FDI in Real Estate, FDI in Manufacturing and Economic Growth: Evidence from Developing Countries

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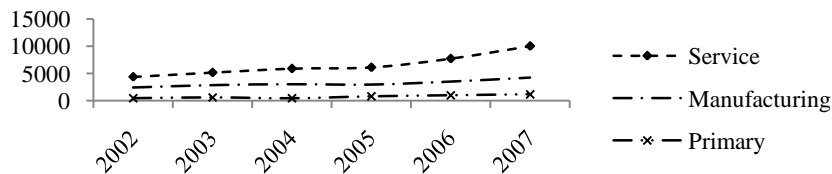Universiti Sains Malaysia, Penang, Malaysia.

ABSTRACT

FDI is well known to play a complementing role in economic development of host economy which in the later period will foster economic growth. Nonetheless, we observe two phenomena that tend to contradict the previous finding. The two are: (1) the drop of FDI in manufacturing sector in many countries and (2) the increasing amount of inflows of FDI in services such as in real estate. Combining both, this study attempts to examine the implication of inflows of FDI in real estate and FDI in manufacturing sector on economic growth in the selected developing countries.

Keywords: FDI; Real Estate; Manufacturing Sector and Economic Growth

INTRODUCTION

During the past two decades, foreign direct investment (FDI) has become increasingly a key element of the global economy. FDI is an engine of employment, productivity improvements, technological progress and ultimately economic growth in the host countries. FDI provides physical capital possibilities that may not be available in the host market. More importantly, FDI (in contrast to short-term capital inflows) is much more resilient to crises because direct investors involve long-term commitments to a country thus making them more resistant to herd behavior in possible economic and financial crises.

Due to these important benefits, attracting FDI has become one of the integral parts of economic development strategies in most developing countries (Jensen, 2003; Alfaro, Chanda, Kalemli-Ozcan and Sayek, 2004). Accordingly, there is a rising competition from among developing countries to attract more FDI in services, manufacturing and primary sectors. Given the growing importance of services in global gross domestic product (GDP) and the limited tradability of many services, FDI in services has risen more quickly than FDI in manufacturing and primary sectors (UNCTAD, 2006; Kolstad &Villanger, 2008). According to UNCTAD (2004), on average, services accounted for about two-thirds of total FDI inflows over 2001-2002. Similarly, UNCTAD (2007) reported that services accounted for the most of the world inward FDI stock in 2005 (about two-third) compared with 49 percent in 1990. In contrast, manufacturing's share declined from 41 percent in 1990 to 30 percent in 2005, while the share of the primary sector was less than 10 percent of world inward FDI stock (UNCTAD, 2007). Evidence of this trend is clearly shown in Figures 1.
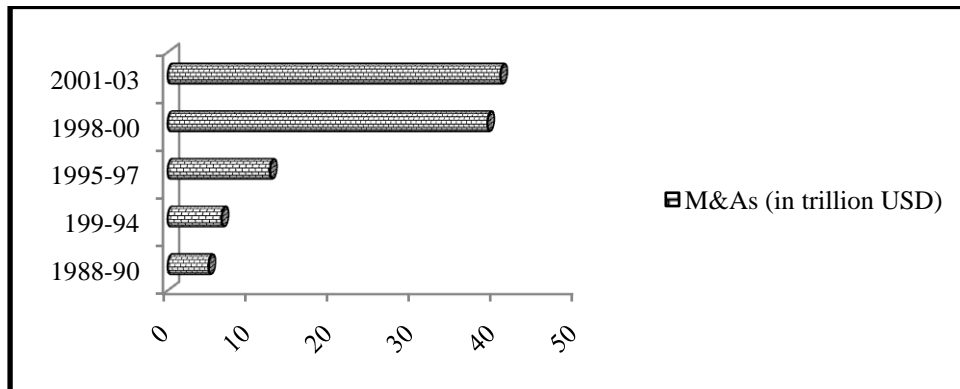

Source: UNCTAD (2009).
FIGURE1: FDI stock in primary, manufacturing and services sectors (in billion USD)

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Within services, the real estate sector has been experiencing significant movement toward greater internationalization and deregulation (Topintzi, Chin, and Hobbs, 2008; UNCTAD, 2007, 2009; D'Arcy, 2009; Zhu, Hitt, and Tihanyi, 2006; Bardhan & Kroll, 2007). Evidence of this trend is reflected by the fact that recent years have seen a rapid growth in direct real estate investment and portfolio investment in listed real estate securities (Topintzi et al., 2008; UNCTAD, 2007). According to UNCTAD (2004), worldwide cross-border merger and acquisition sales in real estate have grown at unprecedented rates, to reach a total of US$40.64 trillion within 2001-2003 (see Figure 2).

Source: UNCTAD (2004, pp.335).

FIGURE 2: Worldwide Cross-border M&A Sales in Real Estate

The increasing trend of FDI in services, particularly in real estate is also justified by several studies as summarized below in Table 1.

TABLE 1: Trends in Foreign Real Estate Investments (FREI)

Location	Statistics	Source
Global	Statistics showed that foreign real estate investment accounted for 37% of the world's wealth.	Brown & Matysiak (2000)
Malaysia	For the period of 2003- 2007, FDI in the real estate sector surged sharply in Malaysia. The value of this sector increased from RM1.8 billion in 2003 to RM7.4 billion in 2007.	Masud, Yusoff, Hamid & Yahaya (2008)
China	FDI inflows into China's real estate market accounted for 10-15 percent of total FDI from the middle of 1990s to 2009.	He, Wang and Cheng (2009)
Lebanon	In Lebanon, the 32 percent rise in FDI inflows in 2008 was mainly driven by real estate.	UNCTAD (2009)
Vietnam	FDI registered in Vietnam's real estate sector was accounted for 54 percent of total FDI in 2008.	Thien Thu & Perera (2010)
Serbia	Foreign investment in real estate sector makes up 12% of the total capital inflow.	Popov (2010)
India	The share of FDIs in real estate is about 26.5% of the total flow of FDIs in India which is about US$ 8 billion in the financial year 2006-07.	MapsofIndia (2011)
Costa Rica	Between 2004 and 2006, the purchase of real estate by private foreign citizens amounted to US$ 763 million, 25 percent of total FDI inflows in Costa Rica.	Cordero and Paus (2008)
Ukraine	Real estate sector attracts 10 percent of all FDI inflows in 2009 in Ukraine.	Kononov (2010)

The main issue that we attempt to address in this study is whether, similar to FDI in manufacturing, FDI in services (particularly real estate) is beneficial to host countries or not. In other words, the purpose of this study is to investigate whether or not the inflows of FREI is complementing FDI in manufacturing, boosting further economic growth of developing host economies. The studies such as mentioned in Table 1 have a tendency to appreciate the inflows of FREI. Nonetheless, as mentioned by Ema Izati and Masron (2012), one possibility through which FREI may exert a negative effect on

economic growth is through its implication on house price. As FREI may push the house price to increase very quickly, it will immediately lower the affordability rate among domestic buyers and as a consequence, it might be possibly demoralizing local workers to work harder as their real wage has drop significantly. An increase in the nominal wage has been off-set by the high increase in house price. Hence, this study attempts to identify the impact of FREI on economic growth in developing countries.

The rest of this paper is presented as follows. Section 2 reviews of some of the relevant studies. In section 3, we describe the model, the data, and the empirical methodology. In Section 4, we discuss the results and conclude in Section 5.

LITERATURE REVIEW

Several studies have examined the relationship between FDI and economic growth. Most of them found a positive relation between FDI and growth, if specific conditions such as high wealth, skilled labor and developed financial markets are met (Doytch & Uctum, 2011). Moreover, we review some studies regarding the impact of FDI in real estate on host economies' development and growth.

Bajo-Rubio et al. (2010) assessed the impact of FDI on regional economic growth in the Spanish case. Using data for the 17 Spanish regions over the period 1987-2000, their results support the important role played by FDI as a vehicle for technology transfer, and its relationship with productivity growth. Woo (2009) investigated the effect of FDI on total factor productivity (TFP) growth in a large sample of countries in 1970-2000. His results showed that FDI has a positive and direct effect on TFP growth. Al Nasser (2010) examined the various links among FDI, local conditions, and economic growth in Latin America and Asia over from 1978 to 2003. The results indicated that FDI plays an important role in contributing to economic growth (however is dependent on host economy-based conditions such as technology gap. Using cross-country data between 1975 and 1995, Alfaro (2004) showed that FDI plays an important role in contributing to economic growth, only at the present of well-developed financial markets. Baharumshah and Almasaied (2009) also found that FDI has a positive and significant effect on economic growth, only at the presence of well educated human resource and well developed financial markets. In their study on the effect of FDI on economic growth in a cross-country regression framework, Borensztein et al (1998) showed that FDI is an important vehicle for the transfer of technology, contributing relatively more to growth than domestic investment. Bengoa and Sanchez-Robles (2003) explored the interplay between economic freedom, FDI and economic growth using panel data analysis for a sample of 18 Latin American countries for 1970-1999. In particular, their results suggested that FDI is positively correlated with economic growth in the host countries. Bjorvatn et al. (2002) concluded that while FDI is not necessary to achieve economic development, the entry of foreign firms may play an important role in adding technology and competition to the host economies. Fedderke and Romm (2006) found a positive spillover effect of FDI on capital and labor, and hence on output in the long run for South Africa. On the other hand, in his study on the impact of FDI on economic growth in Nigeria, for the period 1970-2001, Akinlo (2004) found that FDI does not have a much significant effect on growth.

Regarding the effect of FDI in real estate on host economies, existing economic literature suggest that the FDI in real estate (like FDI in other services) will assist a host country's economic development by injecting financial resources, provision of services in terms of supply, cost, quality and variety of services, introducing additional competition, generating employment and bringing technology (Arnold et al, 2006; UNCTAD, 2004; Golub, 2009).

More specifically, FDI in real estate contributes significantly to the rapid globalization of metropolises and facilitates change the scene of urban development qualitatively (Wei et al., 2006; Wu, 2001). It is also believed that the FDI inflows make real estate industry in host countries perform well (Jiang et al., 1998). For example, He et al. (2009) argue that foreign real estate investors promote the development of China's real estate industry by contributing capital, introducing new practices in the operation of real estate properties and affecting the domestic real estate developers through spillover effects. Similarly, MapsofIndia (2011) report mentions that some of the advantages of FDI in India real estate are to make the real estate sector in India more organized, to increase professionalism in the sector, to introduce advanced technology in the construction business, to create a healthy and competitive market environment for both Indian and foreign investors. Wang (2010) provide evidences that FDI in real estate has significant positive employment effect in China. Fung, Jeng and Liu (2010) discuss that since 1997, the investment in China real estate sector by domestic and (particularly) foreign investors has been a major driver of China economic growth, by stimulating the demand for many other industries such as electronics, machinery, steel and architecture. Likewise, Yu and Ning

(2009) find that FDI in China's real estate sector play an important role for the promotion of industrial technology progress and consequently economic growth of China.

Furthermore, the increased FREI raises the tourism in the host countries because tourism is the following step after acquiring a property in a foreign country, which makes tourism be influenced by previous investment in real estate (Rodriguez & Bustillo, 2010). Basu and Yao (2009) show that real estate investment by foreign firms leave a favorable impact on the enrollment in higher education in China (e.g. higher demand for property analyzers and architecture). In another study, Horner and Swarbrooke (2004) list several benefits potential economic benefits when foreigners buy property in a host country: (1) bringing new life to the rural communities suffering depopulation; (2) making local services viable (such as food shops, transport, restaurants, and sporting facilities); (3) income for local entrepreneurs from the spending by the foreign owners; (4) property taxes paid to the local government; (5) profits from land owned by local people; (6) jobs and income for local builders and craftsmen.

METHDOLOGY

Modelling

Starting from the standard model of production (Y), in which production is a function of an exogenous variables (A), capital (K) and labor (L), we can express growth function as follows:

$$Y = Af(K,L) \qquad (1)$$

Dividing both sides with L, we get the following equation of production per labor as a function of capital per labor:

$$Y/L = Af(K/L) \qquad (2)$$

Although A is treated as exogenous in the classical macroeconomic studies, gradually as per today, A is no longer treated as exogenous. Rather, it can be used as a proxy for technology development or level of institutional quality of host economy. After taking logaritmic form, and including transparency (*TRANS*) as a proxy for institutional quality (IQ) our estimable empirical model then become:

$$\ln YL_{i,t} = \alpha_0 + \alpha_1 \ln KL_{i,t} + \alpha_2 \ln TRANS_{i,t} + \varepsilon_t \qquad (3)$$

We further divide *KL* into two components, namely FDI in Manufacturing (*FDIM*) and FDI in Real Estate (*FREI*). Hence, our final model is as follows:

$$\ln YL_{i,t} = \beta_0 + \alpha_{11} \ln FDIM_{i,t} + \alpha_{12} \ln FREI_{i,t} + \alpha_2 \ln TRANS_{i,t} + \varepsilon_t \qquad (4)$$

Estimation Procedure and Data Collection

Limited time span in our sample allowed us to proceed with panel data analysis. We start with a panel static effect and compement with panel dynamic model. In static model, we run all possible model, ranging from simple pooled model up to random effect. Several tests have been used to check the superiority of one model to another. In addition, although time element is a bit short, but 6 years of data could tell us something. Hence, we do also run the model by using panel general method of moment (GMM).

The data are collection from various sources such as World Development Indicators (World Bank, 2012), and Worldwide Governance Indicators (World Bank, 2012), and countries' Department of Statistics. In terms of coverage, it covers the period from 2003 to 2008 and 22 developing countries are chosen. The countries under study are China, Cyprus, Czech, Estonia, Greece, Hungary, Israel, Kazakhstan, Korea, Latvia, Lithuania, Macedonia, Mexico, Philippines, Poland, Romania, Serbia, Slovakia, Taiwan, Thailand, Tunisia, and Turkey.

RESULTS AND DISCUSSION

We start our analysis by examining the correlation among the variables as shown in Table 2. Although we observe an anticipated bilateral association between GDP and TRANS, which is positive, the coefficient of correlation for GDP-FREI and GDP-FDI is negative. Particularly, the negative GDP-FDI has warned us about the possible hidden negative consequences of FDI inflows as opposed to generally believed and conlcuded by many studies that the relationship supposed to be positive. Masron (2006) provided one possible explanation that FDI will only induce higher economic growth via technological development channel provided that host countries, referring in his study to ASEAN-4 countries, capable in devleoping indigenous technology. Failure to do so may result in minimum or even negative impact of FDI on host country's economic development. This finding is also hinted to us the need to further investigation about the implication of FDI on host country as it seems to be exagerated. Overall, from statistical point of view, there is no serious or high correlation among the variable except for FDI and FREI which recorded 48 percent correlation coefficient. In short, the result implies that applying OLS to estimate the equation may not lead to serious statistical issue.

TABLE 2: Correlation Analysis

	ln*GDP*	ln*FREI*	ln*FDI*	ln*TRANS*
ln*GDP*	1.0000			
ln*FREI*	-0.1158	1.0000		
ln*FDI*	-0.1148	0.4848	1.0000	
ln*TRANS*	0.5805	0.0418	-0.0038	1.0000

Moving on to our main analysis of regression, the results are shown in Table 3. From the statis model, the model criteria reveal that cross-fixed model (CFM) is superior that pooled model as the redundant F-test shows a significant result. The test to choose between CFM and cross-random model (CRM) ended up with similar finding that CFM is a superior model than CRM. Nevertheless, we still present the result of CRM as it offers support to CFM. The result of CFM and CRM demonstrates that both TRANS and FDI have their expected sign and positively affect GDP. FREI is found to have a positive effect on GDP but only found to be significant in the case of CFM. The larger effect of FDI relative to FREI is also expected as FDI has been contributing to host country quite some times in the past before FREI started to accompany to complement the need of services by MNCs as well as local enterpreneurs but failed to be fully supported by local firms in the recent year.

TABLE 3: Regression Results

	Static Model		Dynamic Model	
	Cross-fixed	Cross-Random	Difference GMM	System GMM
Constant	7.8312***	7.3437***	0.9531***	-
	(73.2408)	(26.6960)	(81.7533)	
lnFREI	0.0226***	0.0219	0.0053*	0.0222***
	(2.7681)	(1.3206)	(1.8797)	(4.5928)
lnFDI	0.0810***	0.0948***	0.0099***	0.0071*
	(9.3309)	(5.6464)	(5.4444)	(1.8441)
lnTRANS	0.5736***	0.8430***	0.0582**	0.0564
	(7.4932)	(6.2093)	(2.0679)	(1.0004)
Model Criteria				
S.E. of Reg.	0.1140	0.1241	0.0477	0.0505
F-Stat (Overall)	2181.79*** [0.0000]	40.4472*** [0.0000]		
F-stat (Redundant)	1411.73*** [0.0000]	-		
Hausman Test	6.7271* [0.0811]	-		

Note: Asterisk *, ** and *** denote significnt at 10%, 5% and 1% critical value, respectively. Figure in ( ) denotes t-value and figure in [ ] stands for p-value.

In addition to static model, as we observed potential endogeneity issue to prevail in our model, we do also analyze the model by using dynamic approach. The result is presented at the second half of the Table 3. One interesting finding is that the standard error of regression signify the superiority of GMM approach against panel OLS. The results also reveal that both FREI and FDI have a significant and positive impact on host country's economic development, albeit of different magnitude. Nonetheless, as system GMM is more appropriate for model with huge sample size, difference GMM approach could be more reliable in our case as our sampe size is not too big. Referring to our result as per difference GMM approach, we found that the finding is consistent with the CFM model in which the impact of FDI on GDP is larger than FREI.

CONCLUSION

This study aims at investigating the impact of FREI on economic growth of host country. Focusing on 22 developing countries, mainly due to data availability issue, for the period between 2003 and 2008, the study demonstrates that in addition to FDI, FREI can also contribute to further boost economic development. Although the impact of FDI is much larger than of FREI, considering the inflows of FREI are only a recent phenomenon, its contribution can be accelerated further in the future.

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