The Effects of Changes in China's Business Environment on Taiwan's Outward Foreign Direct Investment

Hsin-Hong Kang [1] , Wen-Hsiang Wang [2] [+]

[1] Department of Business Administration, National Cheng Kung University, Taiwan

[2] Department of Business Administration, National Cheng Kung University, Taiwan

Abstract. In contrast with previous crucial points that "host countries with less business risk will attract more inward foreign direct investment (FDI)," this paper utilizes multi-regressions, Newey-West econometric methods, and the generalized method of moments (GMM) to find the reverse result, indicating that Taiwan's outward FDI toward China was higher when China's business risk was rising before its inclusion to the World Trade Organization (WTO). This is very likely because the Chinese have overvalued guanxi since ancient times. Once China enters the WTO, our evidence will only support previous papers. This may be because of China's rapid reforms due to the WTO's regulations leading to changes in China's business environment.

Keywords: foreign direct investment (FDI), business risk, guanxi, World Trade Organization (WTO)

1. Introduction

In the economy of increasing globalization, the FDI helps developing countries develop their economies. Much research has been done in an effort to understand these causes and consequences, such as transaction cost theory, internalization theory, Hyper's monopolistic advantage theory, Vernon's product lifecycle, and Dunning's eclectic theory. As for the astonishing development in China, it has even been the focus of recent investigations. Infrastructure (Head and Ries, 1996; Chen, 1996; Cheng and Kwan, 2000), markets (Chen, 1996; Cheng and Kwan, 2000; Coughlin and Segev, 2000), average productivity (Coughlin and Segev, 2000), and coastal location (Coughlin and Segev, 2000; Sun, Tong, and Yu, 2002) are positive determinants of FDI. In contrast, wage costs (Coughlin and Segev, 2000; Cheng and Kwan, 2000) and the illiteracy rate (Coughlin and Segev, 2000) have negative effects on FDI. Although China's inward FDI has fallen under tremendous scrutiny, it seems that most focal points are concentrated on the heterogeneous determinants of FDI as mentioned above. In fact, the entire policy and environment of host countries should be the first consideration of MNC's outward FDI. If the entire policy and environment of a host country is harmful to MNCs, they can escape without leaving a trace, not to mention the further locational investment. In a sample of 73 developed and less developed countries from 1995 to 1999, Egger and Winner (2005) found that corruption was a stimulus for FDI even though Sun et al. (2002) indicated that a working paper by Wei (2000) suggested that corruption impedes FDI in China. These results are however astonishing and confusing because they seem inconsistent with what we see and hear in daily life.[1] Additionally, democracy is likely to attract more FDI (Jensen, 2003; Guerin and Manzocchi, 2009), and less FDI is likely to be attracted by countries with higher business risk. Favorable business conditions contributed to the increasing FDI of a data sample of 33 developing and transitional countries (including China) from 1996-2008 (Krifa-Schneider and Matei, 2010). This outcome is not beyond our expectations because MNCs are more likely to invest in host

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[+] Corresponding author. Tel.: + 886-2757575 # 53337
  E-mail address: r4897105@mail.ncku.edu.tw
[1] China has been the main area since Taiwan permitted Taiwan's MNCs to invest in China in 1991 (Cheng and Kang, 2002).

countries where less uncertainty is present in the business environment. However, similar to China, it is so uncertain and non-transparent, though it attracts FDI.[2] Although China is a non-transparent country, it was engaged in a series of economic reforms to improve its whole environment. Despite the reforms, its business environment still seems relatively unstable due to early incomplete laws, people's poor perception of law and order, and the unbalanced development that leads to the disparity between rich and poor.[3] All these maladies could cause serious social unrest. There was no environment of reciprocal favored treatment before China entered the WTO.[4] Hence, MNCs might confront the instable business environment before China's entry into the WTO. Certain MNCs however did not hesitate to pursue their interests.[5] Lovett, Simmons, and Kali (1999) described guanxi as a Chinese system of doing business, which is based on personal relationships. It differs from that of Western market systems and similar systems throughout much of the non-Western world. Based on guanxi, logical thinking and many Western conventions are unsuitable in China. As a result, whether an interfering effect is present on the link between FDI and China's business environment is questionable. Previous papers supported that FDI inclines toward host countries with less business risk.[6] The question is whether this is unalterable. This study explores Taiwan's MNCs as an example. The Chinese and Taiwanese share the same language, race, and culture. This and the short distance between the two countries make it highly likely that they understand how guanxi operates. In addition, due to rising wages and expensive land from the 1980s, Taiwan's MNCs had no choice but to develop overseas. China, the so-called world factory, having many advantages of locational FDI, subsequently became the main investment target of Taiwan's MNCs (Cheng and Kang, 2002). Furthermore, Hong Kong as well as Taiwan have traditionally been the most important sources of FDI in China, and they accounted for nearly half of China's FDI in the 1990s (Tseng and Zebregs, 2002).

2. Hypotheses Development and Data

Our business risk indicators are derived from the database of International Country Risk Guide (ICRG). They are compiled by the Political Risk Services (PRS) Group to stand for a country's business environment and are often utilized by scholars. The overall business risk index comprises 12 indicators. Basically, the lower the risk index, the higher the risk, and vice versa. Accordingly, we consider that Taiwan's corporations could continue investing in China by guanxi, even though China's business environment is so poor that it probably impedes FDI inflows before its entry into the WTO. Nevertheless, once it enters the WTO, its business environment will improve because it must comply with the WTO's regulations, which would result in a series of reforms.[7] Hence, this study presents two hypotheses:

Hypothesis (1): Before China's entry into the WTO, Taiwan's outward FDI toward China is negatively related to China's business risk indices.

Hypothesis (2): After China's entry into the WTO, Taiwan's outward FDI toward China is positively related to China's business risk indices.

As for the dependent variable, we use the monthly data[8] of Taiwan's outward FDI toward China provided by the AREMOS database. Regarding control variables, we utilize the following: (1) GDP per capita (PGDP) shows the market size; (2) The inflation rate is anticipated to link closely to policy inadequacy, such as fiscal or monetary imbalances (Busse and Hefeker, 2007). These two control variables are acquired from the ICRG database; and (3) Openness to trade, namely the quantification of trade restrictions, is often measured by the ratio of imports and exports to GDP. The data are also acquired from the AREMOS. As it has no monthly GDP data, we replaced it with PGDP to be the proxy of the

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[2] Consult http://world.people.com.cn/GB/57506/9570081.html In 2009 and for 17 years before then, China was the biggest developing country attracting FDI.
[3] Synthesize Chen (1997) and Miles (1997).
[4] China became the WTO's member on December 11, 2001.
[5] See Naughton (1996). This paper pointed out that Hong Kong and Taiwan played an important role in China's FDI, particularly in the 1980s and early 1990s.
[6] See Wang and Swain (1995), Krifa-Schneider and Matei (2010), and Busse and Hefeker (2007).
[7] See Halverson (2004).
[8] In this article, all data of variables are on a monthly basis.

denominator.[9] We transformed the above variables, including the dependent variable and three control variables, into the natural logarithm form. However, if there are negative observations within the variable data, we choose the following formula to transform such variable data.[10] Thus, we could sustain the sign of x, and its values would pass from a linear scale at small absolute values to a logarithmic scale at large values.

$$y = \ln (x + (x^2 + 1)^{0.5})$$

To avoid endogeneity problems, we use lagged variables to ensure the effects of the abovementioned control variables on the current FDI a month earlier. Moreover, we set a mega-event dummy variable that is expected to be positive. Tai (1999) indicated that depreciatory exchange rates resulting from the Southeast Asian financial crisis targeted foreign investors and heightened investment risks of Taiwan's MNCs in Southeast Asia. However, at the time, China had a closed exchange rate system, and related preferential policies further strengthened Taiwan's MNCs' reliance. Finally, main explanatory variables are the business risk index and its 12 subcomponent indicators. To stress on China's entry into the WTO, we also set the WTO dummy to stand for its entry. We further set the interactive variables. These main explanatory variables are expected to have the signs as the aforementioned proposed two hypotheses.

3. Methodologies and Empirical Results

To avoid the econometric problem of high multicollinearity, we placed the business risk indicators into regression sequentially. The benchmark regression is as follows:

$\ln FDI(t) = \beta_0 + \beta_1$ Mega Event $+ \beta_2 \ln PGDP(t-1) + \beta_3 \ln Inflation(t-1) + \beta_4 Trade(t-1) + \beta_5$ Business(t) $+ \beta_6$ WTO * Business(t) + e(t)

We utilized GMM to estimate them since the PDGP is perhaps stochastic to be associated with the error terms. GMM is not only capable of managing the stochasticity, but is also a steadier method because it further permits heterogeneity and autocorrelation to exist simultaneously. The instrumental variables are the constant and original independent variables except that the PGDP variable is lagged for two periods. In Table 1, coefficients of the mega-event dummy are all significantly positive, showing that the Southeast Asian crisis led to Taiwan's more outward FDI toward China. Most coefficients of PGDP and inflation variables are not significant, possibly because Taiwan's outward FDI toward China is mainly concentrated on lower wage costs rather than the market size and the macroeconomic policy. Coefficients of trade are all significantly positive, indicating that the larger China's openness is to trade, the higher Taiwan's outward FDI toward China. Once China enters the WTO, coefficients of all these interactive variables will be significantly positive. This illustrates that the better China's business environment is, the higher Taiwan's outward FDI toward China. This is because China must comply with the WTO's regulations. Certain "business" variables, such as the overall business risk, law and order, etc. are significantly negative, illustrating that Taiwan's MNCs can invest more by guanxi, even though the overall business environment is poor. The investment profile variable should be significantly positive. This is not surprising since the investment profile variable is the assessment of the affecting factors in investment risk. If the profits are impeditive, firms invest less. The variable of external conflicts is also significantly positive, indicating that Taiwan's MNCs will invest less if China is in conflict with foreign countries. This is similar to the concept of capital flight.

4. Conclusion

Previous papers mostly inclined to the fact that lower business risk in developing countries heightens the attractiveness of inward FDI (for example, Wang and Swain, 1995; Krifa- Schneider and Matei, 2010; Busse and Hefeker, 2007). However, this study suggests that Taiwan's outward FDI toward China should be investigated from two perspectives: (1) Taiwan's MNCs could still invest in China by guanxi to gain benefits, even though China's business environment before its entry to the WTO was not favorable; and (2) once China enters the WTO, Taiwan's MNCs would be equally dependent to invest in China because China must

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[9] We have tested the correlative coefficient of GDP and PGDP with annual data, index data, etc. The results illustrate that it is close to 1.
[10] This kind of transformation was suggested by an anonymous referee (Busse and Hefeker, 2007).

abide by the WTO's regulations before implementing a series of reforms to improve the overall business environment.

5. Acknowledgements

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Table 1　Generalized Method of Moments (GMM)

	Dependent variable: Ln Outward FDI												
	Overall Business risk	Business risk subcomponents											
		Governament stability	Soci-economic conditions	Investment profile	Internal conflict	External conflict	Corruption	Military in politics	Religious in politics	Law and order	Ethnic tensions	Democratic accountability	Bureaucracy quality
Intercept	5.414*	2.403	2.573	1.589	5.773	-1.945	4.617*	4.317*	3.670*	6.131***	3.245	4.456**	2.374
	(2.985)	(2.038)	(2.622)	(1.852)	(3.618)	(2.310)	(2.420)	(2.558)	(1.979)	(2.163)	(2.140)	(2.054)	(1.892)
Mega Event	1.922***	1.854***	1.917***	1.821***	1.718***	1.698***	1.731***	1.807***	1.989***	1.932***	1.757***	1.482***	1.832***
	(0.125)	(0.165)	(0.141)	(0.109)	(0.124)	(0.121)	(0.113)	(0.116)	(0.117)	(0.109)	(0.127)	(0.152)	(0.124)
Ln PGDP(-1)	0.422	0.469	0.497	0.420	0.260	0.891***	0.174	0.517**	0.399	0.311	0.404	0.241	0.449
	(0.283)	(0.290)	(0.401)	(0.270)	(0.362)	(0.283)	(0.328)	(0.240)	(0.267)	(0.277)	(0.272)	(0.304)	(0.286)
Ln Inflation(-1)	-0.046	-0.103	-0.050	-0.069	-0.057	-0.081*	-0.024	-0.091*	-0.037	-0.086*	-0.056	0.051	-0.089
	(0.051)	(0.093)	(0.072)	(0.049)	(0.045)	(0.047)	(0.058)	(0.047)	(0.048)	(0.046)	(0.057)	(0.085)	(0.054)
Ln Trade(-1)	0.576**	0.579**	0.532**	0.546**	0.563**	0.514**	0.553**	0.782***	0.479*	0.562**	0.550**	0.481*	0.573**
	(0.274)	(0.259)	(0.269)	(0.259)	(0.259)	(0.234)	(0.252)	(0.272)	(0.270)	(0.271)	(0.258)	(0.278)	(0.257)
Business	-0.045*	-0.018	-0.106	0.128**	-0.215	0.132*	-0.250**	-1.134	-0.219***	-0.601***	-0.154	-0.705***	-0.020
	(0.027)	(0.096)	(0.066)	(0.055)	(0.133)	(0.069)	(0.099)	(0.787)	(0.065)	(0.119)	(0.140)	(0.240)	(0.124)
WTO*Business	0.015***	0.078***	0.131***	0.115***	0.095***	0.058**	0.489***	0.572**	0.178***	0.164***	0.201***	0.761**	0.426***
	(0.005)	(0.026)	(0.049)	(0.037)	(0.030)	(0.027)	(0.123)	(0.270)	(0.057)	(0.059)	(0.056)	(0.309)	(0.147)
R-square	0.684	0.675	0.669	0.692	0.686	0.686	0.676	0.682	0.698	0.702	0.683	0.698	0.677
Adjusted R-squ	0.672	0.663	0.666	0.680	0.674	0.675	0.664	0.670	0.687	0.690	0.671	0.687	0.665
J-statistic	8.14E-24	4.72E-26	2.55E-26	3.49E-27	1.90E-25	4.67E-25	8.33E-25	1.30E-25	6.23E-25	2.10E-24	1.65E-26	2.90E-26	1.89E-27
Sample N-adj	167	167	167	167	167	167	167	167	167	167	167	167	167

Note: The period is from Jan, 1994 to Jan, 2008; standard errors are given in parentheses; ***, **, and * indicate statistical significance at 1, 5, and 10 percent respectively; the instrumental variables are the constant and original variables except that the PGDP variable is lagged for two periods; the sample number is adjusted.