capability	32.12	115.60	.26	2336.77
Observation #	2,428			

Source: All China Data Center, 2010, University of Michigan

Comparing Table 2.2 and Table 2.3, we observe two important findings. First, the average level of FDI is more than three times higher in the urban districts than in the 229-county subsample. This is consistent with the reality that urban districts are more economically developed and more open than the counties at city level. Second, it is surprising to find that the average level of autonomy is more than 56 times higher in the counties at city level than in the urban districts.

2.5.1.3 Empirical Findings

Theory suggests that county government autonomy and its interaction with FDI agglomeration have a large effect on FDI inflows. Therefore, I expect FDI inflows into counties to be sensitive to locational variations in county government autonomy and its interaction with FDI agglomeration. To facilitate testing for the differential response, I measure county autonomy with the ratio between county government expenditure per capita and the province government expenditure per capita. The larger the ratio is, the more autonomy the local government has (Zhu and Xiong 2009). An autonomous local government is more capable of providing preferential FDI policies and improving infrastructure, social welfare, and local market conditions, thereby encouraging FDI

inflows. I expect that the estimated coefficients for autonomy and its interaction with agglomeration both to be positive and statistically significant.

Dynamic Panel Data Analysis for the 229 Counties at City Level (i.e. Urban Counties)

The core question of interest is whether the two political variables—local government autonomy and its interaction with FDI agglomeration have a significant impact on FDI inflows in China. The main results using the total dollar value of FDI inflows in a given county as dependent variable (see Column(1) of Table 2.4) indicate that both autonomy and the interaction between autonomy and FDI agglomeration are highly significant in the urban county FDI data—Statistics of Counties at City Level.

In order to check the robustness of the test results, I measured the dependent variable "FDI inflows" in two additional ways (i.e., FDI per capita and logarithm of FDI inflows) and ran the same model upon them. These additional test results are presented in Column (2) and (3) of Table 2.4. For all the three measurements of FDI inflows, the signs of the two key independent variables are consistent with the hypotheses by showing that (1) autonomy plays a positive role in attracting FDI inflows; (2) autonomy's impact on future FDI inflows fades with increases in the level of FDI agglomeration. However, the statistical significance of the two key independent variables differs across the three different measurements for the dependent variable. Both of the two key independent variables are statistically significant when using the total dollar value of FDI inflows in a given county as the dependent variable. For the FDI per capita measure, the test results show that only county government autonomy plays a statistically significant role and the interactive term does not. Since most of the important previous literature (McConnell 1980; Moore et al. 1987; Coughlin and Segev

2000b; Cheng and Kwan 2000; Cassidy 2002) measure the dependent variable, "FDI inflows", with the total dollar value of FDI inflows and what I am interested in is the total amount of FDI inflows instead of the per capita FDI in this project, I emphasize the results from using the total amount of FDI inflows instead of those from using FDI per capita.

When the logarithm of FDI inflows is used as the dependent variable, neither of the two key independent variables is statistically significant. This is within my expectations. I argued earlier that theoretically there is a linear-log relationship between the dependent variables and independent variables because the amount of FDI inflows in a given county cannot increase unlimitedly or decrease unlimitedly but rather level off at some point with the changes in the independent variables. Since I measured all the independent variables with logarithm form (except the ratio variables), the absolute dollar value of yearly FDI inflows as dependent variable can reflect the linear-log relationship better than the logarithm form of FDI inflows.

In sum, although the dependent variable "FDI inflows" can be measured in a variety of ways, the total dollar value of FDI inflows serves the purpose of this project the best, not only because most of the important previous studies have used this measure but also because this measure fits best with the theoretical argument in this project. Therefore, I will focus on analyzing the main results presented in Table 2.4 (i.e., results in Column (1)).

First, according to Table 2.4, the estimated coefficient for local government autonomy is positive and highly significant across counties, as expected by the theory. A one unit increase of autonomy in a county will increase the yearly FDI inflows into a

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county by ($89,500-$20=$89,480).   This indicates that foreign investors are very sensitive to county government autonomy in choosing sites in China. This finding has important implications for FDI-scarce counties.   By learning from FDI-abundant counties, local governments with low levels of FDI may seek more autonomy from Beijing to adopt policies that will increase their FDI inflows. In the aggregate, this should lead to further decentralization of political power over economic policy making and should contribute to the further dispersion of FDI across more of China's 2,073 counties.

TABLE 2.4. System GMM Estimation of FDI Location across 229 Counties from 1999 to 2008.

Dependent Variable:	(1) $FDI as DV		(2) FDI per cap as DV		(3) lnFDI as DV	
Independent Variables:	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
FDI Agglomeration	1.05***	.10	.85***	.19	.48***	.07
County gov. autonomy	8.95***	3.42	.18*	.09	.00004	.002
Autonomy*agglomeration	-.002***	.001	-.001	.001	-.00006	.0003
Economic Openness	622.32***	234.75	6.90	4.34	.18**	.07
Geographic size	-1129.06*	605.78	-7.37	17.91	-.50**	.25
Social Welfare	-815.15	910.61	-10.08	17.91	-.09	.20
Labor Quality	10708.29	12620.89	360.53	298.66	2.54	3.66
Infrastructure	1375.87**	673.21	41.69***	13.98	.24	.20
Labor Size	-743.30	2510.53	31.05	61.84	-1.12	.72
One-year lagged Labor Size	-7350.89***	2644.29	-162.41*	96.87	-.92*	.48
Cost of Labor	262.41	461.98	15.65	14.0	-.024	.06
Gov. Capability	2311.47***	771.25	34.34**	15.03	.32*	.19
Year 2000			88.49***	24.21		
Year 2001	-711.71***	262.31	71.05***	20.75	.06	.11
Year 2002	-813.42**	343.02	65.69***	19.59	.21*	.12
Year 2003	-793.62**	439.87	68.30***	19.69	.29**	.15
Year 2004	-1913.05***	572.79	41.55***	13.12	.19	.18
Year 2005	-2304.41***	720.32	35.43**	14.06	.08	.20
Year 2006	-2919.95***	769.21	24.39**	11.23	.04	.22
Year 2007	-3285.10***	925.00	20.32***	7.88	.07	.24
Year 2008	-4255.88***	1098.1			-.13	.27
Constant	-8641.12**	3397.15	-150.85**	76.91	.97	1.16
Number of Observations	1,991		1,991		1,920	
Number of Groups	229		229		229	
Wald Chi square	37900.05		815.99		776.85	
Prob > Chi square	0.000		0.000		0.000	
Arellano-Bond test for zero autocorrelation in first-differenced errors (2nd Order)	Prob>Z =0.46		Prob>Z =0.22		Prob>Z =0.07	

Source: All China Data Center, 2010.   Standard errors are estimated by WC-Robust. *p<0.1; **p<0.05; ***p<0.01.

Second, it is surprising to find that the estimated coefficient for the interaction between local government autonomy and economic agglomeration is statistically significant and negative (-0.002) in the county data, while the theory predicates a statistically significant and positive relationship. Although this sign of the estimated coefficient does not conform to the theory, it indicates a very interesting pattern: autonomy's marginal effect on additional FDI inflows is negatively conditional on the FDI agglomeration level in a given county.

This finding implies that county government autonomy's impact on additional FDI inflows is stronger in counties with lower existing levels of FDI and weaker in counties with higher existing levels of FDI. In other words, when the level of existing FDI is low and thus the FDI agglomeration level is low in a given county, the locality itself tends not to be attractive to additional FDI inflows because the new FIEs tend to follow the lead of most other FIEs and cluster in FDI-abundant areas. In counties with low levels of FDI, an autonomous local government has a larger marginal influence in attracting additional FDI than the situation where the local FDI agglomeration level is high. On the one hand, given the lack of existing FIEs in a given county, new FIEs need guidance, administrative assistance, and flexibility from the local government to accommodate their needs. On the other hand, given the low levels of existing FDI, it is more important for the local government to market itself to potential FIEs with incentives such as business friendly policies, infrastructure, and quality of life. Furthermore, local governments need to enhance governmental institutions to win the trust of FIEs. Once existing levels of FDI reach a certain level, the effect of FDI agglomeration (the force of

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the market) tends to dominate and overshadow the effect of local government autonomy on additional FDI inflows.

Third, the government capability variable (measured by the natural log of local government revenue) has a positive effect across the 229 county subsamples and is statistically significant. A one percent increase in local government revenue will increase local FDI inflows by $231,100. This tells us that counties with higher government revenue will attract more FDI inflows.

In addition to the main findings above, there are several other important findings. First, although four of the classical economic indicators (the FDI agglomeration, infrastructure, welfare provision, and economic openness) are statistically significant, it is surprising to find that the estimated coefficient of GDP per capita as a proxy for the cost of labor is statistically insignificant for the county data. This is inconsistent with many prior studies suggesting the statistically significant and negative effects of labor cost in attracting FDI in China at the aggregate level (Segev 2000; Wei et al. 1999; Cheng and Kwan 2000; Fung et al. 2002; Gao 2002; and Fung, Iizaka, and Siu 2003). This implies that in counties at city level, FIEs are looking for something else besides cheap labor. It is also possible that the cost of labor was important during the earlier years but has lost its significance in more recent years. It is also possible that the cost of labor is an important indicator within certain geographic areas but not others. Therefore, when we pool all the years and counties together, the effect of the cost of labor is washed out.

Second, the theory suggests that the size of the available labor pool and the quality of labor have positive impacts on FDI inflows. Employment rate is used to

measure the size of available labor and enrollment rate of secondary school is used to measure labor quality. According to Table 2.4, the quality of labor is not statistically significant. However, the one-period lagged employment rate is statistically significant and negative for the counties at city level (-7,350), indicating that the higher the employment rate, the less available labor there is and, thus the lower FDI inflows will be. This implies that foreign investors are not sensitive to the supply of skilled labor but are very sensitive to the size of previous year's available labor force in counties at city level.

Dynamic Panel Data Analysis for the 282 Urban Districts

According to the theory, the effect of autonomy, land area, and the cost of labor vary between urban counties and urban districts (i.e., Hypothesis 1.3, 1.4, and 1.5). Therefore, I will extend the estimation beyond the counties and estimate the model with the urban districts data. Table 2.5 presents the system GMM estimation results for the 282 urban districts.

TABLE 2.5. System GMM Estimation of FDI Location for 282 Urban Districts.

Variable Names	Urban Districts Coefficient	WC-Robust Std. Err.
FDI Agglomeration	.7107914***	.02
Local gov. autonomy	-409.0549	353.84
Autonomy*agglomeration	.0116478***	.0006
Economic Openness		
Geographic Size	12180.75***	2875.87
Social Welfare	5913.644**	3017.44
Labor Quality	19092.5	22170.72
infrastructure	2873.268*	1564.37
Labor Size	16634.67**	7824.40
One-year-lagged Labor Size	4189.159	3549.44
Cost of Labor	4045.798***	292.09
Gov. Capability	10490.02***	2051.94
Year 2000	9.794016	792.87
Year 2001	-844.7833	1240.31
Year 2002	-2860.568**	1288.75
Year 2003	-5171.151***	1614.30
Year 2004	-10146.77***	2092.54
Year 2005	-14399.72***	2315.32
Year 2006	-16100.55***	2543.10
Year 2007	-19943.94***	2968.16
Year 2008	-19525.78***	3087.65
constant	15912.73*	9648.88
Number of Observations	2,428	
Number of Groups	282	
Wald Chi square	141954.95	
Prob > Chi square	0.000	
Arellano-Bond test for zero autocorrelation in 1st-differenced errors (2nd order)	Prob>Z =0.22	

Source: All China data center, 2010, University of Michigan. *p<.1; **p<0.05; ***p<0.01.

By comparing Table 2.5 and the Column (1) of Table 2.4, the key political variables, autonomy and its interaction with FDI agglomeration, do behave differently across counties and urban districts. First, local government autonomy is a statistically significant and positive indicator in the 229-county sample but turns insignificant and negative in the urban districts sample.

Second, as predicted by the hypothesis 1.4, the land area variable should be a more important indicator for the urban districts than for the urban counties. By comparing Table 2.5 and the Column (1) of Table 2.4, it becomes apparent that land area (i.e. geographic size) plays a statistically significant and positive role in attracting

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FDI to urban districts. A one percent increase in land area will increase FDI inflows by $1,218,000 in urban districts. This implies that the high cost of land use fees in urban districts drives foreign investors to look for locations with a larger supply of land for a possibly cheaper price. In contrast, the land area variable plays a statically significant and negative role in urban counties. A one percent increase in land area will decrease FDI inflows by $112,900. A possible reason for this effect is that counties with a larger supply of land tend to have bigger governments, which usually implies higher taxation and lower working efficiency.

Third, although the cost of labor variable (measured by GDP per capita) is not statistically significant in urban counties, it plays a statistically significant and positive role in urban districts. This implies that foreign investors in urban districts are more interested in high quality and skilled labor and in a larger consumer market.

Fourth, for the 282 urban districts, the interaction between autonomy and FDI agglomeration is statistically significant and has a positive impact on future FDI inflows. This result is consistent with the theory.   With increases in the level of FDI agglomeration, the impact of local government autonomy on future FDI inflows gets stronger. Although autonomy itself does not play an independent role in attracting FDI, the joint-F test results for "local government autonomy" and its interaction with previous year's FDI inflows shows that these two important independent variables are jointly significant in explaining future FDI inflows in urban districts.

Fifth, as with the urban county subsample, government capability (measured by natural log of government revenue) has a statistically significant impact on FDI inflows for the urban districts sample.   However, the marginal effect of local government

revenue in urban districts is more than four times higher than it is in the urban counties sample. A one percent increase in government capability will increase future FDI inflows by $1,049,000. This implies that foreign investors are much more sensitive to local government capability in urban districts than in counties. The major reason for this difference is as follows. According to the descriptive statistics in Table 2.2 and Table 2.3, the average government revenue in urban districts is more than 7 times higher than the average revenue in county governments. This implies that when general government capability is very low in all the counties, foreign investors are looking for something else beyond government capability, such as government autonomy. This may be another reason why autonomy is such an important indicator for FDI site selection in Chinese counties.

2.5.2 Cross-Sectional Analysis for the 2,073 Chinese Counties in year 2003

2.5.2.1 Province Fixed Effect Model Specification

Mathematically, the estimated FDI in county i within province j at year 2003 can be expressed as:

$$FDI_{ij} = \beta_0 + \beta_1 X_{ij} + \beta_2 P_{ij} + c_j + u_{ij} \qquad (7)$$

where X_{ij} refers to the observable location specific characteristics and the conventional economic factors, and P_{ij} refers to the political variables (i.e., local government autonomy and local government capability), and c_j is the province dummy variables, and u_{ij} is the disturbance term.

Because the dynamic panel data analysis is based on only the 229 urban counties (i.e., counties at city level), it is important to check whether the findings from the 229 urban counties are generalizable to the rest of the counties in China. As

discussed in Section 2.5.1.2, the major difference between the 229 urban counties and the rest of the 1,844 counties is that the former are economically more developed than the latter. The major purpose of the cross-sectional analysis for the 2,073 Chinese counties is to explore whether county government autonomy is still an important indicator for FDI inflows in all Chinese counties, at least for the one year 2003, when we hold other important variables constant. I replicate my analysis and test it upon the entire 2,073 Chinese counties to check the effect of autonomy. Unfortunately, since the All China Data Center provides FDI data for the 2,073 counties for only one year—the year 2003, I cannot conduct panel data analysis upon the 2,073 counties and thus cannot include a lagged dependent variable in my model. Moreover, due to the missing data in the 2,073 counties at year 2003, my analysis is based on 1,919 Chinese counties. In the future, if the FDI data for other years are available for this data set, I will test my model with a panel data structure.

The reason why I used province fixed effect model is as follows. Provinces are different from each other in China. Different provinces have different characteristics. For example, a province on the eastern coast (such as Shandong Province) may differ quite a lot from a province in the western part of China (such as Tibet) because the former is more economically developed and enjoys much longer period of economic openness than the latter. By using the province fixed effect model, I can control the province-level characteristics and compare the FDI site selection behavior among the counties within the same province. For example, I can compare among the counties within the Shandong province by controlling their shared Shandong characteristics while

comparing the counties within the Tibet province by controlling their shared Tibetan characteristics.

2.5.2.2. Data Measurement and Summary

The measurements of the variables used in the Fixed Effect model of FDI across 1,919 Chinese counties are exactly the same as the measurements for the urban counties and urban districts (see Table 2.1). Table 2.6 presents the data summary for this cross-section dataset.

TABLE 2.6. Data Summary of Key Variables for 1,919 Counties in China in Year 2003.

Variable	Mean	Std. Dev.	Min	Max
FDI	1483.77	6093.89	.01	120076
Autonomy	206.88	291.56	2.38	4385.125
Economic Openness	49748.2	281620.4	.01	7215350
Geographic Size	.39	1.02	.01	20.82
Social Welfare	.08	.06	.01	.44
Labor Quality	.07	.03	.003	.92
Infrastructure	.14	.09	.005	.86
Labor Size	.06	.06	.01	.57
Cost of Labor	.71	.60	.08	6.94
Gov. Capability	1.39	2.67	.02	40.97
Observation #	1,919			

Source: All China Data Center, 2010, University of Michigan

According to Table 2.6, there is no serious missing data issue for this dataset. The average value of FDI inflows among the 1,919 counties in China in the year 2003 is $14,837,700 with a large standard deviation, which makes the coefficient of variation greater than 1. As a rule of thumb, the dependent variable, fdi, has sufficient variation with its minimum value as $100 and maximum values as $1,200,760,000. The key independent variable, autonomy, has an average value as 206.88 with a standard deviation 291.56, indicating that there is also sufficient variation, given its coefficient of variation is larger than 1.

2.5.2.3 Findings

The major purpose of the cross-sectional analysis for the 1,919 Chinese counties is to explore whether the findings from the 229 urban counties are generalizable to all Chinese counties, at least for the one year 2003, when we hold other important variables constant. Table 2.7 presents the fixed effect estimation results for the cross-sectional analysis.

TABLE 2.7. Fixed Effect Estimation of FDI Location across 1,919 Counties in Year 2003.

Variables	Coefficient	Clustered s.e.
Local gov. autonomy	-1.31	1.15
Gov. capability	-646.66	565.58
Economic openness	1.17	0.93
Geographic size	331.83	290.39
Social welfare	533.47	332.13
Labor Quality	-8867.13	8481.21
Infrastructure	-1969.45**	886.54
Labor Size	1633.24	5764.87
Cost of Labor	8228.50***	2958.26
_cons	-5997.424*	3285.18
Prob > F	0.007	
adjusted R square	0.52	
number of obs.	1,919	

Source: All China Data Center, 2010, University of Michigan. *p<0.1; **p<0.05; ***p<0.01.

First, the key political variable—county government autonomy—is statistically insignificant and the sign shows negative (-1.31), which is inconsistent with the theory and the finding for the 229 urban counties. Second, local government capability (measured by local government revenue) lost its statistical significance in this test, and the sign is negative, which is also inconsistent with the theory and the finding for the 229 urban counties. Third, inconsistent with the findings among the 229 counties at city level, economic openness (measured by exports value) is not statistically significant in spite of being positive. This finding indicates that foreign investors are not sensitive to local economic openness across all Chinese counties, at least in the year 2003. Fourth,

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although the infrastructure variable (measured by telephone subscription rate) and the cost of labor variable (measured by GDP per capita) are statistically significant, the signs are opposite to the prediction of the theory.

In sum, the test results for the 1,919 counties in China in one single year (2003) are generally not consistent with the theory or the findings for the 229 urban counties. One of the most important reasons is that the cross-section analysis cannot reflect the dynamic nature of FDI inflows. Without taking into consideration the FDI agglomeration effect, the cross-sectional test results are not reliable.

2.6 Conclusion

Previous studies of the determinants of FDI location in China have not investigated the pattern of FDI location choice at the county level. Moreover, there is a lack of studies on the effect of county government autonomy and its interaction with FDI agglomeration on future FDI inflows. It is well known that the city and province governments in China have been granted more autonomy over economic policy since the 1985 fiscal decentralization reform. However, decentralization down to the county level occurred only about ten years ago and only for some counties. Using county level data on China, I explore the possibility that county government autonomy and its interaction with FDI agglomeration exert a positive effect on future FDI inflows into counties. I employ the system GMM estimation methods as a control function approach applied by Blundell and Bond (1998). My results indicate that local government autonomy's impact on future FDI inflows is conditional upon previous year's FDI level in a given county. County government autonomy's positive impact on future FDI inflows is stronger when the previous year's FDI level is lower.

Moreover, I found that the FDI location selection process within counties is different from that of urban districts in three ways. First, autonomy plays a statistically significant and positive role in counties at city level but plays no independent role in urban districts. Second, the interaction between autonomy and FDI agglomeration has different impacts on future FDI inflows in counties as compared to urban districts. In counties at city level, autonomy's impact on future FDI inflows tends to weaken with the increase in previous year's FDI level. In urban districts, autonomy's impact on future FDI inflows tends to strengthen with the increase in previous year's FDI level.

This result implies that the more autonomous power a county government has, the more FDI it can attract. It has important policy implications. By learning from the FDI-abundant counties, local governments within FDI-scarce counties tend to request more autonomous power from Beijing in order to increase local FDI inflows. This leads to further decentralization of political power and further dispersion of FDI. In the next chapter, I investigate whether the growth and dispersion of Taiwanese FDI in China follows similar patterns. If so, this would give local governments a vested interest in attracting Taiwanese FDI and thus motivates them to lobby Beijing to avoid the use of force against Taiwan and, generally, sustain peaceful relations across the Taiwan Strait. The result also implies that the impact of local government autonomy on additional FDI inflows is stronger in counties with lower existing levels of FDI and weaker in counties with higher existing levels of FDI. This has important policy implications as well. First, for the poor and remote counties where there is no or very little FDI, it is critical for Beijing to grant local governments more autonomy in order to help them attract inflows of FDI because autonomy's marginal effect on future FDI inflows is significantly higher

in FDI-scarce counties. In contrast, for the already developed and open counties where FDI is already abundant, it is not necessary to grant them more autonomy because autonomy's marginal effect on future FDI inflows is very low in such counties.

In addition, the result tells us that the weaker the county government's autonomy, the more responsive the future foreign investors will be to county FDI agglomeration; the stronger the county government autonomy, the less sensitive future foreign investors will be to local FDI agglomeration. This also has important policy implications. If a county does not want to passively depend on the natural agglomeration of FDI but rather wants to diversify and improve the structure of its local foreign investments by, for example, attracting more high-technology FIEs and reducing the inefficient labor-intensive FIEs, one of the key solutions is to allow the local government to have more autonomy.

In summary, the findings and conclusions from an examination of the determinants of FDI location at the county level in China may be generalized to FDI location decisions in other developing counties, especially those experiencing political and economic decentralization and economic transition from a centrally planned economy to a market economy. Therefore, expanded FDI research can be done based on this study.

CHAPTER 3

LOCATION DETERMINANTS OF TAIWANESE FDI AT COUNTY LEVEL IN CHINA

3.1. Introduction

In the previous chapter, I investigated the determinants of location selection among the foreign direct investors from all source countries. The empirical analysis found evidence for my hypothesis that local government autonomy has a positive impact on FDI inflows in Chinese counties. Moreover, the previous chapter also found that the impact of local government autonomy fades with increases in the previous year's FDI level in a given county. However, investors from different source nations may have different sensitivities toward county government autonomy and its interaction with previous year's FDI level. More specifically, I argue in this chapter that autonomy has different effects on location selection for Taiwanese investors compared to non-Taiwanese investors. For non-Taiwanese investors, the reason for them to choose more autonomous counties is mainly because of the economic gains that were explained in the previous chapter. In contrast, because of the military and political tension across the Strait and, thus, the possibility of having their assets confiscated by Beijing, Taiwanese investors are attracted to more autonomous counties for both political and economic reasons. By investing in more autonomous counties, Taiwanese investors can try to cultivate a vested interest in Taiwanese investments among local government officials. The hope is that local government officials will use their leverage in Beijing to discourage the national government from pursuing hostile policies towards Taiwan.

The purpose of this chapter is two-fold. The first goal is to determine whether the general FDI model established earlier also fits the patterns of Taiwanese investments in mainland China. Taiwanese FDI (TDI) make up 53.7% of the total foreign investment in PRC (Cross-Strait Economic Statistics Monthly 2010), and Taiwanese firms are taking the lead in spreading their investment from the coastal areas to the interior provinces and from the large cities to small counties in China (Chen 1996; Taiwan Economic Journal 2010). However, there is a serious lack of empirical studies on the spatial determinants of TDI among counties in China, partly due to the difficulty in obtaining data. Therefore, this chapter will investigate whether the site selection behavior of Taiwanese firms follows different patterns from that of firms from other nations. The second objective of this chapter is to investigate whether Taiwanese firms' site selection behavior differs across the three regions in China, i.e., the eastern coastal region, the central region and the western region. In spite of the prevailing knowledge of the varying location attributes among different regions in China (Bao et al. 2002,), there is a lack of analysis on the substantive differences across the three regions with respect to the spatial determinants of TDI.

For these two purposes, I generated a new dataset by merging the general FDI data from the China Data Center at University of Michigan and the TDI data from the Taiwan Economic Journal (TEJ). By using system GMM estimation method, the results show that county government autonomy and its interaction with the previous year's TDI level are statistically significant determinants of Taiwanese investment in China. However, different from the general FDI model, county government autonomy's impact on future TDI inflows does not fade away with the increases in the previous year's TDI

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level. Rather, the effect is intensified. This indicates that, compared to the FDI from other source nations, Taiwanese firms are more dependent upon county government autonomy. Moreover, by using the system GMM model, the results show that TDI's site selection behavior does differ across the three regions in China. Local government autonomy's impact on future TDI inflows is more significant in the central region than in the western and eastern regions of China. This implies that, in order to attract more TDI in China, the central government should grant more autonomous power to the county governments in the central region of China.

In the next section of this chapter, I will briefly review the background literature on cross-strait investment relations and the commonly identified location determinants for Taiwanese investors. In section 3, I present a theoretical model of why TDI should differ from general FDI in terms of the determinants of location selection. In section 4, I build a theoretical model of why TDI site selection behavior should differ across the three regions of China. The methodology and data description are presented in section 5. Section 6 focuses on the empirical analysis of TDI spatial determinants. At the end of this chapter, I summarize the conclusions and discuss the implications of the findings.

3.2. Literature Review

3.2.1 Background Literature on Cross-Strait Investment Relationship

There is a large amount of literature investigating why Taiwanese FDI site selection behavior is different from that of the other foreign investors. Most of the previous studies have attributed the distinct characteristics of Taiwanese investments to the special China-Taiwan relationship (Chen 1996; Hou and Zhang 2001; Zhang 2005; Lin 2010). Since there are already many studies on the history of the China-Taiwan

relationship, it is not the main purpose to repeat those studies in this chapter. Instead, I will highlight several key historical events that have influenced the cross-strait investment relationship.

Because of the tense military and political relationship after the end of the Chinese civil war in 1949, the China-Taiwan investment relationship did not begin until 1978. Although there was no direct trade, travel, or contact across the Strait before 1978, there was a small amount of indirect trade through Hong Kong (Zhang 2005). With the decrease in tensions with the introduction of Deng Xiaoping's "One County, Two System" policy (Deng 1984), Taiwan businessmen began developing trade and foreign investment relations with mainland China through Hong Kong in the early 1980s. With the cross-strait trade jumping from $47 million in 1978 to $1.52 billion in the mid of 1980s, Taiwan businessmen successfully pressured the Taiwan government to officially allow indirect trade with mainland China in 1985. The appreciation of the new Taiwan dollar (NTD) from the mid-1980s through the early 1990s made the cost of industrial production in Taiwan increase, which motivated many Taiwanese firms to invest overseas in order to reduce production costs (Hou and Zhang 2001). Meanwhile, the United States terminated the Generalized System of Preferences towards Taiwan, which made the Taiwanese products less competitive at the US market (Chen 1996). For the purpose of avoiding too much economic dependency on mainland China, the Taiwanese government and Taiwanese firms also began investing heavily in Southeast Asian nations as well (Chen 1996). However, the 1997 Asian financial crisis dramatically changed Taiwan's FDI destinations from Southeast Asia to China (Hung and Chiang 2009). In 2001, Taiwan authorities finally lifted the ban on the direct trade

and investment in mainland China. Since then, a large amount of Taiwanese investment has poured into mainland China, making the PRC Taiwan's biggest trade partner (34.5% of exports) and Taiwan's major investment destination (53.7%) (Taiwan Ministry of Economic Affairs 2010). Especially, with the signing of the Economic Cooperation Framework Agreement (ECFA), and the election (in 2008) and re-election (in 2012) of KMT candidate Ma Ying-jeou as Taiwan president, cross-strait investments have been further encouraged and protected (Taiwan Ministry of Economic Affairs 2010). On June 26, 2010, PRC and ROC signed a landmark trade agreement, the Economic Cooperation Framework Agreement, which aims to enhance cross-Strait economic integration and is the most important agreement across the Strait since the end of the Chinese civil war in 1949 (Hsieh 2011). ECFA is a bilateral free trade agreement across the Strait, which mainly involves liberalizing the restrictions on economic exchanges across the Strait, such as financial services, postal services, sea and air transport, tourism and food safety (Rosen and Wang 2010). According to Hsieh (2011), ECFA "not only serves as the world's first bilateral free trade agreement (FTA) concluded between WTO members with long-lasting sovereign disputes, but also accelerates the 'domino effect' in East Asian economic integration" (Hsieh 2011, 122). As soon as the KMT presidential candidate Ma Ying-jeou took office in the year 2008, he restarted cross-Strait economic negotiations, which had been suspended for more than a decade (Xinhua News Agency, 2010). With the efforts from both Ma and PRC political leaders, the two sides signed the ECFA framework in 2010 and have witnessed its positive impact on economic exchanges across the Strait. This laid down a good foundation for

Ma Ying-jeou's re-election in the year 2012. Ma has continued to work with the PRC's government to improve economic cooperation across the Strait.

3.2.2 Commonly Identified Location Determinants for Taiwanese Investors

Due to the special cross-strait relationship, there is a series of commonly identified location determinants for TDI that have been found by previous studies. Generally, most of these previous studies can be regarded as using the "push and pull" model of FDI. Therefore, I will organize this review by following the line of the push and pull model of FDI.

3.2.2.1 the Push Effect

On the push side, there are three commonly identified location determinants for Taiwanese investors. First, searching for large supplies of low cost labor pushed Taiwanese firms to invest in locations with more abundant cheap labor in China. As a newly industrialized country, Taiwan followed an export oriented development strategy, which requires the establishment of labor-intensive industries (Zhang 2005). After several decades of industrialization, by the 1980s, the cost of labor and real estate in Taiwan started to increase (Hou and Zhang 2001). Taiwanese industries, especially labor-intensive enterprises, could not gain as much profit as before (Lin 2010). Therefore, since the 1980s, the increasingly expensive labor market in Taiwan has pushed Taiwanese firms, especially labor-intensive ones, to invest in nations with lower cost labor (Wei and Christodoulou 1997). This feature determines that in the early years of China's open door policy, investors from Taiwan, like many other foreign investors (especially those from the newly industrialized countries), tend to invest in locations with low cost of labor instead of those with highly educated and well-paid workers. However,

in recent years, with the further liberalization of Chinese FDI policy, TDI in mainland China has been transitioning from the labor-intensive industries (such as plastic and rubber, electrical and electronic products and food and beverages) to capital-technology-intensive industries (such as automobiles, computers, machinery, and petrochemicals) (Chen 1992; Chen 1996). This indicates that there is the possibility that TDI may be shifting from locations with low cost labor to those with highly educated and well-paid workers. There is a lack of studies on this new trend. This chapter will address this issue in the theory section.

Second, the dominant feature of export-oriented industries among early TDI has pushed a large part of TDI to locations that are proximate to coastal ports, airports, and other transportation hubs (Hou and Zhang 2001). This is because the export-oriented industries have a higher requirement for efficient delivery of products to their overseas consumer markets. Locations near ports reduce the cost and increase the efficiency for TDI and thus help maximize their profits. However, in recent years, with the rapid growth of China's economy, income levels and consumption have been rising among Chinese citizens (especially in coastal provinces and major cities), indicating that China's domestic market is expanding (Hou and Zhang 2001). Since the 1990s, increasingly more TDI started to transfer from exported-oriented to market-oriented industries. This indicates that TDI may be spreading from the coastal provinces and metropolitan cities to the interior provinces and counties. There is a lack of prior literature empirically analyzing this new trend. This chapter aims to help fill in this gap.

Third, industrial linkages push large numbers of Taiwanese firms to invest in various locations in China. The industrial linkage effect means that when Taiwanese

firms invest in China, they tend to follow the location decisions of their major Taiwanese clients, suppliers, and/or other Taiwanese firms in the same industry (Kuo and Li 2003). For example, once the Acer Computer Inc. (Taiwan's largest personal computer maker) invested US$2 million in Jiangsu Province for producing monitors, a large number of Taiwanese computer and information processing companies followed suit and set up an "electronic street" in Shanghai in the early 1990s (Chen 1996). This is termed horizontal agglomeration, a trend which is very common among Taiwanese firms but not so common among firms from other countries, such as Japan and South Korea (Lin 2010). According to the theory of industrial linkages, there are mainly three reasons why industrial linkages can push companies to invest overseas. First, companies that are less competitive tend to depend on the more competitive ones in their industrial linkage for the purpose of gaining economic advantages (Gomes-Casseres 1997). According to Gomes-Casseres (1997), competitions in the market are usually not among individual firms but rather among groups of firms. Each group is composed of individual firms/alliances with varying degrees of competitiveness and different contributions to the group. For example, Apple's group has over twenty alliances while Amstrad's group has only four alliances. Within each group, the less competitive firms can depend on the more competitive ones to gain economic advantages, such as gaining consumer markets and technology transfers. Second, firms with a shared industrial linkage in their home country tend to follow each other's location decisions overseas in order to reduce the risks of investing in a foreign country (Johanson and Mattsson 1988). Third, industrial linkages are important channels for the companies to penetrate overseas markets (Kuo and Li 2003). Penetrating overseas markets is risky

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and costly so that typically only large and more competitive firms can afford to do so. However, since firms are competing in groups through industrial linkages, the less competitive firms can gain the opportunity to penetrate overseas markets by following and gaining protection from their group leader. According to George Shih-Ku Chen (2009), Taiwanese firms' agglomeration in mainland China has been driven mainly by industrial linkages, which is one of the determinants of the spatial distribution of TDI from the year 1996 to 2005. Therefore, firms' industrial linkages effect is another force pushing Taiwanese firms' location decisions in mainland China.

3.2.2.2 The Pull Effect

Previous studies have identified three major location determinants for Taiwanese investors. The first pulling force for the Taiwanese investors is the traditional ethnic and cultural ties between mainland China and Taiwan. There is a long history of business ties between mainland China and Taiwan. In the mid-1600s, Taiwan used to serve as an intermediary for trade between China and Japan, and between China and Southeast Asia (Chen 1996). In the early 1900s, Taiwan fell under the colonial control of Japan. During this period of time, the majority of investments from Taiwan to mainland China were concentrated in four mainland locations, including Xiamen, Fuzhou, Shantou, and Guangzhou provinces, which are still popular investment locations for Taiwanese firms today (Chen 1996).

In addition to the long history of business ties, there are close cultural and ethnic ties across the Strait, which is also termed "Chinese connections" (Zhang 2005). Because of long-standing migration patterns across the Strait before and after Chinese civil war, large numbers of mainland Chinese have migrated to the Taiwan. As a result,

there are long-standing cultural, linguistic, ethnic, and geographical affiliations by birthplace across the Strait (Chen 1996).

This shared Chinese background has influenced TDI's location selection in the several ways. To begin with, compared to other foreign investors, Taiwanese investors and employees tend to be attracted to work in locations where they have "family roots" (ancestors and close relatives) in mainland China. Moreover, the TDI tend to be more successful when investing in locations with shared culture. For example, because of similar food tradition and tastes, "the success of Taiwanese food, beverage and restaurant investments in China demonstrated their ethnic and cultural advantages (Lin 1996)." Moreover, the cultural and ethnic ties make it easier for local governments and people to accommodate Taiwanese FDI than firms from other source nations. This helps Taiwanese investors reduce the cost of communication (such as labor disputes and the negative impact of Chinese nationalism) for businesses across the Taiwan Strait.

Next, the shared language, culture and geographic proximity are the key to building "guanxi" (i.e. crucial relationship network), which provides powerful tools for Taiwanese investors to succeed in mainland China. Although mainland China has some weaknesses in its institutionalization and corruption, the kinship of similar political traditions and culture make Taiwanese businessmen better positioned than other foreign investors to deal with these challenges and better positioned than other foreign investors to turn these issues to their advantage in their competition with investors from other nations.

However, this culturalist approach has its limitations. Because the areas in the southern part of China, especially Fujian province, share the greatest cultural and ethnic

affinities with Taiwanese investors, TDI tended to cluster in Southern China in the early years of this relationship (Chen 1996). But in recent years more Taiwanese investments have started spreading to other remote parts of China (Lin 1995; Chen 1996). For example, a large Taiwanese food company, President Enterprise, has expanded the number of branch factories to 17 since 1992, and the new plants are located in all major regions of mainland China (Chen 2006). According to Hou and Zhang (2005), TDI's location selection is not determined simply by the hometown of a firm's head or an entrepreneur. Instead, "as new entrants, Taiwanese firms are likely to include all relevant regional and local attributes before making a final selection (Hou and Zhang 2005, 56)." However, there are no empirical studies on these new regional and local attributes for the recent spread of TDI. This chapter will address this issue in the theory section.

The second pulling force for the Taiwanese investment is the high-quality and low-cost skilled work force (i.e., the R&D human resources) in mainland China.   The Chinese government's encouragement of innovative activities resulted in China becoming the third most important R&D location for FDI in the world (United Nations 2005). According to Chen (1996), in the early 1990s, Taiwanese firms were already aware of the "engineering and technological capacity and skilled work force in some of China's large state-owned enterprises" (Chen 1996, 460). This attracted Taiwanese companies to cooperate with Chinese firms in the production of some relatively technology-intensive products, such as important parts for computers and automobiles. More recently, the Taiwan Ministry of Economic Affairs has reported an upward trend in TDI's R&D investment in mainland China (2007). Yang, Wu and Lin (2010) argued that

this trend in TDI's R&D investment in mainland China indicates two important trends among Taiwanese investors. One trend is that TDI is shifting from the export-oriented industries to local market-oriented industries in China (Yang et al. 2010). The other trend is that TDI is "attempting to utilize local R&D human resources that are low-cost and high in quality as they develop new products and technologies" (Yang et al. 2010, 539).

The third pulling force for Taiwanese investment is geographic proximity (Hsiao and Hsiao 2004). Given the hostile military and political relationship across the Taiwan Strait, Taiwanese investors tend to choose locations that are closer to their homeland for several reasons. One is to be able to ship their employees and important properties, such as expensive machines and equipment, back to Taiwan in a short period of time if the cross-Strait relationship deteriorates. The other reason is that the closer a county is to Taiwan, the more similar the culture and dialect to Taiwan's.

The fourth pulling factor on the mainland China consists of institutional factors. The remarkable shift of TDI from the Pearl River Delta to the Yangtze River Delta since the 1990s was due to the Chinese central government-initiated policy of replacing the Pearl River Delta with the Yangtze River Delta as the leading region for China's economy (Yang 2009). According to Ng and Tuan (2006) and Xu et al. (2008), TDI's location selection decisions are partly determined by the Chinese government's preferential policies and the regional governments' FDI policies. Moreover, Zhang (2005) argued that the export-oriented strategy promoted by the Chinese government is the major determinant of where TDI locates in China.

The other pulling forces for Taiwanese investment include China's abundant low cost labor, vast land and tremendously large domestic market, which have been included by most of the previous literature on TDI's location selection.

In sum, although previous studies have investigated the determinants of location choice for Taiwanese FDI, many of these studies have their limitations. This chapter will make four major contributions by addressing the following issues. First, many studies have investigated the spatial distribution of TDI in regional, provincial, and even county clusters (see Yang 2009) but none of them have been conducted at the county level covering all of China. Given that Taiwanese firms have been spreading from big cities into smaller counties in recent years, there is an urgent need to investigate the recent trend of FDI spreading among the 2,073 Chinese counties.

Second, with the further political decentralization in mainland China, increasingly more county governments are gaining autonomous economic power, especially under the recent reform from "city-leading-county" to "province-leading-county" (Deng 2009). Therefore, there is a need to analyze whether and how the newly gained county government autonomy impacts Taiwanese FDIs' location selection across all of China's counties.

The third research area is to investigate whether and how the pattern of Taiwanese FDI's agglomeration is different from that of other foreign investors. More specifically, this chapter will focus on addressing whether and how the interaction between county government autonomy and Taiwanese FDI agglomeration impacts future inflows of Taiwanese FDI.

Finally, although previous literature has argued that certain determinants of Taiwanese FDI location selection, such as culture similarities and geographic proximities, are critical in explaining the uneven spatial distribution of Taiwanese FDI, with the further spread of FDI from Taiwan, these conventional determinants are not sufficient to explain the diffusion beyond the coastal provinces. More specifically, Taiwanese FDIs' site selection pattern differs across the three economic regions in China (i.e., the eastern region, the central region and the western region) because of substantial differences in the social and economic characteristics of those three regions. Although conventional determinants of Taiwanese FDIs' site selection may be able to explain variation in Taiwanese FDI in the early years and in the eastern region, these traditional factors may no longer able to explain the uneven distribution of Taiwanese FDI in recent years and the different patterns of site selection in the central and western regions of China. In other words, there is lack of analysis on the substantive differences across the three regions with respect to Taiwanese FDIs' location selection.

3.3. Framework of TDI Site Selection in Mainland China

As discussed in the previous chapter, the decentralization of political power from the central government to the regional, provincial, municipal and even county governments has impacted the location selection behavior of foreign investors. After the re-scaling of political power, the local governments have obtained more autonomous power to shape economic policy at the local level, which has contributed to the establishment of "market-preserving federalism" system in China (Qian and Weingast 1996; 1997; Qian and Roland 1998; He 2006, 35). The "market-preserving federalism" system is characterized not only by the economic division of power between the central

and the local governments, but also the relaxation of constraints on local governments, making them "independent from the central government to the extent that they are able to create barriers around the local economy" (He 2006, 34). While this system has been regarded as contributing to China's economic growth (Qian and Weingast 1996; 1997; Qian and Roland 1998), it has also influenced foreign firms' strategy of "seeking political leverage to reduce the negative impact of host country regulation on their operations" (Yeung 2000, 818). This is especially true for the Taiwanese investors in China due to the long-standing political and military tension across the Strait and the fact that Taiwan is the largest FDI source in mainland China. With the further decentralization of political power down to the county governments, how has the county governments' newly gained autonomous power impacted TDI's location selection in mainland China? Given the recent spread of TDI into counties, the investigation of this puzzle has important theoretical and practical implications.

3.3.1 Positive Relationship between County Government Autonomy and TDI Inflows

County government autonomy has a positive impact on the inflows of Taiwanese investments for two major reasons. First, counties with higher autonomous power can protect the Taiwanese investors from the political and policy uncertainties of Beijing. Second counties with higher autonomous power can protect the Taiwanese investors from local societal instabilities.

First, the power decentralization from the central government to the local government has created different agendas towards Taiwanese investments between Beijing and local governments. The central government cares more about creating cross-strait peace by economically encouraging TDI in addition to gaining economic

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benefits brought by TDI.   Beijing cares more about nation-wide economic wellbeing and its freedom to maneuver in its policy toward Taiwan.   In contrast, local government officials in China care more about the local direct economic benefits of Taiwanese investments, including employment and tax opportunities.   Beijing's agenda toward Taiwan tends to create two major types of political uncertainties for the Taiwanese investors, including (1) the risk of shifting policies toward Taiwanese investors in response to the changing Taiwan independence movements; and (2) the changing economic policies (such as FDI policies, favorable treatment) in response to the shifting economic situation nationally.

Because of the difference in the agendas of Beijing and local governments toward TDI, the negative impact of the political uncertainties on TDI tends to be offset by the local governments' autonomous power. According to Yeung (2000), "local politics therefore plays a tremendously important role in circumventing regulations imposed by the central government; it also complements the 'bent effects' of guanxi or social relationship in weathering the harsh politics of the central government" (Yeung 2000, 818). Moreover, since it is the local officials who have the direct authority over access to the local resources a foreign firm requires, partnering with the Chinese local governments tends to be an important strategy for the Taiwanese investors. Since a majority of Taiwanese firms choose to be wholly-owned instead of forming joint ventures with local TVEs and SOEs (Chen 1996), they emphasize more on partnering with the Chinese local government than do foreign firms from other source nations. Furthermore partnering with local governments gives the Taiwanese investors a degree of political leverage with Beijing that can help to reduce the political and policy uncertainties in

Taiwan's relations with mainland China.   Given the contentious cross-strait relations, partnering with the Chinese local governments may become an even more important strategy for the Taiwanese investors than for other foreign investors.   The more autonomous a country government is, the easier it is for Taiwanese investors to bond with it. Therefore, the more autonomous a county government is, the more attractive it will be for the Taiwanese investors.

Second, in addition to the political and policy uncertainties emanating from the central government in Beijing, Taiwanese investors also face societal uncertainties at localities where TDI are located.   TDI favors counties with more autonomous power because the local government officials can serve as their local protector, especially given the lack of legal protection for investments in China.   Without a well-established legal system in China, especially in the rural counties, TDIs face a variety of societal instabilities, such as crime, protests, strikes and riots.   For example, there were "isolated instances in which Taiwanese businessmen and their factories on the mainland were robbed by local bandits" (Chen 1996, 458).   The more autonomous a county government is, the more it can do to maintain the stability of the local society, and the more it is attractive for the Taiwanese investors.

Hypothesis 3.1: local government autonomy has positive impact on future inflows of TDI.

3.3.2 Interaction between County Government Autonomy and Agglomeration of TDI

None of the previous studies have empirically studied whether and how the interaction between Taiwanese businessmen and county government institutions impact future Taiwanese FDIs' inflows.   In the previous empirical chapter for the general FDI

model, I found that local government autonomy's impact on future FDI inflows tends to fade with the strengthening of FDI agglomeration effects. In contrast here, I argue that for Taiwanese firms, county government autonomy's impact on future TDI inflows gets stronger instead of fading for two major reasons.

First, one important difference between the Taiwanese firms and FDI from other nations is the style of FDI agglomeration (i.e., horizontal agglomeration versus vertical agglomeration) (Lin 2010). The horizontal agglomeration style among Taiwanese firms strengthens the local government's impact on future TDI inflows instead of fading when the agglomeration level increases. As discussed in the second chapter, FDI horizontal agglomeration means that the FDI source country firms of the same industry tend to cluster in the same region (Du, et al. 2007). For example, once one company, such as the Taiwanese Acer PC Company, moves to a given locality in mainland China, Taiwanese companies in the rest of the chains of the same industry (such as the motherboard-producing chain, monitor-producing chain, software services chain) tend to move to the same locality in mainland China (Kuo and Li 2003). This is also referred to as agglomeration driven by industrial linkages (Chen 2009). According to Chen (2009), Taiwanese firms' agglomeration in mainland China has been driven mainly by the industrial linkages, which is not common among FDI from other source nations, such as Japan and South Korea (Lin 2010).

In comparison to horizontal agglomeration, vertical agglomeration means that FIEs cluster in locations with high concentrations of Chinese domestic firms with backward and forward linkages to the FIEs (Du et al. 2007). FIEs tend to cluster in locations with concentration of the Chinese domestic intermediate component suppliers

and the final goods consumers for the FIEs. In China, due to the local governments'

protection of their local industries against the entry of goods from other provinces, it is

difficult for an FIE to get component supplies from outside of the region where the FIE is

located (Huang 2003). For the same reason, it is also difficult for FIEs to ship their

goods to consumers outside of their home region in China (Huang 2003). Therefore,

most FIEs choose locations where they can get easy access to component supplies and

final goods consumers in China. Under vertical agglomeration, the FIEs in a given

location in China usually invest as a single chain of a local industry (such as a Japanese

software services chain fitting into the Chinese IT industry in a given location).

In sum, compared to FIEs from other source nations, Taiwanese FIEs tend to

invest in locations that do not necessarily have a concentration of Chinese domestic

intermediate components suppliers or the final goods consumers for them. Instead,

Taiwanese FIEs' location selection tends to follow the lead of other companies in their

industry (such as the example of Taiwanese Acer PC Company). This indicates that

Taiwanese firms depend more on their own industrial linkages to be component

suppliers instead of local Chinese domestic industries. Therefore, Taiwanese FDI

usually invest as a whole industry (such as the IT industry) instead of as a single chain.

This has important implications with respect to local government autonomy.

I argue that horizontal agglomeration, vis-à-vis vertical agglomeration, led by

industrial linkages creates higher demand for local government expenditure, especially

for improving the local investment environment. Under vertical agglomeration, there is

already a concentration of Chinese domestic industries that produce intermediate

component supplies for FIEs. The local infrastructure has already been established to

facilitate the existing domestic industries. Therefore, there are limited requirements for the local government to further improve the local investment environment. However, under horizontal agglomeration, there are not necessarily any existing Chinese domestic industries that produce exactly the intermediate components supplies for Taiwanese FIEs.   If there are existing Chinese domestic industries producing intermediate components as needed by the Taiwanese FIEs, the Taiwanese FIEs tend to prefer relying on their own industrial linkages to provide those components for a variety of reasons, such as quality and reliability.   Therefore, compared to vertical agglomeration, the agglomeration of Taiwanese FIEs needs extra help from the local government to build new infrastructure or improve existing infrastructure to accommodate Taiwanese FIEs' own industrial linkages in a given location in China. In contrast, horizontal agglomeration is a more dynamic process because there are more chains of the same industry flowing in. This creates higher demand for the local government to keep establishing new infrastructure and/or improve existing infrastructure to satisfy the growing and diverse demands. This implies that with increasing horizontal agglomeration, local government has to keep up with the demands of the industry instead of a single chain of the industry, which makes it difficult for the given industry to depend on itself for attracting further FDI inflows. Instead, with the further agglomeration of industry, local government autonomy's role tends to get stronger and stronger in attracting further inflows of FDI in the same industry.

Further, horizontal agglomeration led by industrial linkages among TDI makes Taiwanese investors more vulnerable to political and policy uncertainties from Beijing and to local societal instabilities. Under vertical agglomeration, FDI in a certain county

is usually one chain of an industry. In contrast, under horizontal agglomeration, the FDI in a certain county usually includes more chains or all the chains of a certain industry. Because the same regulation may affect all the chains of an industry equally under horizontal agglomeration but only one chain of an industry under vertical agglomeration, when the local government cannot protect the FIEs, the FDI under horizontal agglomeration tends to lose much more than those under vertical agglomeration. Moreover, it costs much less to relocate a single chain than a whole industry. In other words, increasing TDI agglomeration will increase TDI's dependence upon local government's protection. Therefore, the more TDI agglomeration in a certain Chinese county, the stronger impact the local government autonomy will have on the prospects for attracting future TDI inflows.

Second, TDI's preference to run wholly-owned Taiwanese firms instead of joint-ventures with Chinese partners is another factor that makes local government's impact on future TDI inflows tend to get stronger instead of fading away when the agglomeration level increases. According to Chen (1996, 453), Taiwanese investors prefer wholly-owned firms not only because TDI are incompatible and unfamiliar with Chinese local firms' business strategies, management styles, and business goals, but also because the small and medium size TDI tend to use their own "material supplies, production equipment, and export channels." Since joint adventures tend to help FDI "circumvent local government regulations by tapping into the knowledge expertise and *guanxi* connections of their Chinese partner" (Yeung 2000, 825), FDI joint ventures tend to depend more on their Chinese business partners and less on local government autonomy than wholly owned FDI . Moreover, with increasing agglomeration of FDI in

joint-ventures, the impact of local government autonomy on future FDI inflows tends to weaken. Since most Taiwanese firms tend to be less connected with local Chinese businesses because they are wholly-owned foreign firms, they tend to be more dependent upon local government autonomy to protect them instead of depending on a Chinese business partner to serve as intermediary with government. With increasing TDI agglomeration, local government autonomy's impact on future TDI inflows will get stronger.

Hypothesis 3.2: marginal effect of local government autonomy on future inflows of TDI gets stronger with the increases in the previous year's TDI level.

3.3.3 Positive Relationship between Cost of Labor and TDI Inflows

In recent years, Taiwanese investors have been taking the lead in market-oriented FDI. It is more likely for the Taiwanese firms to be attracted to locations with large consumer markets in China than those FDI from other nations. The termination of Taiwan's GSP status (generalized system of preferences) by the US in January 1989 (Chen 1996, 462) has led to the shrinking of consumer markets for Taiwan's products in America. In contrast, the consumer market is growing rapidly in mainland China. Since Taiwanese investors share the similar culture, language and tradition with most of the mainland Chinese, it is easier for them to produce products that are attractive to consumers in mainland China. The products tend to suit more with the regular needs of Chinese people's daily life. In contrast, products produced by foreign firms from other countries may not be able to match the market needs and consumer preferences as well as those from Taiwanese firms due to the former's lack of knowledge of Chinese culture, language commonality and kinships. For example, products produced by

Korean and Japanese firms in China tend to be less popular than those produced by the Taiwanese firms. First of all, there is a big difference in the tastes and preference between Chinese, Korean, and Japanese consumers. Second, the language on the packages of the products tends to be in Korean and Japanese and thus not as easily read as traditional Chinese. Third, due to the prevailing nationalism in China, products made by Japanese and Korean companies tend to be less popular among Chinese consumers. In contrast, mainland Chinese regard Taiwanese as being the same ethnic group or nationality. Therefore, it is easier for them to accept products produced by Taiwanese factories. Moreover, the post-sale services provided by Taiwanese firms, such as repair service, tend to be more easily accepted by mainland Chinese than the services provided by firms from other countries because of the shared language and tradition and kinship/ethnicities. In sum, for several reasons, it is easier for Taiwanese firms in mainland China to upgrade from labor-intensive export industries to market-oriented industries. In other word, it is easier for the Taiwanese firms to produce products for local consumption than it is for foreign investors from other nations. Therefore, compared to the site selection behavior of FDI generally, Taiwanese FDI tends to be more attracted to locations with higher income levels, which implies a larger consumer market. In contrast, FDI from other nations tends to be more sensitive to the low cost of labor for labor-intensive export industries. Those firms have more difficulty than Taiwanese firms in upgrading to market-oriented industries. Therefore, I propose the third hypothesis for this chapter.

Hypothesis 3.3: there is a positive relationship between cost of labor and TDI inflows within Chinese counties.

3.4. Variation of the Model across Three Regions in China

In the earlier years of China's open door policy, the geographic proximity factor and cultural similarity factor did make it easier for investors and their employees to get acclimated to the local environment. Meanwhile, the proximity and similarities made it easier for the local governments and the local population to accept Taiwanese FDI than investors from other source nations. This helped Taiwanese investors reduce the cost of communication for businesses across the Taiwan Strait. However, in recent years, the positive impact of geographic proximity and cultural similarity has been fading away, especially in the eastern area of China. In part, this is due to the technological upgrading of industrial production and the rising cost of production in the eastern coastal provinces. Meanwhile, the Taiwanese firms have been migrating toward interior provinces (such as the central region and some parts in the western region) where Taiwanese firms do not necessarily enjoy the advantage of geographic proximity to their home land or the cultural/linguistic similarity to their home land. Due to the regional differences, I argue that local government autonomy's impact on future TDI inflows will vary across the three regions in China and should have the largest marginal effect in the central region of China. The reasons are as follows.

The eastern region of China has been open to overseas investment for two decades longer than the central and western regions of China. The eastern region not only enjoys the geographic and cultural proximity to TDI, but also has enjoyed the longest years of favorable FDI policies toward Taiwanese investment.   These advantages in the eastern region tend to overshadow the impact of local government autonomy's impact on TDI inflows.

The western region of China is the most remote part of China. It has been lagging behind the eastern and central regions of China in attracting TDI. Geographically, the western region is the farthest away from the Taiwan. Culturally, the western region has the least ethnic and linguistic similarity to the Taiwanese. Economically, the western region is the least developed area in China and has undeveloped infrastructure, including poor transportation, a shortage of electricity and water supplies. Politically, the western region is not stable due to periodical secessionist movements in Tibet and Xinjiang province, and conflicts between the dominant Han ethnic group and local minority groups (which are majorities in those provinces). For these reasons, Taiwanese investors are least willing to invest in the western region of China, regardless of the local government's autonomous power.

The central region of China is rising as a new popular investment region for TDI. Since it is a little bit farther from Taiwan than the coastal provinces, the geographic and cultural proximity factors tend not to be as dominating as in the eastern region. In other words, the political institutional factors, such as local government autonomy, tend not to be overshadowed by the conventional geographic and cultural factors. Moreover, with Beijing's policy of developing the central area of China that began in the late 1990s, the central region has been growing fast economically. Although it has not reached the level of industrialization in the eastern region, it does have developed infrastructure and the foundations for economic growth such as improved road construction, expanded utility and telecommunications systems. Moreover, there is a large amount of high-quality and low cost skilled labor in the central region due to the quality of education in this region. The local government' autonomy in the central region has been playing an

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important role in promoting local economic development and attracting FDI. Therefore, the author assumes that the marginal effect of local government autonomy on future TDI inflows is largest in the central region of China.

Hypothesis 3.4: Comparing to the eastern region and the western region, local government autonomy's impact on future Taiwanese FDI inflows is strongest within the central area of mainland China.

3.5. Research Design

To test the hypotheses, I use the same GMM models used in Chapter 2. I build three different panel data sets for the period of 2000-2009. The first data set covers all counties, while the second data set includes all urban counties. The third data set separate the first data set into three regions. In the following sections, I will describe each of the data sets and then test the hypotheses using it. More specifically, this chapter will continue taking advantage of the dynamic panel data structure of the dataset and employs Blundell and Bond (1988) system generalized method of moment (system GMM) estimation to explore the determinants of TDI locations at the county level in China.

3.5.1 TDI Site Selection among Counties in China

3.5.1.1 Data Description, Measurements and Summary

The first data set includes political, economic, demographic and TDI variables at the county level. The data for the political, economic and demographic variables are available from the All China Data Center at the University of Michigan. The data of TDI are generated by collapsing the firm-level TDI data from the Taiwan Economic Journal (TEJ) for the years 2000 to 2009. More specifically, I started with firm level data from

TEJ, which specifies the amount and the location of yearly investments for each Taiwanese firm investing in mainland China from 2000 to 2009. The Taiwanese firms in the TEJ data include all Taiwanese companies listed in the Taiwan Stock Exchange Corporation (TWSE). TWSE works with the Taiwan Financial Supervisory Commission under the Executive Yuan of ROC to liberalize Taiwan's stock market (Taiwan Stock Exchange Corporation 2012). I identified and translated the address for each Taiwanese firm within the TEJ data, specifying the province, city and/or county where each Taiwanese firm's investment is located in China. I also specified whether a Taiwanese firm's investment is in an urban county or a rural county. Then I kept only the firms that have investments within counties. Next, I aggregated these firms at the county level for each year. Furthermore, I gave a six-digit ID code for each county in both the aggregated Taiwanese FDI data and the macro Chinese county level FDI data (n = 2,073) with the first two digits specifying each province. Then I merged the aggregated Taiwanese FDI data with the macro Chinese county level FDI data (n = 2,073) based on their shared 6-digit ID code.

I named this merged dataset All County FDI-TDI Data from Year 2000 to 2009. Although there are a large number of observations with the "TDI" values as zero, this does not violate the estimation assumptions by the system GMM. The dataset used to investigate the TDI site selection behavior among 2,073 counties in China is the All County FDI-TDI Data from Year 2000 to 2009, which includes 2,073 counties across ten years. However, due to the missing data issue, the analysis is based on 1,967 counties in China. The total number of observations is 16,952.

The model includes the same set of the independent variables in Chapter 2. The dependent variable, TDI, measured as the dollar value of Taiwanese direct investment at a certain county in mainland China at year end, which is in real New Taiwan Dollar (NTD). The TDI agglomeration variable is measured by one year lagged "TDI." All the key independent and other control variables are measured in exactly the same way as those in the second chapter.

There is a serious missing value issue on the "economic openness" variable measured by yearly export values in a given county. Sixty-six percent of the values for the "economic openness" variable are missing. I take the following steps to interpolate the missing values. First, I use mean interpolations for the missing values. More specifically, if there is a sequence of three observations with values for the first and third observations but missing values for the middle observation, I fill in the second observation with the mean value of the first and the third observations. Second, if there is a zero value for a certain year in a given county and the observations ahead of this zero value are missing, then I code these missing values as zero. Third, if there is a non-zero value for a certain year in a given county and the observations ahead of this non-zero value are missing, then I code these missing values with exactly the same non-zero value. Fourth, if there is a non-zero value for a certain year in a given county and the observations after this non-zero value are missing, then I code these missing values with exactly the same non-zero value. Fifth, after taking the above steps, if there are still missing values for the "economic openness" variable, I code these missing values with zeroes. Sixth, if the "economic openness" variable takes a zero value, I recode it as 0.01 in order to reduce the number of missing values after taking logarithm.

TABLE 3.1. Data Description for County Level TDI Data from Year 2000 to 2009.

Variable Name	Definition
TDI	(value of Taiwanese direct investment at a certain county in mainland China at year end, in real New Taiwan Dollar, i.e. real NTD)
TDI agglomeration	One year lagged TDI
Autonomy	County gov. expense per cap./Provincial gov. expense per cap.
Interaction of Autonomy & TDI agglomeration	Multiplication of the county autonomy with TDI agglomeration
Geographic size	total area in the scope of the administration region and including water area
Social Welfare	Number of beds in hospitals
Labor Quality	Share of the population who enrolled secondary schools, in percentage points
Infrastructure	the share of the population who have telephones
Available Labor Size	Share of the population who are employed at year t, in percentage
Lagged Labor Size	One year lagged value for the available labor size
Cost of Labor	real GDP/total population, in USD 10, 000
Government Capability	County gov. revenue at year end, in 100 million Yuan
Exports	Total exports value in $1,000

Source: Taiwan Economic Journal, 2010; All China Data Center, 2010, University of Michigan.

Table 3.2 presents the data summary for this panel data set. The yearly average amount of annual TDI inflows into Chinese counties is 11565.47 NTD with a standard deviation 290747.20. Negative values for this variable means the outflow of TDI from a certain county in a given year. The average value for the autonomy variable is 220.13 with a standard deviation 392.14, which makes the coefficient of variation greater than 1. As a rule of thumb, the county government autonomy variable has sufficient variation with minimum value 2.15 and maximum value 10171.60. This also implies that the county government's annual expenditure per capita is generally higher than the provincial government's annual expenditure per capita.

TABLE 3.2. Data Summary of Key Variables for Counties in China from Year 2000 to 2009.

Variable	Mean	Std. Dev.	Min	Max
TDI	11565.47	290747.20	-117466.00	1.83e+07
Autonomy	220.13	392.14	2.15	10171.60
Geographic Size	0.40	0.98	0.01	20.82
Social Welfare	0.09	0.08	0.01	3.05
Labor Quality	0.06	0.02	0.00	0.92
Infrastructure	0.16	0.46	0.00	56.70
Labor Size	0.06	0.06	0.00	1.26
Cost of Labor	1.09	1.28	0.07	25.00
Gov. Capability	2.18	4.70	0.01	133.13
Exports	74447.52	661675.70	0.01	3.87e+07
Observation #	16,952			
# of Groups	1,967			

Source: Taiwan Economic Journal, 2010; All China Data Center, 2010, University of Michigan.

3.5.1.2 Empirical Findings—Dynamic Panel Data Analysis for Chinese Counties

The major purpose of this chapter is to investigate whether the general FDI model fits the pattern of Taiwanese investment in mainland China. More specifically, my core interest is to examine whether the two key independent variables (i.e. local government autonomy and its interaction with the TDI agglomeration) have statistically significant impacts on TDI inflows in mainland China. More specifically, this section aims to test hypothesis 3.1, 3.2 and 3.3. Hypothesis 3.1 states that local government autonomy has a positive impact on future inflows of TDI. Hypothesis 3.2 states that the marginal effect of local government autonomy on future inflows of TDI is stronger when the local TDI agglomeration level is higher. Hypothesis 3 states that there is a positive relationship between the cost of labor and TDI inflows within Chinese counties. The main results when using the total dollar value of Taiwanese FDI as dependent variable are presented in the Column (1) of Table 3.3, which indicate that the interaction between autonomy and the TDI agglomeration are statistically significant and positive for the panel dataset of 1,967 Chinese counties from year 2000 to 2009. As argued in Chapter

2, the total dollar value of Taiwanese FDI as the measurement of the dependent variable serves the purpose of this project the best. I am interested in the spatial distribution of the aggregate dollar amount of FDI/TDI among Chinese counties. Therefore, TDI per capita does not fit the theoretical argument as well as the total dollar value of TDI in a county. Moreover, I argue that theoretically there is a linear-log relationship between the dependent variables and the independent variables because the amount of TDI inflows into a given county cannot increase unlimitedly or decrease unlimitedly but rather level off at some point with further changes in the independent variables. Since I measured all of the independent variables with the logarithm form (except the ratio variables), the absolute dollar value of yearly TDI inflows as dependent variable can reflect the linear-log relationship better than the logarithm form of FDI inflows. For the above reasons, I will focus on analyzing the main results presented in the Column (1) of Table 3.3.

Although the two additional measures of the dependent variable (i.e., TDI per capita and logarithm of TDI inflows) do not fit well with the purpose of this project, in order to check the robustness of the test results, I ran the same model on them. These additional test results are presented in the Column (2) and (3) of Table 3.3. Although the autonomy variable itself is not statistically significant across the three different measures of the dependent variable, its interaction with the TDI agglomeration variable has been statistically significant and positive for the first two measures of the dependent variable. More importantly, the joint-F test results for local government autonomy and its interaction with TDI agglomeration indicate that these two variables are jointly significant in explaining annual TDI inflows in a given county across three measures of

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the dependent variable. Moreover, the joint-F test results for TDI agglomeration and its interaction with local government autonomy indicate that these two variables are also jointly significant in explaining annual TDI inflows in a given county across three measures of the dependent variable.

TABLE 3.3. System GMM Estimation of TDI Location across Chinese Counties from 2000 to 2009.

Dependent Variable:	(1) $TDI as DV		(2) TDI per cap as DV		(3) lnTDI as DV	
Independent Variable:	Coef	Std. Err.	Coef	Std. Err.	Coef	Std. Err.
TDI Agglomeration	-0.39***	.02	.64***	.09	0.69***	.23
County gov. autonomy	-25.11	16.93	-0.06	0.10	-.12	0.01
Autonomy*agglomeration	.013***	.0002	.002**	.0009	-.003***	.002
Exports	1829.21**	906.40	19.63***	12.51	-0.005	.01
Geographic size	-215630.8***	64451.11	-3090.32***	1095.64	-.0.006	.04
Social Welfare	10318.81***	3297.09	40.88	46.17	.03	.04
Labor Quality	-93781.28	84727.9	285.08	1873.44	-.22	.27
Infrastructure	15362.78***	5563.86	108.09	72.96	-.04	.04
Labor Size	23991.16	17423.85	352.89	342.58	-.008	.09
One-year lagged Labor Size	14023.95	14595.59	45.79	188.03	.06	.12
Cost of Labor	7490.05***	2908.57	-122.24	109.33	.003	.01
Gov. Capability	19302.93***	6477.27	222.93**	89.68	.008	.03
Year 2000						
Year 2001			208.61	141.36	-.02	.04
Year 2002	-2622.62**	1179.88	198.54		-.006	.04
Year 2003	-7385.48***	2294.17	160.88	136.57	.02	.04
Year 2004	-12783.52***	3249.37	151.88	127.35	.02	.03
Year 2005	-16961.58***	4322.35	136.68	116.03	.02	.03
Year 2006	-24896.19***	5331.92	82.33	98.86	.01	.03
Year 2007	-31492.02***	6877.99	52.83	82.16	.03	.03
Year 2008	-38697.67***	7962.36	70.91***	56.23	.02	.03
Year 2009	-45897.25***	9147.64		26.00		
Constant	-246555.6**	104241.6	-4307.73***	1570.19	-1.31	1.02
Number of Observations	16,952		16,952		16,947	
Number of Groups	1,967		1,967		1,967	
Wald Chi square	373458.07		30770.49		71.73	
Prob > Chi square	0.000		0.000		0.000	
Arellano-Bond test for zero autocorrelation in first-differenced errors (2nd Order)	Prob>Z =0.29		Prob>Z =0.25		Prob>Z =0.96	

Source: Source: Taiwan Economic Journal, 2010; All China Data Center, 2010, University of Michigan. Standard errors are estimated by WC-Robust. *p<0.1; **p<0.05; ***p<0.01.

First, according to the Column (1) of Table 3.3, although the autonomy variable itself is not statistically significant, the interaction between local government autonomy and TDI agglomeration is statistically significant and positive. The joint-F test results for local government autonomy and its interaction with TDI agglomeration indicate that these two variables are jointly significant in explaining annual TDI inflows in a given county. More specifically, the finding indicates that the impact of local government autonomy on future TDI inflows is conditional on the level of TDI agglomeration (i.e., previous year's TDI inflows) in a given county. Mathematically, the marginal effect of local government autonomy on future TDI inflows varies across the minimum, median and maximum values of the TDI agglomeration level. When the previous year's TDI inflow is zero, the marginal effect of local government autonomy on future TDI inflows is -25.11. This indicates that when there are no TDI inflows in the previous year, a one unit increase in the autonomy level will reduce future TDI inflows by 25.11 NTD. When the previous year's TDI inflow is 11565.47 NTD (the average value of TDI agglomeration), the marginal effect of local government autonomy is 125.24 (11565.47*0.013 - 25.11= 125.24). This indicates that at the average level of TDI agglomeration, a one unit increase in the autonomy level will increase future TDI inflows by 125.24 NTD. When the previous year's TDI inflow is 1.83e+07 NTD (the maximum value of TDI agglomeration), the marginal effect of local government autonomy is 237874.89 NTD (1.83e+07 *0.013 - 25.11= 237874.89). This indicates that at the maximum level of TDI agglomeration, a one unit increase in the autonomy level will increase TDI inflows by 237874.89 NTD. These findings indicate that autonomy's impact will get stronger as the existing level of TDI increases. In other words, when the

existing local level of TDI is low, local government autonomy's impact on future TDI inflows will be weak; when the existing local level of TDI is high, local government autonomy's impact on future TDI inflows will be stronger. As proposed by the theory, the special military and political relationship across the Strait, the distinct style of agglomeration (industrial linkages) and operation mode (wholly owned TDI) among Taiwanese investors makes TDI more dependent upon local governments than investments from other nations.

Additionally, the joint-F test results for TDI agglomeration and its interaction with local government autonomy indicate that these two variables are also jointly significant in explaining annual TDI inflows in a given county. This indicates that the TDI agglomeration's impact on future TDI inflows is conditional upon the level of local government autonomy.   Mathematically, the marginal effect of TDI agglomeration on future TDI inflows varies across the minimum, median and maximum values of the local government autonomy level.   When local government autonomy level is 2.15 (the minimum value of autonomy), the marginal effect of TDI agglomeration on future TDI inflows is -0.36 (0.013*2.15 – 0.39 = -0.36).   This indicates that when the local government autonomy level is very low, one unit increase in the previous year's TDI level will reduce future TDI inflows by 0.36 NTD. When the local government autonomy level is 220.13 (the average value of autonomy), the marginal effect of TDI agglomeration is 2.47 (0.013*220.13 – 0.39 = 2.47). This indicates that at the average level of county government autonomy, a one unit increase in the previous year's TDI inflows will increase future TDI inflows by 2.47 NTD. When local government autonomy level is 10171.60 (the maximum value of autonomy), the marginal effect of TDI

agglomeration is 131.84 NTD (0.013*10171.60 – 0.39 = 131.84). This indicates that at the maximum level of TDI agglomeration, a one unit increase in the previous year's TDI level will increase future TDI inflows by 131.84 NTD.   This indicates that TDI agglomeration's impact will get stronger as the level of local government autonomy increases.   In other words, when the local government autonomy level is low, TDI agglomeration's impact on future TDI inflows will be weak; when the local government autonomy level is high, TDI agglomeration's impact on future TDI inflows will be stronger.   This finding is important because it implies that granting more autonomous power to the local government is an effective way to guarantee the continuous agglomeration of the Taiwanese investments in a given county.

Third, according to Table 3.3, the cost of labor (measured by GDP per capita) has a statistically significant and positive impact on TDI inflows. A one unit increase in local GDP per capita will increase the TDI inflows by 7490.05 NTD. This finding supports the hypothesis 3.3 that there is a positive relationship between cost of labor and TDI inflows within Chinese counties.

Moreover, there are several other important findings. First, county government capability is also a statistically significant indicator for TDI's site selection in China. The more capable a local government is, the more attractive it is for the Taiwanese investors. According to Table 3.3, one percent increase in local government annual revenue will increase the yearly inflows of TDI by 193.03 NTD. Moreover, TDI are sensitive to the level of economic openness (measured by exports value) in a certain county.

3.5.2 TDI Site Selection among 331 Urban Counties in China

3.5.2.1 Data Description, Measurements and Summary

In order to compare the results found in the previous chapter, this section uses the urban county level political, economic and demographic data to merge with TDI data. More specifically, I assigned a six-digit ID code to each of the urban counties within the urban county level political, economic and demographic data (n = 229). Since the urban county data are a sub-sample of the full county data, I merged the urban county level FDI data (n = 229) with the aggregated Taiwanese FDI data at the county level. In this way, I generated the first merged dataset, which is a panel dataset with years from 2000 to 2009. I name this first merged dataset Urban County FDI-TDI Data from year 2000 to 2009. The same variables are included in estimation. The definitions and measurements for the dependent and independent variables are present in Table 3.1.

The dataset used to investigate TDI site selection behavior within urban counties is the Urban County FDI-TDI Data from year 2000 to 2009, which includes 311 counties at city level (i.e., urban counties) across ten years. The general FDI data set, Statistics for Counties at City Level (2010 Edition), provides information across 229 urban counties across years 1997 to 2009 (i.e., the missing value issue is not problematic). The following section will make a comparison of the GMM estimation results between the urban county TDI data and the general FDI data. The summary of the urban county TDI data set is presented in Table 3.4. According to Table 3.4, the annual average TDI inflow into these Chinese counties is 66,526.22 NTD with a standard deviation 762,974.5. This indicates the urban counties' TDI inflow has a higher average value

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than what is found among the 1,967 counties.   The average score for the key independent variable (autonomy) is 115.87, which is lower than the average score among the 1,967 counties. This indicates that it is possible that the counties at city level tend to have lower autonomy.   The possible explanation for this finding is that rural counties are more likely than urban counties to receive a large amount of subsidies from the central government to help them develop the local economy. Therefore, their county government level of expenditure per capita may be much higher than the provincial government's expenditure per capita. Another important finding from Table 3.4 is that urban county governments' average revenue is almost double the size of the average value for the 1,967 counties. This indicates that the urban governments generally are better at creating profits locally than are rural counties and thus need fewer subsidies from the central government.

TABLE 3.4. Data Summary of Key Variables for 311 Urban Counties in China from 2000 to 2009.

Variable	Mean	Std. Dev.	Min	Max
TDI	66526.22	762974.5	0	1.83e+07
Autonomy	115.87	111.71	3.36	1292.55
Geographic Size	.26	.53	.01	8.56
Social Welfare	.16	.08	.01	.59
Labor Quality	.06	.01	.013	.21
Infrastructure	.25	.29	0.02	12.03
Labor Size	.08	.06	.019	.64
Cost of Labor	1.70	1.52	.19	21.74
Gov. Capability	5.02	7.69	.12	115.69
Exports	325843.4	1442284	20	3.87e+07
Observation #	2,302			
# of Groups	311			

Source: Taiwan Economic Journal, 2010; All China Data Center, 2010, University of Michigan.

3.5.2.2 Empirical Findings— Comparison of Estimation for Urban Counties between TDI and General FDI from year 2000 to 2009

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Another purpose of this chapter is to make a comparison of the GMM estimation results for urban counties with the TDI data versus the General FDI data. Table 3.5 presents the comparison of GMM estimation results of the same model for urban counties between the TDI data and the general FDI data.

TABLE 3.5. Comparison for Urban Counties between TDI and General FDI from Year 2000 to 2009.

Variable Names	TDI Data		General FDI Data	
	Coefficient	Std. Err.	Coefficient	Std. Err.
TDI agglomeration	-.017	.0369053	1.05***	.10
County gov. autonomy	102.86	582.2031	8.95***	3.42
Autonomy*agglomeration	.007***	.0003967	-.002***	.001
Exports	55785.59**	23129.42	622.32***	234.75
Geographic Size	-165260.2	106403.9	-1129.06*	605.78
Social Welfare	24385.4	55845.82	-815.15	910.61
Labor Quality	-682444.2	1149231	10708.29	12620.89
Infrastructure	126546.3***	42233.26	1375.87**	673.21
Labor Size	366522.6	258372.6	-743.30	2510.53
One-year lagged labor size	197422.5	141088	-7350.89***	2644.29
Cost of Labor	112098.6***	16538.3	262.41	461.98
Gov. Capability	254741.6***	46172.88	2311.47***	771.25
Year 2000				
Year 2001	732101.6***	108491.2	-711.71***	262.31
Year 2002	679932.4***	101893.7	-813.42**	343.02
Year 2003	581236.9***	87782.76	-793.62**	439.87
Year 2004	517290***	76965.61	-1913.05***	572.79
Year 2005	415714***	62777.06	-2304.41***	720.32
Year 2006	324591.9***	53412.99	-2919.95***	769.21
Year 2007	177587.8***	44230.67	-3285.10***	925.00
Year 2008	64393.44**	37762.65	-4255.88***	1098.1
constant	-1513887***	456616.2	-8641.12**	3397.15
Number of Observations	2,302		1,991	
Number of Groups	311		229	
Wald Chi square	164656.14		37900.05	
Prob > Chi square	0.000		0.000	
Arellano-Bond test for zero autocorrelation in first-differenced errors (2nd Order)	Prob>Z =0.24		Prob>Z =0.46	

Source: Taiwan Economic Journal, 2010; All China Data Center, 2010, University of Michigan. Standard errors are estimated by WC-Robust. *p<0.1; **p<0.05; ***p<0.01.

First, unlike the results from the general FDI data, the key independent variable, local government autonomy, is not statistically significant for the TDI in urban counties

but its interaction with the TDI agglomeration variable is statistically significant and positive. This indicates that local government autonomy's impact on future TDI inflows is stronger when the local TDI agglomeration level is high. The joint-F test results for local government autonomy and its interaction with TDI agglomeration indicate that these two variables are jointly significant in explaining annual TDI inflows in a given county. Mathematically, the marginal effect of local government autonomy on future TDI inflows varies across the minimum, median and maximum values of the TDI agglomeration level. When the previous year's TDI inflow is zero, the marginal effect of local government autonomy on future TDI inflows is 102.86. This indicates that when there are no TDI inflows in the previous year, a one unit increase in the autonomy level will increase future TDI inflows by 102.86 NTD. When the previous year's TDI inflow is 66526.22 NTD (the average value of TDI agglomeration), the marginal effect of local government autonomy is 568.54 (66526.22*0.007 + 102.86 = 568.54). This indicates that at the average level of TDI agglomeration, a one unit increase in the autonomy level will increase future TDI inflows by 568.54 NTD. When the previous year's TDI inflow is 1.83e+07 NTD (the maximum value of TDI agglomeration), the marginal effect of local government autonomy is 128202.86 NTD (1.83e+07 *0.007 + 102.86 = 128202.86). This indicates that at the maximum level of TDI agglomeration, a one unit increase in the autonomy level will increase TDI inflows by 128202.86 NTD. These findings indicate that autonomy's impact will get stronger as the existing level of TDI increases. In other words, when the existing local level of TDI is low, local government autonomy's impact on future TDI inflows will be weak; when the existing local level of TDI is high, local government autonomy's impact on future TDI inflows will be stronger.

This result is consistent with the theory that Taiwanese investors are more dependent on local government autonomy than investors from other nations.

Second, the cost of labor variable (measured by GDP per cap) is statistically significant and positive for the TDI data but not statistically significant for the general FDI data. This indicates that the Taiwanese investors are very sensitive to the supply of highly paid skilled workers in their location selection process. This result is consistent with the theory that it is easier for the Taiwanese investors to transit from labor-intensive and export-oriented industries to market-oriented industries due to the cultural similarities and ethnic ties. In contrast, general FDI are not sensitive to the cost of labor. It is possible that some foreign investors are sensitive to cheap labor while others are attracted by the highly paid skilled labor. After pooling them together, the cost of labor variable may lose its statistical significance.

Third, economic openness (measured by exports value), infrastructure level (measured by the percentage of telephone subscribers), and local government capability (measured by local government annual revenue) are statistically significant and positive for both the TDI data and general FDI data. However, the size of labor force is not statistically significant for the TDI data but is statistically significant and positive for the general FDI data. This indicates that Taiwanese investors are not quite as sensitive to the size of available labor in a given county as general foreign investors are. This might be further evidence that Taiwanese investors are more concerned with the quality of the labor force than the quantity of labor in their location selection.

3.5.3 TDI Site Selection across Three Regions in China

3.5.3.1 Data Description, Measurements and Summary

In order to compare TDI site selection across three different regions in China, I split TDI panel data of all the counties in China into three sub-sets, including all the counties in the eastern region (named as "Eastern"), all the counties in the central region (named as "Central") and all the counties in the western region (named as "Western"). Each of these three regional datasets has a panel data structure across the years 2000 to 2009. The measurements and definitions of the dependent and independent variables are presented in Table 3.1.

In addition to the two major datasets described above, this chapter also tested the TDI model across each of the three different regions in China. There are three regional subsets being used in this chapter to compare the possible differences in TDI's site selection behavior in three different regions of China. Table 3.6 presents the comparison of the mean and standard deviation for the key variables across three regions of China.

TABLE 3.6. Comparison for the Key Variables across Three regions in China from 2000 to 2009.

	Eastern		Central Region		Western Region	
Variable	*Mean*	*Std. Dev.*	*Mean*	*Std. Dev.*	*Mean*	*Std. Dev.*
TDI	40416.60	553085.50	787.55	18469.07	619.06	21997.50
Autonomy	146.47	141.59	170.07	163.01	312.41	594.69
Exports	237473.90	1242202.00	18209.96	93200.33	9356.45	66819.67
Geographic size	0.17	0.11	0.24	0.20	0.74	1.54
Social Welfare	0.11	0.08	0.09	0.05	0.07	0.09
Labor Quality	0.06	0.02	0.07	0.02	0.05	0.02
Infrastructure	0.22	0.13	0.15	0.09	0.13	0.75
Labor Size	0.06	0.05	0.06	0.07	0.06	0.06
Cost of Labor	1.60	1.49	0.90	0.80	0.90	1.36
Gov. Capability	4.18	7.54	1.67	1.80	1.26	3.18
Observation #	4,652		5,258		6,298	
# of Groups	535		591		756	

Source: Taiwan Economic Journal, 2010; All China Data Center, 2010, University of Michigan.

According to Table 3.6, the average value of TDI inflows is highest in the eastern region and lowest in the western region. This finding is consistent with the reality and theory about the distribution of TDI in China. The average autonomy level increases from the eastern region to the central region and reaches the highest value in the western region. This indicates that the local governments in the interior provinces of China have gained more autonomous power over the years. This further supports my earlier argument that the subsidies to the interior regions of China might be given by the central government for the purpose of improving the rural region's economic development, attracting FDI, and reducing regional wealth disparities. The patterns of other variables across the three regions are also consistent with the theory. For example, the average level of local government revenue is highest in the eastern region (due to its fastest economic development).

3.5.3.2 Empirical Findings—Variation of the Estimation Results across Three Regions in China

According to the theory, the effect of autonomy and its interaction with TDI agglomeration vary across the three economic regions of China (i.e. eastern region, central region and western region). Therefore, I extend analysis by estimating the model within each individual region. The purpose of this section is to test the hypothesis 3.4, which states that local government autonomy's impact on future TDI inflows is stronger within the central region of China than within the eastern and the western regions of China. Table 3.7 presents the comparison of System GMM estimation results across the three regions in China.

First, although autonomy itself is not statistically significant, by taking the joint-F tests for local government autonomy and its interaction with TDI agglomeration, I find that these two variables are jointly significant in explaining annual TDI inflows in a given county across each of the three different regions. In other words, in each of the three regions, autonomy's impact on future TDI inflows is conditional on the local TDI agglomeration level (i.e., the previous year's TDI inflows). According to Table 3.7, the estimated coefficient for the interaction term is greater in the eastern region than in the central and western regions. This indicates that autonomy's impact on future TDI inflows is more dependent upon the previous year's TDI inflows in the east than in the central and western regions. This implies that if the central government tries to use the strategy of granting more autonomous power to county governments to attract TDI inflows into the eastern region, the strategy will be more effective in counties with very high existing levels of Taiwanese investments. More specifically, in the eastern region, in order to make sure that local government autonomy plays a positive role in attracting future TDI inflows, the previous year's TDI inflows has to reach 24,663 NTD. In contrast, in the central and western regions, the granting of autonomous power may take effect in counties with low existing levels of TDI inflows. More specifically, in the central and western regions, even if the previous year's TDI inflows are zero, the granting of more autonomous power will still take effect in attracting more TDI inflows.

TABLE 3.7. Comparison of GMM Estimation across Three Regions in China from 2000 to 2009.

	Eastern Region		Central Region		Western Region	
Variable Name	Coefficient	Std. Err.	Coefficient	Std. Err.	Coefficient	Std. Err.
TDI Agglomeration	-.32***	.03	-.30***	.07	-.07*	.04
Autonomy	-246.63	154.14	28.83	25.82	.20	1.22
Autonomy*agglomeration	.01***	.0003	.0008**	.0004	.0008***	.0003
Exports	746.65	2798.32	504.77*	270.15	1560.69	1001.20
Geographic Size	-286536***	73319.01	-39742.6***	11649.53	-13646.5	13050.3
Social Welfare	31936.74**	14308.61	14710***	2674.72	602.44	1814.77
Labor Quality	-261709	270267	-18288.68	30581.99	-10026.1	14766.28
Infrastructure	142870***	36294.14	1126.99	1068.19	408.14	861.39
Labor Size	284690.7	329788.9	-1899.126	2974.55	-2311.13	5103.44
One-year-lagged Labor Size	110685.8	128258.4	-311.48	1514.57	-1176.98	5819.33
Cost of Labor	-9708.25**	4639.72	-2355.74	1611.44	776.12**	388.2747
Gov. Capability	89443.24***	16761.14	1493.26**	703.02	2475.34*	1337.843
Year 2000						
Year 2001	80881.36***	18426.93	2909.58	2332.59	4893.54**	2446.35
Year 2002	56199.16***	11816.34	3255.22	2206.09	4638.1**	2240.25
Year 2003	22610.6***	5861.89	3387.42*	2025.04	4599.84**	2130.71
Year 2004	-27520***	5928.53	3466.65**	1729.94	4386.52**	1921.81
Year 2005	-48122***	8519.63	4086.26**	1654.63	3891.72**	1748.48
Year 2006	-71372.1***	12849.5	2680.58**	1304.84	3180.40**	1403.95
Year 2007	-80611.5***	16004.44	1837.87**	937.03	2307.233**	948.48
Year 2008	-96487.4***	19868.05	553.36	525.69	-199.06	677.12
Year 2009	-252215.1*	151888.2				
_cons	80881.36***	18426.93	-27413.94	21785.46	-7988.37	12043.76
Number of Observations	4,652		5,258		6,298	
Number of Groups	535		591		756	
Wald Chi square	394193.02		2657.37		3.01	
Prob. > Chi square	0.000		0.000		1.0	
Arellano-Bond test for zero autocorrelation in first-differenced errors (2nd Order)	Prob>Z= 0.28		Prob>Z =0.34		Prob>Z =0.105	

Source: Taiwan Economic Journal, 2010; All China Data Center, 2010, University of Michigan. Standard errors are estimated by WC-Robust. *p<0.1; **p<0.05; ***p<0.01.

Second, in order to find out whether the marginal effect of autonomy on future TDI inflows varies across the three regions, I calculated the marginal effect of local government autonomy for each of the three regions based on the minimum, mean and maximum values of the TDI agglomeration variable among all the counties in China. Table 3.8 shows the results of the comparison of marginal effect of autonomy across the three regions.

TABLE 3.8. Comparison of Marginal Effect of Autonomy across the Three Regions in China.

	Eastern Region	Central Region	Western Region
TDI=0	-246.63	28.83	0.2
TDI=40416.60 (mean)	-130.97	30.08	9.45
TDI=1.83e+07(maximum)	182753.37	14668.83	14640.2

Sources: All China Data Center, 2010, University of Michigan; Taiwan Economic Journal, 2010.

According to Table 3.8, when there are no TDI inflows in the previous year, a one unit increase in local government autonomy will decrease future TDI inflows by 246.63 NTD in the eastern region, increase future TDI inflows by 28.83 NTD in the central region and increase future TDI inflows by 0.2 NTD in the western region. When the previous year's TDI inflow takes its average value among all the counties in China, a one unit increase in local government autonomy will decrease future TDI inflows by 130.97 NTD in the eastern region, increase future TDI inflows by 30.08 NTD in the central region and increase future TDI inflows by 9.45 NTD in the western region. When the previous year's TDI inflow takes its maximum value among all the counties in China, a one unit increase in local government autonomy will increase future TDI inflows by 182,753.37 NTD in the eastern region, increase future TDI inflows by 146, 68.83 NTD in the central region and increase future TDI inflows by 146, 40.2 NTD in the western region. This indicates that local government autonomy's impact on future TDI inflows is strongest in the central region of China when the previous year's TDI inflows are zero or at the national average level. When the previous year's TDI inflows are at the national maximum level, local government autonomy's impact on future TDI inflows is strongest in the eastern region. Since most of the counties in the interior part of China do not have high existing levels of TDI inflows, granting local governments more

autonomy can be quite effective in attracting TDI inflows into the interior region of China, especially the central region of China.

3.6. Summary and Conclusion

The purposes of this chapter are (1) to investigate whether the general FDI model fits Taiwanese investment in China and (2) to explore whether TDI's site selection behavior differs across three regions in China from 2000 to 2009. The estimation results from the system GMM model with the county level data indicate that Taiwanese investors prefer counties with higher government capability along with better infrastructure, and a more open economy. These findings are quite consistent with the previous chapter's finding on the general FDI model. However, local government autonomy's impact on future TDI inflows does not fade away with higher levels of TDI agglomeration but instead gets stronger in attracting future TDI inflows. This conclusion is different from what was found in the general FDI model.

This chapter compares TDI site selection behavior in urban counties with the general FDI location selection in urban counties from year 2000 to 2009. The results from the system GMM model indicate that unlike the general FDI model, county government autonomy itself does not play a statistically significant role in attracting TDI. In spite of this, the interaction between the county government autonomy and TDI agglomeration does play a statistically significant and positive role in attracting future inflows of TDI. In contrast, the interaction between the county government autonomy and FDI agglomeration plays a statistically significant and negative role in attracting future inflows of general FDI. This result implies that the Taiwanese investors get more

dependent upon local government autonomy once the agglomeration level starts increasing.

Last but not the least, the results from the system GMM model indicate with the regional data that TDI's site selection behavior does differ across the three regions in China from year 2000 to 2009. County government autonomy's impact is strongest for the central region when the existing TDI inflows are zero or at the national average level.

Given the rapid growth of Taiwanese investment in China, especially the sign of the ECFA framework across the Strait, it is very important for both sides of the Strait to investigate the location selection pattern among the Taiwanese investments. The findings in this chapter imply that county government autonomy is one of the most important determinants for TDI's location selection. The higher the previous year's TDI level is, the stronger impact the county government autonomy has on the future TDI inflows in a given county. This may lead to political learning among the 2,073 Chinese counties. That is, with the motivation to pursue economic development and get promoted, officials in TDI-scare counties may learn from officials in TDI-abundant counties by seeking more autonomous power from Beijing for their jurisdiction. At the aggregate level, this may lead to the future dispersion of political power down to the county level and increasingly more counties having a vested interest in Taiwanese investment and a vested interest in Beijing maintaining stable and peaceful relations with Taiwan. The increasing size of Beijing's winning coalition caused by political decentralization combined with county governments' desire for cross-strait peace may

produce effective political leverage on Beijing's policy towards Taiwan. This may eventually lead to long-term cross-strait peace.

CHAPTER 4

CONCLUSION AND POLICY IMPLICATIONS

4.1 Summary of Major Findings

4.1.1 On the Locational Framework for FDI within the Context of Political

Decentralization

Most of the existing research on how foreign investors choose where in a nation to locate their investments has been conducted on advanced industrial democracies, largely because most of the FDI has gone to those nations, and for those nations there is a wealth of data on political subdivisions below the nation and provincial/state level. By contrast, there is a little research on FDI location choices at the subnational level in less developed nations and non-democratic nations. China has emerged as the largest single recipient of foreign direct investment. Therefore, there is a need to determine whether the geographic distribution of FDI in China is following patterns similar to what we have witnessed in North American and Western Europe. Or, alternatively, are there characteristics of the Chinese political system that would lead us to expect the FDI location choices to follow a different pattern that what we have witnessed in the West? In particular, I explored research on the impact of political decentralization on FDI location selection at subnational level in developing and non-democratic countries. Existing research has identified some key determinants of FDI location selection, such as market size, cost of labor, investment environment, geographic convenience, policy incentives, and political/social stability. However, in China, the state is still much more heavily involved in the economy, as both an owner and a regulator, than is the case in North America and Western Europe. Therefore, we would expect political factors to play

a much greater role in the patterns of FDI location in China. I have identified some key features of central-local political relations in China as determinants of FDI location choices in that nation.

The location choices of foreign enterprises in a politically centralized nation such as China should be clearly differentiated from the pattern of choices FIEs make in a politically decentralized nation. Foreign investors locating in non-democratic nations where political power is monopolized by a single party may use different site selection strategies from what they would in a politically decentralized democratic context because in the former the FIE has to concern itself mainly with the central government whereas in the latter it has to concern itself with both the central and local governments and their interrelationship. Generally, previous studies on FDI location selection suffer from two major weaknesses. First, they tend to apply the framework used in western developed and democratic countries directly to the developing and non-democratic countries. Second, even when studying FDI site selection within the developing countries, they tend to ignore the fact that many developing countries have experienced a recent trend toward political and/or economic decentralization, such as China and Vietnam. The once all-powerful central party leadership has chosen as a matter of policy to devolve more policy making authority to provincial and local governments on the grounds that those levels of government need more flexibility to adopt policies and undertake initiatives that can enable them to attract more investments, both foreign and domestic in origin.

Based on the previous studies, this project builds a new location framework for FDI by taking into consideration local politics in China and its interaction with FDI

inflows into the counties of China. The transiting of central-local relationship in China provides an ideal environment for testing the new location framework for FDI. The new model and estimation methods used in this study may be generalizable to other political systems that are experiencing or have experienced similar patterns of political decentralization.

4.1.2 On the Estimation of the New Location Model of FDI in China

Panel data analyses on the determinants of FDI location across counties in China were conducted. It is a model building process that takes into consideration China's special characteristics, such as the on-going political decentralization of economic policy making from the central government down to the county governments. Moreover, the new model also takes into consideration the dynamic nature of the FDI location selection (i.e., FDI inflows in the previous year within a certain county impact the FDI inflows in the current year). More importantly, the new model detects the interaction between local politics and the dynamic nature of FDI location selection (i.e., local politics influences future FDI inflows and FDI inflows impacts the future central-local relationships). By using the system GMM estimation method with data from 229 urban counties (due to the missing value issue among the 2,073 counties), the author has made the following major findings.

First, the more autonomous power a county government has, the more FDI inflows there are into that county in a given year. This result is consistent with the prediction of the theory, which argues that counties with more autonomous power fit better with the market-economy, have more capability to improve local investment environment, and have more discretion to make FDI incentive policies.

Second, the higher level of existing FDI in a given county in the previous year, the more FDI inflows can be attracted to the county in the current year. This result highlights the dynamic nature of FDI location selection and is consistent with conventional FDI agglomeration theory.

Third, county government autonomy's impact on future FDI inflows is conditional on the FDI agglomeration effect (i.e., the existing level of FDI in a given county in the previous year). However, they do not have mutually reinforcing relationship as predicted by the theory. Instead, the estimation results show that county government autonomy's impact on future FDI inflows is stronger when the existing level of FDI is lower, and the effect is weaker when the existing level of FDI in the county is higher. In other words, with increases in the level of FDI inflows in a given county in a certain year, the impact of autonomy on future FDI inflows will fade away while the FDI agglomeration effect will take over and become the major force in attracting future FDI inflows.

4.1.3 On the Comparison between Urban Counties and Urban Districts for the General FDI Model

With the further dispersion of political power from province and city down to the counties, county governments have become a new rising force in attracting FDI inflows after the successful experiences of the provincial and municipal governments during the earlier years of China's political decentralization. This provides an ideal environment to explore the puzzle of whether FDI site selection behavior is different at the county level from that at the higher administrative levels. In order to investigate this puzzle, the author tests the model for both the urban counties and urban districts and compares the

estimation results. By testing the general FDI model with the system GMM estimation method, the author makes the following major findings.

First, local government autonomy is a statistically significant indicator for FDI inflows among urban counties but loses its significance for the urban districts. This finding is not consistent with the prediction of the theory, which argues that local government autonomy plays a bigger role in urban districts than in urban counties.

Second, in spite of the statistical insignificance of the autonomy variable in the urban districts, the interaction between local government autonomy and FDI agglomeration is found to be statistically significant and positive. This indicates that the impact of urban district governments' autonomy on future FDI inflows is stronger when the existing level of FDI is higher. This finding for the urban districts is different from that found among urban counties because the impact of urban county governments' autonomy on future FDI inflows fades away with the increasing level of FDI inflows. This indicates that the autonomous power of the urban districts does not really take effect in attracting future FDI inflows until the existing level of FDI reaches a certain level. One possible explanation is that at the beginning the foreign investors are taking initiative in location selection among urban districts no matter whether the governments at the urban districts have autonomous power or not because the location advantages in the urban districts themselves are attractive enough for the potential foreign investors. However, with increasingly more FDI inflows into the urban districts, foreign investors started to emphasize the local governments' autonomy because of their desire for more preferential treatments from local governments with the increased competition from other foreign investors in the same urban district. In contrast, because the original

locational advantages found in non-urban counties tend to be less attractive than those in urban districts, foreign investors tend to emphasize local governments' advertisement, services, and accommodation at the beginning of their location selection. As soon as FDI agglomeration reaches a certain level within urban counties, the county governments' role in attracting further FDI inflows tends to fade.

4.1.4 On the Locational Framework for Taiwanese FDI within the Context of Political Decentralization

As the largest proportion of FDI in mainland China, Taiwanese FDI deserves a closer look with respect to its location selection behavior. Moreover, due to underlying military and political tensions between mainland China and Taiwan, Taiwanese FDI's location selection behavior should be different from that of investors from other nations. More specifically, within the context of political decentralization in mainland China, I argue that local government autonomy has different effects on the location selection behavior of Taiwanese investors as compared to non-Taiwanese investors. In comparison to non-Taiwanese investors' emphasis on the economic gains from local government autonomy, Taiwanese investors' sensitivity to local government autonomy reflects their political burden as well as their pursuit of economic gains from location selection.

With the political burden that Taiwanese investors face from the special military and political relationship across the Strait, Taiwanese FDI is attracted to counties with more autonomous power for pursuing local protection against the political uncertainties from Beijing and the social instabilities from the local population.

Moreover, due to the unique characteristic of TDI agglomeration and TDI's special production mode, the impact of the interaction between local government autonomy and FDI agglomeration on future TDI inflows should be different for Taiwanese FDI compared to non-Taiwanese FDI. The style of horizontal agglomeration found among Taiwanese FDI creates more demand on local governments for the improvement of the local investment environment, and that requires a higher level of local government autonomy. The wholly-owned production mode of the Taiwanese FDI makes it less connected to the Chinese business community compared to the joint-venture production mode often followed by foreign firms from other nations.   This results in heavier dependence of Taiwanese investors on local government autonomy than is the case with non-Taiwanese investors. For this reason, I argue for a mutually reinforcing relationship between county government autonomy and TDI agglomeration as a means to attract future TDI inflows.

4.1.5 On the Estimation of the Location Model of Taiwanese FDI in China

System GMM estimation results show that the autonomy variable and its interaction with the TDI agglomeration are jointly significant in explaining future TDI inflows within the Chinese counties from year 2000 to 2009. This result is consistent with the theory of Taiwanese FDI site selection in China.   In other words, county government autonomy's impact on future inflows of Taiwanese FDI is stronger when the level of TDI agglomeration is higher. The estimation results have confirmed the author's argument that Taiwanese FDI is more sensitive to county government autonomy than foreign investors from other nations. In addition, the panel data analyses also show that cost of labor has a statistically significant and positive impact on future TDI inflows in a

given county in a given year.   This suggests the higher likelihood for TDI to be attracted to locations with a large consumer market and an ample supply of skilled labor rather than locations with large amounts of cheap labor.

4.1.6 On the Comparison among Three Economic Regions in China for the Taiwanese FDI Model

In order to investigate whether local government autonomy's impact on future TDI inflows varies across the three regions of China, I divided the 2,073 Chinese counties into three sub-groups with each group belonging to one of the three economic regions in China. The system GMM estimation results show that autonomy's impact on future TDI inflows does vary across the three regions.   More specifically, county government autonomy's impact on future TDI inflows is strongest for the central region when the existing TDI inflows are zero or at the national average.   This suggests that other FDI determinants (such as geographic proximity, shared culture and even family ties) make the eastern region attractive and make western region unattractive regardless of the level of county government autonomy.

4.2 Policy Implications Based on the Major Findings

4.2.1 Policy Implications Based on the Estimation of the New Location Model of FDI in China

Since the beginning of fiscal decentralization in 1985, more and more political power in China has been delegated from the central government down to the provincial and municipal governments, especially power to shape local economic development policy.   Over the past three decades, fiscal decentralization and the resulting "local corporatism" have been a driving force in the fast growth of the economy generally and

of FDI inflows in China. In the last ten years, with industrial advancement in the big cities, increasing amounts of FDI are flowing from big cities to less populous counties for the purpose of reducing the cost of production. Meanwhile, political and fiscal power is becoming further decentralized down to the county level. In other words, county governments are gaining more autonomous power, which leads to a new driving force for attracting FDI inflows at the county level due to the high economic and political rewards of hosting foreign investments. This project's theory and findings on the FDI location selection at the county level in China have important policy implications.

4,2.1.1. On the Finding of the Positive Relationship between County Government Autonomy and FDI Inflows

This study shows that county government autonomy has a positive impact on FDI inflows among 229 Chinese urban counties. Since urban counties and rural counties belong to the same administrative level (except the former are more urbanized than the later), the findings based on the 229 urban counties may be generalizable to all the 2,073 counties in China.

With the further decentralization of political power, there is a pull and push effect on FDI's site selection among counties in China. On the push side, foreign investors are searching for counties with higher autonomy due to their commitment to and even involvement in the market economy, their flexibility in giving preferential treatments to FDI, their budgetary capability, and their flexibility in improving the local investment environment. On the pull side, county governments are eager to attract FDI inflows into their localities. With political decentralization, each tier of government has the power to appoint and promote key officials of the government one level below it. The most

important criterion for evaluating and promoting county government officials is the economic development in the given county (Tian 2000). Since FDI can help county governments with increased extra-budgetary revenue, economic growth, the creation of more job opportunities, assistance in discouraging local uprisings, they are critical for the efforts of county government officials to earn higher performance evaluations and, hence, promotion by officials in higher levels of government (Tsui and Wang 2004). For the head of a given county government, his/her term in the office is usually five years, and he or she usually can stay in the office for no more than two terms (Zhou 2007). If he or she does not earn promotion to a higher administrative level after one term, he/she usually cannot be promoted to the upper level of governments for the rest of his/her life (Zhou 2007). Therefore, whoever gets into office in a given county, he/she will try his/her best to get promoted. This results in fierce political and economic competition among the heads of county governments. One major problem created by this vertically-controlled cadre promotion system is that local governments tend to care more about pleasing higher level governments and foreign investors for their career concern without caring enough about the citizens in their jurisdictions. For example, in order to provide cheap land to foreign investors, some county governments confiscate farm land from peasants without giving them adequate compensation. Also, in order to attract foreign factories, some county governments allow the foreign investors' to exploit local labor by offering low wages and bad working conditions. In general, the career incentives facing local government officials can alienate them from the general public and is becoming one of the major sources of social instability (such as riots, strikes and protests) in China. This possibility is supported by the alarming increase in the

occurrence of "mass incidents" in China over the past two decades. One possible solution for this problem would be modifying the vertically-controlled appointment system for county officials and replacing it with county level elections for county government officials.

Moreover, since the beginning of China's open door policy towards FDI, the central government has prioritized the development of the coastal region and the bigger cities. More specifically, since the beginning of China's economic reform, the distribution of economic and political power has been uneven, with the coastal regions and bigger cities enjoying higher levels of autonomy than the interior regions. With increasingly more local governments realizing the positive relationship between autonomous power and the amount of FDI inflows, the FDI-scare counties may be motivated to learn from the FDI-abundant counties by claiming more autonomous power from Beijing for their jurisdictions. This process is not only an economic learning process but also a political learning process, which may contribute to the following outcomes.

First, this learning process may help increasingly more counties gain autonomous power and attract the entry of foreign investments into their jurisdictions, which may lead to a more balanced distribution of political power and more dispersed distribution of FDI inflows into China. Autonomous power can be regarded as a political resource while FDI inflows can be regarded as an economic resource. According to Vanhanen (2003), the more widely distributed the resources are, the less likely a hegemonic actor will exist, and the more actors are capable of competing for political power. As a result the more widely distributed economic resources are (including FDI),

the more dispersed political power will become, resulting in movement toward democracy. This implies that the further dispersion of political power and FDI inflows in China may eventually lead to bottom-up democratization.

Second, coupled with the dispersion of autonomous power, the spread of FDI across China's 2,073 counties is giving more county governments a vested interest in FDI. As a result those officials may become more easily influenced by foreign investors not only in local governments' political and economic policy making but also in what political leverage they have over Beijing's domestic and foreign policy. This may lead to the formation of a patron-client relationship between local government officials and foreign investors. The patrons (local governments) will protect the FDI from unfavorable policies from Beijing and from any unfavorable situations at local society by making special local FDI policies, such as zero cost of land use. In return, the clients (foreign investors) will enter the county. Under the patron-client relationship, a win-win situation may arise. On the one hand, the local governments as patrons will gain more extra-budget revenue, create more job opportunities, get higher local GDP growth and enjoy enhanced prospects of getting promoted. On the other hand, the foreign investors as clients will gain preferential treatments and more profits.

Once this patron-client relationship between local governments and foreign investors gets stabilized, there may be two major outcomes. First, Beijing may lose its economic control and even political control over the local governments, such as loss of tax revenue and large amount farming land. Second, even if Beijing may still maintain its economic and political control over the local governments through the cadre system of promotion, Beijing may be getting more and more pressure from the local

governments in its domestic and even foreign policy making. This can be related to Putnam's two-level game theory in international relations. According to Putnam (1988), foreign policy making power in a country does not reside in a single actor or in a single level of government in the country. Instead, when a national government makes foreign policy, the nation's leaders are involved in a two-level-game. Unlike "state centric" approaches, two-level game theory does not regard the state as a unitary actor but instead as a bargaining mechanism between the central government and the domestic interest groups. Another difference between the "state centric" approach and the "two-level game theory" is in the foreign policy making field. The "state centric" approach only focuses on how the state, as a unitary actor, pursues its national interests without considering its domestic constraints. Two-level game theory tells us that a state's foreign policy is made at two levels, the domestic level and the international level. At the domestic level, the diverse interest groups pursue their interests by pressuring the central government for favorable policies. By taking advantage of the interest groups' desire, the politicians pursue political power by building coalitions with the domestic interest groups. Whether through electoral politics or other mechanisms, political leaders seek to build a winning coalition among those domestic interest groups: a coalition large enough to ensure that leader's ability to remain in power. At the international level, the central government pursues the maximization of its capability to satisfy their domestic interest groups and meanwhile pursues the minimization of any side effect from foreign developments (Putnam 1988).

This situation can also be explained by the selectorate theory (Bueno de Mesquita, 2005). With the increasing political and economic power gained by local

government officials, the political survival of the national government officials in Beijing is increasingly dependent upon the local governments. Local officials are part of the selectorate in China, and as they gain more policy autonomy and control over economic resources, they may become part of the winning coalition for Beijing. With the dispersion of FDI and thus the further distribution of autonomous power among Chinese counties, not only is the size of winning of coalition in China increasing but also the composition of the winning coalition is changing, which may result in changes in policy priorities of Beijing. Because the county governments are the ones dealing with the day-to-day business of the people, the local business community, and FDI at the county level, they may have totally different policy priority and/or administrative strategies than those traditional Beijing-born national officials.

4.2.1.2. On the Finding that County Government Autonomy's Impact on FDI inflows Fades with the Increase in the Level of FDI Agglomeration in a Given County

This finding implies that county government autonomy's impact on future FDI inflows is not without limit. When the level of FDI agglomeration in a given county is low, delegating more autonomous power to the county governments can help them improve the local investment environment, obtain more flexibility to accommodate foreign investors, such as FDI incentive policies and preferential treatments. However, when the level of FDI agglomeration in a given county reaches a certain high level, delegating more autonomous power to county government may not as effective. On the one hand, a high level of FDI agglomeration in a given county may become the dominant determinant for future FDI's location selection. According to the Follow-the-Lead theory, when a county is populated with foreign investments, it sends out a signal

that this county has a favorable investment environment for the development of incoming foreign investors no matter whether or not the local government actually has high level of autonomous power.   On the other hand, once the level of FDI agglomeration reaches a certain level in a given county, local government autonomy may have a negative impact on future FDI inflows.   One reason is that the county government may have more opportunities for rent-seeking and corruption because local resources may become scarce when there is a large volume of FDI claiming cheap land, cheap labor and preferential treatments.   Another reason is that the county government may impose more restrictions and rules (such as rules on environment protection and labor protection) on local investors when local FDI agglomeration reaches a high level, which may discourage the future inflows of FDI in this given county.

This finding has important policy implications.   Since the impact of county government's autonomy fades with higher FDI agglomeration in a given county, the central government in Beijing should not continue delegating more autonomous power to a county government once its local FDI agglomeration reaches a certain level. Instead, the central government should engage in closer supervision over county governments with high levels of FDI inflows, such as restricting some of the improper local FDI incentive policies and punishing the illegal deals between the local governments and foreign investors.   In comparison, for counties with low levels of FDI agglomeration, the central government should continue granting them with more autonomous power to stimulate local FDI inflows.

Moreover, the estimation results also indicate that the effect of FDI agglomeration on future FDI inflows is stronger when local government's autonomous power is lower and weaker when local government's autonomous power is higher. In the early years of China's open door policy towards FDI, the national and local governments emphasized the development of export-oriented industries, which made it more likely to attract FDI in labor intensive industries with low-technology, low efficiency, and usually high pollution. In recent years, the Chinese central government and local governments have started to encourage industrial upgrading, and thus are trying to attract FDI that is not labor-intensive, involves more high technology and management skills, and produces less pollution. According to the finding in this study, if a county does not want to passively depend on the natural agglomeration of labor intensive FDI but rather wants to diversify and improve the structure of its local foreign investments by, for example, attracting more high-technology FIEs and reducing the inefficient labor-intensive FIEs, one of the key solutions is to grant more autonomous power to the county government at the early stage of the county's efforts to attract FDI.

4.2.2 Policy Implications Based on the Estimation of the Location Model of Taiwanese FDI in China

Due to the tense political and military relationship between mainland China and Taiwan, I argue that local government autonomy's impact on future FDI inflows differ between Taiwanese FDI and non-Taiwanese FDI. The estimation results establish that autonomy's impact on future FDI inflows does differ between Taiwanese FDI and non-Taiwanese FDI. More specifically, for Taiwanese FDI, there is a mutually strengthening relationship between local government autonomy and TDI agglomeration with respect to

attracting future TDI inflows. In contrast, for FDI in general across counties in China, local government autonomy's impact on future FDI inflows tends to fade with increases in the level of FDI agglomeration. This implies that Taiwanese FDI has stronger dependence upon the county governments. The finding for the Taiwanese FDI location model has important policy implications.

As the largest single source of FDI in China, Taiwanese foreign investments are found to be more dependent upon county government autonomy than FDI from other countries, according to the empirical study in Chapter 3. With the dispersion of county government autonomy, Taiwanese FDI has shown a recent trend of spreading from the coastal region and the big cities to interior regions and smaller counties of China. This implies that increasingly more county governments in China will have a vested interest in Taiwanese FDI within their jurisdictions. These local officials wish to create a favorable investment environment for Taiwanese investors in China and in their jurisdiction specifically. Thus, more and more local government officials are likely to pressure the national authorities in Beijing to cultivate peaceful relations with Taiwan and avoid military confrontation. Local governments have an incentive to continue attracting Taiwanese firms to their jurisdiction so that they continue creating jobs and contributing tax revenues to the local government's coffers. Therefore, by leveraging the central government to maintain a peaceful and cooperative relationship with Taiwan, Chinese local officials have an incentive to do what they can to Beijing's policy maneuvers regarding Taiwan. Thus, in order to maintain its policy options, Beijing authorities will be interested in limiting Taiwanese firms to certain areas and containing their dispersion throughout the nation. The fact that Beijing authorities desire as little

domestic pressure as possible with respect to its diplomacy with Taiwan mirrors Beijing's overall goal of limiting domestic political pressure.

Moreover, according to the history of cross-strait economic interactions, it seems that at the very beginning, Taiwanese investment in mainland China was a purely profit-motivated commercial activity. With the increase in the amount of Taiwanese investment and the number of Taiwanese firms in the PRC, the Taiwanese government has started considering how to make use of Taiwanese investment in the PRC for political purposes, such as encouraging liberalization in mainland China politically and economically. By encouraging cross-strait economic interactions, Taiwanese authorities end up finding themselves under pressure from the increasingly strong Taiwanese business community to maintain peace across the Strait.

Furthermore, the empirical estimation of the location model for Taiwanese FDI also shows that Taiwanese FDI is attracted to counties with higher cost of labor and larger consumer markets while FDI from other nations is found to be sensitive to labor cost. This indicates that Taiwanese firms are more likely to upgrade to market-oriented industries in mainland China than are firms from other nations. Since promoting industrial upgrading is an important economic agenda for the central government in Beijing, the Chinese government may be interested in encouraging local governments to attract more Taiwanese FDI to lead the industrial upgrading among all the FDI in mainland China. The newly signed ECFA framework between mainland China and Taiwan is strong evidence that Beijing is encouraging high-technology and non-labor-intensive Taiwanese firms to invest in mainland China.

4.3 Suggestions for Future Research

The locational framework used in this study makes a contribution to the conventional investigations of FDI location selection by taking into consideration the central-local politics and its interplay with the dynamic nature FDI inflows. However, there is more to be done to improve the framework.

First, the spatial dimension of FDI location selection should be built into the model. As mentioned in the literature review section, the spatial dependency and spatial heterogeneity should be taken into consideration because the changes in neighboring counties' FDI inflows and autonomous power may induce changes in a given county.

Second, it will be interesting to investigate whether and how the evolution of central-local politics is influenced by the FDI location selection patterns in China. In other words, this study focuses on whether and how county government autonomy impacts FDI site selection. The future study can investigate the possibility of a reciprocal causal relationship between autonomy and FDI inflows.

Third, the measurement of county government autonomy can be improved in the future studies. Due to restraints of data, county government autonomy in this study is measured by the ratio between county government expenditure per capita and provincial government expenditure per capita. In the future, the county government autonomy variable should be measured by considering the non-fiscal factors, such as number of incentive polices issued by county governments, number of cases where county governments intervene into the private sectors, number of cases of county government corruption, number of social protests, strikes and riots in the county.

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Fourth, as to Taiwanese FDI site selection in mainland China, it is important to model the influence of Taiwanese central and local governments in the locational framework of Taiwanese FDI in mainland China. According to Hung and Chiang (2009), due to the unfriendly relationship across the Strait, the Taiwanese government has an incentive to restrict Taiwan's capital and technology from flowing to mainland China and thus set upper limits for Taiwanese FDI in mainland China and these upper limits differ across different Taiwanese industries.

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