Home economy heterogeneity in the determinants of China's inward foreign direct investment

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This study explores whether the determinants and motivations of China's inward foreign direct investment (FDI) are heterogeneous among the home economies. Categorizing the home economies into two sets of groups in terms of their economic development levels and geographic locations, this research found that China's inward FDI determinants and motivations are different between the groups. Chinese inward FDI from non-OECD developing economies is more likely to be both horizontal and vertical types for efficiency-seeking and market-seeking purposes, while FDI from OECD developed economies is more likely to be horizontal market-seeking. FDI from Europe is more likely to be driven by the large Chinese market, while FDI from North America is more likely to be stimulated by China's low input costs, and FDI from Asia is more likely to be attracted by both the large Chinese market and its low costs. These findings will be useful to the host government in devising better policies to enhance positive externalities created by the inflows of FDI.

Keywords: China, inward foreign direct investment (FDI), geographic location, determinants, home economy, heterogeneity

JEL classifications: C23, F21, F23, O53

1. Introduction

Having overtaken Japan in 2010, China now has the world's second largest economy. The rise of China has affected the global economy in many ways, through patterns of trade, economic growth, foreign investment, demand for natural resources, international migration and environmental quality. Following its entry into the World Trade Organization, China has emerged as a world economic superpower and super-location for inward

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foreign direct investment (FDI) (Buckley, 2004), justifying its position as a focus for both academic and policy interest.

As the largest emerging economy, China has been very successful in attracting inflows of FDI since 1984. FDI has flowed into China from over 150 economies and regions worldwide. Chinese inward FDI stock amounted to US$378.08 billion in 2008, its share of global FDI stock increasing from 0.2 per cent in 1980 to 2.5 per cent in 2008 (UNCTAD, 2009). China has maintained its position at the top of the FDI Confidence Index since 2002, ranking first among Asian investors as well as all developing economies and second among European and North American investors (Kearney, 2007, 2010; UNCTAD, 2008).

FDI in the Chinese context has been well documented during the last decade, and a number of previous empirical studies have analysed FDI determinants in China (Liu et al., 1997; Sethi et al., 2009; Shi, 2001; Wang and Swain, 1995; Wei and Liu, 2001; Zhang, 1994; Zhao, 2003; Zhou et al., 2002). These studies, however, do not distinguish the FDI determinants between the home economies. In other words, the home economies have been examined without differentiation. This raises the question of whether the identified determinants are equally applicable to different home economies. Behrman (1972) and Dunning (1993) suggest that, from the perspective of home economies, FDI determinants can be related to different motivations for investment. Nachum and Zaheer (2005) argue that investment motivations can only be analysed meaningfully with respect to a specific context because of the unique attributes of the market and firms from different economies. FDI motivation and determinants thus would vary by the nationality of transnational corporations (TNCs). Zheng (2009) points out that FDI determinants and motivations might be heterogeneous between different home economies, due to their different economic development levels and geographical locations. While the world is populated with economies of great contrast, both economically and politically, no research thus far has attempted to establish the validity of FDI determinants across the entire spectrum of home economies, or to decompose home economies according to their economic development or geographical location. This distinction is important for both policy and business purposes, because different kinds of inward FDI create different kinds of externalities through linkages and spillovers (Jordaan, 2005, 2008a and 2008b; Kugler, 2006; Liu, 2002), while not all

of them positive. It is therefore crucial for the host country government to understand the strategies and motivations of TNCs, and to develop policies that will enhance positive externalities.

Using a large panel dataset covering 28 home economies, this paper intends to fill this gap by examining the potential heterogeneity of inward FDI determinants and motivations in China from a home economy perspective, and to provide important recommendations for both policymakers and business practitioners. The home economies of Chinese inward FDI are categorized into two sets of groups according to economic development (OECD developed economies, and non-OECD developing economies) and by geographical location (Asian, European and North American economies) with the intention of achieving a clearer evaluation of, and presenting further insights on, the impact of home economy differences on FDI determinants in the host economy, China. From an economic development perspective, it is important for an FDI host economy to devise its policy framework and strategy in accordance with home economies' characteristics, from which more FDI may be attracted. China is a country with great regional disparities (Chen and Fleisher, 1996). As such, the findings from this research may provide a basis of discussion with which to design effective FDI policies specifically to attract those types of FDI with the greatest potential for positive externality generation from particular home economies, thus further promoting its remarkable economic growth across its many regions with contrasting economic characteristics.

The rest of the paper is organized as follows. Section II reviews country characteristics and attributes and further develops hypotheses. Section III discusses research methodology. Section IV presents the findings and discussions, and the last section summarizes the conclusions and policy implications.

2. Country characteristics, FDI determinants and hypotheses

Based on his OLI eclectic paradigm analysing FDI determinants, Dunning (1998) points out that the relative attractiveness of FDI locations is determined by investment motivations, which he classifies into four categories: resource-seeking, (horizontal) market-seeking, (vertical) efficiency-seeking and strategic asset-seeking. Makino et al.

(2002) distinguish FDI into two groups: asset-exploitation and asset-seeking. The former views FDI as the transfer of a firm's proprietary assets across borders and the latter regards FDI as a means to acquire strategic assets available in a host country. Nachum (2003) categorizes FDI in terms of different strategic investment motivations and input needs: home-exploiting investment and home-augmenting investment. The former exploits the firm-specific advantages that firms have developed initially in their home economy in foreign markets in order to expand their market share (similar to horizontal market-seeking FDI); while the latter is driven by the need of firms to tap into strategic resources in foreign markets in order to access low-cost inputs (vertical efficiency-seeking FDI), certain resources (resource-seeking) and assets (asset-seeking).

Previous studies have shown that TNCs from the same country tend to share many common attributes which distinguish them from TNCs from other economies (Culem, 1988; Mariotti and Piscitello, 1995; Grosse and Trevino, 1996; Zaheer and Zaheer, 1997; Thomas and Waring, 1999; McKendrick, 2001). It has been assumed that the influence of nationality is uniform, implying that all firms are affected by the conditions in their home country in the same manner and to the same degree (Nachum, 2003). In other words, the pattern of TNCs' motivations and strategies would be similar if they are from the same country, but dissimilar if they are from different economies in which significant characteristics differ. As noted above, FDI motivations and determinants would vary by the nationality of the TNCs as well as different host economies. Some markets (FDI host economies) possessing specific factors are more suitable for achieving certain motivations, and TNCs from particular (home) economies are more likely to be driven by specific motives (Nachum and Zaheer, 2005). In short, specific FDI motivations and determinants are affected and shaped by both FDI host and home economies' characteristics, including government policies (Gastanaga, Nugent and Pashamova, 1998).

As the host economy, China represents the largest emerging market in the world, with a population of more than 1.3 billion and the world's fastest economic growth, attracting horizontal market-seeking FDI. China's low cost labour force and resources also attract vertical efficiency seeking FDI. In general, China's inward FDI from the

world is motivated by the prospective benefits such as market access and expansion, cost-reduction and efficiency improvement. This study, therefore, will focus on the two motivations, i.e. market-seeking and efficiency-seeking.

As the characteristics of FDI home economies vary, TNCs from different economies invest in China with different motivations. Due to the differing nature of firm-specific competencies possessed by TNCs, the strategic motivations for FDI vary between economies (Nachum, 2003). TNCs from developing economies tends to be in search of home-exploiting (market-seeking) and home-augmenting (efficiency-seeking, resource-seeking and asset-seeking) investment opportunities, and often undertake outward FDI to maximize benefits from their competencies in ethnic networks, knowledge of foreign markets, product design and international distribution. Lecraw (1993) and Wells (1983) suggest that TNCs from developing economies tend to develop small-scale, labour-intensive and flexible processes and products which are suitable to developing markets in which input characteristics and market demand conditions are similar to those in their home economies. FDI in this case is used primarily to strengthen their price competitiveness by exploiting the low-cost labour force in the host economies (Makino et al., 2002). As these economies possess limited domestic markets, they tend to expand their market through investment into other large developing economies like China. It can be argued that asset-exploitation FDI from developing economies investing in China is of both a horizontal and a vertical nature, for efficiency-seeking as well as market-seeking purposes.

In contrast, TNCs from developed economies investing in developing economies, especially in those large emerging economies like China, are generally seeking to exploit their ownership advantages derived from their distinctive resources and capabilities (Dunning, 1993, 1998). These ownership advantages include advanced technology, product and process innovation, economies of scale and scope, risk-reduction capacity, management skills and internalization advantages. Petrou (2007) finds that transnational banks from developing economies are more likely to follow clients from home, while those from developed economies tend to enter developing economies for foreign market opportunities, due to market saturation and regulatory

constraints at home. We can, therefore, describe FDI from developed economies investing in large developing markets as horizontal home-exploiting investment for market-seeking purpose.

H1: The motivations and determinants of China's inward FDI from different economic development groups are likely to be different.

Kearney (2007) notes that Asian investors prefer the "near abroad" strategy for their investments and China is the top investment location for them. "Asian investor interested in China spans across manufacturing and service sectors, as the country expands its domestic market demand and deepens its know-how as an export platform" (Kearney, 2007, p.9). Asian economies (see Appendix 1) provided about 60 per cent of Chinese total inward FDI during 1992–2004. There are certain special factors favouring such investments, including close geographical proximity, pre-existing kinship, social network and cultural affinity with China. These special factors provide TNCs from Asian economies with certain advantages in exploiting China's low input costs and gaining access to the Chinese domestic market. Having faced challenges in their home economies, such as appreciation of the currencies, rising labour and land costs, and environmental constraints, since the mid-1980s, TNCs in these economies have experienced an erosion of their comparative advantage, forcing many firms to relocate their productive activities overseas. This is particularly serious for those in labour-intensive "sunset" industries such as textiles, garments, electrical goods, metal, plastics, and toys. In doing so, many Asian economies, in particular the NIEs, have become "upstream suppliers of intermediate inputs and market channels for China's labour-intensive products while China is becoming a downstream processing and assembling base for the Asian NIEs, enabling them as a whole to become a more competitive producer in the world manufacture goods market" (Siew-Yean, 2001, p.12). Therefore, as a result of rising costs – the push factors at home − and fast growth of the Chinese market and its low input costs – the pull factors in the host country − TNCs from the Asian economies have made large investment in China, providing over 60 per cent of China's inward FDI (see Appendix 1). Indeed, China has become the largest host economy for the outward FDI from this group of economies.

Given that European countries are at a greater geographic distance from China, and enjoy only limited growth in their home markets, TNCs from Europe may have different business strategies from those in Asia. Previous studies have argued that small FDI firms are more likely to be driven by low host country labour costs, while large firms are more driven by the host country's market, exploiting their technological advantage (Kinoshita, 1998, Shi, 2001). The average size of an investment from Europe was almost twice that from North America and Asia (Hsiao and Hsiao, 2004). TNCs from Europe, therefore, are more likely to be interested in the Chinese domestic market than its low input costs.

Unlike investors from Asia and Europe, who prefer the near abroad investment strategy, "North American investors tend to look outside the Western Hemisphere" (Kearney, 2007, p. 8). Canada and the United States account for a large portion of China's inward FDI (8.4 per cent is from the United States and 0.8 per cent from Canada) (see Appendix 1). While the United States has the largest domestic market in the world, wage levels there are 10 and even 20 times higher than in China, while productivity in the United States is five times as high as that in China (Burke, 2000). The share of Chinese exports produced by foreign invested enterprises (FIEs) operating in China was 50 per cent in 2001. According to Burke (2000), United States firms build export-oriented production bases in China in order to take advantage of China's low-wage labour force, to produce intermediate and final products for re-export back to the United States market. A 10 per cent increase in the level of United States direct investment in an industry in China is associated with a 7.3 per cent increase in volume of the United States imports from China and a 2.1 per cent decline in the United States exports to China, in that industry. He argues that increasing United States investment in China worsens the United States trade deficit with China.

H2: The motivations and determinants of China's inward FDI from different geographic regions are likely to be different.

3. Methodology

All major home economies of Chinese inward FDI (see Appendix 2 for the home economy list)[1] are included in the panel dataset for estimation. This large panel dataset, across 28 home economies over 19 years from 1984 to 2002,[2] could provide robust and generalized empirical analysis and conclusions. As noted earlier, China has attracted dramatically increased FDI since 1984, and reached its top position of the FDI Confidence Index by 2002. It will be interesting to explore the vibrancy of the FDI received during the time period. In order to investigate potential heterogeneity among the different country groups within the data, all the home economies are categorized into two sets of groups by economic development and geographical location. By economic development, the economies are classified into two groups: OECD developed economy group and non-OECD developing economy group. By geographical location, the economies are divided into three groups[3] – Asian, European and North American economies (see Appendix 2 for the home economy categories).

The dependent variable is China's inward (annual realized) FDI, from the 28 home economies. The independent variables are composed of predictor variables and control variables. The predictor variables include three market size related variables to capture FDI market-seeking motive, and a labour cost related variable to capture FDI efficiency-seeking motive, while the control variables include two bilateral trade variables, three financial variables, two political risk variables and two distant variables.

A. Predictor variables

Market-seeking variables: Relative Market Size – RGDPP is the ratio of Chinese to home economy GDP per capita; Market Growth – RGGDP is the ratio of Chinese to home economy GDP growth and Absolute Market Size – RGDP is the ratio of Chinese to home economy GDP. All three variables are expected to positively influence FDI flows

[1] Taiwan Province of China and Virgin Islands are not included, because of insufficient data.

[2] Annual data for FDI before 1984 is not available.

[3] The Australian group including Australia and New Zealand is not examined because the FDI from the region is not as significant as that for the other three regions.

from the home economies to China. Efficiency-seeking variable: Labour Cost – RWAGE is the ratio of Chinese to home economy wage level. This is predicted to influence China's inward FDI inversely.

B. Control variables

Bilateral trade variables: Import and Export – IM and EX are China's annual imports/exports from/to home economy. These variables will capture the influence of trade intensity between the host and home economy on FDI flows from the home to the host economy. The previous studies suggest that trade and FDI are complements rather than substitutes and foreign firms tend to invest in their trade partner markets where they are familiar (Zheng, 2009). Therefore, both variables are expected to positively influence FDI flows to China.

Financial variables: Borrowing Cost – RLEN is the ratio of China's lending interest rate to that of the home economy. On one hand, the variable is expected to have a positive influence on China's inward FDI, as FDI will be more competitive in terms of cost of lending, over local capital in China (Grosse and Trevino, 1996; Liu et al., 1997). A higher lending interest rate in China also makes it attractive to foreign investors through portfolio investments. However, on the other hand, a higher rate would increase the cost if the foreign firms needed to obtain local capital in China, which should have a negative impact on inward FDI. The relationship between relative borrowing cost and China's inward FDI, therefore, is ambiguous. Exchange Rate – RREER is the real effective exchange rate between China and home economy. It is expected to influence China's inward FDI positively. Inflation – INF is the home economy's inflation and will have a negative influence on China's inward FDI.

Political risk variables: Home Economy Political Risk – POLI is the home economy political risk rating on a 100-point scale, from Very Low Risk (80 to 100 points) to Very High Risk (zero to 49.5 points), comprising 12 components covering both political and social attributes, i.e., government stability, socioeconomic conditions, investment profile, internal conflict, external conflict, corruption, military in politics, religious tensions, law and order, ethnic tensions, democratic accountability and bureaucracy quality. It is expected to have a positive influence on China's inward FDI. China Political Risk – Time Dummy (TD), 1989–1992 (1989–92 = 1, otherwise = 0) capturing the influence of the

Tiananmen Square Incident, is expected to have a negative influence on China's inward FDI.

Distant variables: Cultural Distance (proximity) – Culture Dummy (CD) is presented by the percentage of ethnic Chinese population in the home economy's total population. The economies in which the share of Chinese population in the total is higher than 50 per cent, i.e., Hong Kong, Macao, and Singapore = 1, otherwise = 0. It is expected to have a positive influence on China's inward FDI. Geographic Distance – GD, measured between China (capital city Beijing) and home economy (capital city), is expected to have a negative influence on China's inward FDI.

Table 1 summarizes all variables and their proxies, the expected signs, theoretical justification and the data sources.

The following log-linear equation is employed and estimated by the Random Effects statistical model:

$$LFDI=\alpha+\beta_1 LRGDPP+\beta_2 LRGGDP+\beta_3 LRGDP+\beta_4 LRWAGE+\beta_5 LIM+\beta_6 LEX$$

$$+\beta_7 LRLEN+\beta_8 LINF+\beta_9 LRREER+\beta_{10} LPOLI+\beta_{11} TD+\beta_{12} CD+\beta_{13} LGD+\varepsilon_{it}$$

4. Findings and discussion

Appendix 3 presents the descriptive statistics and correlations for all variables used in the estimation. We also conduct the diagnostic statistic of variance inflation factor (VIF) for testing of multi-collinearity. The results of the VIF tests presented by Appendix 4 do not show any evidence of serious multi-collinearity (see O'Brien, 2007). The empirical results for the home economy groups are reported in table 2.

The empirical results for the economic development category are presented in Column (1) for the OECD developed economy group, and Column (2) for the non-OECD developing economy group. There are similarities and differences between the two groups. Interestingly, the market-seeking variable of LRGDPP is positively significant for both economy groups at the high levels (5 per cent for the OECD developed economies and 1 per cent for the non-OECD developing economies), with large coefficients of 1.22 and 2.01, respectively, which indicate FDI

Table 1. Determinants and motivations of Chinese inward FDI by home economy

Variable	Proxy	Sign	Theoretical justification	Predictor or Control Variable	Data source
FDI (dependent variable)	LFDI: Annual realised FDI				*Almanac of China's foreign Economic Relations and Trade*
Market size (I) – relative market size	LRGDPP: ratio of GDP per capita of China to home economy	+	Market seeking	Predictor	*World Development Indicators*
Market size (II) – market growth	LRGGDP: ratio of growth rate of China to home economy	+	Market seeking	Predictor	*World Development Indicators*
Market size (III) – absolute market size	LRGDP: ratio of GDP of China to home economy	+	Market seeking	Predictor	*World Development Indicators*
Labour cost	LRWAGE: ratio of wage level of China to home economy	-	Efficiency seeking	Predictor	*Yearbook of Labour Statistics*
Imports	LIM: China's imports from the home economy	+	Trade intensity	Control	*Almanac of China's Foreign Economic Relations and Trade*
Exports	LEX: China's exports to the home economy	+	Trade intensity	Control	*Almanac of China's Foreign Economic Relations and Trade*
Borrowing cost	LRLEN: ratio of lending interest rate of China to home economy	?	Financial factor	Control	*International Financial Statistics Yearbook*
Exchange rate	LRREER: Real effective exchange rate between China and home economy	+	Financial factor	Control	*International Financial Statistics Yearbook*
Inflation rate	LINF: Home economy annual inflation rate	-	Financial factor	Control	*International Financial Statistics Yearbook*
Home economy political risk	LPOLI: Home economy's political risk rating (higher rating indicates lower risk)	+	Institutional factor	Control	*International Country Risk Guide*
China Political risk	TD 89–92: Tiananmen Square Incident influence	-	Institutional factor	Control	1989–92 = 1, otherwise = 0
Cultural distance (proximity)	CD: = 1 when percentage of ethnic Chinese in home economy population is >50%	+	Transaction costs	Control	Hong Kong, Macao, and Singapore = 1, otherwise = 0
Geographic distance	LGD: Geographic distance between China and home economy (capital)	-	Transaction costs	Control	www.wcrl.ars.usda.gov/cec/java/capitals.htm

from the two economic development groups is both highly motivated and attracted by the huge Chinese domestic market. It can be argued that market-seeking is one of the important motives for China's inward FDI from both OECD developed economies and non-OECD developing economies.

However, the results for the efficiency-seeking variable LRWAGE are different between the two economic development groups. LRWAGE is highly significant at a 1 per cent level for the non-OECD group, with the high coefficient of -1.65. But LRWAGE is not statistically significant for the OECD group. This might indicate that efficiency-seeking is another important motivation for China's inwards FDI from non-OECD developing economies, while such is not the case for the FDI from OECD developed economies.

In general, it can be argued that the determinants and motivations for China's inward FDI from the two economic development groups are heterogeneous, which supports H1. FDI from OECD economies is more interested in the Chinese market for market-seeking purposes, while FDI from the non-OECD economies is interested in both the Chinese domestic market and its low labour cost, for market-seeking and efficiency-seeking purposes.

In comparison, it seems that FDI from the OECD economies is sensitive to exports, inflation, and particularly to host and home economy political risks, while the non-OECD economies are sensitive to bilateral trade with China, borrowing cost, exchange rate and both cultural and geographic distance.

The results of the two bilateral trade variables for the OECD group, LEX – China's exports to the home economies − appears to be one of the determinants for FDI from the OECD economies to China. The positive sign indicates that the greater the level of exports from China to the home economies, the more FDI flows will be attracted from the home economies to China. As argued above, FDI from OECD economies is more likely for market-seeking purposes to take advantage of the Chinese local market. It therefore could be further argued that exports from China to the OECD home economies are largely from Chinese indigenous firms, rather than TNCs operating in China re-exporting final goods back to their home economies. Regarding the variable import, China's imports from the home economies do not play a significant

Table 2. Determinants and motivations of China's inward FDI by home economy

	OECD (1) H1	Non-OECD (2) H1	Non-OECD excluding HK (2a)	Asia (3) H2	Asia excluding HK (3a)	Europe (4) H2	North America (5) H2
LRGDPP	1.22 (0.48)**	2.01 (0.33)***	1.35 (0.44)***	1.85 (0.30)***	1.82 (0.32)***	0.64 (0.20)**	1.40 (1.64)
LRGGDP	0.10 (0.07)	0.27 (0.15)*	0.49 (0.19)***	0.23 (0.12)*	0.31 (0.14)**	0.23 (0.09)**	0.05 (0.10)
LRGDP	-0.27 (0.17)	0.45 (0.18)**	0.23 (0.12)*	0.25 (0.14)*	0.26 (0.15)*	-0.25 (0.18)	-0.47 (0.62)
LRWAGE	-0.51 (0.37)	-1.65 (0.40)***	-2.15 (0.48)***	-1.34 (0.32)***	-1.28 (0.34)***	-0.08 (0.33)	-1.24 (0.68)*
LIM	0.09 (0.15)	0.70 (0.19)***	0.93 (0.22)***	0.62 (0.17)***	0.72 (0.19)***	0.03 (0.17)	-0.52 (0.47)
LEX	0.93 (0.14)***	0.96 (0.25)***	1.15 (0.28)***	1.01 (0.21)***	1.05 (0.25)***	1.00 (0.15)***	0.76 (0.46)*
LRLEN	0.08 (0.23)	1.78 (0.42)***	1.62 (0.53)***	1.26 (0.33)***	1.30 (0.37)***	0.44 (0.31)	0.92 (0.40)**
LRREER	-0.20 (0.28)	0.33 (0.13) **	0.22 (0.14)	0.44 (0.09)***	0.48 (0.10)***	0.50 (0.51)	0.99 (0.49)**
LINF	-0.27 (0.10)***	-0.04 (0.14)	0.08 (0.15)	0.10 (0.11)	0.16 (0.13)	-0.27 (0.14)*	-0.22 (0.20)
LPOLI	3.38 (1.59)**	0.62 (0.99)	-0.60 (1.11)	1.25 (0.80)	0.52 (0.97)	2.42 (2.00)	3.47 (2.39)
TD	-0.40 (0.18)**	-0.43 (0.26)	-0.37 (0.30)	-0.32 (0.24)	-0.17 (0.26)	-0.34 (0.27)	-0.10 (0.18)
CD	–	1.91 (0.77)**	0.43 (1.00)	2.24 (0.59)***	2.40 (0.64)***	–	–
LGD	-0.03 (0.26)	-1.66 (0.64)***	-3.61 (1.17)***	-1.02 (0.27)***	-0.98 (0.28)***	-2.59 (1.46)*	–
NT	293	104	90	123	109	209	33
Adj R^2	0.6302	0.7993	0.8289	0.7721	0.7737	0.5846	0.5621

Standard errors are in parentheses.
*** , ** and * indicate that the coefficient is significant at the 1%, 5% and 10% levels, respectively.
– indicates that the variables are dropped due to collinearity.

role with regard to FDI flows for the OECD economies. In contrast, both imports and exports between China and non-OECD economies positively influence FDI from the non-OECD economies to China. The more bilateral trade takes place between the non-OECD economies and China, the more the flow of FDI from these non-OECD economies to China.

Of the three financial variables, LRLEN, LRREER and LINF, only the inflation variable is highly significant, while the borrowing cost and exchange rate variables are insignificant for the OECD economies, which might indicate that the home economy inflation level plays an important role in their investment decision-making process, while the borrowing cost and exchange rate between the host and home economies might not be a major concern for the OECD investors. In the case of non-OECD economies, the borrowing cost and exchange rate variables are significant, while the inflation variable is insignificant, which might indicate that the non-OECD investors are more concerned about the borrowing cost and exchange rate between the host and home economies, than their own economy's inflation.

The two political risk variables, both home and host economy political risks, are important to the OECD investors. The highest coefficient (3.38) on home economies' political risk indicates that home economy political stability will significantly encourage FDI flows from the OECD economies to China. On the other hand, high host economy political risk and instability will deter FDI flows into China. In contrast, for the case of the non-OECD economies, neither home economy stability nor host economy political risk is significant, indicating that economy political risk is not a major factor for investors from the non-OECD developing economies. These contrasting results between the OECD and non-OECD economies might reflect the fact that the investors from developing economies perceive and react towards the political risks in a radically different way from those from the OECD economies. The results might also be simply caused by the type of political risk measures we employed. As argued by Buckley et al. (2007), the measures of political risk might have shortcomings, because the indices are typically calculated from the point of view of firms from developed economies. They further suggest that the indices may need to be recalculated in order to better capture the perceptions of firms from the developing economies.

Interestingly, the two distance variables, cultural and geographic distance (with the large coefficients of 1.91 and -1.66, respectively) appear to be two very important determinants for the non-OECD economies: the closer the cultural and geographic distance of the home economies to China, the more FDI flows from the home economies to China, and vice versa. This result could explain why China's inward FDI from the developing economies comes mainly from those economies with cultural and locational proximity to China. It is also consistent with the fact that all the developing economies among the top 15 investor economies of inward FDI in China are Asian, except for the Virgin Islands (see Appendix 1). In contrast, geographic distance is not significant (while the cultural distance variable is dropped due to collinearity) in the case of the OECD countries, although the variable has the expected sign. The result might indicate that geographical distance is not an important issue for OECD investors to invest into China, which is also consistent with the fact showed in Appendix 1 – the OECD developed countries among the top 15 are from different continents worldwide, including the North America (Canada and the United States), Australia and Western Europe (France, Germany, the Netherlands and the United Kingdom).

Columns (3), (4) and (5) present interesting different results for the three geographic location groups, Asia, Europe and North America, respectively, which support H2. Similar to the non-OECD group, both market-seeking and efficiency-seeking predictors are significant for the Asian economy group, which indicate that FDI from Asian economies are both market- and efficiency-seeking types. In the case of the European economy group, two market-seeking variables are significant, but the efficiency-seeking variable is insignificant, which indicates that FDI from Europe is more likely to be market-seeking rather than efficiency-seeking. In contrast, the efficiency-seeking variable is significant, but all market-seeking variables are insignificant for the North American group, which might indicate that FDI from the North American countries is more likely to be efficiency-seeking rather than market-seeking.

All three market size variables are statistically significant for the Asian group, especially the LRGDPP variable, which is significant at the 1 per cent significance level with a large coefficient (1.82), so a 1 per cent increase in RGDPP would raise FDI inflows by 1.82 per cent. This result indicates that FDI from the Asian region is attracted by China's

large market. Interestingly, the efficiency-seeking variable is significant as well at the high level of 1 per cent with large coefficients -1.28. It could be argued that FDI from Asian economies is motivated not only by the large Chinese market for market-seeking purposes, but also by the low Chinese labour cost, for efficiency-seeking purposes.

Two market size variables are positively significant for the European economy group, which might indicate that FDI from European countries is motivated by the large Chinese domestic market and its rapid growth, because their domestic markets are saturated and market growth is limited in terms of their home economy's population and economic growth. However, the efficiency variable is insignificant. As the European countries are at a much greater geographic distance from China than the Asian economies, and have limited domestic markets, the large Chinese market might be more important and attractive than its cheap labour cost to the European investors. This result supports the finding from the previous studies that large foreign affiliates in China are more likely to have been established to serve China's large domestic market, as the average size of European affiliates in China is much larger compared with Asian and North American affiliates.

In contrast, the efficiency variable is statistically highly significant, but all market size variables are insignificant for the North American group. This result indicates that China's cheap labour cost is more important than its large market to the North American investors. FDI from North America is generally more likely for efficiency-seeking purposes, which again confirms the theory that small foreign affiliates in China are more likely to be driven by China's cheap labour cost, as the average size of America affiliates is generally small compared to that of European affiliates in China. This finding also supports the results obtained by previous studies in the area. For example, Hanson et al. (2001) note that vertical FDI from the United States is more common than horizontal FDI. Similarly, Nachum and Zaheer (2005) argue that the United States' outward FDI in less information-intensive industries is primarily driven by the search for efficiency and low-cost export platforms. Hejazi and Pauly (2003) find that taking advantage of relatively low labour costs is an important motivation for Canadian TNCs.

The Asian group seems sensitive to bilateral trade (both imports and exports) with China. The greater the bilateral trade between these economies and China, the higher FDI flows from these economies into China: hence FDI and trade are complementary. As is well known, China has a trade deficit with its Asian neighbours, but a trade surplus with Europe and North America. The Asian group is also sensitive to the relative borrowing cost and exchange rate (LRREER). This result, to some extent, could explain why some Asian economies had to devalue their currencies during the 1997–1998 Asian Financial Crisis after China had devalued its currency in 1994. Similarly to the non-OECD group, the Asian group are very sensitive to both cultural and geographic distance. As mentioned earlier, a large amount of China's FDI from the developing economies originates from those East and South-East Asian economies with cultural and locational proximity to China.

Like the OECD countries, of the two trade variables, only the export variable is significant, while the import variable is insignificant for both European and North American countries. This result indicates that exports and FDI complement one another, with more exports from China attracting more FDI inflows from the regions. The increased exports from China might also substitute these economies' domestic production. As a result, their trade deficit with China has become enlarged. Regarding the financial variables, home economy inflation is a factor of concern to investors from European countries, while the relative exchange rate variable is important to investors from North American countries.

The geographical distance variable is statistically significant, with the highest coefficient (-2.59) for the European countries, which indicates that the geographical distance is the most concern for FDI from the European countries to China. The result is consistent with the finding obtained earlier, that FDI from the European region is motivated by China's huge domestic market, for market-seeking purpose. Because of the geographic distance, TNCs from Europe are more likely to produce and sell their products locally in China, rather than re-export them back to their home countries.

While about 42 per cent of China's inward FDI came from Hong Kong (China) during the period studied, "round-tripping" has often been cited as a contributing factor (Buckley et al., 2008). this would tend to

over-represent the relevant groups i.e. non-OECD developing economy group and Asian group, which might cause potential bias. The two sub-groups, therefore, are re-estimated by excluding Hong Kong (China). Interestingly, the results obtained (Column 2a excluding Hong Kong) are similar to those including Hong Kong (Column 2) for the non-OECD group. The similarity is even higher comparing the results in Column 3 (with Hong Kong) and Column 3a (without Hong Kong) for the Asian group. This finding indicates that round-tripping FDI from Hong Kong, a serious issue in understanding the volume and pattern of China's inward FDI, does not influence the determinants and motivations of FDI from non-OECD or Asian economies.

5. Conclusions and implications

The empirical results suggest that the determinants and motivations of China's inward FDI are indeed heterogeneous between different home economy groups. From an economic development perspective, we found that both Chinese market size and its cheap input costs are important to investors from the developing economies, who are seeking both the Chinese domestic market (horizontal FDI) and efficiency (vertical FDI). In contrast, market size is more important for investors from the developed economies, who are more interested in the Chinese market than its cheap labour. In other words, horizontal FDI from the developed economies is more common than vertical FDI in China in general. From a geographic location perspective, investors from the Asian economies are both market-seeking and efficiency-seeking, interested in both the huge Chinese market and its low-cost labour. On the other hand, European investors are more interested in the Chinese market, while those from North America are more interested in cheap labour in China.

The benefit of differentiating FDI determinants across home economies is a clearer understanding of which factors are more important in attracting FDI from a particular home economy. This will enable the host economy to devise policies that can enhance positive externalities (Liu, 2002). An important contribution of this paper to literature is that determinants of FDI are contextual and economy-specific. Our argument is that maximizing positive externalities for the host economy can be achieved based on the understanding of the determinants that have attracted foreign firms in the first place.

However, the importance of those determinants can be assessed only when they are put in the specific economy context. Prior to this research, determinants of FDI were normally examined in general terms, without discriminating between the varied circumstances. This paper thus has furthered the academic discussion on this subject. For any host economy, FDI determinants can vary between developed and developing home economies from different continents. This conclusion demands the termination of generating universal list of FDI determinants. Instead, FDI flows from different home economies at different stages of market/economy maturation relative to the host economy can be decided by a different set of factors.

The policy implications from this research are that a host country government needs to depart from the traditional universal FDI policy framework. Instead, it should devise and pursue different packages of policies for different home economies of FDI, according to their individual attributes. This can be achieved by analysing the motivations of potential foreign investors in the context of their home economy characteristics, such as geographic location (Europe, Asia and America) and economic development (developing or developed), relative to the host economy. Equally important is an analysis of the characteristics of the host economy, which can vary from one region to the other. It is likely that by matching horizontal FDI to more developed regions of the host economy, or those seeking vertical FDI to less developed regions, where input cost such as labour is cheaper, will increase the success rate of FDI, and improve the externalities of the host region. By doing so, more FDI could be attracted from different home economies worldwide to the host economy. This will in turn provide more opportunities for economic development in the host society through production localization and technology spillover effect.

As an FDI hotspot, China has accumulated rich experience in dealing with inward FDI from different types of home economies. To improve its policy effectiveness, the Government of China could adjust its FDI strategies and policies to suit the requirements of different home economies. For example, the Government should endeavour to maintain China's remarkable rate of economic growth, and enlarge its domestic market to attract more horizontal market-seeking FDI, particularly from Asian and European economies. At the same time, it should also control its input costs by way of removing existing barriers to

the free flow of production factors such as labour and other resources, attracting more vertical efficiency-seeking FDI, particularly from the Asian NIEs and North American countries.

Similar principles will apply also to other emerging economies, such as India and Brazil, by which to develop more effective policies in order to attract larger volumes of FDI from different categories of home economies in terms of their level of economic development and geographic location. Host economies with low labour cost and a focus on manufacturing should seek to attract more FDI from North America, to benefit from the spillover effect of FDI motivated by cheap costs, while economies with higher labour cost should explore the possibilities of attracting more horizontal FDI from European countries on the basis of the size of their market. The implication for business practitioners and investors from a particular home economy is that they should examine and understand both host and home economies' characteristics, and the specific FDI determinants attached to the economies, and adjust their investment strategies and decisions accordingly.

This research has some embedded limitations which should be highlighted when examining its findings. For example, the grouping of economies is not balanced, as all the major source economies of China's inward FDI considered and classified in the non-OECD developing economy group happen to be located in Asia. In contrast, those categorized as the OECD developed economies are spread across Europe, North America and Asia. This has to be taken into consideration when applying the findings outside China.

Future research should investigate the potential heterogeneity of FDI determinants over different FDI development stages over a longer time period. This paper has looked at the overall determinants and motivations over 19 years, during which policy and economic factors evolved in both home and host economies. Breaking the considered time period into several phases could lead to a more accurate reflection of the heterogeneity of the determinants and motivations in different stages. Further, study should be conducted to relate motivations and entry strategies of foreign investors to the regional market characteristics and disparities within China (Chen and Fleisher, 1996; Démurger, 2001). Lastly, as each economy has its own specific industrial competitiveness, which can affect motivation and decisions of internationalization, it

would also be interesting to analyse the home industrial heterogeneity in relation to the determinants of China's inward FDI.

References

Behrman, J. N. (1972) *The Role of International Companies in Latin America: Autos and Petrochemicals*. Lexington, MA: Lexington Books.

Buckley, P. J. (2004) "The role of China in the global strategy of multinational enterprises", *Journal of Chinese Economic and Business Studies*, 2(1): 1–25.

Buckley, P. J., Clegg, L. J., Cross, A. R., Liu, X., Voss, H. and Zheng, P. (2007) "The determinants of Chinese outward foreign direct investment", *Journal of International Business Studies* 38(4): 499–518.

Buckley, P. J., Cross, A. R., Tan, H., Liu, X. and Voss, H. (2008) "Historic and emergent trends in Chinese outward direct investment", *Management International Review*, 48(6): 715–748.

Burke, J. (2000) "US investment in China worsens trade deficit". *Economic Policy Institute Briefing Paper*. http://epinet.org.

Chen, J. and Fleisher, B. E. (1996) "Regional income inequality and economic growth in China", *Journal of Comparative Economics*, 22(2): 141–164.

Culem, C. G. (1988) "The locational determinants of direct investments among industrialized countries", *European Economic Review* 32, 885–904.

Démurger, S. (2001) "Infrastructure development and economic growth: an explanation for regional disparities in China?", *Journal of Comparative Economics*, 29(1): 95–117.

Dunning, J. H. (1993) *Multinational, Enterprises and the Global Economy*. Wokingham: Addison-Wesley.

Dunning, J. H. (1998) "Location and the multinational enterprises: a neglected factor?", *Journal of International Business Studies* 29(1): 45–66.

Gastanaga, V. M., Nugent, J. B. and Pashamova, B. (1998) "Host country reforms and FDI inflows: How much difference do they make?", *World Development* 26(7): 1299–1314.

Grosse, R. and Trevino, L. J. (1996) "Foreign direct investment in the United States: an analysis by country of origin", *Journal of International Business Studies* 27, 139–155.

Han, C. M. (2002) "Korea's direct investments in China: technology, experience, and ownership factors in performance", *Asia Pacific Journal of Management*, 19: 109–126.

Hanson, G. H., Mataloni, R. J. and Slaughter, M. J. (2001) "Expansion strategies of US multinational firms". *BEA Working Paper*, WP2001-01.

Hejazi, W. and Pauly, P. (2003) "Motivations for FDI and domestic capital formation", *Journal of International Business Studies* 34(3): 282–289.

Hsiao, F. and Hsiao, M. (2004) "The chaotic attractor of foreign direct investment – why China? A panel data analysis", *Journal of Asian Economics* 15, 641–670

Jordaan, J. (2005) "Determinants of FDI-induced externalities: New empirical evidence for Mexican manufacturing industries", *World Development*, 33 (12): 2103–2118.

Jordaan, J. (2008a) "Intra- and inter-industry externalities from foreign direct investment in the Mexican manufacturing sector: new evidence from Mexican regions", *World Development*, 36(12): 2838–2854.

Jordaan, J. (2008b) "Regional foreign participation and externalities: new empirical evidence from Mexican regions", *Environment and Planning*, 40(12): 2948–2969.

Kearney, A. T. (2007) *New Concerns in an Uncertain World, FDI Confidence Index 2007*. Alexandria, VA: A. T. Kearney.

Kearney, A. T. (2010) *Investing in a Rebound, FDI Confidence Index 2010*. Alexandria, VA: A. T. Kearney.

Kinoshita, Y. (1998) "Firm size and determinants of foreign direct investment". *CERGE-EI Working Paper* No. 135.

Kugler, M. (2006) "Spillovers from foreign direct investment: within or between industries?", *Journal of Development Economics*, 80(2): 444–477.

Lecraw, D. (1993) "Outward direct investment by Indonesian firms: motivation and effects", *Journal of International Business Studies* 24(3): 589–600.

Liu, X., Song, H., Wei, Q. and Romilly, P. (1997) "Country characteristics and foreign direct investment in China: a panel data analysis", *Weltwirtschaftliches Archiv*, 133(2): 313–329.

Liu, Z. (2002) "Foreign direct investment and technology spillover: evidence from China", *Journal of Comparative Economics*, 30(3): 579–602.

Makino, S., Lau, C. M. and Yeh, R. S. (2002) "Asset-exploitation vs asset-seeking: implications for location choice of foreign direct investment from newly industrialised economies", *Journal of International Business Studies* 33(3): 403–421.

Mariotti, S. and Piscitello, L. (1995) "Information costs and location of FDI within the host country: empirical evidence from Italy", *Journal of International Business Studies* 26(4): 815–842.

McKendrick, D. G. (2001) "Global strategy and population-level learning: the case of hard disk drive", *Strategic Management Journal* 22, 307–334.

Nachum, L. (2003) "Does nationality of ownership make any difference and, if so, under what circumstances? Professional service MNEs in global competition", *Journal of International Management* 9(1): 1–32.

Nachum, L. and Zaheer, S. (2005) "The persistence of distance? The impact of technology on MNE motivations for foreign investment", *Strategic Management Journal* 26, 747–767.

O'Brien, R. M. (2007) "A caution regarding rules of thumb for variance inflation factors", *Quality and Quantity*, 41, 673–690.

Petrou, A. (2007) "Multinational banks from developing versus developed countries: competing in the same arena?" *Journal of International Management* 13, 376–397.

Sethi, D., Judge, W. Q. and Sun, Q. (2009) "FDI distribution within China: an integrative conceptual framework for analyzing intra-country FDI variations", *Asia Pacific Journal of Management*, online, DOI 10.1007/s10490-009-9144-5.

Shi, Y. (2001) "Technological capabilities and international production strategy of firms: the case of foreign direct investment in China", *Journal of World Business* 36, 184–204.

Siew-Yean, T. (2001) "Can Malaysian manufacturing compete with China in the WTO?", *Asia-Pacific Development Journal*, 8(2): 1–25.

Thomas, L. G. and Waring, G. (1999) "Competing capitalism: capital investment in American, German and Japanese firms", *Strategic Management Journal* 20, 729–748.

UNCTAD (2008) *World Investment Report 2008: Transnational Corporations, and the Infrastructure Challenge*. Geneva: United Nations.

UNCTAD. (2009) *World Investment Report 2009: Transnational Corporations, Agricultural and Production Development*. Geneva: United Nations.

Wang, Z. and Swain, N. (1995) "The determinants of foreign direct investment in transforming economies: empirical evidence from Hungary and China", *Weltwirtschaftliches Archiv* 131: 359–382.

Wei, Y. and Liu, X. (2001) *Foreign Direct Investment in China*. Cheltenham: Edward Elgar.

Wells, L. T. (1983) *Third World Multinationals: The Rise of Foreign Investment From Developing Countries*. Cambridge, MA: MIT Press.

Zaheers, S. and Zaheer, A. (1997) "Country effects on information seeking in global electronic network", *Journal of International Business Studies,* 28(1): 77–100.

Zhang, L. (1994) "Location-specific advantages and manufacturing direct foreign investment in South China", *World Development,* 22(1): 45–53.

Zhao, H. (2003) "Country factor differentials as determinants of FDI flow to China", *Thunderbird International Business Review* 45(2): 149–169.

Zheng, P. (2009) "A comparison of FDI determinants in China and India", *Thunderbird International Business Review*, 51(3): 263–279.

Zheng, P., Siler, P., and Giorgioni, G. (2004) "FDI and the export performance of Chinese indigenous firms: a regional approach", *Journal of Chinese Economic and Business Studies*, 2(1): 55–71.

Zhou, C., Delios, A. and Yang, J. (2002) "Locational determinants of Japanese foreign direct investment in China", *Asia Pacific Journal of Management*, 19: 63–86.

Appendix 1 . Top 15 source economies of inward FDI in China, 1992–2004

US$ billion

Economies	Rank	Amount	%
Hong Kong (China)	1	227.46	42.4
United States	2	45.33	8.4
Japan	3	43.56	8.1
Taiwan Province of China	4	38.76	7.2
Virgin Islands	5	36.75	6.8
Republic of Korea	6	25.94	4.8
Singapore	7	25.26	4.7
United Kingdom	8	11.89	2.2
Germany	9	9.51	1.8
France	10	6.39	1.2
Netherlands	11	5.81	1.1
Macao (China)	12	5.54	1.0
Canada	13	4.47	0.8
Malaysia	14	3.89	0.7
Australia	15	3.47	0.6
Total of the above 15	-	494.01	92.0
Total of the world	-	537.08	100.0

Source: China State Statistical Bureau, calculated by the authors

Appendix 2. Home economy list

Economy	Economic category	Geographic category
1. Australia	OECD	-
2. Austria	OECD	Europe
3. Belgium	OECD	Europe
4. Canada	OECD	North America
5. Hong Kong (China)	Non-OECD	Asia
6. Macao (China)	Non-OECD	Asia
7. Denmark	OECD	Europe
8. Finland	OECD	Europe
9. France	OECD	Europe
10. Germany	OECD	Europe
11. Indonesia	Non-OECD	Asia
12. Ireland	OECD	Europe
13. Italy	OECD	Europe
14. Japan	OECD	Asia
15. Republic of Korea	OECD	Asia
16. Kuwait	Non-OECD	Asia
17. Malaysia	Non-OECD	Asia
18. Netherlands	OECD	Europe
19. New Zealand	OECD	-
20. Norway	OECD	Europe
21. Philippines	Non-OECD	Asia
22. Singapore	Non-OECD	Asia
23. Spain	OECD	Europe
24. Sweden	OECD	Europe
25. Switzerland	OECD	Europe
26. Thailand	Non-OECD	Asia
27. United Kingdom	OECD	Europe
28. United States	OECD	North America

Appendix 3. Descriptive Statistics and Correlations

	Mean	S. D.	Min	Max	lfdi	lrgdpp	lrggdp	lrgdp	lrwage	lim	lex	lrlen	lrreer	linfl	lpoli	td	cd
lfdi	8.58	2.56	0.28	14.52													
lrgdpp	-3.26	1.07	-4.79	0.25	-0.02												
lrggdp	1.07	0.99	-1.96	5.94	0.01	-0.26											
lrgdp	0.8	1.56	-3.1	5.1	-0.23	0.40	-0.21										
lrwage	-3.35	0.89	-4.85	-0.91	0.09	0.87	-0.36	0.48									
lim	11.34	1.73	2.16	15.37	0.76	-0.05	0.01	-0.53	0.01								
lex	11.25	1.76	6.86	15.63	0.85	-0.00	-0.06	-0.38	0.12	0.87							
lrlen	-0.11	0.42	-1.61	1.33	0.29	-0.39	-0.03	-0.03	-0.31	0.14	0.22						
lrreer	0.14	1.46	-4.59	6.58	-0.03	-0.35	-0.01	0.15	-0.09	-0.24	-0.11	0.21					
linf	1.15	0.89	-3.09	4.32	-0.23	0.21	-0.16	0.17	0.26	-0.23	-0.19	-0.41	-0.03				
lpoli	4.34	0.17	3.52	4.57	0.12	-0.71	0.25	-0.26	-0.70	0.12	0.03	0.41	0.19	-0.42			
td	0.21	0.4	0	1	-0.23	-0.08	-0.13	-0.06	-0.06	-0.12	-0.14	-0.13	-0.01	0.22	-0.18		
cd	0.11	0.3	0	1	0.29	-0.12	-0.22	0.42	0.22	0.05	0.26	0.19	0.27	0.15	-0.15	0.06	
lgd	8.16	0.6	6.38	8.84	-0.25	-0.33	0.26	-0.33	-0.49	-0.13	-0.25	-0.04	-0.04	-0.23	0.44	-0.06	-0.49

Appendix 4. Results of VIF Tests

Variable	VIF	1/VIF
lrgdpp	16.54	0.060463
lrwage	10.74	0.093078
lex	6.45	0.155041
lim	6.36	0.157261
lrgdp	4.81	0.207940
cd	4.70	0.212716
lpoli	3.97	0.251589
lgd	1.95	0.513326
lrreer	1.91	0.523590
lrlen	1.73	0.576910
linf	1.55	0.646696
lrggdp	1.27	0.788288
td	1.25	0.800512
Mean VIF	4.86	