



INDIA, CHINA AND AMERICA INSTITUTE  
1549 CLAIRMONT ROAD, SUITE 202 • DECATUR, GA 30033 USA  
WWW.ICAINSTITUTE.ORG

# Have China & India achieved their potential in attracting Foreign Direct Investment?

**Kaliappa Kalirajan, Raymond Prasad & Peter Drysdale**

*Journal of Emerging Knowledge on Emerging Markets*  
Volume 4  
November 2012

# Have China & India achieved their potential in attracting Foreign Direct Investment?

**Kaliappa Kalirajan  
Raymond Prasad  
Peter Drysdale**

Australian National University

***Journal of Emerging Knowledge on Emerging Markets***  
**Volume 4**  
**November 2012**

**T**he literature on foreign direct investment (FDI), which includes both ‘inward investment’ (De Mello, 1997; Lim, 2007) and ‘outward investment’ (Fung et al., 2009; Drysdale and Findlay, 2009; Duanmu and Guney, 2009), is vast with different analytical designs. For analytical convenience, these studies can be grouped under the following major themes: (i) determinants of FDI (Agarwal, 1980; Armstrong and Drysdale, 2009; Mottaleb and Kalirajan, 2010); (ii) FDI-trade-growth-poverty reduction nexus (NCAER, 2009; Kalirajan and Singh, 2010; Upendra das, 2011); (iii) FDI-technology transfer and technology-spillover to host country firms (Crespo and Fontura, 2007; Hale and Long, 2011); and (iv) individual country studies and regional studies of FDI (Drysdale, 1972; Grosse and Trevino, 1996; Chen, 1997; Fung et al., 2004). Of the individual country studies of FDI, recently, studies on China and India in a comparative analytical framework have attracted the attention of researchers and policymakers around the globe (see for example, Wei, 2005; Panagariya, 2008; Zheng, 2009; Sahoo, 2010).

Since the last two decades, China and India have attracted the attention of multinational enterprises around the world. Apart from accounting for almost a third of the world population, both economies’ share in the world economy has grown substantially.



**HAVE CHINA & INDIA ACHIEVED THEIR POTENTIAL IN ATTRACTING FOREIGN DIRECT INVESTMENT?**

Taken together they are expected to contribute around 1.8 percent of the 4.5 percent global growth expected in 2011. Currently, China hails as the second largest economy in the world replacing Japan (in Purchasing Power Parity (PPP) terms), while India is the fourth largest economy, replacing Germany (IMF, 2011). Furthermore, based on the current economic growth trajectory (in PPP terms), China is expected to be the world largest economy by 2016 and India to be world third largest economy by 2020.

In many respects, China and India seem to be similar. Both are endowed with large geographical area, human capital and the highest growth rates among the developing countries in recent years. On the contrary, per capita income (approximated by the GDP per capita) from 1980s has more than doubled in India, while China experienced a remarkable seven-fold increase. However, a difference in reporting of GDP by China and India may not be overlooked to some extent. While China measures its GDP using ‘expenditure’ method, India reports GDP at ‘factor cost’. Though technically the ‘expenditure’ approach of China and the ‘income’ approach of India should yield identical results, in reality it need not be so due to taxes and subsidies. For example, the indirect taxes in India rose from 7.5 percent of output in 2009 to 9.2 percent in 2010 (The Economist, 15 April, 2011), which bears significant influence on the GDP calculation by ‘expenditure’ approach. Another similarity between China and India is that initially, both adopted an ultra-import substitution strategy in the form of autarky or self-reliance from early 1950s to late 1970s and to early 1990s in the case of China and India, respectively. Under this strategy, trade was restricted and heavy reliance on import substitution and exports were merely carried out to pay for imports (Chai and Roy, 2006).

Following the gradualist sustained reforms in China from the early 1980s and from the early 1990s in India, both economies pursued liberalisation of quantitative restrictions, trade and foreign investment policies, industry and tax reforms, among other sectoral reforms. These reforms fuelled the astonishingly strong growth of the inward bound Foreign Direct Investment (FDI) in these two economies in different magnitudes over the last three decades. Also, the contribution of FDI to their sustained economic growth in the last decades is commendable. China’s performance in attracting FDI over the past three decades considerably outpaced that of India. Now, the interesting question is as to how China is attracting relatively more FDI inflows compared to India. This question is the central research focus of this paper. In this context, this paper examines the following three key questions in order to synthesise a solution for the above central question: (1) What are the key determinants of FDI inflows into China and India?; (2) How different is the responsiveness of these determinants from China to India?; and (3) How far is India from China in reaching its FDI inflow potential given the existing “behind the border” constraints to FDI inflows?

The following section discusses the different trends in FDI inflows in China and India. It also elaborates on the issues concerning FDI statistics compilation and FDI policies in

these two countries in section 3. Section 4 outlines the specification of the model based on literature and econometric methodology. This is followed by discussion of the empirical results in section 5 and then a sum-up of the key findings and policy implications are given in section 6.

### **China and India: Difference in FDI Trends**

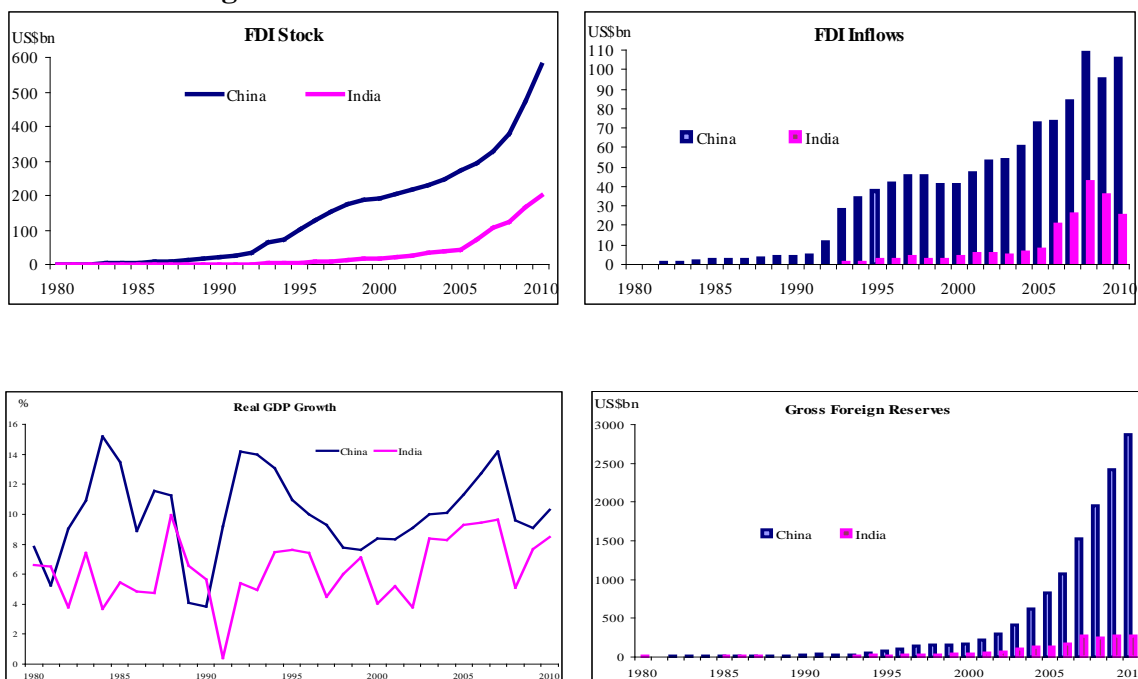
Performance of inward FDI into China continues to surpass that of India. The 2011, World Investment Report, commissioned by the United Nations Conference on Trade and Development (UNCTAD), outlines that China continues to be the largest recipient of FDI flows amongst the developing countries and second overall after the U.S. In 2010, China received US\$106 billion, an increment from US\$95 billion in 2009. India, on the contrary, fell from its impressive rating of 8<sup>th</sup> largest recipient of FDI flows in 2009 to 14<sup>th</sup> in the 2010. This is equivalent to US\$36 billion and US\$25 billion FDI inflows received in 2009 and 2010, respectively.

A more exceptional difference is in the trend FDI performance of these two economies, as illustrated in Figure 1. The mid-1980s marked the period when the Chinese inward FDI stock and inflows significantly outpaced the growth in Indian FDI stock and inflows. This is largely attributed to China's first mover advantage of initiating comprehensive economic reforms favouring an export-led growth and investment reforms. However, for India, it was not until the mid 1991, when substantial economic reforms were introduced in the wake of the balance of payments crisis. The resulting difference in the economic growth and external position (approximated by the Gross Foreign Reserves position) is also depicted in Figure 1. The considerable difference in the performance of these two key macroeconomic variables also confirms the benefits of early and outward-oriented economic reforms in China (Garnaut, 2004).



## HAVE CHINA & INDIA ACHIEVED THEIR POTENTIAL IN ATTRACTING FOREIGN DIRECT INVESTMENT?

**Figure 1: Snapshots of FDI Stock, FDI Flows, Real GDP Growth and Gross Foreign Reserves**



Source: UNCTAD

This difference in trend between China and India's FDI performances is also mirrored in other complementary reports to inward FDI statistics. For instance, the FDI Confidence Index compiled by the A.T. Kearney (2010), which is based on surveys of executives at the world's 10,000 biggest companies (including the largest corporations in emerging market economies) spanning across 44 countries and 17 sectors. Taken together, these surveyed companies generate over US\$2 trillion in annual global revenue that is responsible for 75 percent of the global FDI flows. China remains the top-ranked destination by foreign investors, a title it has held since 2002, while India slipped from the second to the third place in 2010 for the first time since 2005 (A. T. Kearney, 2010).

In addition, other key complementary indicators are the FDI performance and potential indices of the UNCTAD (see Table 1). The inward FDI Performance Index captures a country's relative success in attracting global FDI. This index ranks countries by the FDI they receive relative to their economic size, calculated as the ratio of a country's share in global FDI inflows to its share in global GDP. If a country's share of global inward FDI matches its relative share in global GDP, the country's FDI Performance

Index is equal to one. A value greater than one indicates a larger share of FDI relative to GDP and vice-versa, while a negative value means foreign investors disinvested in that period. The index thus captures the influence on FDI of factors other than market size, assuming that, other things being equal, size is the “base line” for attracting investment (UNCTAD, 2003).

**Table 1: FDI Performance and Potential Indices**

Year	China				India			
	FDI Performance <sup>1</sup>		FDI Potential <sup>2</sup>		FDI Performance <sup>1</sup>		FDI Potential <sup>2</sup>	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score
1988-1990	46	1.033	45	0.176	98	0.066	72	0.120
1993-1995	11	5.780	55	0.212	108	0.378	93	0.163
1998-2000	51	1.198	42	0.255	119	0.155	91	0.156
2003-2005	62	2.020	30	0.307	121	0.451	85	0.159
2004-2006	75	1.320	32	0.304	110	0.615	84	0.163
2005-2007	88	0.986	n.a.	n.a.	106	0.629	n.a.	n.a.

Note: n.a - Not Available

Source: UNCTAD

The Inward FDI Potential Index captures several factors (apart from market size) expected to affect an economy’s attractiveness to foreign investors. It assesses each country’s attractiveness for FDI inflows based on eight variables, namely: GDP per capita, real GDP growth for the past ten years, exports as a percentage of GDP, number of telephone lines per 1,000 inhabitants, commercial energy use per capita, R&D expenditures as a percentage of gross national income, students in tertiary education as a percentage of total population, and political risk. This index ranges from 0 to 1, with values close to 1 indicating higher potential. However, both performance and potential indices are calculated using three-year averages to offset annual fluctuations in the data.

Again, these indices reflect China’s better performance and potential over India. A recent study by Vazquez-Rozas and Vadlamannati (2009), using data from 1970 to 2005 concluded that there is still lot of potential for India to compete with its peer group, which includes China. Nevertheless, 2003-2007 performance indices for China show a lower share of FDI relative to GDP. This indicates that on marginal terms China’s global share of GDP outshines its’ FDI inflows. Based on the results from the performance and potential indices (see Table 1), UNCTAD places China in the category of economies performing below their potential, while India is categorised as an under-performer in the 2006 matrix of inward FDI performance and potential. Panagariya (2008) has argued that a crucial factor that has contributed to the widening gap in trade and investment performances between China and India is lack of proper domestic policies, particularly concerning infrastructure such as power supply and the institutional framework in India. In the light of these above arguments, it is imperative



## HAVE CHINA & INDIA ACHIEVED THEIR POTENTIAL IN ATTRACTING FOREIGN DIRECT INVESTMENT?

to examine which major factors do constrain China and India from achieving their FDI potential given its major determinants.

It is then necessary to measure the potential FDI given the major determinants for China and India individually and to compare the figures with their realized FDI. The gap, if any, between potential and the actually realized FDI may be named as host country's inefficiency in attracting FDI. Identification of factors contributing to such gaps can be done drawing from the existing vast literature. For example, Wei (2005), Zheng (2009), and Armstrong and Drysdale (2009) among others, highlight possible economic, social and institutional factors that have contributed to the difference in the FDI performance of China and India. As these factors are country-specific, they may be called 'behind the border' factors. It is argued that factors such as, a larger market size, higher labour productivity, lower direct and indirect taxes, better infrastructure, less bureaucracy in FDI approvals, stronger Diaspora network based investment and more opportunities for investor to access regional and international export market have contributed to the stronger performance of China relative to India in attracting FDI flows.

### **FDI Data and Policy Characteristics in China and India: Some Issues**

#### **Data Issues**

Notwithstanding, these glamorous FDI performances of China relative to India, recent reports by the World Bank (2002), and the International Finance Corporation (2002) highlighted that the Chinese data on FDI inflows could be overstated. Similarly, these reports stressed that India's FDI inflow statistics may be understated<sup>5</sup>.

According to the International Monetary Fund's Balance of Payments (BoP) Manual (6<sup>th</sup> Edition), data compilation and reporting on FDI flows into the country includes three broad categories: (1) Equity Capital; (2) Re-invested Earnings; and (3) Intercompany Loans (such as, trade credits, financial leasing, etc). However, India excluded re-investment earnings and some sub-categories of Intercompany loans from its calculation of FDI inflows before 2000 (RBI, 2009)<sup>6</sup>. Since 2000, the Reserve Bank of India (RBI) website reports FDI including reinvestment earnings and other capital (but excludes non-cash acquisition under equity capital). On the contrary, China includes all the categories of FDI inflows but it also adds imported equipment to the FDI inflow account, which is recorded in trade account of BoP by India (Wei, 2005; Zheng, 2009).

Moreover, accounting for FDI inflows by "round tripping"<sup>7</sup> from Hong Kong and Mauritius by China and India, respectively, is a fundamental flaw in data compilation and reporting on FDI flows to these countries. The effect of this round-tripping overstates the FDI inflows. As Wei (2005) explains that round tripping can take many forms, such as, preferential tax treatment, transfer pricing, capitalisation and investment in domestic firms by related foreign affiliates of the companies through rising capital in

overseas financial markets. The estimated effect of round tripping for China varies from as low as 7 percent (Tseng & Zebergs, 2002) to as large as over 35 percent (Sicular, 1998). Other studies by the World Bank (1992) and Huang (2003) estimated round tripping to be around 25 percent for China.

As for India, Wei (2005) outlines that RBI expected it to be around 2 to 3 percent based on the same corporate taxation policies for India and Mauritius. However, this is questionable given that Office of Industries – U.S. International Trade Commission Report (July, 2007, p.2-13), states that given the small size of the Mauritian economy and only four Greenfield FDI projects (all from 2002) lists Mauritius as the source country, it is possible that many companies based outside India utilise the Mauritian holding companies to take advantage of the India–Mauritius Double Tax Avoidance Agreement (DTAA). This DTAA, as they argue, allows foreign firms to bypass Indian capital gains taxes, and may also allow India-based firms to avoid paying certain taxes through round tripping.

In spite of these intricate data issues, we are able to overcome some of these in our analysis. To correct the problem of round tripping we did run an auxiliary regression without the countries (Hong Kong and Mauritius) classified as special investment vehicles for China and India. This study utilises panel data for China (for top 20 countries from 2000 to 2009) and India (for top 20 countries from 2000 to 2009)<sup>8</sup>. Data for FDI inflows are sourced from the respective Authorities from China and India. The data sources for other variables are detailed in Appendix 1.

### **Policy Issues**

At present, China's infrastructure and cities are far more advanced than India's, though India is now concentrating on its infrastructure development. It is a known fact that China's FDI is export-oriented, while that of India's is domestic market oriented except in information technology (Sarma, 2002). It is argued that China provides more business and FDI friendly environment than India, which is well documented in the literature (Wei, 2005; Panagariya, 2008; Sahoo, 2009). The UNCTAD survey revealed that on average it takes about 3 months to start a business in India compared to 1 month in China. In the case of FDI in power plant, it is reported that a foreign firm needs to take 43 and 57 clearances from the Central and State Governments respectively in India (UNCTAD, 2002, 2003). The entry and exit policies for business enterprises are more flexible and business-friendly in China than in India. For example, based on the 2009 World Competitiveness Report, it takes 62 days to close a business in China, while it consumes 140 days in India. However, Indian FDI policies are becoming business-friendly gradually (for more details see, NCAER, 2009; Sahoo, 2010)<sup>9</sup>. Concerning entry, there are two main channels that facilitate the entry of FDI into India: (i) Secretariat for Industrial Assistance (SIA) under the Ministry of Commerce and Industry along with Foreign Investment Promotion Board (FIPB) under the Ministry of Finance; and (ii) the Reserve Bank of India (RBI). Approvals under the former channel





is called as ‘prior Government approval route’ and the latter is called as ‘automatic route’ and the inference is that the former channel can potentially be more difficult to deal with for foreign investors. Nevertheless, “until the year 2000, most of the FDI came through the government route as there was strict monitoring of the approvals. There has been a dilution of this trend in the past five years. With the investment boom in India and different states competing for FDI, the government has eased foreign investment regulations leading to a spurt in FDI coming through the RBI route, which is a positive sign” (NCAER, p.15).

It is important to remember that China has slightly more than ten year head start on India. In terms of bi-lateral trade and investment relation between China and India, it may be noted that India-China trade has been increasing steadily. China, managed to attract a significant amount of investments from India. Total Indian investments approved by China between 1996 and 2008 stood at \$2,965 million. According to the Indian commerce ministry, the government approved Chinese investment worth \$1,285 million between 1991 and March 2008.

### Model and Econometric Methodology

Drawing on the existing exhaustive literature cited above, drawing on Kalirajan (2000) the following stochastic varying coefficients frontier model is formulated in a Cobb-Douglas functional form:

$$(1) \quad \ln RFDI_{it} = \alpha_{it} + \sum_{j=2}^T \gamma_{ji} D_{ji} + \sum_{k=2}^K \alpha_{kit} \ln X_{kit} \quad i = 1, \dots, N. \quad t = 1, \dots, T$$

where  $\alpha_{it} = \bar{\alpha}_1 + u_{1i} + v_{1t}$  where  $u_{1i}$  and  $v_{1t}$  are statistical error terms associated with individual countries and time respectively;  $D_{ji} = 1$  if  $j = t$  and zero otherwise; and  $RFDI_{it}$  is the real FDI inflow from the  $i$ th country in period  $t$ ;  $X_{kit}$  includes the economic characteristics of the host economy, such as GDP and its growth rate, trade, industrial value-added and the ratio of real wage of home country to the host country in year  $t$ ; labour force, physical infrastructure proxied by electricity consumption, and number of internet and phone users in host country in year  $t$ ; and the business environment in the host economy, which includes the ratio of days required to start a business in the home country to the host country, the ratio of hours required to prepare and pay taxes in the home country to the host country, and the number of signed investment treaty by the host country in period  $t$ .

$\alpha_{1i}$  is the intercept term for the  $i$ th country;  $\alpha_{ki}$  is the actual response of the FDI inflow to the  $k$ th determinant by the  $i$ th country. Here the implication is that each country perceives differently on the impact of the chosen determinant of FDI based on its own experiences and policy environment and therefore the response from the same FDI determinant can be different for different countries. As the decision to invest is

basically derived from profit maximization problem that involves certain policy variables, such as the ‘behind the border’ constraints in host country, the investor countries would be taking these policy variables into account in their decisions and thus these policy variables would be entering into the above model as determinants of the parameters of the model rather than just additive terms. Further, each country that invests in China and India seeks to utilize different strengths of these host markets and is uniquely different in its approach to investment in these two economies. Therefore, there are unknown forms of inherent heterogeneity in FDI inflows. These above realities necessitate that our above model (1) is a varying-parameter model rather than the conventional constant-parameter model (see Lucas, 1976).

$\gamma_{ji}$  accounts for inter-year differences in the FDI inflow from the  $i$ th country due to the home country’s investment environment.

$$\text{Let, } \alpha_{kit} = \bar{\alpha}_k + u_{ki} + v_{kt}; \quad k = 1, 2, \dots, K; \quad i = 1, 2, \dots, N \text{ and } t = 1, 2, \dots, T$$

$$\gamma_{ji} = \bar{\gamma}_j + w_{it}$$

where,

$$E(\alpha_{kit}) = \bar{\alpha}_k, \quad E(\gamma_{ji}) = \bar{\gamma}_j$$

$$E(u_{ki}) = 0, \quad E(v_{kt}) = 0, \quad E(w_{it}) = 0$$

$$\text{Var}(u_{ki}) = \sigma^2_{ujk} \text{ for } j = k \text{ and } 0 \text{ otherwise,}$$

$$\text{Var}(v_{kt}) = \sigma^2_{vjk} \text{ for } j = k \text{ and } 0 \text{ otherwise, and}$$

$$\text{Var}(w_{it}) = \sigma^2_{wjk} \text{ for } j = k \text{ and } 0 \text{ otherwise.}$$

With these assumptions, model (1) can be written as

$$(2) \quad \ln RFDI_{it} = \bar{\alpha}_1 + \sum_{j=2}^T \bar{\gamma}_j D_{ji} + \sum_{k=2}^K \bar{\alpha}_k \ln X_{kit} + \varepsilon_{ki}$$

Where  $\varepsilon_{ki}$  captures the influence on FDI flows of other left out variables, including measurement errors and is randomly distributed across observations in the sample.

$$\varepsilon_{ki} = \sum_{k=2}^K u_{ki} \ln X_{kit} + \sum_{k=2}^K v_{kt} \ln X_{kit} + \sum_{j=2}^T w_{it} D_{ji} + u_{1i} + v_{1t}$$

$$E(\varepsilon_{ki}) = 0 \text{ for all } i \text{ and } k.$$

$$\text{Var}(\varepsilon_{ki}) = \sigma^2_{u11} + \sigma^2_{v11} + \sum_{k=2}^K \sigma^2_{ukk} \ln^2 X_{kit} + \sum_{j=2}^T \sigma^2_{vkk} \ln^2 X_{kit} + \sum_{j=2}^T \sigma^2_{wkk}$$

$$\text{COV}(\varepsilon_{ki}, \varepsilon_{ji}) = 0 \text{ for } k \neq j.$$



Following the estimation procedures suggested by Hildreth and Houck (1968), the mean response coefficients  $\bar{\alpha}$ 's,  $\bar{\gamma}$ 's, and the variances can be estimated and the individual response coefficients  $\alpha_{ki}$ 's and  $\gamma_{ji}$ 's can be obtained as described in Griffiths (1972). The highest magnitude of each response coefficient and the intercept represent the investment responses of following the best method of decision making for FDI by the relevant investor countries, and they constitute the coefficients of the potential frontier FDI inflow function for the host country. Let  $\alpha^*$ 's and  $\gamma^*$ 's be the estimates of the coefficients of the frontier FDI function, that is,

$$\alpha_{kt}^* = \max_{1 \leq i \leq N} \{\alpha_{kit}\}; \gamma_j^* = \max_{1 \leq i \leq N} \{\gamma_{ji}\}; k = 1, \dots, K; i = 1, \dots, N \text{ and } t, j = 2, \dots, T.$$

Now the potential frontier FDI inflow from individual investor countries to the host country can be calculated as

$$(3) \quad \ln RFDI_{it}^* = \alpha_{it}^* + \sum_{j=2}^T \gamma_j^* D_{ji} + \sum_{k=2}^K \alpha_{kt}^* \ln X_{kit}; i = 1, \dots, N \text{ and } t = 2, \dots, T.$$

where  $X_{kit}$  is the actual level of kth determinant of FDI applied by the ith country in period t. A measure of host country's FDI inefficiency denoted by say,  $FDIIE_{it}$ , can be defined as

$$(4a) \quad FDIIE_{it} = (\ln RFDI_{it}^* - \ln RFDI_{it})$$

and alternatively a measure of FDI efficiency denoted by  $FDIE_{it}$  can be defines as

$$(4b) \quad FDIE_{it} = \frac{RFDI_{it}}{\exp(\ln RFDI_{it}^*)}$$

where the numerator refers to the realised FDI and the denominator shows the potential frontier FDI calculated from (3).

## Empirical Results and Discussion

For a given t, employing the specifications and estimation procedures described above, the variance-covariance matrix of the random components of the  $\gamma$ 's and  $\alpha$ 's as in (2), their means and individual response coefficients were obtained. Due to brevity, only the mean response coefficients with standard errors are given in Table 2. All the core FDI determinant coefficients and most of the year dummy coefficients, which are not shown here due to brevity, are also significant at the 5 per cent level. From the year wise estimates, frontier FDIs for each period t were calculated and the average potential FDI is obtained by simply averaging over the years.

**Table 2: Mean Estimates of the Stochastic Varying Coefficients Frontier FDI Function for China and India, 2000-2009.**

	China	India
Constant	5.3879 (1.0893)	3.5854 (1.1860)
GDP ratio	1.8560 (0.4056)	1.0536 (0.3005)
GDP growth	3.3672 (1.1236)	1.6318 (0.6587)
Trade/GDP	2.8477 (1.2410)	0.8678 (0.2210)
Industrial VA	4.7826 (1.3320)	3.1872 (1.2412)
Ratio of wages	2.8964 (1.2550)	1.9634 (0.2441)
Labour force	1.1089 (0.4324)	0.5289 (0.2501)
Electricity consump.	1.6798 (1.228)	0.6216 (0.2678)
Internet & phones	1.6734 (0.7230)	1.7238 (0.6008)
Ratio of Business start days	1.6732 (0.6864)	-0.3632 (0.1234)
Ratio of tax prep.	0.1436 (0.5647) (0.5648)	0.2542 (0.1875)
Invest. treaty	1.8792 (0.4532)	1.5703 (0.2678)
Compet. index	0.7259 (0.2890)	0.5309 (0.1560)
Mean Potential FDI	85%	68%
No. of Observations	200	200

Note: Figures in parentheses are standard errors of estimates.



## HAVE CHINA & INDIA ACHIEVED THEIR POTENTIAL IN ATTRACTING FOREIGN DIRECT INVESTMENT?

One of the highlights of the findings is that the size of GDP, trade, and the growth rate of industrial value-added positively and significantly affect the inflow of FDI. These coefficients all are larger for China than for India. This supports the theory that market-seeking FDI either domestically or internationally are attracted by the size of the host economy, its growth potential and openness to the global market (UNCTAD, 2002). For example, a 1 per cent increase in GDP size on average increases the inflow of FDI to China by 1.85 percent, while to India by 1.05 percent and a 1 per cent increase in trade increases FDI inflow to China by 2.84 percent, while to India only about 0.8 percent. Importantly, the coefficient of the variable days required to start a business is negative and statistically significant at the 10 percent level for India, though it is positive and statistically significant at the 5 percent level for China. That is, a 1 per cent increase in the days required to start a business in India, reduces FDI inflows by 0.36 per cent.

The finding supports the widely recognised view that in general FDI is affected by the investment environment of the host economy (Kinda, 2010). Thus, it is important for India to improve business environments further by removing stringent rules and regulation to attract sustained FDI. China seems to be having still wage advantage over India in attracting FDI, as the coefficient of the ratio of wage of home country to host country is larger for China. In terms of infrastructure proxy of electricity consumption, China is a favourable FDI destination, which implies the urgent need for India to improve its infrastructure, particularly the power sector. In terms of rest of the variables, there does not seem to be much difference between China and India towards attracting FDI.

Important noticeable differences can be noted in the findings between the average potential FDI for China and India. While China is able to achieve 85 percent of attracting FDI inflows, India is able to achieve only about 68 percent. This definitely confirms the findings of various investment reports that put China as number 1 preferred destination for FDI (AT Kearney, 2010). However, it is interesting to note that China's potential FDI has shown a declining trend over 2008 and 2009, while India's potential has shown an increasing trend from 68 percent in 2008 to 70 percent in 2009. As India has been improving its FDI policies gradually as argued by Sahoo (2010), it appears that such changes are contributing to the increase in FDI flows recently. It is important to see whether the increase in FDI is at the cost of reduction in FDI in any other countries, which could not be done due to data limitations at this stage.

### Conclusions

The benefits of FDI are not unknown to developing countries, as most of them compete with each other to attract FDI by liberalising their policy regimes and offering various incentive packages, such as tax rebates, trade liberalisation measures, establishment of special economic zones and incentive packages to foreign investors. For example, even

well over a decade ago during 1997, a total of 76 countries made 151 changes in their FDI-related policies, and 89 per cent of these were to create a more FDI-friendly environment (UNCTAD, 1998). With a few exceptions, however, most developing countries are not very successful in attracting FDI. The central question examined in this paper is how China is more successful in attracting FDI consistently than India. The recent reports on FDI favourable destinations given by different agencies indicate different findings, though mostly they indicate China as the number one favourable destination. However, some of these reports also argue that China's potential FDI has showing a declining trend lately and India's domestic policies have been the major 'behind the border' constraints to attract FDI consistently. It is in this context, this paper using a panel data from 2000 to 2009 over top 20 export destinations for China and India examined the question of whether China and India are able to achieve their potential FDI and whether this potential has been declining or increasing over time. The analysis in this study shows that China's potential FDI has shown a declining trend over 2008 and 2009 from 81% to 78%, while India's has shown an increasing trend from 67% to 72% during that period. Nevertheless, India has to improve its reform measures particularly aimed at removing the 'behind the border' constraints quickly to sustain the increasing trend of FDI, as its average potential is much lower than that of China. Analysis of the types of 'behind the border' constraints that exist in India is beyond the purview of this paper.

## References

- Agarwal, J. P. (1980). "Determinants of foreign direct investments: A survey". *Weltwirtschaftliches Archiv*, 116, 739– 777.
- Armstrong, S. and P. Drysdale. (2009). 'The Influence of Economics and Politics on the Structure of World Trade and Investment Flows'. Paper presented at the 33<sup>rd</sup> Pacific Trade and Development Conference - The Politics and Economics of Integration in Asia and the Pacific, Taipei, 6-8 October.
- A.T. Kearney (2010). *Investing in a Rebound: The 2010 A.T. Kearney FDI Confidence Index*. Global Business Policy Council, Virginia, USA.
- Blinder, A. S. (1973). Wage discrimination: reduced form and structural estimates. *Journal of Human Resources*, 8(4), 436–455.
- Chen Chunlai (1997). '[The Evolution and Main Features of China's Foreign Direct Investment Policies](#),' [Chinese Economies Research Centre \(CERC\) Working Papers 1997-15](#), University of Adelaide, Chinese Economies Research Centre, Adelaide.



HAVE CHINA & INDIA ACHIEVED THEIR POTENTIAL IN ATTRACTING  
FOREIGN DIRECT INVESTMENT?

- Crespo, N. and M.P. Fontoura. (2007). Determinant factors of FDI spillovers what do we really know? *World Development*, Vol. 35, No.3: 410-425.
- Daude, C. and E. Stein. (2007). The quality of institutions and foreign direct investment. *Economics and Politics*. Vol. 51, No.2: 379-400.
- De Mello, L. R. (1997). Foreign direct investment in developing countries and growth: A selective survey. *Journal of Development Studies*, 34(1), 1–34.
- Drysdale, P. (ed.) 1972. *Direct Foreign Investment in Asia and the Pacific*, Canberra: ANU Press.
- Drysdale, P. 2009. “China as a New Foreign Investor”, Tabled document to Senate Economics References Committee, Commonwealth of Australia, 1 July.
- Drysdale, P. and C. Findlay. (2009). “Chinese Foreign Direct Investment in Australia: Policy Issues for the Resource Sector”, *China Economic Journal*, 2(2): 133-158.
- Duanmu, J.L., and Guney, Y. 2009. “A panel data analysis of locational determinants of Chinese and Indian outward foreign direct investment”. *Journal of Asia Business Studies*, 3(2): 1-15.
- Froot, K. A., & Stein, J. C. (1991). Exchange Rates and foreign direct investment: An imperfect capital markets approach. *The Quarterly Journal of Economics*, 106(4), 1191–1217.
- Fung, K.C., H. Iizaka, and S.Y.Tong. (2004) “Foreign Direct Investment in China: Policy, Recent Trend and Impact”, *Global Economic Review*, 33(2): 47-63.
- Fung, K.C., A. G. Herrero and A. Siu, (2009). "[A Comparative Empirical Examination of Outward Direct Investment from Four Asian Economies: China, Japan, Republic of Korea and Taiwan](#)," [Working Papers](#) 0919, BBVA Bank, Economic Research Department.
- Garnaut, R. (2004). ‘India, China and Australia: Lessons from Different Paths in Economic Reform’, The 2004 Sir John Crawford Lecture delivered at the National Council of Applied Economic Research, New Delhi, 28 September.
- Griffiths, W. E. (1972), “Estimating Actual Response Coefficients in the Hildreth-Houck Random Coefficient Model”, *Journal of the American Statistical Association*, Vol. 67, pp. 633-35.

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(1), 139–155.

Hale, G. and C. Long (2011). "Are there Productivity Spillovers from Foreign Direct Investment in China?" *Pacific Economic Review*, 16(2): 135-153.

Huang, Y. (2003). *Selling China: Foreign Direct Investment during the Reform Era*. Cambridge: Cambridge University Press.

[International Monetary Fund \(2011\), \*World Economic Outlook Database\*, Washington, D.C.: IMF.](#)

Kalirajan, K. and K. Singh. (2010). "Economic Liberalization Strategies and Poverty Reduction across Indian States", *Asian Pacific Economic Literature*, 10: 26-42.

Kalirajan, K. (2000) "Indian Ocean Rim Association for Regional Cooperation (IOR-ARC): Impact on Australia's Trade", *Journal of Economic Integration*, 15: 533-547.

Kinda, T. (2010). Investment climate and FDI in developing countries: Firm-level evidence. *World Development*. 38(4): 498-513.

Lim, E. (2001). Determinants of and the relation between foreign direct investment and growth: A summary of recent literature. Washington D.C.: IMF Working Paper No. 175.

Lucas, R.E. (1976). "Econometric Policy Evaluation: A Critique", *Journal of Monetary Economics*, 1(1): 19-46.

Moore, M. O. (1993). "Determinants of German manufacturing direct investment: 1980–1988". *Weltwirtschaftliches Archiv*, 129(1), 120–138.

Mottaleb, K.A. and K. Kalirajan. 2010. "Determinants of Foreign Direct Investment in Developing Countries: A Comparative Analysis", *Margin - The Journal of Applied Economic Research*. 4(2): 236-258.

NCAER (2009). *FDI in India and its Growth Linkages*. A study sponsored by the Department of Industrial Policy and Promotion, Ministry of Commerce and Industry, Government of India. National Council of Applied Economic Research: New Delhi.  
Office of Industries (2007)– U.S. International Trade Commission Report July, pp.2-13.





HAVE CHINA & INDIA ACHIEVED THEIR POTENTIAL IN ATTRACTING  
FOREIGN DIRECT INVESTMENT?

- Panagariya, A. (2008). 'Trade and Foreign Investment: Comparing India and China', Paper presented at the IEA World Congress, Istanbul, Turkey, June 25-29.
- Ramcharran, H. (1999). "Foreign direct investment and country risk: Further empirical evidence". *Global Economic Review*, 28(3), 49–59.
- Sahoo, P. (2010). 'Foreign Direct Investment in India: Unfinished Agenda'. Paper presented at the the EABER and SABER Conference: Advancing Economic Integration in South and East Asia. The Australian National University, Canberra. February 11-12.
- Sarma, A. (2002). "Prospects of trade and investment in India and China". *International Studies*, 39(1), 25–43.
- Schneider, F., & Frey, B. (1985). Economic and Political Determinants of Foreign Direct Investment. *World Development*, 13(2), 161– 175.
- Sicular, T. (1998). Capital Flight and Foreign Investment: Two Tales from China and Russia. *World Economy*, 21(5): 589–602.
- Singh, H., and Jun, K. W. (1995). 'Some new evidences on determinants of foreign direct investment in developing countries'. Policy Research Working Papers, vol. 1531. Washington, DC: The World Bank.
- Siu, A.K., B. Chantasawat, K.C. Fung and H. Iizaka. 2005. "The Giant Sucking Sound: Is China Diverting Foreign Direct Investment from Other Asian Countries?", *Asian Economic Papers*, 3(3):122-140.
- Tseng, W. S. and H.H. Zebregs. (2002). 'Foreign Direct Investment in China: Some Lessons for Other Countries'. International Monetary Fund Policy Discussion Paper PDP/02/03, 20.
- UNCTAD (2002). *World investment report 2002: Transnational corporations and export competitiveness*. New York: United Nations.
- UNCTAD (2003). *World Investment Report 2003: FDI Policies for Development, National and International Perspective*. New York: United Nations.
- UNCTAD (2007). *World Investment Report 2007: Transnational Corporations and the Internationalization of R&D*. New York: United Nations.
- UNCTAD (2009). *World Investment Report 2009: Transnational Corporations, Agricultural Production and Development*. New York: United Nations Centre on Transnational Corporations.

Upendra Das, R. (2011). 'Regional Trade-FDI-Poverty Alleviation Linkages – Some Analytical and Empirical Explorations' in V.Ulrich (ed) *Regional Integration, Economic Development and Global Governance*. Cheltenham, U.K.: Edward Elgar, pp.149-171.

Wei, W. (2005). "China and India: Any Difference in their FDI Performances?" *Journal of Asian Economics*, 16:719-736.

World Bank (2000). *The World Business Environment Survey (WBES) 2000*, Washington, DC: The World Bank.

World Bank. (1996). *Managing Capital Flows in East Asia*. Washington, DC: The World Bank.

Xiao, G. (2003). 'Round-tripping and China's FDI inflows: The Hong Kong Perspective'. Asian Development Bank Institute Working Paper, Tokyo.

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

## Appendix 1: Data Description and Compiation

### Data Description

Data	Variable Name	Description	Source
Real FDI	FDI	For India, using the India/USD exchange rate, the nominal foreign direct investment has been converted from home country currency into USD. For China, the FDI data is published in current price-USD. The nominal inflows have been deflated by the home/partner country GDP deflator to arrive at the real FDI data for China/India	For China: The China Foreign Economic Statistical Yearbook and the China Statistical Yearbook  For India: The Ministry of Commerce and Industry, published Newsletters/Reports: <a href="http://siadipp.nic.in/publicat/pub_mn.htm">http://siadipp.nic.in/publicat/pub_mn.htm</a> <a href="http://dipp.gov.in/English/Publications/FDI_Statistics/FDI_Statistics.aspx">http://dipp.gov.in/English/Publications/FDI_Statistics/FDI_Statistics.aspx</a> Exchange rate: Reserve Bank of India: <a href="http://www.rbi.org.in/scripts/PublicationsView.aspx?id=12837">http://www.rbi.org.in/scripts/PublicationsView.aspx?id=12837</a>



**HAVE CHINA & INDIA ACHIEVED THEIR POTENTIAL IN ATTRACTING FOREIGN DIRECT INVESTMENT?**

**Data Description**

<b>Data</b>	<b>Variable Name</b>	<b>Description</b>	<b>Source</b>
Relative Real GDP	y	Relative real GDP (constant-price GDP) is the ratio of the home country real GDP to that of the host country's (China/India). The data, as published by the World Bank, is in USD and the base year is 2000	World Bank- World Development Indicators: <a href="http://data.worldbank.org/data-catalog/world-development-indicators">http://data.worldbank.org/data-catalog/world-development-indicators</a>
Real Exports	x	Nominal exports from the host country (China/India) deflated by their respective GDP deflator, given that production of exports by these countries are done at host country prices.	International Monetary Fund- Direction of Trade Statistics: <a href="http://www.imf.org/external/data.htm#data">http://www.imf.org/external/data.htm#data</a>
Real Imports	m	Nominal imports from the home countries by China/India, deflated by the home country GDP deflator (given that production of imports to China/India is done at home country prices).	International Monetary Fund- Direction of Trade Statistics: <a href="http://www.imf.org/external/data.htm#data">http://www.imf.org/external/data.htm#data</a>
Relative Real Wage	1	Nominal wage rates from home countries, deflated by their respective CPI, taken as a ratio of the host country's (China/India) nominal wage rates, deflated by CPI	International Labor Organization: Key Indicators of the Labour Market <a href="http://kilm.ilo.org/KILMnetBeta/default2.asp">http://kilm.ilo.org/KILMnetBeta/default2.asp</a>

## Data Description

Data	Variable Name	Description	Source
Relative Country Risk	r	The ratio of the home country 'yearly country risk' to that of the host country (China/India). Euromoney obtains the overall score by assigning weights to 9 categories, political risk (25%), economic performance (25%), debt indicators (10%), debt in default or rescheduled (10%), credit ratings (10%), access to bank finances (5%), access to short term finance (5%), access to capital market (5%), and discount on forfeiting (5%). Higher values on the score chart indicate less risky countries.	Euromoney Magazine, various issues from 1985-2010
Total Cultural Difference	cu	Difference between the culture and national values of people of different countries grouped in four clusters to collectively gauge the national-cultural-difference across borders, as described by Hofstadter ( <a href="http://www.geerthofstede.nl/culture/dimensions-of-national-cultures.aspx">http://www.geerthofstede.nl/culture/dimensions-of-national-cultures.aspx</a> ). These four measures, Power Distance, Uncertainty Avoidance, Individualism versus Collectivism, and Masculinity versus Femininity has been taken as a composite index, as proposed by Grosse and Goldberg (1991)	<a href="http://www.geerthofstede.nl/research--vsm/dimension-data-matrix.aspx">http://www.geerthofstede.nl/research--vsm/dimension-data-matrix.aspx</a>
Geographic Distance	dt	The distance between the most important cities and/or the national capital of host and home countries	<a href="http://www.cepii.fr/anglaisgraph/bdd/distances.htm">http://www.cepii.fr/anglaisgraph/bdd/distances.htm</a>

Note: Host country refers to China and India, the destination or host of the FDI. Home country refers to all partner countries in the sample set, where the FDI originates from, hence home country.