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Trend and Determinants of China's OFDI in Asia

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Abstract
The fundamental objective of this paper is to show the pattern and magnitude of Chinese Foreign Direct Investment (FDI) in Asia and respond to the question: what determines the spectacular surge in Chinese FDI inflow to Asia in recent time? This study will enable the policy makers to devise and execute polices to attract further Chinese FDI in future. Based on a dataset of 37 Asian host countries, we used panel data technique to explore the determinants of Chinese outward FDI over the period 2003-2012. Our findings revealed that inflation, natural resources endowment, infrastructure, bilateral trade and openness to the trade have positive and significant impact on Chinese FDI in Asia. Political stability a key institutional variable is significant but negatively associated with FDI. This study has key policy implications. Policy makers in Asia must formulate policies to improve economic relationship with China, provide trade incentives and remove all barriers to trade and capital movement to attract Chinese FDI. Infrastructure availability is also key to export performance and FDI inflow, therefore, countries lagging behind in quality of infrastructure must focus on its reconstruction and availability.
Keywords: Foreign Direct investment, Asia, Political stability, infrastructure

1. Introduction

Foreign direct investment (FDI), a predominant part of capital & investment movement is important aspect of globalization in recent times. China has emerged as substantial contributor to movement of capital all over the world. China traditionally being a host country is remarkably acting as source country for outward FDI since last decade. However, some distinct features are associated with location choice of Chinese FDI as there is drastic change in geographical distribution of Chinese outward foreign direct investment (OFDI) over the time. For instance, Asia is getting substantial share of China's OFDI as its share has increased from 16% (1991) to 73.8% in (2012). In 2012, China's outward FDI in Asia reached an appreciable amount of $ 64.785 billion, with a year on year growth rate of 42.4%[1]. Such phenomenal transformation can be traced back by the words of the then Chinese Premier, Wen Jiabao declaring that "The Chinese Government will encourage more of its companies to make investment and establish their businesses in Asian countries,"[2].This gradual increase in Chinese FDI is providing momentum to economic growth of Asian economies to a certain extent.

Although, investment choices made by Chinese firms are highly influenced by the government policies and priorities, still some advantages are associated with investment in neighboring regions. Chinese firms have accumulated international business experience and become more competitive. They have initiated using relevant ownership advantages and expanding business operations in the neighboring Asian economies. The inclination of Chinese outward FDI (OFDI) towards neighboring Asian economies to a certain extent results from the business, economic and cultural similarity between China and the Asian economies (Wu and Chen, 2001). China's investment decisions have followed more the internalization theory as Asia region has become the preferred destination for Chinese investment firms. The process of internalization initiates from the nearest regions, particularly by smaller family enterprises (Erdener and Shapiro, 2005). In addition to the concept of internalization theory, large parts of Asia has also become attractive for investment as FDI restrictions has been reduced significantly, leading to integrated production and efficient marketing networks globally (Gugler and Chaisse, 2009).

Analyzing China's FDI flows to Asian region is essential for several reasons. First, to the best of our knowledge, empirical studies on Chinese FDI in Asian economies are very limited considering bulk of investment being made in the region. Second, there is dramatic shift in investment priorities by Chinese firms since a decade, therefore, this study explores the host countries' determinants or pull factors influencing Chinese FDI in the region. Third, by examining the economic and institutional factors relevant to investment decisions by Chinese firms, this study enable us to propose policy measures to attract further Chinese FDI in the region.

In this paper, we used panel data technique to explore host country determinants of Chinese outward

[1] 2012 Statistical Bulletin of China's Outward Foreign Direct Investment
[2] Wen Jiabao, Premier People's Republic of China speech at the ASEAN Business and Investment Summit on October 7, 2003, Indonesia , titled" China's Development and Asia's Rejuvenation,"

FDI over the period 2003-2012. Hausman specification test and Lagrangian Multiplier test were conducted and the results support Random Effects method for estimation of the model. Our findings reveal that inflation, natural resources endowment, infrastructure, bilateral trade and openness to the trade have positive and significant impact on Chinese FDI in Asia. Political stability a key institutional variable is significant but negatively associated with FDI. These empirical results have important key policy implications for Asian countries. First, it suggests that, to attract Chinese FDI flows, the policy makers in the Asian region should remove all barriers to trade and capital moment. Second, bilateral trade influence Chinese FDI decisions significantly, therefore, policies must aim to improve economic relationship with China and provide trade incentives to attract Chinese FDI in the region. Third, infrastructure availability is key to export performance and FDI inflow, therefore, countries lagging behind in quality of infrastructure must focus on its reconstruction and availability.

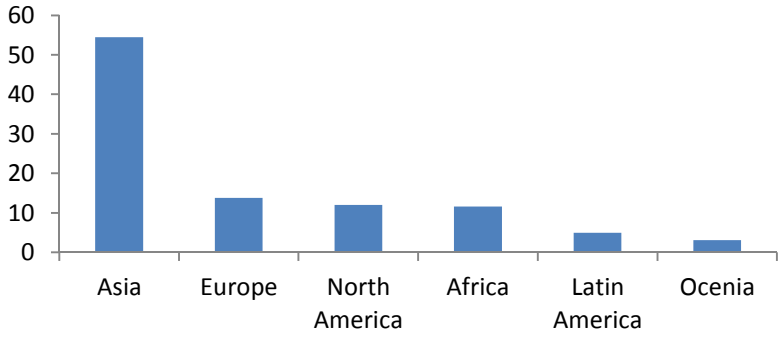
The rest of the paper is organized as follows. Section 2 provides a descriptive overview, pattern, trend and evolution of Chinese investment in Asia over the time. Section 3 includes brief discussion of previous studies, distinct features and characteristics of Chinese firms. Section 4 outlines model specification, data sources, methodology and variables description. Section 5 contains main findings and their analyses, while the final section closes the paper by discussing the main conclusions with some policy implications.

2. Pattern and trend of Chinese FDI in Asia

Asian economies have achieved tremendous economic growth and development in recent years. China the world 3rd largest FDI exporting country is providing momentum to such economic progress and achievements. The implementation of "going global" strategy, extensively promoted foreign investment ventures by Chinese investment firms as a response to growing global economic integration and competition.

China is able to export FDI despite of faltering world economic regaining in recent time. China's outward FDI flow has surpassed a level of $ 87.8 billion in 2012, while the global FDI flows declined by nearly 20% in comparison to the previous year as reported in "2012 Statistical Bulletin of China's Outward Foreign Direct Investment". By the end of 2012, China OFDI flourished to 179 countries (regions), accounting for 76.8% of total number of countries (regions) worldwide. By the end of 2012, China set up 11,906 overseas enterprises in Asia, which accounts for 54.5% of total global distribution (figure 2). These enterprises are mostly located in Hong Kong, Japan, UAE, Singapore, Vietnam, Laos, Indonesia, Korea, Cambodia and Thailand. In Hong Kong, 5300 Chinese enterprises are located, which accounts for 24.6% of the total Chinese enterprises engaged globally.

Figure 2: Geographical distribution of China's overseas enterprises by the end of 2012 (in %)



Source: 2012 Statistical Bulletin of China's Outward Foreign Direct Investment.

China's substantial FDI flow to all major continents picked up since 2001 but bulk of it has gone to Asia, which shows strengthening Asia's position as favorable destination for China's OFDI. Buckley et al. (2008) observed that China initiated its early international expansion in North America, investing heavily in Canada and US markets, however in recent time redirection of outward FDI has taken place towards developing and emerging countries. Table 1 shows the intense surge in overall investment flow of Chinese investment from $5.497 billion in 2004 to $87.804 billion in 2012. During the period, Asia is able to attract a substantial amount of Chinese OFDI i.e. getting 73.8 % of total Chinese investment flow in 2012. Latin America is no more a preferred destination as it was initially used by Chinese investment firms to have access to potential US market by crowding out entirely the Mexican *maquila*.

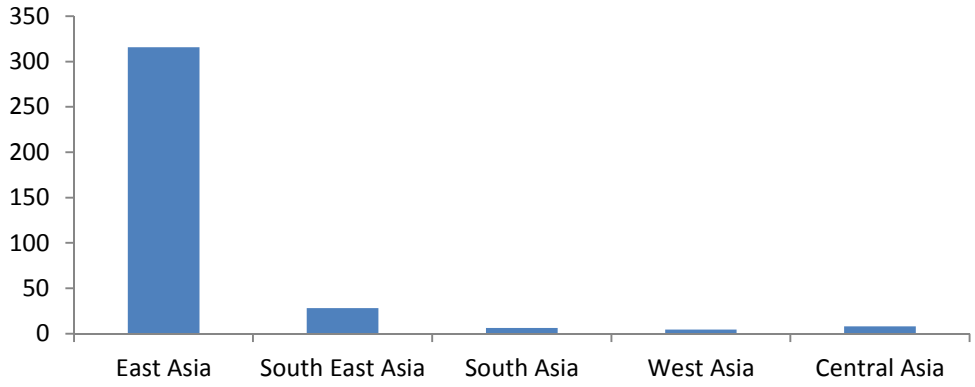
Table 1: Geographical Distribution China OFDI Flows, 2004 & 2012

Continent	2004		2012	
	Amount ($ billions)	Share (%)	Amount ($ billions)	Share (%)
Asia	3.010	54.8	64.785	73.8
Europe	0.157	2.9	7.035	8.0
Latin America	1.762	32.1	6.170	7.0
North America	0.126	2.3	4.882	5.6
Africa	0.317	5.8	2.517	2.9
Oceania	0.120	2.2	2.415	2.7
Total	5.497	100	87.804	100

Source: 2006 & 2012 Statistical Bulletin of China's Outward Foreign Direct Investment

By the end of year 2012, China's OFDI stock reached $531.94 billion, ranked 13th in the world in term of regional stock. Global distribution of Chinese OFDI is highly skewed towards Asia as it has attracted a lion share of $364.41 billion till 2012.In Asia, East Asia and South East Asia are the most attractive destinations for Chinese FDI (figure 2).

Figure1: China's OFDI stock distribution in Asia at the end of 2012 (in $billions)



Source: UNCTAD FDI, 2012 Statistical Bulletin of China's Outward Foreign Direct Investment.

The regional bias towards East Asia is described by the inclusion of tax haven Hong Kong, the topmost destination for Chinese OFDI. China's FDI in South East Asia has increased significantly over the last few years. Although, the stock in the region is relatively low but the growth rate is appreciable. In 2009, China FDI stock in South East Asia was $9.7 billion, while in2012,the stock reached $28.3 billion, accounting for 5.3% of the total and 7.7% of China's OFDI stock in Asia.

Table 2: Top 10 Asian countries as destinations for China's OFDI stock by the end of 2012

Country	Stock ($billion)	Share (%)
Hong Kong	306.37	84.1
Singapore	12.38	3.4
Kazakhstan	6.25	1.7
Indonesia	3.10	0.9
Myanmar	3.09	0.9
South Korea	3.08	0.8
Mongolia	2.95	0.8
Macao	2.93	0.8
Cambodia	2.32	0.6
Pakistan	2.23	0.6

Source: 2012 Statistical Bulletin of China's Outward Foreign Direct Investment

Table 2 shows China's FDI stock in the top 10 Asian countries at the end of 2012. Hong Kong dominated the region by getting substantial share of 84.1% of total stock in Asia. In term of industrial distribution, leasing & business service, finance and wholesale received $119.4 billion, $49.1billion &$26.3billion, accounting for 39%, 20% & 16% respectively. In ASEAN countries, Singapore received bulk of Chinese investment, accounting for 44% of total investment in the region. In central Asia, Kazakhstan is the top destination for Chinese investment firms, mainly attracting investment in natural resources. Pakistan, by end of 2012, is leading country to accumulate Chinese FDI stock in South Asia.

3. Literature Review

3.1 Theories of FDI for Developed Countries

Initial studies on FDI were derived from International trade theory, which emphasis on comparative advantage associated with host countries as the most essential determinant of FDI. Tracing the evolution of FDI theories, it is revealed that the "Monopolistic Advantage theory (1960)" initiated by American economist, Stephen H. Hymer took the first place. He declared that imperfect markets across the countries result in reallocation of production facilities leading to situation called "Traffic Jumping". In such case, FDI is carried out to substitute trade involving higher transactional cost. Raymond Vernon in 1966 proposed "Product Cycle Theory" explained the FDI flow in manufacturing sector in United Stated. The theory of Multinational Corporations (MNCs) was further propounded by Rugman (1986), who put forward the "Internalization theory", explaining that FDI as mode to replace markets by making operations internationally.

Dunning (1976) put forward the "Eclectic Theory", which was based on the combination of the International Theory, the Monopolistic Advantage Theory and the Theory of Location, is considered as the most comprehensive approach. This theory explains that outward FDI is the outcome of three advantages i.e. ownership advantage, location advantage and internationalization advantage. The decisions of the firms are based on such advantages to have an access to international market.

3.1.1 Theories of FDI for Developing Countries

The above mentioned theories mange to explain and focus mainly on FDI from developed nations. These theories could not adapt to the explain the phenomena of outward FDI from developing regions like Asia, as investment firms from these regions emerged despite not having firm specific advantages. Since the late 1970's, the emergence of MNCs from developing countries as the net investors was a surprising act, thus got some attention in the field of international business.

Lecraw (1977) carried out the first study about the characteristics of firms from developing countries. He conducted study about the Asian firms involved in Thailand and concluded that firms opt for labor intensive techniques to produce both for domestic as well as international markets. In addition to OLI framework, (Dunning, 1981, Dunning, 1986) forwarded "Investment Development Path Theory" and claimed that a country's outward and inward FDI position is essential for development and growth. Lall (1983) carried out study for Indian transnational corporations and put forward the theory of "Technological localization". He claimed that although the technologies and knowhow from developing nations are characterized by small scale and labor intensive, still more appropriate and fulfill the needs of developing countries' markets. Gongmin Ba (1996) claimed that market seeking activities and scale of economies are the ultimate objectives for MNCs from developing countries. Jian-bo (2003) proposed FDI "Threshold theory", stating that the behavior and activities of outward FDI from developing countries is chiefly determined by firm's investment capabilities and the threshold of FDI. The latest advancement in the theories for developing countries is provided by Mathews (2006), who put forward alternative frame work "Linkage, Leverage, and Learning (LLL)" to OLI approach. According to him, firms are succeeded to acquire advance technological levels by the way of leveraging to the new markets through joint ventures and partnerships.

3.2 Chinese Outward FDI- (special features & characteristics)

Chinese investment activities have been observed similar to the developing countries but with some deviations from the standard model of FDI for emerging country(Buckley et al., 2008). The flow of FDI from emerging economies has been a subject of interest and highlighted in literature consistently (Child and Rodrigues, 2005, Miller et al., 2008, Luo and Tung, 2007). As mentioned earlier, Dunning's OLI paradigm explains the FDI activities carried out by the firms from developed counties in such a way that these firms exploit their ownership advantages extensively. On the other hand, firms from developing countries possess only limited ownership advantages or firm specific asset abroad and this has been also the case with many Chinese investment firms(Athreye and Kapur, 2009).

Buckley et al. (2007a) have highlighted three specific features associated with Chinese FDI, quite contrasting to the general theories of FDI and to some extent to the theories of FDI from other developing economies. These characteristics are capital market imperfections, specific ownership advantages and institutional factors.

Capital market imperfections affect the Chinese investment pattern in many directions. Banking system in China is largely controlled by the government, therefore, state owned enterprises (SOEs) are able to have access to funds at below market level (Warner et al., 2004). The inefficient banking system also facilitate risky low-interest loans and subsidies for potential business investors, often influenced and pressured by local government and central party (Child and Rodrigues, 2005). In addition, Chinese family business get cheap capital for investment ventures from the family members (Erdener and Shapiro, 2005).

Some Special ownership advantages are linked with Chinese investment firms having FDI in other developing countries. As mentioned by (Buckley et al., 2007a), Chinese firms have indigenous experience to

operate in developing countries and also the capability to produce and offer appropriate goods and services to markets with low purchasing power per person. Further, Chinese firms are also capable to perform in risky, corrupt and poor institutional environment, therefore, more often successful in developing countries than western enterprises (Kolstad and Wiig, 2012).

In China, government has a certain impact on the companies' investment strategies and their orientation e.g. involvement of bureaucracy, cumbersome application process and control of foreign currency exchange. Ministry of Finance & Foreign Affairs and State Council may also interfere in the process of investment plan (Gugler and Boie, 2008). Better relationship between the institutions and heads of internationalizing companies is crucial and practiced in China successfully about the strategic investment and location choice.

3.3 Location factors of Chinese outward FDI

The existing literature on motivations of FDI has identified four types of outward FDI: 1) market- expanding FDI that aims to access and entering new markets; 2) strategic asset seeking FDI carried to acquire knowledge and technology; 3) resource seeking investment aims at acquiring natural resources in particular locations; 4) efficiency seeking FDI that reduce production cost and improve productivity.

This typology is used to look into the host country's determinants of Chinese outward FDI. Buckley et al. (2007a) found that factors for location choice of the Chinese OFDI have been the market size, infrastructural quality, country's economic factors, natural resources availability, degree of liberalization and investment opportunities and policy in host county, cultural proximity and number of ethnic Chinese in the host country. Kolstad and Wiig (2012) in his study found that Chinese FDI has been directed towards resource rich countries, countries with large market size and tax haven regions (particularly Hong Kong in Asia and offshore destinations in the Caribbean).Cheng and Ma (2007) by using panel data for 90 countries explored positive relationship between Chinese outward FDI and host countries' GDP.Cheung and Qian (2009) found that Chinese FDI is attracted to the countries with abundant of natural resources. In recent time, Chinese outward FDI has been directed to access and acquire advanced technology and immobile strategic assets i.e. acquisition of brands, local distribution and brands (Deng, 2003, Warner et al., 2004).

All the motivations discussed above can be concluded as pulling factors for China's growing outward FDI globally. In addition to pulling factors, there are some pushing factors, which induce and facilitate Chinese investment firms to carry out investment ventures all over the world. The varying exchange rate might become a potential push driver for the Chinese outward FDI(Child and Rodrigues, 2005). These pushing factors chiefly arise from increasing domestic competition, sliding profit margins, excess production capacity, rapidly increasing demand for natural resources and abundant foreign exchange reserves(Cheng and Stough, 2007).In addition, China's export to a host country also augment Chinese FDI in the country. Large Chinese minorities residing in the neighboring countries particularly in South East Asia also a relevant factor and affect the FDI willingness of the mainland Chinese.

4. Model specification, data sources, methodology and variables description

4.1 Model specification

On the basis of theoretical framework discussed above and the structure of the Asian economies as well as the distinct characteristics of China's FDI inflows to Asia, we have proposed and used the following model for estimating the determinants of FDI in the region.

$\ln OFDI = \alpha + \beta_1 \ln(\text{Investment Ret}) + \beta_2 \ln(\text{Inflation}) + \beta_3 \ln(\text{Natural Res}) + \beta_4 \ln(\text{Financial Dev}) + \beta_5 \ln(\text{Political Stab}) + \beta_6 \ln(\text{Corruption}) + \beta_7 \ln(\text{Infrastructure}) + \beta_8 \ln(\text{Bilateral Trade}) + \beta_9 \ln(\text{GDP Growth Rate}) + \beta_{10} \ln(\text{Openness}) + \varepsilon it$ ……(1)

where:-

- OFDI denotes China's Annual outward FDI stock in Asian economies.
- Investment Ret is profitability of investment (log of inverse of GDPP is used as proxy).
- Inflation is annual consumer prices (%).
- Natural Res is Resource endowment rate (annual ratio of ores and metals to total merchandise export).
- Financial Development is proxy by domestic credit to private sector by banks (% of GDP).
- Political Stab is political stability index from 0 to 10 (0= highest political stability, 10= highest political instability)
- Corruption is index for corruption from 0 to 10 (0=No corruption, 10=highest corruption)
- Infrastructure is telephone lines per 100 people.
- Bilateral trade is annual volume of trade between China and host country.
- GDP growth rate is annual gross domestic product growth in percentage.
- Openness is trade openness in host country (trade % of GDP)

4.2 Data sources & methodology

Annual Data on China's FDI stock in the host Asian countries is collected from "2012 Statistical Bulletin of China's Outward Foreign Direct Investment" jointly issued by National Bureau of Statistics, Ministry of Commerce and the Administration of Foreign Exchange of People's Republic of China. Annual data on investment return, inflation, natural resources, financial development, infrastructure, GDP growth rate and Trade openness are collected from World Development Indicators (2014). Data on political stability and corruption index is collected from Worldwide Governance Indicators (WGI). Data on Bilateral trade proxied by annual volume China's export and import is calculated from China Statistical yearbook (2013), National Bureau of Statistics of China.

The data set used for the empirical analysis consists of a panel of overall 32 countries and for the period 2003-2012.The data contains more entities and few time periods, so there is slight variation over the time in independent variables included in the model for panel analysis. Therefore, we are using linear estimation methods i.e. Pooled OLS, Fixed Effects (FE) and Random Effects (RE).Pooled OLS assumes homogeneity for all entities, while the Fixed Effects method introduces the country specific effect by estimating different intercepts for each entity. Random effects method, based on Generalized Least Squares (GLS) estimator that takes into account time series as well as the cross-sectional dimensions of the data, it treats the intercepts as random variables across the pooled member entities.

The Hausman (1978) specification test is applied to identify the presence of fixed and random effects in the model. This specific test with P-value (0.675) shows random effects (RE) is better choice than fixed effects model, indicating that individual effects are uncorrelated with the regressors. Breusch-Pagan Lagrange Multiplier (LM) test is conducted for the choice between pooled OLS and random effects model. The test provides P-value= 0.000<0.05, shows that random effects method is better choice compare to pooled OLS, merely because of no individual effects.

4.3 Variables Description

All the variables mentioned in above model are expressed in logarithmic form. In this section, we present a brief theoretical discussion about the potential determinants of China's FDI in Asia.

4.3.1 Rate of Return on Investment (IR)

FDI decisions are influenced by monetary benefit or rate of return on investment. Following the previous study carried out byAsiedu (2002) , we also used log of inverse of GDP per capita as proxy for the rate of return on investment. Capital scarce countries generally offer higher rate of return on capital investment, which implies low per capita GDP. This gives the implication that lower GDP per capita in host country associated with the higher rate of return and FDI inflows.

4.3.2 Inflation Rate (INF)

Inflation rate is used and indicate macroeconomic instability (Buckley et al., 2007b, Calvo et al., 1996). Inflation augments the cost of capital, and thus affects the profitability or rate of return negatively (de Mello Jr, 1997).Higher inflation rate results from poor economic policies such as excess money supply, deteriorated and poorly managed exchange rate.

4.3.3 Natural Resource availability (NR)

Considering the population size and rapid economic growth, China is lacking natural resource endowment. In the earlier period of economic development, Australia and Canada received substantial Chinese resource oriented FDI. China is now making large investment in South East Asia, Central Asia, Middle East, Latin America and Africa to realize the significant increase in demand for metals, ores, fuel and other natural resources (Pamlin and Baijin, 2007).

4.3.4 Financial Development (FD)

In existing literature, mostly positive relationship has been observed between host country's financial development and FDI inflow**.** Naseer and Gomez (2009) described financial development is important factor in FDI decisions, mainly because it effects extensively the cost structure of investment projects. Kinda (2010) observed financial development as engine of economic growth in host country, providing better business environment for firms and customers.

4.3.5 Political Stability (POL)

Political stable and democratic countries attract more FDI than autocratic and unstable countries (Schneider and Frey 185). Political stable regimes also more likely to the respect property rights and rule of law, consequently conducive to inward flow of FDI.Clarke and Logan (2008) found that countries with less political risk and better physical infrastructure attract more FDI.

4.3.6 Control of Corruption (CP)

It is widely recognized in literature that corruption in a host country increases the cost of foreign investors and hence hindered the inflow of FDI(Habib and Zurawicki, 2002, Javorcik and Wei, 2009, Egger and Winner, 2006, Hakkala et al., 2008). The 'grabbing-hand' theory of corruption, propounded by Vishny (1992), Bliss and Tella

(1997) and Aidt (2003), claims that existence of corruption in an economy that acts like a grabbing hand, enhance the costs of carrying out business activities.

4.3.7 Infrastructure Facilities (INFR)

Foreign investors prefer economies having quality infrastructure, particularly well-developed networks of roads, telecommunication, air ports, water supply and uninterrupted power supply. Other things constant, production costs are quite lower in the countries with good infrastructural facilities(Wheeler and Mody, 1992). (Kinoshita and Campos, 2003) argued that well developed infrastructure is necessary condition for successful operation of foreign investors. Infrastructure has positive impact on FDI inflows as claimed in the previous literature(Asiedu, 2002, Kok and Ersoy, 2009).

4.3.8 Bilateral Trade (BT)

It has been observed that strong trade ties between China and host country proved as significant factor for the expansion and flow of FDI. Trade variables has been used widely in literature to investigate its impact on FDI(Buckley et al., 2007a, Bevan and Estrin, 2004).Rose and Spiegel (2002) and Swenson (2004)examined the interaction between FDI and trade. They pointed out that larger inflow of FDI leads to higher volume of trade as well as other associated benefits such as increase in the growth rate of total factor productivity.

4.3.9 GDP Growth Rate (GDPG)

Almost every study on FDI has found positive association between FDI and economic growth rate(Chakrabarti, 2001, Ramirez, 2000). Countries having sustainable growth rate attract more FDI flows than volatile economies.Fan et al. (2007)claimed that China's higher economic growth is one of the major reasons for higher FDI inflow to the country. The faster market provides opportunities for investors to generate more profits.

4.3.10 Trade Openness (TO)

International trade provides connection to global market through economies of scale, hence provide opportunities for the foreign investors. Trade openness has a positive influence on export-oriented FDI inflow into an economy[3]. Generally countries with liberal trade and investment policies attract larger FDI compared to countries with restrictive policies. In most of the studies, the positive relationship between FDI and Openness has been identified in developing countries (Morisset, 2000).

5. Results and discussion

Table 3 shows the results when equation (1) is estimated using Random Effect Generalized Least Square estimation method with clustered standard error corrected at the country level. Regression 1 represents results for dependent variables by taking full sample of 37 countries. We found the relationship between outward FDI and inflation, natural resources, political stability, infrastructure, bilateral trade and degree of openness in host country to be all significant and correctly signed. Regression 2 depicts estimation results excluding Hong Kong. The exclusion is made to control for the biasness in Asian region as bulk of investment carried out between this location and mainland China. Further, to control for the practice of 'round tripping' argument about China's outward FDI, the exclusion of Hong Kong from main sample is meaningful. In regression 2, the results indicate that investment return, financial development, perceived level of corruption, GDP growth rate and openness to trade are insignificant whilst other variables are significant and correctly signed. The results of the regression 2 are quite similar to the basic sample result in regression 1, gives us the conclusion that our main findings are robust to using sample excluding the potential outlier.

As the data for all the countries included in the sample were not available, we have selected 23 countries with almost complete national data for regression 3.The results show that inflation, political instability level, corruption level, infrastructure, bilateral trade and trade openness variables are correctly signed and significant. Regression 4 depicts China's top destination for outward FDI in Asia. The results show that inflation, infrastructure, bilateral trade and openness to trade are significant variables and correctly signed. Table 4 present the correlation matrix results between China's outward FDI and all variables used in the model, while results of variance inflation factor (VIF) test are presented in table 5. These particular results indicate that overall data in the model is adequate for estimation purpose.

[3] UNCTAD (2009), promoting investment and trade practices, investment advisory series, no. 4. United Nations, Geneva.

Table 4 correlation matrix

	LFDI	LIR	LINF	LNR	LFD	LPOL	LCP	LINFR	LBT	LGDPG	LTO
LFDI	1.000										
LIR	0.051	1.000									
LINF	0.233	0.510	1.000								
LNR	0.152	0.042	0.110	1.000							
LFD	0.152	-0.466	-0.392	0.402	1.000						
LPOL	-0.009	-0.489	-0.401	0.214	0.581	1.000					
LCP	-0.039	-0.813	-0.536	0.174	0.685	0.596	1.000				
LINFR	0.207	-0.749	-0.375	0.226	0.640	0.443	0.716	1.000			
LBT	0.672	-0.173	-0.043	0.184	0.430	0.129	0.207	0.430	1.000		
LGDPG	-0.008	0.088	0.134	0.030	-0.125	-0.027	-0.090	-0.209	-0.132	1.000	
LTO	0.302	-0.414	-0.250	0.082	0.384	0.452	0.503	0.393	0.150	0.073	1.000

The interpretation of the coefficients for all the four regressions is as follows. The coefficient of investment return is positively associated with FDI but overall insignificant. The inflation variable is significant and positively related with China's outward FDI in all regression results. Such positive association is consistent with study of Buckley et al. (2007a), mentioned that moderate inflation in the host country accompanies with economic growth, therefore attractive for Chinese investors. Further, in their view, Chinese investment firms are capable of doing business in volatile economic conditions in the host countries, merely because these firms are influenced by home country imperfect capital market structure and institutional factors. Our results from regression 1&2 show that natural resources endowment have positive and significant impact on Chinese FDI. China has made substantial natural resource seeking FDI particularly in Africa, Russia as well as in Central and East Asia (Buckley et al., 2008), while in oil refining and gas pipeline in Turkmenistan and Kazakhstan to meet domestic needs of natural resources.

Table 5: Variance Inflation factor test

Variables	VIF	1/VIF
Control of corruption	5.16	0.19
Investment return	4.89	0.20
Infrastructure	3.75	0.27
Financial development	3.20	0.31
Political stability	1.88	0.53
Inflation rate	1.61	0.62
resource endowment rate	1.49	0.67
Trade openness	1.46	0.69
Bilateral trade	1.45	0.69
GDP growth rate	1.11	0.90
Mean VIF	2.60	-

We find that financial development is insignificant and negatively associated with Chinese outward FDI. However, in contrast to our expectations, such negative relationship is justified on the ground that greater financial development depth in Asian countries leads to less FDI inflows, similar to the results of Yu and Walsh (2010). For political stability in the host country, the coefficient is negative, while significant for three regression results. This result suggest that Chinese outward FDI is attracted to the economies with weaker institutional entirely opposite to the behavior of multinationals from developed countries. Malhotra and Zhu (2009) pointed out that Chinese firms often take advantage of the unstable political system in countries by acquiring cheap asset. According to Bunyaratavej and Hahn (2007) , Chinese investment firms may take advantages of less competition and lower level of consumer sophistication in the high risk countries, whose markets are unexploited and unknown to the western firms.

The coefficient of perceived level of corruption is negative but significant for regression 2 only. This result is consistent with previous studies conducted by Buckley et al. (2007a) & Kolstad and Wiig (2012), mentioned that Chinese investment firms prefer to locate in host countries with high level of corruption with intention to exploit the natural resources endowment. Cheung et al. (2012), finds that Chinese ODI is attracted to countries where corruption level is high. With respect to infrastructure, the coefficient is positive and significant in all regression results. This shows that better infrastructural development in Asian economies particularly in the South, East and South East Asian countries influenced Chinese investment priorities considerably. Empirical findings by Sahoo et al. (2013) & Srinivasan (2011) for South Asia indicate that infrastructural facilities are important in attracting FDI.Sekkat and Veganzones‐Varoudakis (2007) in their study for South Asia, Middle

East & Africa also observed the significance of infrastructure availability.

The significance of bilateral trade in all regression results indicates that FDI is complement of bilateral trade. This seems to be justified for China, where government during 1990s provided support to the local exporter in the form of foreign exchange assistance, tax rebates and financial support to foster FDI in trade related activities to boost Chinese export (Wong and Chan, 2003) . In our empirical investigation, host countries' market growth rate has insignificant influence on Chinese FDI in all our regressions results. Buckley et al. (2007a) in their findings also found insignificant positive relationship with Chinese FDI. The unexpected negative relationship between economic growth and FDI in regression 4 is also consistent with the prior study conducted by Zhang and Daly (2011) for Asian economies. Trade openness has expected positive influence on Chinese FDI and significant in three regressions results. This relationship is stronger for China's top 10 destinations of outward FDI stock in Asia, as 1% increase in openness to trade result in 2.26% rise in the Chinese outward FDI stock. This positive and highly significant impact of the variable suggests that Asian economies with liberalized trade orientation are able to attract large Chinese FDI, comparing to the economies with restricted trade policies . This result may also help to provide explanation for the insignificance of conventional market-seeking variables like GDP growth rate.

Table 3: Determinants of China's outward FDI

Variables	Reg 1	Reg 2	Reg 3	Reg 4
Investment return	0.293	0.329	0.567	0.272
	(0.290)	(0.283)	(0.360)	(0.382)
Inflation	0.438**	0.452**	0.642**	0.690**
	(0.187)	(0.190)	(0.210)	(0.304)
Natural resources	0.188*	0.176*	0.043	-0.001
	(0.106)	(0.105)	(0.128)	(0.119)
Financial development	-0.543	-0.563	-0.047	-1.137
	(0.442)	(0.446)	(0.439)	(0.696)
Political stability	-0.523**	-0.498**	-0.462*	-0.474
	(0.235)	(0.241)	(0.279)	(0.797)
Control of corruption	-0.396	-0.507	-1.635*	-1.517
	(0.994)	(0.990)	(0.991)	(1.375)
Infrastructure	0.589**	0.620**	0.618**	1.058**
	(0.208)	(0.202)	(0.205)	(0.330)
Bilateral trade	1.257***	1.220***	1.230***	0.589**
	(0.128)	(0.127)	(0.155)	(0.262)
GDP growth rate	0.057	0.064	0.082	-0.066
	(0.071)	(0.073)	(0.087)	(0.080)
Trade openness	1.031*	0.884	1.075*	2.263**
	(0.607)	(0.618)	(0.652)	(0.733)
Const	-7.812**	-6.523**	-6.345*	-3.599
	(2.881)	(3.069)	(3.440)	(4.289)
Hausman specification test	Prob>chi2 = 0.675			
Breusch & Pagan LM test	$\chi2(1)$ = 341.46*** (P-value 0.00)			
R-square overall	0.58	0.54	0.62	0.64
No of obs	271	264	217	90

* p<.1; ** p<.05; *** p<.001 (Standard errors are in parentheses)
Source: author's own calculations.

6. Conclusion and policy implications

In recent years, there is appreciable upsurge in Chinese FDI all over the continents. Asia is getting lion's share of Chinese FDI , become a major destination for location choice of FDI .This paper empirically investigates the determinants and pattern of Chinese outward FDI by using panel data of 37 Asian countries over the period 2003-2012. In attempt to explore the determinant of Chinese FDI in Asia, stylized macroeconomic variables such as inflation, natural resources endowment, infrastructure, bilateral trade and openness to the trade were found to be significant for FDI inflow to Asia. With regard to institutional factors, our findings seem to go against the conventional logic, as political stability in the host countries does not induce Chinese FDI. On similar direction, control of corruption also deter the inflow of FDI, however these results are consistent with existing studies e.g. Buckley et al. (2007a). Further, another surprising result from this study is GDP growth rate or economic growth of host Asian countries is insignificant for FDI flow. This result may be justified on the ground that the effects of natural resources endowment, openness to trade, bilateral trade and infrastructure

availability outweigh the impact of GDP growth rate.

This study has some policy implications for Asian countries. Firstly, in the line with conventional insight, our results show that openness of the economy is essential condition for the FDI inflow to Asian countries. Asian countries, therefore, strive to promote liberal economic policies by removing all restrictions on trade and capital movement. Secondly, the variable of bilateral trade is highly significant and has positive impact on Chinese FDI which indicates that strong trade relationship between China and host countries certainly has an impact on investment decisions by Chinese firms and policy makers. A conventional finding that FDI follows exports, chiefly supports the market seeking motive is also true for China in previous empirical studies for example Buckley et al. (2007a). Our empirical findings suggest that policy makers in Asia must focus and adopt incremental efforts to improve economic relationship with China, remove all trade barriers and provide trade incentives to successfully attract Chinese FDI in the region. Finally, infrastructural developments boost export performance by reducing transportation cost, rising efficiency and productivity, ultimately have positive impact on FDI particularly vertical FDI. ASEAN countries with better infrastructure facilities, have already achieved tremendous export performance, thus also a motivating factor for inward FDI flow. As evident from our empirical results , infrastructure variable is highly significant factor in attracting Chinese FDI, therefore, countries lagging behind in quality of infrastructure should focus on it reconstruction and improvement along with other factors.

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Appendix 1: Summary statistics of the variables in the model

Variable	Mean	Std. Dev.	Min	Max
Investment Return	-8.285	1.527	-11.017	-5.724
Inflation	1.548	0.991	-2.848	3.975
Natural resources	0.297	1.968	-7.537	4.247
Financial development	3.686	0.860	0.236	5.309
Political stability	1.455	0.588	-4.041	2.088
Control of corruption	1.487	0.359	0.621	2.286
Infrastructure	2.579	1.409	-1.809	4.479
Bilateral trade	8.880	1.729	4.847	12.741
GDP growth rate	1.655	0.755	-2.563	3.992
Trade openness	4.523	0.577	3.403	6.105

Appendix 2: All 37 Countries included in the analysis

Bahrain	Kuwait	Saudi Arabia
Bangladesh	Kyrgyz Republic	Singapore
Brunei	Lao	South Korea
Cambodia	Lebanon	Sri Lanka
Hong Kong	Macao	Tajikistan
India	Malaysia	Thailand
Indonesia	Mongolia	Turkey
Iran	Myanmar	UAE
iraq	Nepal	Uzbekistan
Israel	Oman	Vietnam
Japan	Pakistan	Yemen
Jordan	Philippines	
Kazakhstan	Qatar	

Appendix 3: List of 23 countries with almost complete national data

Bahrain	Jordan	Singapore
Bangladesh	Kazakhstan	South Korea
Cambodia	Malaysia	Sri Lanka
India	Mongolia	Thailand
Indonesia	Oman	Turkey
Iran	Pakistan	Vietnam
Iraq	Philippines	Yemen
Israel	Saudi Arabia	

Appendix 4: List of top 10 destinations for Chinese OFDI in Asia

Hong Kong	South Korea
Singapore	Mongolia
Kazakhstan	Macao
Indonesia	Cambodia
Myanmar	Pakistan

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