Research Article

Attracting Foreign Direct Investment: What Can South Asia's Lack of Success Teach Other Developing Countries?

South Asia Economic Journal
15(2) 133–174

SAGE Publications
Los Angeles, London,
New Delhi, Singapore,
Washington DC
DOI: 10.1177/1391561414548939
http://sae.sagepub.com

David M. Gould
Congyan Tan
Amir S. Sadeghi Emamgholi

Abstract

Like many other developing countries, South Asian nations have been experiencing increased foreign direct investment inflows over the past decade as developing countries get a larger share of cross-border investments that were once sent to developed countries. Nonetheless, South Asia's inflows of foreign direct investment remain the lowest relative to gross domestic product among developing country regions. Why are South Asia's foreign direct investment inflows so low and what lessons can be drawn for developing countries as a whole? The analysis in this article uses a novel empirical model that accounts for possible trends in convergence in the ratio of foreign direct investment to gross domestic product between countries and cross-sectional data for 78 countries from 2000 to 2011. The sample contains 52 developing countries. The analysis finds that two key factors are at work—high overall regulatory restrictions on foreign direct investment and specific restrictions placed on doing business with other countries. These factors include overall trade restrictiveness, which reduces the benefits to cross-border investments, and weak institutions to protect foreign investors and facilitate investment. Nonetheless, the potential for faster growth in intra- and inter-regional foreign direct investment flows is significant. The main factors leading to this conclusion are South Asia's current low levels of foreign direct investment, the many unexploited opportunities for embodied knowledge transfer, and supply-chain linkages. The overall lessons for developing countries are

David M. Gould, Lead Economist, Europe and Central Asia Chief Economist Office, The World Bank. E-mail: dgould@worldbank.org
Congyan Tan, Economist, Macroeconomics and Fiscal Management, The World Bank. E-mail: ctan2@worldbank.org
Amir S. Sadeghi Emamgholi, Consultant, South Asia Chief Economist Office, The World Bank. E-mail: asadeghi@worldbank.org

that liberalizing policy constraints in both trade and foreign investment, keeping corporate tax rates modest, and improving governance and transparency could help to substantially improve foreign direct investment flows.

JEL: F21, F33, F36, F37, F47, G15, G28

Keywords

South Asia, FDI, foreign direct investment, regional cooperation, trade, capital flows

Introduction

Like many developing countries, countries in South Asia are experiencing a youth bulge entering the labour market. To absorb these workers (1 million per month for the next 20 years in the case of South Asia), provide higher living standards and reduce poverty, these economies will have to rely on more than just public investment.[1] It is just not feasible to provide all the economic capacity for more and better jobs through the government sector at a time when budgets are already under pressure and debt levels are relatively high. The private sector will have to play a key role in creating productive jobs for the new labour force entrants, and a critical element of this is improving the economic climate to attract private investment, a vital factor in sustainable and broad-based growth.

While greater domestic private sector investment is important, no country has moved into middle- or upper-income status in isolation. Foreign private capital flows—bank lending, direct investment and portfolio investment (that is, debt and equity)—expand the potential sources of capital available to countries, raising productivity and boosting growth. Studies find that foreign direct investment (FDI) has a potentially large role due to its relative stability (Levchenko & Mauro, 2007) and its impact on transfers of knowledge and technology (Moran et al., 2005).[2] Empirical evidence points to FDI's productivity-enhancing effects in advanced economies—on average a 1.3 per cent increase in country-wide total factor productivity growth has been associated with a 10 per cent increase in FDI—although the impact varies by country (Bitzer & Görg, 2009). Other research indicates similar outcomes in developing countries: the Czech Republic and Russia (Sabirianova et al., 2005), Indonesia (Blalock & Gertler, 2004), Lithuania (Javorcik, 2004), among others. Blonigen and Wang (2005) find that FDI flows to developing countries, as opposed to developed countries, have a particularly strong effect on growth by crowding-in domestic investment. Kee (2011) shows that direct and indirect spillovers can be quite strong, as demonstrated by the case of Bangladesh, where FDI inflows impact both domestic intermediate input suppliers that provide raw material to FDI

firms, through increase in demand for high-quality intermediates, and domestic final good producers who are users of those high-quality intermediates as a result of 'shared supplier spillover'. While there has been some debate in the popular press as to whether FDI, such as multi-brand retailing in India, would add much to the productive capacity of the country or just capitalize on monopsony power and open the door to greater corruption, studies suggest that corruption itself is a deterrent to FDI.[3] Indeed, the appeal of attracting more FDI may promote better governance by enticing governments to improve transparency.

This study looks into the historical patterns of FDI to developing countries, examines its sectoral composition, and evaluates current policies and policy options that may help create an environment for increasing FDI flows. The launching point for this study is the experience of South Asia and the substantial empirical literature that suggests that FDI is associated with growth, development and productivity enhancement. The goal of the study is modest in that it does not seek to estimate the size of FDI spillovers on productivity growth, or address whether governments should actively subsidize FDI inflows over domestic investment as a means to enhance growth, but rather to understand the determinants of FDI flows as a share of GDP, taking South Asia as focal point due to its low current levels, despite the region's relatively high GDP growth over the last decade.

While FDI flows have increased over the past decade to South Asia, particularly from developed countries to South Asian service sectors, it has lagged in other sectors and remains relatively low overall. It is interesting to note, however, that one of the region's bright spots—which is common to other developing regions—is the increase in FDI flows from other developing countries. In other words, the traditional pattern of capital flows going in one direction—from rich to poor countries—is changing, with increasing flows and technology exchange taking place between developing countries themselves. This reflects the more integrated and diversified nature of capital markets and the changing nature of the global economy, where the centre of gravity in economic activity has gradually shifted towards developing countries.

By examining the historical patterns of South Asia's FDI, the policy environment and the connections between the two, this study will provide the context for policy makers in South Asia and other developing countries to identify strategies, ease constraints to FDI and boost potential broad-based growth. As noted by Blonigen and Wang (2005), countries that attract strong FDI flows typically have a host of favourable policies—for example, strong property-rights protection, stable macro policies, adequate infrastructure, and a clear and competitive regulatory environment—which can crowd-in domestic investment and improve overall productivity. FDI firms are also known to be market-seeking and/or exported-oriented, such as FDI that flows to countries to exploit product market gaps, avoid tariff/non-tariff barriers on goods imports or FDI that is primarily orientated towards exports to take advantage of resource abundance or low

wages in labour-intensive consumer goods and assembly processes (Athukorala, 2007; Caves, 2007; Dunning & Lundan, 2008). This study will identify which factors and constraints matter the most in determining intra- and inter-regional in overall FDI flows.

We begin the analysis by documenting the trends in FDI and its potential determinates. We show that FDI (both inward and outward) has grown quite substantially over the last decade for all developing countries and FDI dominates portfolio flows as a source of investment for developing countries. Moreover, FDI inflows have been relatively more stable than portfolio inflows.

We next examine the trends in South Asia's inward and outward FDI flows as a share of GDP and show that South Asia ranks quite low compared to other regions. Of the flows that do arrive, a large portion is associated with investment in the service sectors, with India accounting for the majority of the absolute flows. Relative to GDP, however, India does not stand out as a large recipient. Interestingly, while the number of developed countries investing in South Asia has remained roughly the same over the last decade, the number of other developing countries investing in South Asia has almost doubled—suggesting greater South–South linkages. Intra-South Asian FDI flows remain quite small, particularly because the two largest South Asian countries, Pakistan and India, maintain strong restrictions on investments from each other.

Following this, we examine policy, legal and regulatory investment issues in South Asia to better understand overall incentives and disincentives to FDI inflows and outflows in the region's institutional framework. Overall, positive changes have taken place over the past few decades, while restrictions on FDI differ substantially among countries in South Asia. India's progress on FDI-promoting policies has accelerated in recent years to make FDI policies more transparent, predictable, and simpler. Many other countries have also taken steps to improve transparency in regulations and reassure investors about the security of their investments in the country. Nonetheless, restrictions on outward FDI and capital account restrictions remain, and behind the boarder constraints to investing, such as clear and enforceable contracting, remain a challenge for foreign investors and domestic investors alike.

Finally, the article examines the determinants of FDI growth in South Asia. We find that there is a high potential for larger flows due to South Asia's current low levels of FDI, as well as opportunities for liberalizing policy constraints in both trade and foreign investment. Lowering corporate tax rates and improving governance and transparency would also be important contributors to increasing the growth in FDI/GDP. Making progress on all of these areas could help to substantially improve FDI flows into South Asia and enhance the region's growth and productivity, as indicated by the experience of other regions. The article is organized as follows: the second section presents South Asia's experiences with FDI. The third section analyzes the determinants of FDI. Conclusions are drawn in the fourth section.

Global FDI and South Asia's FDI Experience

Global FDI has increased substantially since the 1980s, and it is now among the largest forms of cross-border capital flows. World FDI inflows totalled US$1.4 trillion in 2010, 27 times larger than the 1980s FDI of US$53 billion. Relative to GDP, FDI has grown five-fold. Since the early 1990s, private capital inflows, mostly in the form of FDI, have become a major factor in development, exceeding official foreign assistance provided to developing countries.

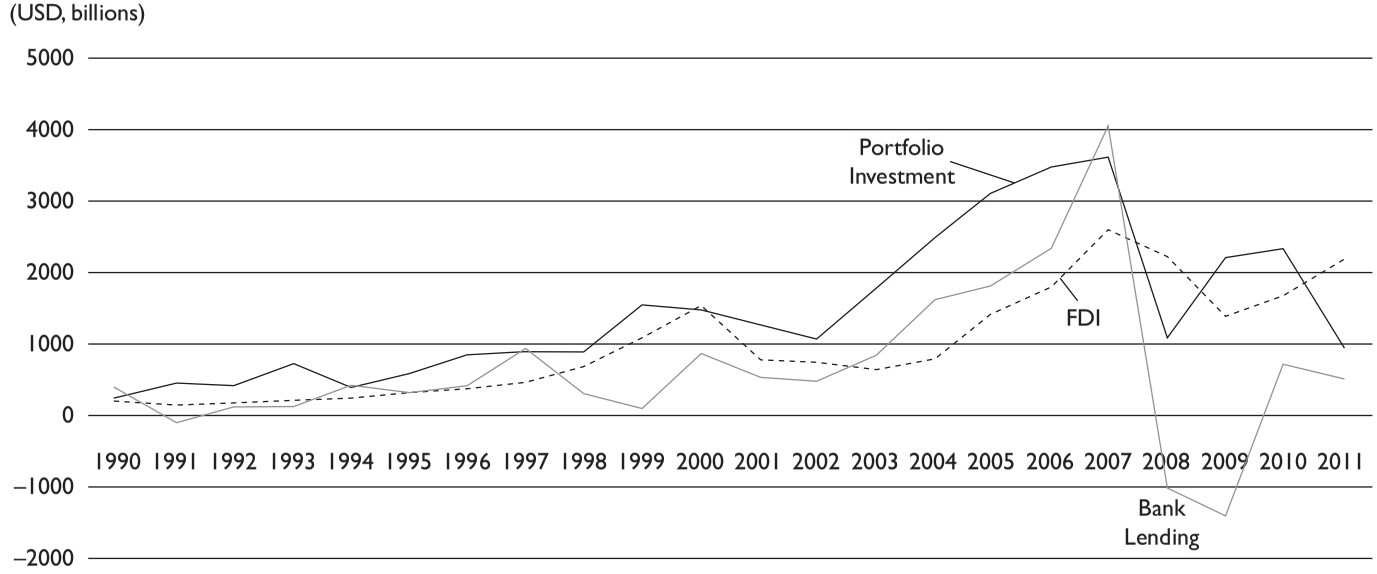
Developed countries continue to be major source of FDI to developing countries, although the trend is changing as more FDI moves between the developing countries themselves. Except for a few brief periods, portfolio flows (both debt and equity) and bank lending has exceeded FDI for the world as a whole during the past two decades. However, FDI has risen to dominate all flows to developing countries (Figure 1). FDI inflows have also been a relatively stable form of investment. As a source of capital flows, FDI may exhibit lower volatility than other types of capital flows, such as debt and portfolio equity. The stability of FDI is especially relevant during 'sudden stops', or interruptions on capital flows. Capital flows skewed towards non-FDI types, such as bank lending and portfolio investments, may lead to increased vulnerability to economic shocks. This pattern certainly played out in South Asia during the global financial crisis that began in 2008 (see Figure 1). Regardless of the source of capital flows, significant volatility suggests that there is room for countries to invest in institutions and programs that would help reduce their populations' vulnerability to increased exposure to global (and regional) economic shocks.

Growing international capital flows have become an increasing share of employment in developing countries, including those in the South Asia region. Globally, employment in wholly or partly foreign-owned companies has increased in the recent years, accounting for 69 million jobs in 2011, an 8 per cent increase over the previous year. By contrast, overall job growth in the same period was 2 per cent (UNCTAD, 2012).

Traditionally, global FDI has mostly flowed between developed countries—for example, the United States investing in Western Europe and vice versa; in 2010, for the first time recent history, more than half (51.6 per cent) of the world's total FDI inflows were received by developing countries (Figure 2). This reflects more integrated and diversified markets as well as the gradual shift of the global economy's centre of gravity toward developing countries. A similar but less-pronounced trend has occurred in FDI outflows. In 2000, developed countries were the largest source of outward FDI, with 90 per cent of the total, but their share has fallen to 70 per cent (Figure 3). This also reflects greater globalization of capital markets and the growing prominence of developing economies in global supply-chain linkages, with their growth-enhancing spillover effects.

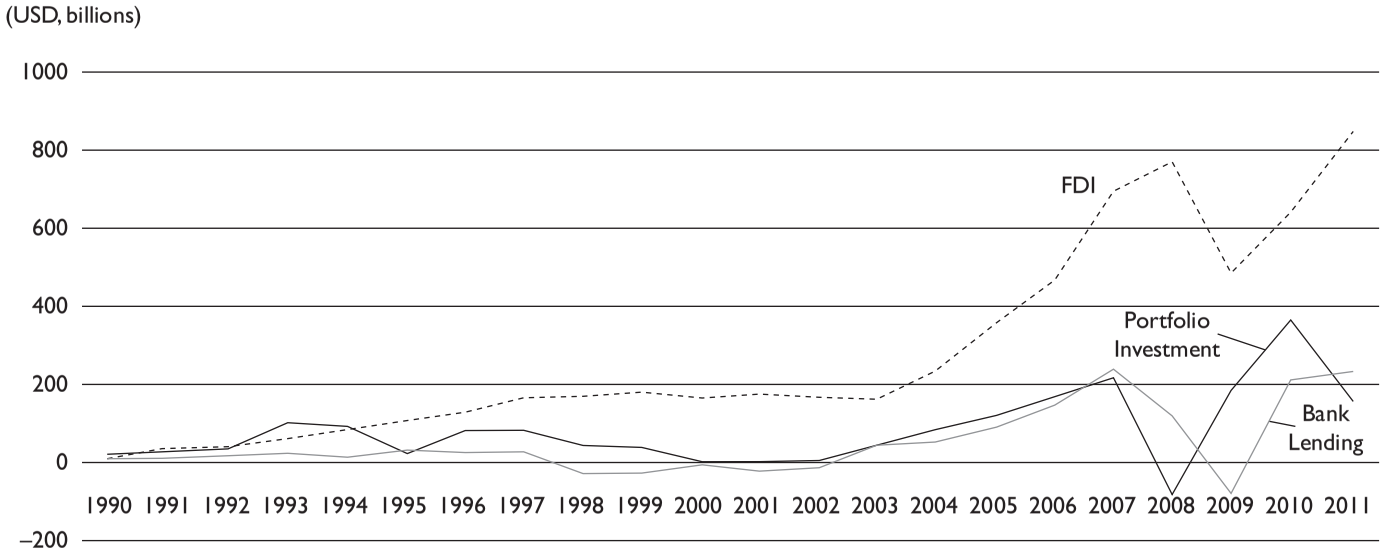
Since the 2008–2009 global financial crises, developing countries' increasing importance has become even more pronounced in global FDI flows—both inward

For the World, Portfolio Dominates FDI Inflows



(Figure 1 Continued)

For Developing Countries, FDI Dominates



(Figure 1 Continued)

(Figure 1 Continued)

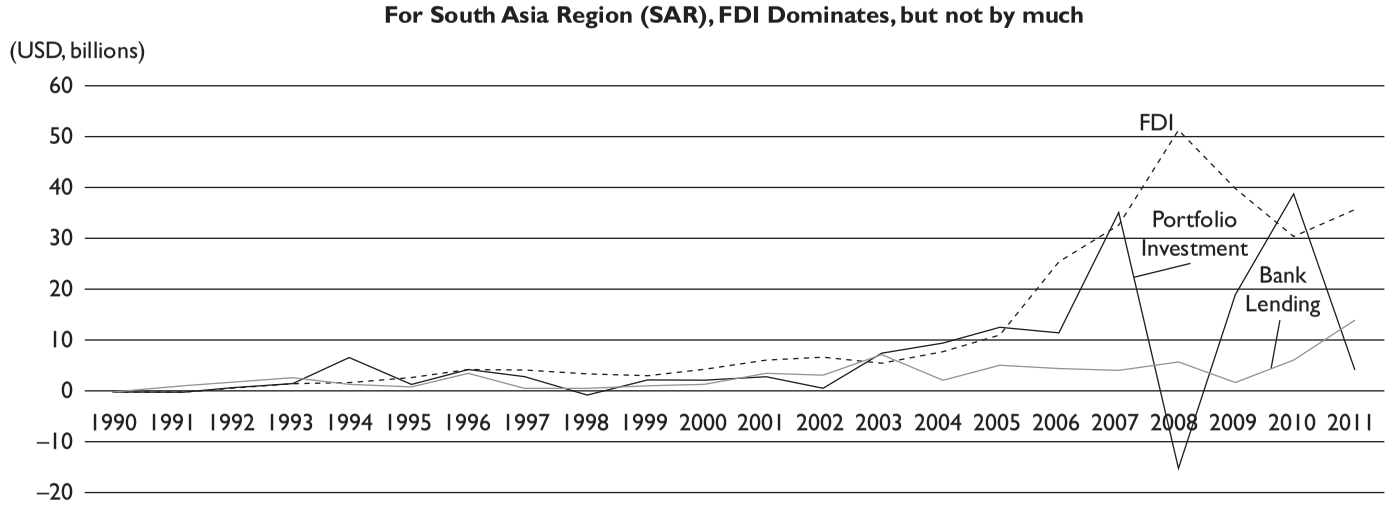


Figure 1. Foreign Direct and Portfolio Investment Inflows

Source: BOP, IMF.

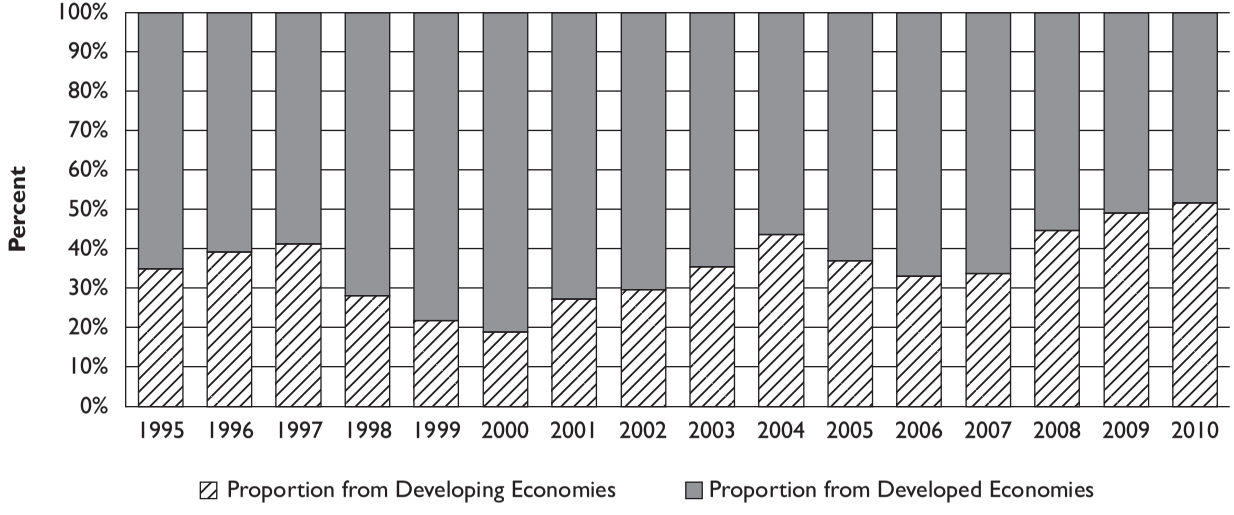


Figure 2. Inward FDI Flows, 1995–2010

Source: UNCTAD statistics and World Bank staff calculations.
Note: Developing economies include both developing economies and transitional economics in UNCTAD.

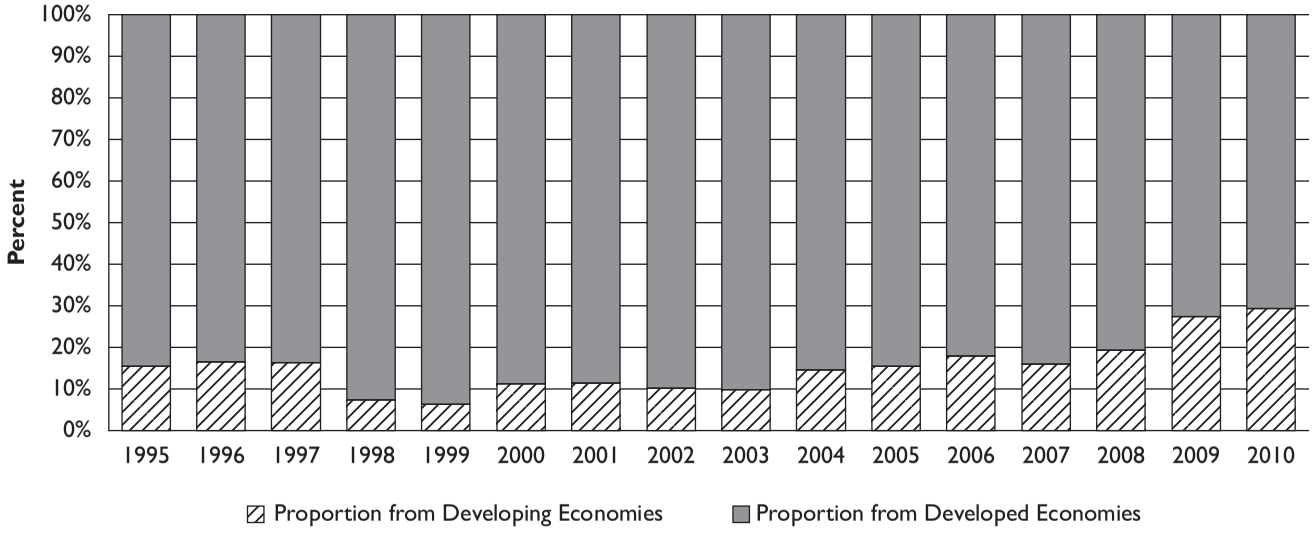


Figure 3. Outward FDI Flows, 1995–2010

Source: UNCTAD statistics and staff calculations.
Note: Developing economies include both developing economies and transitional economics in UNCTAD.

and outward. Stress in global financial markets, risk aversion, and uncertain profits made it more difficult to finance M&A across the globe. In this tough environment, FDI inflows actually contracted more in developed countries than in developing ones. In 2007–2009, developed counties' inward FDI flows declined 53.9 per cent, while flows to the developing countries fell by only 12.3 per cent.[4]

To a large extent, trends in global outward FDI flows mirror inward FDI flows. Outward flows from developed countries experienced a 46.2 per cent decline in 2007–2010. Outward FDI flows from developing countries also fell over the same period—but by just 8 per cent. While FDI outflows have slowly begun to recover globally, they bounced back quite strongly in developing countries and reached 21 per cent of total world FDI at the start of 2011.

The Global Context: Despite Fast Growth, South Asia's FDI Is Low

South Asia's FDI inflows as a share of GDP are among the lowest of all developing regions and can be a good case study to examine for other regions and countries confronting low FDI.[5] South Asia is one of the world's fastest growing regions, averaging 6.7 per cent annual increases in real GDP over the past decade (Figure 4, left).[6] However, South Asia's FDI inflows as a share of GDP are the lowest of all developing regions, averaging less than 2 per cent in 2000–2011 (Figure 4, right).[7] Although the gap had been narrowing, it reversed somewhat after the global crisis. South Asia's economy is almost twice as large as Sub-Saharan Africa's; yet over the 2000–2011 decade, South Asia's average annual inward FDI flow of US$18.3 billion was smaller than Sub-Saharan Africa's US$19.4 billion.

India represents 80 per cent of South Asia's GDP and accounts for about 85 per cent of its FDI inflows. Despite the high absolute FDI flows, India's inward FDI relative to the size of its economy is quite low compared to countries of similar economic size. Although India was the second-largest developing economy in terms of total Purchasing Power Parity (PPP) GDP, it was the eighth largest FDI recipient among developing countries in 2010, according to the 2011 World Investment Report published by UNCTAD. Among developing countries, by contrast, China is the largest economy in terms of PPP GDP and the largest FDI recipient.

South Asia is highly attractive for market-seeking FDI due to its large economy and its growing middle class. However, the region suffers from fundamental and structural inefficiency which prevent the investment from happening. Furthermore, South Asia is potentially a great host for labour-intensive and resource-based manufacturing due to the abundance of natural resources and cheap labour force. However, the potential will not be realized until labour markets and resource markets, such as land, are liberalized.

Across South Asian countries, FDI inflows vary widely as a share of GDP. The differences reflect geography, levels of development, availability of basic

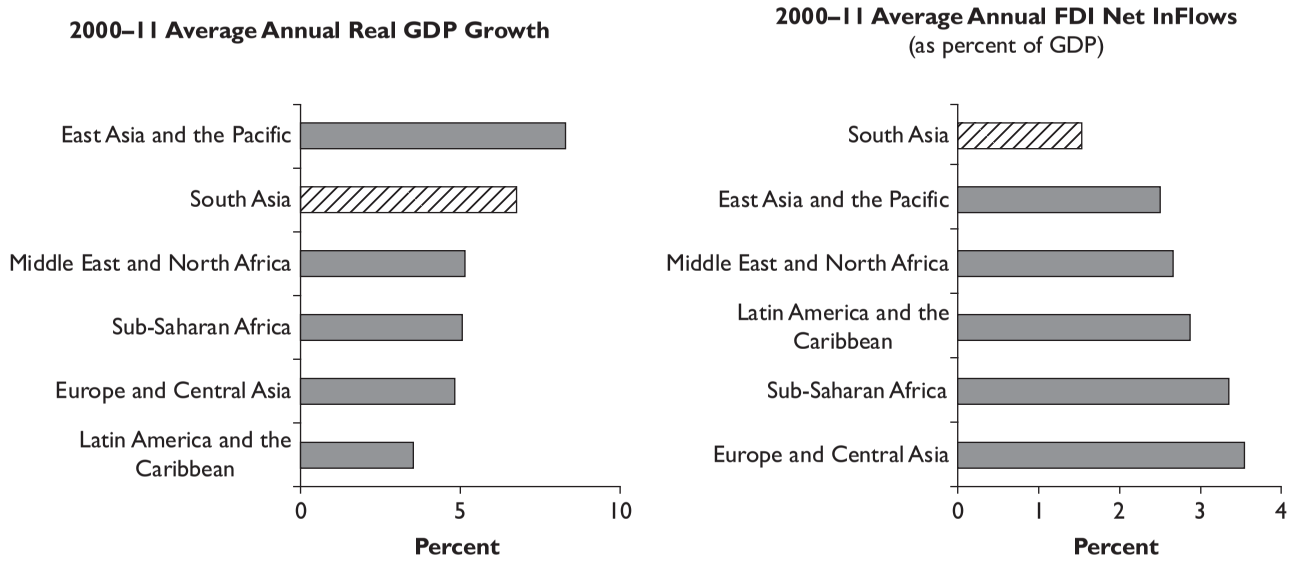


Figure 4. Average Real GDP Growth and FDI Net Inflows

Source: World development Indicators (WDI), The World Bank and UNCTAD.
Note: Averages are weighted by size of economies.

infrastructure, the regulatory frameworks on FDI and the size of the economies themselves. It may be expected that relatively larger—and perhaps more volatile—FDI inflows would be found in smaller countries simply because domestic investment may be less plentiful, allowing firm-level investment decisions to play a larger role in the overall economy. Indeed, the Maldives has the region's smallest economy but ranks highest in FDI inflows as a share of GDP at almost 5 per cent. Afghanistan, Pakistan, and India follow in the ranking. Bangladesh, Bhutan and Sri Lanka are below the South Asian average (Figure 5). Nepal received the least FDI as a share of GDP.

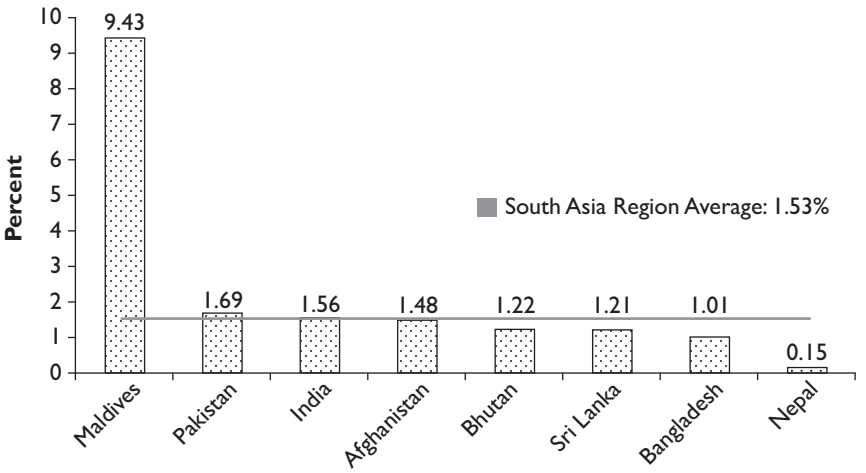


Figure 5. 2000–2011 Average FDI Inflows to South Asia (as a Percentage of GDP)

Source: UNCTAD.
Note: South Asia Region Average is weighted by size of South Asian economies.

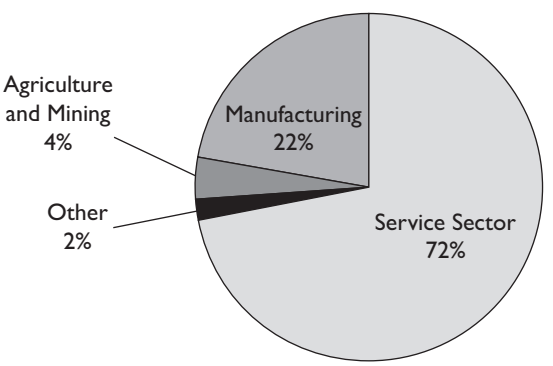


Figure 6. South Asia FDI Inflow in 2009: Sectoral Breakdown

Source: International Trade Centre and World Bank Staff Calculations.

FDI inflows into South Asia are concentrated in the service sector, while investments in manufacturing and agriculture and mining are much smaller (Figure 6).[8] A snapshot of the 2009 statistics shows that the service sector accounted for 72 per cent of total inward FDI in South Asia (74 per cent in India), making South Asia second only to the Europe and Central Asia region (Table 1). South Asia also ranks second among all developing regions in dollar value FDI flows into the service sector—around US$1.9 trillion in 2009. However, South Asia's service sector FDI inflows are not exceptionally high as a share of GDP. This reflects the region's low overall FDI inflows—at 1.77 per cent of GDP, the lowest among six regions and well below the developing country average of more than 3 per cent (Table 2). As a percentage of GDP, FDI flows into the South Asian service sector ranked fourth among the six regions in the developing world. While South Asia, especially India, is one of the largest international hubs for the service industry, particularly Business Process Outsourcing (BPO), overall inward FDI flows as a share of GDP compared to the other regions remain modest.

Table 1. Regional FDI Inflows: Sectoral Breakdown, 2009

(as a Percentage of Total FDI)

Regions	Agriculture and Mining	Manufacturing	Service	Other
East Asia and Pacific	3.50	45.21	50.81	0.47
Europe and Central Asia	11.43	9.14	77.17	2.25
Latin America and Caribbean	14.42	28.47	52.01	5.11
Middle East and North Africa	38.25	30.50	29.10	2.15
South Asia	3.95	22.28	72.04	1.73
Sub-Saharan Africa	57.17	15.78	24.46	2.59

Source: International Trade Centre and World Bank Staff Calculations based on 2009 statistics.

Table 2. Regional FDI Inflows: Sectoral Breakdown

(as a Percentage of GDP)

Regions	Total	Agriculture and Mining	Manufacturing	Service	Other
East Asia and Pacific	2.13	0.07	0.96	1.08	0.01
Europe and Central Asia	2.26	0.26	0.21	1.74	0.05
Latin America and Caribbean	2.03	0.29	0.58	1.06	0.10
Middle East and North Africa	5.15	1.97	1.57	1.50	0.11
South Asia	1.77	0.07	0.39	1.27	0.03
Sub-Saharan Africa	4.72	1.51	1.05	1.63	0.00

Source: International Trade Centre and World Bank Staff Calculations based on 2009 statistics.

Compared to other regions, South Asia's FDI inflows into manufacturing and agriculture and mining are also modest as a share of GDP. Looking again at the six regions in Table 2, South Asia was next to last in FDI flows into manufacturing and tied for last in agriculture and mining.

India contributes 70 per cent of intra-regional South Asian FDI; however, total within-region FDI represents just 3.7 per cent of all inward FDI in South Asia. The largest sources of inward FDI vary substantially across South Asian countries, but historical bilateral restrictions on FDI inflows from other South Asian countries have limited intra-regional flows. As shown in Table 3, FDI flows to India come primarily from developed economies, such as the EU, the US, Japan and South Korea. In contrast, Pakistan's inflows are dominated by capital from the Middle East, while Bangladesh's and Sri Lanka's FDI comes from a handful of countries, including the EU, United States, India, and China. The Maldives has perhaps the most diverse spectrum of countries contributing FDI, including Thailand, India, the US, the EU and China. Landlocked Bhutan and Nepal depend heavily on India for investment in their countries. Chinese companies have made large investments in extraction businesses, which account for a large portion of the FDI in Afghanistan. China has also been active in Nepal's renewable energy sector and in Sri Lanka's transportation sector, specifically building ports, but also in constructing hotels and investing in Sri Lanka's tourism sector.

The South Asia region is becoming increasingly attractive to FDI, but FDI policies remain fairly restrictive. Overall, positive changes have taken place over the past few decades. The more advanced economies in South Asia have tended to move more quickly toward FDI liberalization and have more FDI-friendly policies. Nonetheless, investing across South Asia still faces significant barriers. The region has lagged in liberalizing policies that directly promote FDI, although it has pursued a number of trade-promoting agreements, which research shows also have a positive impact on FDI.[9] As a complement to trade promoting policies, other issues such as labour and land market frictions should also be addressed since a major share of export-oriented FDI in the region is happening in the labour-intensive and resource-based manufacturing sector due to cheap labour force and resource abundance in the region.

Determinants of FDI: An Empirical Analysis

So far we have detailed the general trends in FDI to the developing countries and South Asia in particular. In this section, we look at some of the key determinants of these trends to get insights into how developing countries in general may stimulate FDI, taking South Asia as one case study. Once the magnitudes and determinants of FDI are known, policy makers can direct their attention to enhancing the factors that are most critical to attracting FDI. Increased FDI can be a powerful complement to leveraging the competitive potential of South Asia, a region highly abundant in labour and natural resources.

Table 3. FDI Recipient and Source Countries in South Asia (Percentage of Recipient Countries' Total FDI Inflow, 2003–2011)

		Source Countries										
		European Union	US	India	SAR, ex India	China*	EAP, ex China	MENA	ECA	LAC	SSA	Other**
Recipient Countries	Afghanistan	2.35%	1.57%	2.72%	0.97%	71.58%	0.00%	16.07%	4.73%	0.00%	0.00%	0.00%
	Bangladesh	38.33%	11.95%	23.88%	0.49%	3.79%	10.02%	8.62%	0.00%	0.00%	0.40%	2.52%
	Bhutan	0.00%	16.91%	48.75%	0.00%	0.00%	24.67%	0.00%	0.00%	0.00%	0.00%	9.67%
	India	36.40%	19.87%	0.00%	1.34%	4.10%	21.26%	5.09%	1.77%	0.56%	0.31%	9.31%
	Maldives	4.71%	3.86%	29.35%	0.05%	3.86%	25.57%	13.13%	0.00%	0.01%	0.00%	19.47%
	Nepal	22.05%	0.00%	53.63%	0.61%	11.20%	1.72%	10.68%	0.00%	0.00%	0.00%	0.12%
	Pakistan	19.60%	9.92%	0.83%	0.30%	6.11%	7.15%	45.04%	1.52%	0.47%	0.00%	9.06%
	Sri Lanka	18.09%	2.95%	37.41%	0.22%	9.19%	8.10%	2.71%	0.00%	0.15%	8.36%	12.82%

Source: Estimates from UNCTAD statistics, fDi Markets and World Bank staff calculations.
Notes: (*) China includes Hong Kong SAR, China, Macau and Taiwan, China; (**) Other includes all advanced economies other than US and European Union.

What Might Be the Key Determinants of FDI?

Research on the determinants of FDI inflows is quite advanced. Several approaches have been taken, including looking at the patterns of and types of FDI (aggregate and sectoral) over time for a particular country, or a set of countries, as well as cross-country analysis, examining what determines FDI in countries based on certain economic, institutional, geographical and policy characteristics. Because our main interest is identifying factors that may enhance FDI flows for developing countries, we model FDI growth as a share of GDP as a function of key policy and economic fundamentals—those that have been found to be critical in influencing investors' decision-making as well as those that may be particularly important in developing countries, such as energy availability, the level of trade barriers and institutional capacity. While the sectoral composition of FDI may also be important, such as FDI that flows to countries to exploit product market gaps, or FDI that is primarily orientated to exports to take advantage of resource abundance or low wages in labour-intensive consumer goods and assembly processes, we focus on aggregate FDI flows due to lack of sectoral data for a large number of countries. We use cross-country data for 78 countries, both developing and developed, from 2000 to 2010.

In the broadest sense, all fundamental economic variables that determine growth and the level of development would also likely determine aggregate FDI inflows. Institutions, economic policies, macro stability, and legal and regulatory policies that enhance economic growth and development would also tend to influence FDI flows. Nonetheless, in terms of the variable selection, practicality demands being parsimonious in the choice of explanatory variables because many of these factors can be highly correlated, making it observationally difficult to determine the independent impact of all potentially important determinants of FDI growth. For example, measures of institutional development and corruption are likely to be an important determinant of FDI flows, but they are also highly correlated, so distinguishing the independent impacts of both these variables on FDI may be nearly impossible. Moreover, the larger the number of explanatory variables in the analysis, the fewer the degrees of freedom and the number of countries that can be included in the empirical analysis.

Models of FDI growth are typically based on variants of the neoclassical growth model, with FDI being the variable of interest, rather than growth itself.[10] Based on this literature, we model the growth rate of FDI as a function of the initial level of FDI, $\overline{FDI}_0$, along the initial state of other factors that determine growth, Y_0, in addition to the factors that specifically are associated with attracting FDI, X: $\dot{FDI} = f(\overline{FDI}_0, Y_0, \dot{X}$. We linearize this equation as: $\dot{FDI} = \alpha + \beta_1 \overline{FDI}_0 + \beta_2 Y_0 + \beta_3 \dot{X} + \varepsilon)$. In this study, our period of examination is 2000 to 2010 and we use the following basic cross-country reduced-form model:

$$\dot{FDI}_{2000-2010} = \alpha + \beta_1 \overline{FDI}_{2000-2005} + \beta_2 NR_{2000} + \beta_3 \dot{F}_{2000-2005} + \beta_4 d_{oil} + \beta_5 d_{region} + \varepsilon$$

where *FDI* represents inward FDI stock relative to GDP, NR represents the stock of natural resources per capita, the $\dot{X}_{t_1-t_n}$ denotes the growth rate and $\overline{X}_{t_1-t_n}$ denotes the annual average of the variable X over the period t_1–t_n, F represents the vector of explanatory variables that includes proxies for human capital, corporate tax rates, energy availability, financial development, infrastructure, macroeconomic stability, trade barriers, investment policy openness and control of corruption. The variables d_{oil} and d_{region} are dummies for oil exporter status and regional factors. In sum, the basic model explains the growth of inward FDI as a share of GDP between 2000 and 2010, based on the average initial stock of FDI as a share of GDP over the period 2000–2005 and the stock of natural resources per capita at the beginning in 2000, the change variables, $\dot{F}$, in the initial years examined (2000–2005), and controls for regional and oil exporter fixed effects.

The specification of variables is based on the previous literature, with some notable innovations.[11] Unlike prior formulations, this analysis considers the long-run *growth* of FDI/GDP (rather than the FDI/GDP levels or short-run movements) and controls for the initial FDI/GDP stock to account for pre-existing conditions that may have determined prior levels of FDI/GDP.[12] This formulation was used for several reasons, including: (*a*) it provides a method for determining whether FDI/GDP is converging or diverging between countries, based on the coefficient on the initial stock of FDI/GDP; (*b*) reduces the likelihood of endogeneity (although does not eliminate it) and limits the noise of short-term fluctuations because the explanatory variables are average growth from the first part of the period, rather than simultaneous with the dependent variable; and (*c*) allows some means for looking at the dynamics of FDI without use of a panel data set, which increases the number of observations available and allows us to include most of the South Asian region in the data.

A high initial FDI/GDP level may be a conduit for high future FDI/GDP growth, signifying strong institutional qualities, agglomeration effects and other factors, or it may point to lower future FDI/GDP growth due to diminishing returns on FDI investment in a market that may already be well developed. The past decade suggests the latter effect may dominate because the stock of FDI remains highest in developed countries, but recent growth has been highly concentrated in developing countries. With the highest FDI growth taking place in those countries with relatively small initial levels of FDI, a trend towards convergence in the relative FDI stock may emerge. This is consistent with declining returns to FDI investment as the stock of FDI increases. Unlike other models that attempt to explain the determinants of FDI, our empirical exercise actually sets quite a high hurdle for finding significant impacts of the explanatory variables. Not only is it restricted to explaining the FDI growth relative to GDP, but it also holds constant the initial level of FDI relative to GDP. Consequently, changes in the factors that may explain FDI/GDP changes will only be important if they add explanatory power above the historical FDI/GDP factors.

What Are the Components of the Analysis?

The analysis uses cross-country data from 78 developing and developed countries between 2000 and 2010. All variables, except initial FDI/GDP level and natural resources per capita, are average annual growth rates for 2000–2005 and 2000–2010 and are calculated as $\dot{X} = (X_T - X_1)^{(1/T)} - 1$, where X_T is the observation of the last year, that is, $T = 11$ for time period 2000-10 and $T = 6$ for time period 2000–2005, X_1 is the observation for the first year (2000). The dependent variable is the growth of inward FDI/GDP from 2000 to 2010, and the independent variables are all growth rates over the first half of the period—with two exceptions. The initial level of inward FDI/GDP is the arithmetic average of the variable over the first half of the period and natural resources per capita is measured in 2000 because it does not change much over the period under study and is a stock variable. A brief description of each of the variables and their expected impact on the growth of inward FDI follows.[13]

Inward FDI Stock as a Share of GDP: As is discussed above, *growth* of inward FDI stock as a share of GDP is the dependent variable—ultimately, the variable of interest. However, its level at the beginning of the growth period is an explanatory variable and plays an important role in our analysis. It proxies for all the initial conditions the regressors might have on FDI growth, whether it is a low tariff rate at the start of the period, energy availability, or other factors. It may have a positive or negative sign depending on whether the agglomeration effect (greater FDI attracts more FDI) outweighs the convergence effect (diminishing returns to additional FDI).[14] Data on the *inward FDI stock* are from UNCTAD Statistics, Catalogue of Foreign Direct Investment.

Corporate Tax Rates: Higher corporate tax rates are expected to act as a deterrent to FDI by decreasing investment returns. In this study, we use total tax rate (as a percentage of commercial profits) available from the World Bank's World Development Indicators (WDI).

Macroeconomic Stability: Researchers (for example, Bloom 2009; Bloom et al., 2007) have found that unstable economic conditions hinder the FDI inflows by increasing uncertainty in forecasts of investment returns, regardless of whether the investment is foreign or domestic. To proxy macroeconomic stability, we use the coefficient of variation for the real exchange rate, controlling for the domestic and US consumer price indexes (CPIs). We use this simple measure of the bilateral real exchange rate (RER) with respect to the US dollar, rather than an effective RER due to greater data availability. CPI inflation and exchange rates are available from the IMF's International Financial Statistics (IFS).

Human Capital: Higher levels of human capital may have a positive or negative impact on attracting FDI inflows, depending on whether FDI is primarily directed to technology-based industries that depend on skilled labour (Lucas, 1990; Zhang & Markusen, 1999) or labour-intensive industries attracted to a low-wage labour force (J.P. Agarwal, 1980).[15] In this study, we use the educational attainment data set provided by Barro and Lee on their website.[16]

Quality of Institutions and political risk: The role institutions play in all globalization-related issues, including financial globalization, has gained increasing attention in recent decades.[17] Better institutions decrease all types of costs—such as financial, time, and effort costs—related to starting, continuing and even ending a business. They also help create a more business-friendly economic environment by increasing the transparency of rules and regulations and decreasing the information asymmetry in investment-related activities. Political risk is found to be a significant concern for investors, particularly those who operate in developing markets (MIGA, 2014). In this study we use measures of Control of Corruption and Political Stability data available in the World Bank's Worldwide Governance Indicators (WGI). Multilateral Investment Guarantee Agency (MIGA) annual reports are another source for information on political risk. These reports are consistent with our proxy for political risk/stability.

Investment Policy Openness: The more open the investment regime, the greater the expected FDI flows. Most countries have restrictions on investment, and, as noted above, these barriers are particularly in South Asia. Some nations impose different rules for foreign and domestic investment; some restrict access to foreign exchange; some impose limits on payments, transfers and capital transactions; some close certain industries to foreign investment. The proxy for this variable comes from the Heritage Foundation's Investment Freedom Index and takes the value of 100 for no restrictions and subtracts points for each restriction found in a country's investment regime.

Infrastructure: The availability and quality of infrastructure is a key determinant of FDI inflows.[18] Better infrastructure facilitates investment, decreases production costs, improves service provision, and increases investment returns. This study relies on the most frequently used data on infrastructure—the ICT infrastructure data, which can be found in the World Bank's WDI. Other data utilized for robustness, although not as complete, quality of logistics and ports and roads per capita are used for robustness. They are available at the same source.

Trade Openness: Free trade should be an important factor for attracting FDI, particularly in export-oriented businesses. In addition to allowing the FDI-related products to be easily exported, more open trade lowers the costs of imported inputs. On the other hand, high tariff barriers may also attract FDI by providing entry into a protected domestic market with prices higher than what they would be in competitive markets. Applied tariff rates are the proxy for trade openness. The data come from UNCTAD Statistics, Catalogue of International Trade under the 'Market Access' category. Alternative measures of trade policies are also used, such as the ratio of imports and exports to GDP and the Overall Trade Restrictiveness Index, available from the World Bank's WDI.[19]

Energy Availability: Availability of energy is a key determinant for any kind of investment in the production sector, and its scarcity may be a big deterrent of FDI in developing countries (UNCTAD, 1998).[20, 21] In this study, we measure energy efficiency by electric power transmission and distribution losses (percentage of output), available from the World Bank's WDI.

Natural Resources: Natural resource availability has often been studied as a determinant of FDI.[22] It captures both the incentives for investments to exploit countries' natural resources and the availability of productive inputs. We measure natural resources on a per capita basis to control for population size. The data include oil and natural gas as well as other resources. However, the marginal impact of this variable is primarily non-oil and natural gas resources because we include a dummy variable to capture the particular structure of oil-exporting economies. The variable is measured in thousands of US dollars per capita and includes the estimated discounted present value of crops, pasture land, timber, non-timber forests, protected areas, oil, natural gas, coal and mineral resources. The estimates, produced by the World Bank staff, are available in The Changing Wealth of Nations catalogue.

Financial Development: On one hand, financially developed economies ensure the availability of required capital for production and may act as an FDI deterrent. On the other hand, financial deepening can also decrease transaction costs of investment and facilitate all sorts of financing activities, thus playing a key role in attracting FDI (Al Nasser & Gomez, 2009). As in other studies, financial development is measured by the private credit to GDP ratio, available from the World Bank's WDI.[23]

Labour Costs: Low labour costs may be associated with greater FDI inflows—if accurately measured in a model that accounts for differences in worker productivity. Labour costs have been included in previous studies examining FDI (for example, Eichengreen & Tong, 2007). In addition, FDI into labour-intensive sectors in particular export-oriented investments in manufacturing and agriculture are particularly sensitive to stringent labour regulations. We proxy the cost related to the labour productivity and labour regulation using the gross average real monthly wage in local currency, available at the ILOSTAT Database produced by the International Labor Organization (ILO).

Empirical Findings

Table 4 below shows the regression results, presented for developing countries only (first four columns) and for the world as a whole, including both developing and developed countries (last four columns). Developing countries are those with upper middle income status or below.[24]

Columns 1 and 5 present the base model results for the developing countries and the world samples and the remaining columns show alternative specifications. For the most part, the variables have the expected signs. The initial FDI/GDP share is negative, suggesting conditional convergence. FDI as a share of GDP is growing faster in countries that have lower FDI stocks, but this is significant only in the world sample (column 5). This variable's higher significance in the world sample is probably due to greater FDI flows going from developed to developing countries over the sample period; hence, this factor has more variance

Table 4. Determinates of FDI

	Developing Countries				World			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Inward FDI/GDP Stock	−0.000559	−0.000600	−0.000271	−0.00130	−0.000530**	−0.000573**	−0.000386	−0.000479
	(1.353)	(1.398)	(0.517)	(1.469)	(2.232)	(2.377)	(1.372)	(1.047)
Human Capital Growth	0.591	0.625	−0.0192	0.766	−0.000103	0.0387	−0.335	−0.245
	(0.901)	(0.832)	(0.0208)	(0.585)	(0.000328)	(0.117)	(1.225)	(0.925)
Corporate Tax Reduction	0.551*	0.565*	0.138	0.762**	0.398*	0.377	0.119	0.413
	(1.983)	(1.770)	(0.697)	(2.394)	(1.786)	(1.496)	(0.664)	(1.637)
Energy Loss Reduction	0.0959	0.128	−0.0206	0.119	0.0186	0.0458	−0.0670	−0.00429
	(0.668)	(0.847)	(0.148)	(0.572)	(0.151)	(0.363)	(0.608)	(0.0282)
Natural capital per capita	0.000796	0.00111	0.00107	0.00132	0.00100***	0.000957***	0.000861***	0.000969***
	(0.587)	(0.645)	(0.846)	(0.685)	(5.208)	(4.995)	(4.070)	(3.630)
Financial Development Growth	0.0175	0.0327	0.0884	0.145	−0.0186	−0.00730	0.0605	0.0145
	(0.116)	(0.210)	(0.532)	(0.721)	(0.216)	(0.0813)	(0.780)	(0.140)
Trade Liberalization Growth	0.130***	0.113**	0.156***	0.0905	0.129***	0.116***	0.150***	0.106***
	(2.910)	(2.376)	(3.925)	(1.623)	(3.702)	(3.062)	(4.628)	(3.000)
Investment Policy Openness Growth	0.254**	0.299**	0.217*	0.137	0.343***	0.396***	0.234***	0.320***
	(2.427)	(2.632)	(1.939)	(0.890)	(4.049)	(4.131)	(2.773)	(3.343)

Macroeconomic Stability	0.00843	0.0238	0.0289	0.0167	–0.0114	0.00376	0.0186	–0.000695
	(0.166)	(0.437)	(0.578)	(0.267)	(0.234)	(0.0753)	(0.405)	(0.0107)
Control of Corruption Changes	0.208**		0.156	0.107	0.208**		0.165*	0.286
	(2.563)		(1.354)	(0.543)	(2.451)		(1.682)	(1.656)
ICT Infrastructure Growth	0.00757	0.0470		–0.0246	0.0872	0.122**		0.0837
	(0.107)	(0.669)		(0.187)	(1.506)	(2.073)		(0.929)
Political Stability Changes		0.0286				0.00227		
		(0.486)				(0.0404)		
Road Infrastructure Growth			0.0900				0.0531	
			(0.316)				(0.241)	
Real Wage Growth				0.0000				0.000348
				(0.000332)				(0.232)
Oil dummy	–0.0741***	–0.0779***	–0.0497**	–0.125***	–0.0560***	–0.0534***	–0.0388**	–0.0572**
	(4.020)	(3.325)	(2.099)	(2.983)	(3.564)	(2.860)	(2.215)	(2.086)
EAP	–0.00600	–0.0204	–0.00705	0.00246	0.000279	–0.00901	0.00955	0.00802
	(0.152)	(0.455)	(0.188)	(0.0397)	(0.00940)	(0.277)	(0.314)	(0.215)
ECA	0.0451	0.0330	0.0484	0.0358	0.0398**	0.0363*	0.0524***	0.0405*
	(1.194)	(0.720)	(1.243)	(0.552)	(2.470)	(1.999)	(3.818)	(1.720)
LAC	0.0473	0.0440	0.0386	0.0775	0.0360**	0.0349*	0.0494***	0.0538*
	(1.670)	(1.415)	(1.253)	(1.586)	(2.053)	(1.984)	(2.825)	(1.879)

(Table 4 Continued)

(Table 4 Continued)

	Developing Countries				World			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SA	0.0247	–0.000864	0.0305	0.0659	0.0228	–0.00379	0.0458**	0.0478
	(0.880)	(0.0274)	(0.936)	(1.274)	(1.051)	(0.157)	(2.225)	(1.313)
SSA	0.0304	0.0135	0.0302	–0.00938	0.0118	–0.00254	0.0360	–0.0255
	(0.937)	(0.410)	(0.979)	(0.115)	(0.466)	(0.102)	(1.502)	(0.430)
MENA	0.0631**	0.0599*	0.0559	0.119	0.0460**	0.0415*	0.0648***	0.0448
	(2.265)	(1.975)	(1.501)	(1.626)	(2.057)	(1.775)	(3.370)	(1.083)
High income countries					0.0327**	0.0312**	0.0456***	0.0395**
					(2.208)	(2.073)	(2.701)	(2.239)
Observations	52	52	38	35	78	78	63	59
R-squared	0.751	0.717	0.820	0.844	0.750	0.724	0.813	0.803
Adj. R-squared	0.620	0.567	0.658	0.660	0.669	0.635	0.733	0.702

Source: UNCTAD statistics, FDI markets database and World Bank staff calculations.
Note: *, **, *** represent statistical significance at the 10% level, 5% level and 1% level, respectively.

in the world sample. The size of the coefficient suggests that countries with low FDI/GDP are conditionally catching up to countries with higher FDI/GDP at a rate of about 0.06 percentage points per year.[25]

One factor that appears significant as a determinate for FDI/GDP growth is a rate reduction in corporate taxes as share of profits (particularly for the developing country sample). For developing countries, lowering corporate tax rates may have a predominantly positive impact on FDI, especially if taxes are imposed more stringently on foreign-owned enterprises than on domestic ones. A 1 per cent decrease in corporate rates would cause about a half a percentage point increase in FDI/GDP growth.

Another significant factor is increasing trade liberalization. A 1 per cent decrease in tariff rates would cause about a 0.13 percentage point increase in growth in FDI/GDP. While high tariffs may give some companies an incentive to invest in protected markets, greater trade liberalization has a positive overall impact on attracting FDI, perhaps because protectionism distorts relative prices and increases production costs (through higher prices for inputs and imported capital goods and the deterrent to efficient resource allocation).

Institutional improvements, particularly in controlling corruption, have a robust positive and significant impact on FDI/GDP for both the developing countries and the world sample. So does investment policy openness. Natural resource endowments have a positive and significant impact on FDI/GDP—but just for the world sample. At least for the period of study from 2000 to 2010, this suggests that the significance of this variable may be influenced by investments going from developed countries to developing ones and not by investments between developing countries themselves.

The dummy variable for large oil-exporting economies is strongly significant and negative. This runs counter to the expectation that oil-rich countries would provide a strong attraction for FDI. However, the equation holds constant initial levels of FDI/GDP that may have been high for these countries. During the period of study, oil exporters may not be attracting additional inflows of FDI because they were high recipients in prior years.

In both the developing country and world samples, efficiency of energy supply and macroeconomic stability do not appear to have a statistically significant impact on the growth of FDI/GDP. The lack of significance on these variables may either be because they are not good proxies for the presumed economic relationships (a country may have a plentiful supply of energy, but nonetheless be subject to large distribution and power losses, for example) or, they may simply not be consistently good indicators for determining the growth of FDI/GDP. Other factors that were believed *a priori* to be potentially important to determining FDI/GDP growth, such as wage rates,[26] infrastructure, and financial market development, proved to be less robust than expected, with high standard errors and weak significance. Overall, the empirical results explain about 60 per cent to 70 per cent of the variation in FDI/GDP growth for the developing countries and the world sample, as indicated by the adjusted R-square.[27] We believe that many of the insignificant factors included in the analysis would be significant if we could control for sectoral or industry-level FDI.

However, the lack of availability of sectoral FDI data, which is only partly available for the greenfield FDI, constrained our analysis to the aggregate level. The summary statistics of the variables are presented in the Annex.

How Does South Asia Rank Among Other Developing Countries?

The series of graphs in Figure 7 compares South Asia and other developing regions on the explanatory variables used in the regression analysis. India and the rest of South Asia stand out generally as having a weak environment for attracting FDI. It had the lowest initial level of inward FDI/GDP. It had the lowest reduction corporate tax rates as a share of profits (and actual increases in South Asia excluding India). It has had the largest decline in investment policy openness, the lowest level of natural resources per capita, and largest deterioration in political stability (particularly for South Asia excluding India).

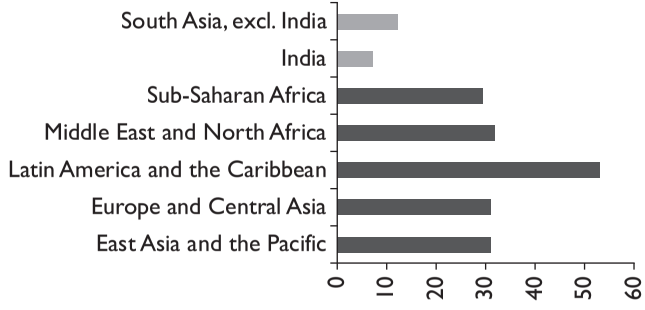
South Asia does well on some indicators. The region's human capital growth has been stronger than other regions, it has the largest reduction in energy losses (despite only weak improvements in India), financial sector development growth is second only to the Europe and Central Asia region, and infrastructure growth has been second only to Sub-Saharan Africa. For India, trade liberalization (as measured by reduced effective rates of tariff protection) and investment policy openness has been particularly strong during this period, while for the rest of South Asia it has shown only modest improvements or deterioration. However, with the exception of overall trade liberalization and investment policy openness in India, these factors are not found to be significant determinants of FDI/GDP in the regression analysis, but they may be important contributors to growth. This may partly explain the region's relatively strong GDP growth over the past decade, despite a period of relatively weak growth in FDI inflows.

Accounting for FDI Growth—Comparing South Asia to Other Developing Regions

Using the base-model regression results for developing countries, and including actual data comparing South Asia countries to all developing countries, we can determine how South Asia's characteristics contributed to FDI/GDP growth relative to all developing countries. Only determinants that add to the explanatory power of FDI/GDP growth model are shown.

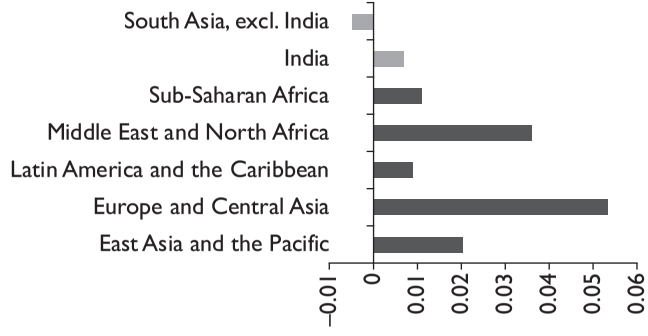
Compared to other developing countries, South Asia's is quite modest on factors that contribute to FDI/GDP growth (Figure 8). While all developing countries have slid in investment policy openness and control of corruption, South Asia, as a whole, has seen the largest declines by far, contributing to its

Inward FDI/GDP stock, 2000–2010



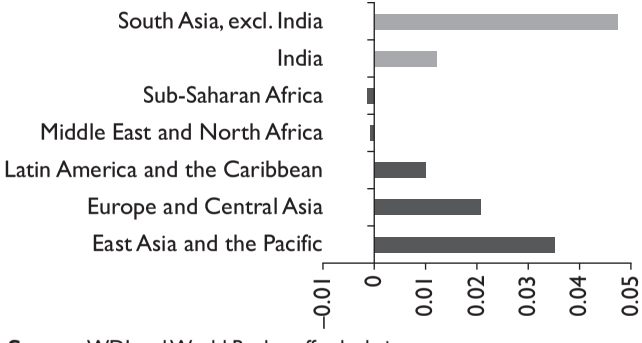
Source: UNCTAD statistics and World Bank staff calculations.

Corporate Tax Reduction, 2000–2010



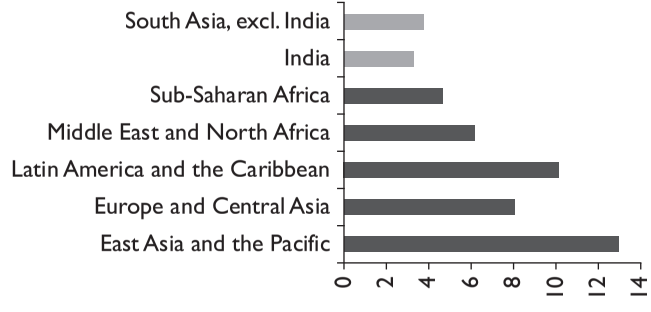
Source: WDI and World Bank staff calculations.

Energy Loss Reduction, 2000–2010



Source: WDI and World Bank staff calculations.

Natural Resources per capita, 2000

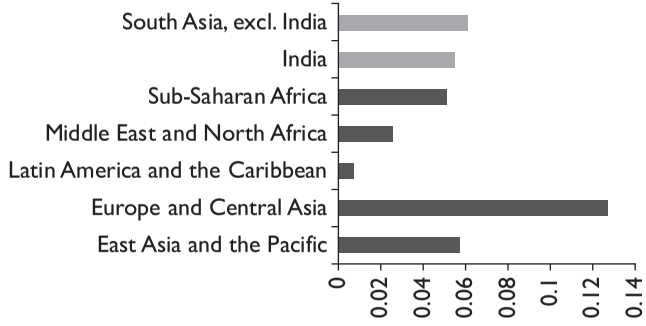


Source: World Bank, Wealth of Nations Catalog.

(Figure 7 Continued)

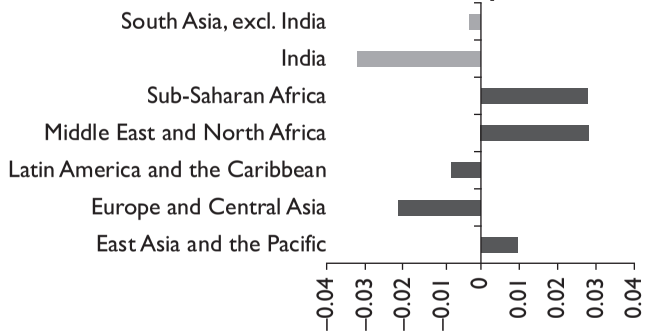
(Figure 7 Continued)

Financial Sector Development Growth, 2000–2010



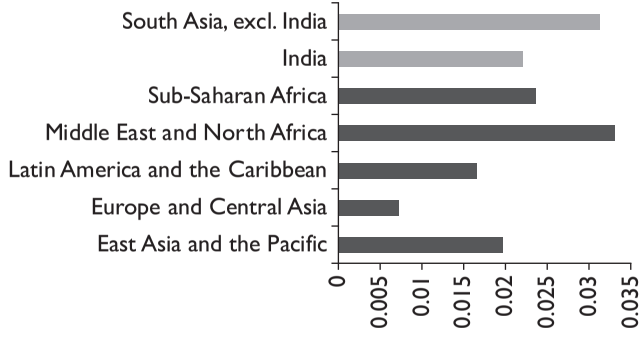
Source: WDI and World Bank staff calculations.
Note: The variable is defined as Private Sector Credit (% GDP).

Macroeconomic Stability, 2000–2010



Source: IFS and World Bank staff calculations.
Note: The variable is defined as real exchange rate variability.

Human Capital Growth, 2000–2010

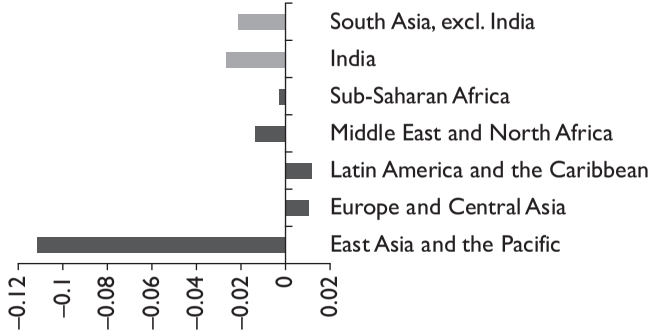


Source: Barro & Lee and World Bank staff calculations.
Note: The variable is defined as secondary and tertiary schooling.

Political Stability Changes, 2000–2010

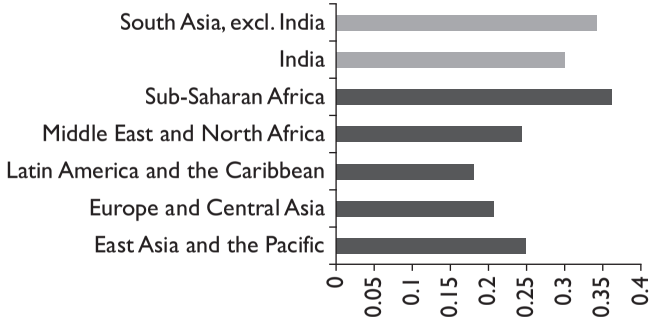
Source: Worldwide Governance Indicators , the World Bank.

Control of Corruption Changes, 2000–2010



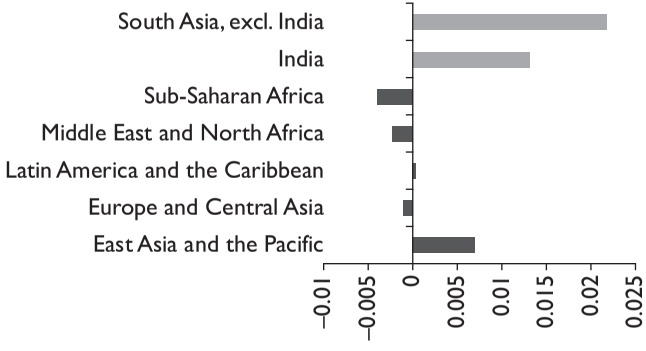
Source: Worldwide Governance Indicators, the World Bank.

ICT Infrastructure Growth, 2000–2010



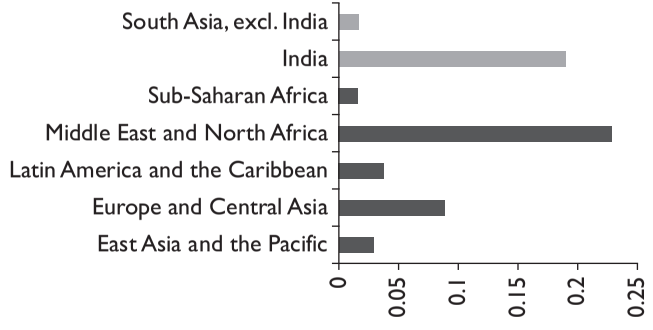
Source: WDI and World Bank staff calculations.

Road Infrastructure Growth, 2000–2010



Source: WDI and World Bank staff calculations.

Trade Liberalization Growth, 2000–2010

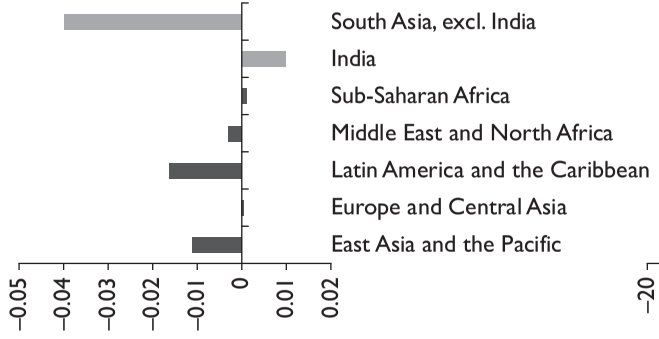


Source: UNCTAD statistics and World Bank staff calculations.
Note: The variable is defined as effective tariif rate reduction.

(Figure 7 Continued)

(Figure 7 Continued)

Investment Policy Openness Growth, 2000–2010



Source: Heritage Foundation and World Bank staff calculations.
Note: The variable is defined as growth in investment freedom index.

Real Wage Growth, 2000–2010

Source: ILO and World Bank staff calculations.
Note: The variable is defined as nominal wage divided by CPI.

Figure 7. Determinants of FDI/GDP Growth (Regional Groupings), 2000–2010

Note: South Asian countries in Figure 12 do not include Afghanistan due to its lack of data.

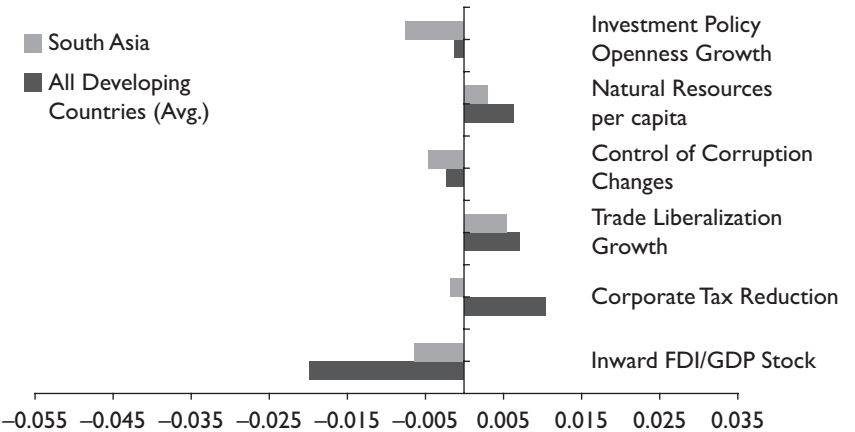


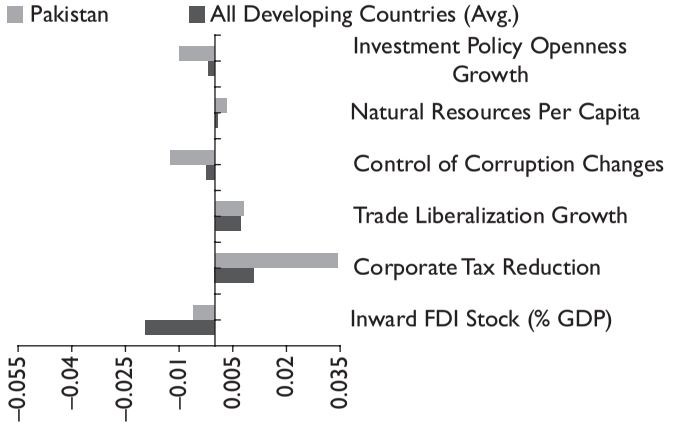
Figure 8. Contribution of SAR Economic Fundamentals to FDI/GDP Growth (Dependent Variable: Inward FDI Stock (% GDP) Annual Growth, 2000–2010)

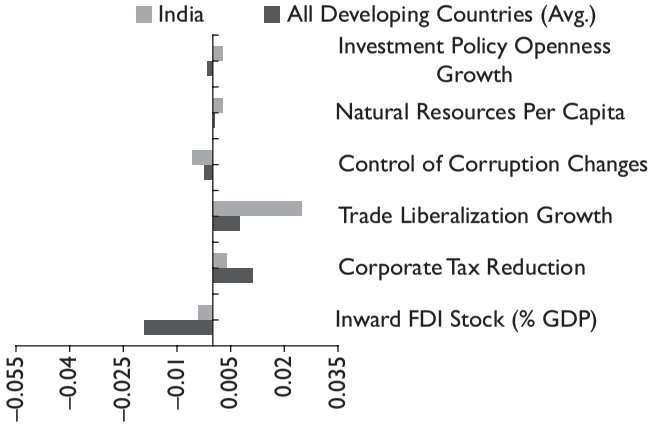
Source: UNCTAD statistics, FDI markets database and World Bank staff calculations.
Note: The graph includes only the variables that add to the explanatory power of the model. (estimates with t-values of greater than 1).

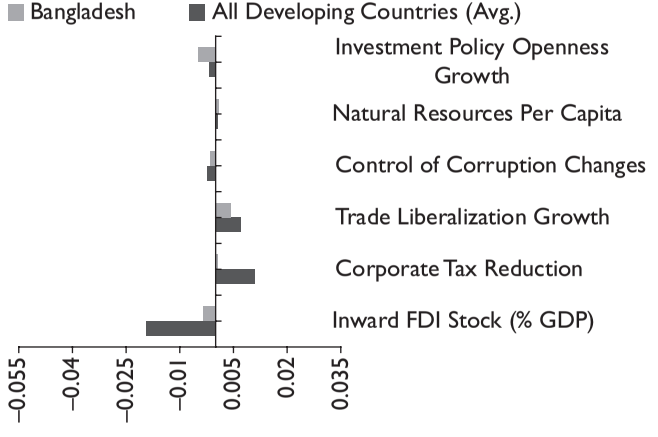
slower FDI/GDP growth. While developing countries as a whole have reduced corporate taxes, South Asia stands out as a laggard primarily due to increases in Sri Lanka's tax rate.[28] Trade liberalization has been a positive contributor to South Asia's FDI/GDP growth, but the region has done less than other developing countries. On a positive note, South Asia's low initial level of FDI stock suggests greater potential for future FDI growth.

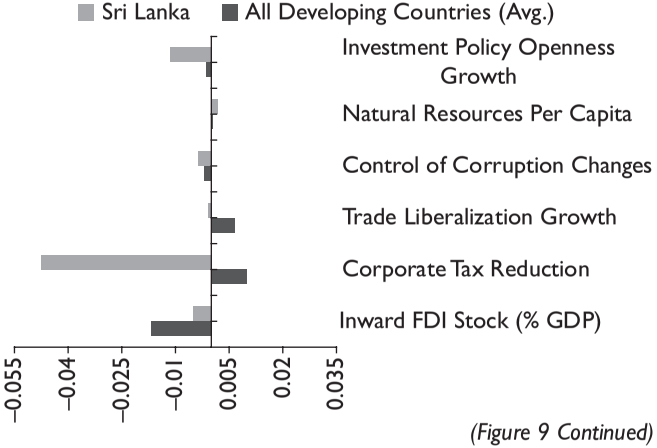
Figure 9 splits South Asia into its constituent countries to show the diverse regional experience, but also commonalities across the region. India, which accounts for some 85 per cent of regional FDI inflows, is unique in its strong improvements to investment policy and trade liberalization, which have played a positive role in enhancing growth in FDI/GDP. Its other characteristics that influence foreign direct investment, such as control of corruption and corporate tax changes, have been quite similar to the rest of South Asia. For Pakistan, reductions in corporate tax rates have been a large positive factor in enhancing FDI/GDP growth compared to other developing countries and the rest of South Asia, while control of corruption and improvements in investment policy growth have been relatively large detractors.

Overall levels of FDI to GDP are relatively small in Bhutan and Nepal, suggesting a large potential for future growth in foreign investment, which are complemented by high natural resource endowments due to the unexploited hydropower potential. Nonetheless, the deterioration in investment policies has been a relatively large deterrent to foreign investment growth in Nepal. For the Maldives, the current large stock of FDI to GDP suggests that potential for future growth in foreign investment is modest.









(Figure 9 Continued)

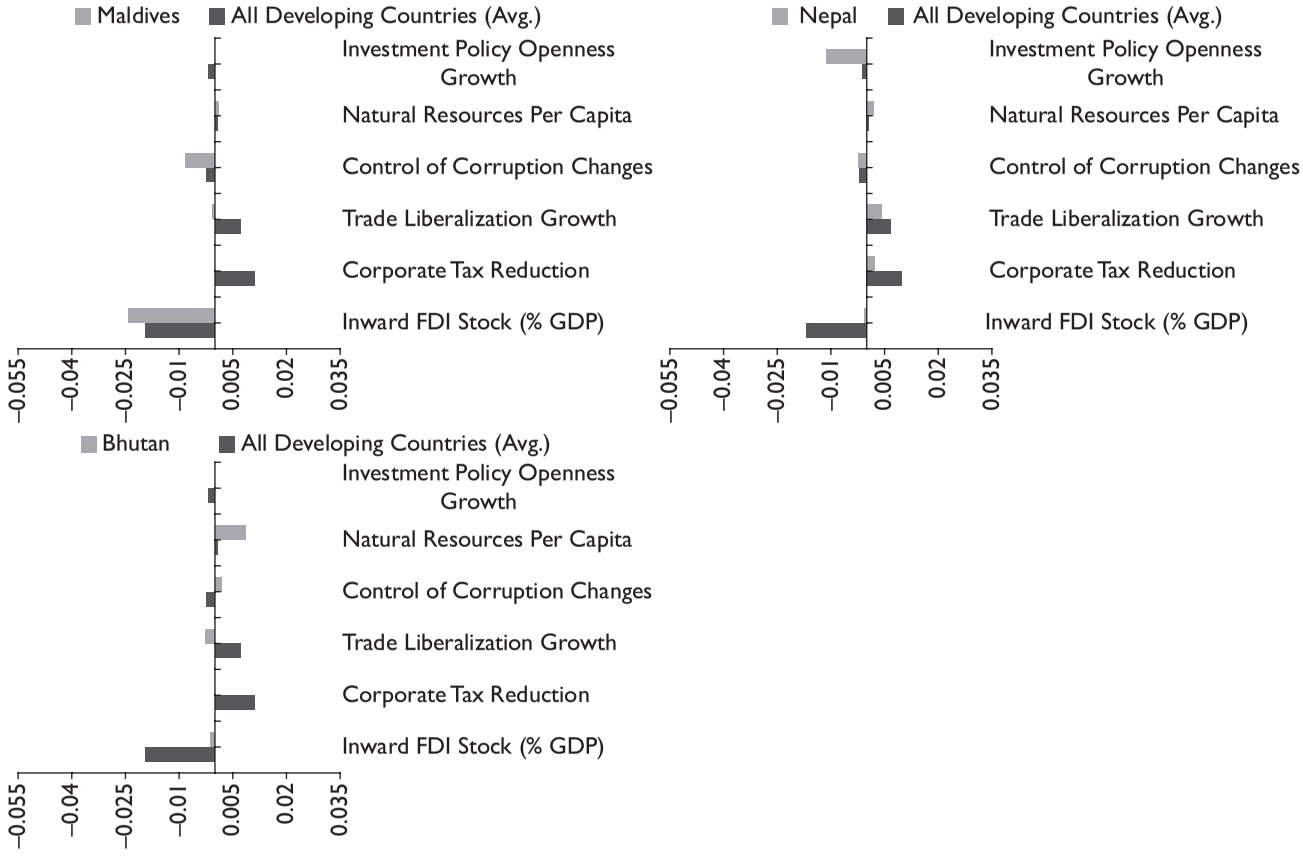


Figure 9. Contribution of Economic Fundamentals to FDI/GDP Growth by South Asian Countries (Dependent Variable: Inward FDI Stock (% GDP) Annual Growth, 2000–2010)

Source: UNCTAD statistics, FDI markets database and World Bank staff calculations.
Note: The graphs include only the variables that add to the explanatory power of the model (estimates with t-values of greater than 1).

Control of corruption is a significant detractor to the growth in FDI/GDP for most countries in the SAR region, with the exception of Bhutan, where improvements have been a positive contributor to foreign investment. However, Bhutan has raised its level of trade protection, somewhat offsetting the positive impact of the gains through controlling corruption.

The estimated model suggests potential for improving FDI inflows to South Asia via policy enhancements. Table 5 shows actual and predicted FDIs from 2005 to 2015. The actual annual growth of FDI/GDP fell for most countries in South Asia in the second half of the 2000s, on average decreasing from 6.5 per cent to 1.5 per cent with the exception of India and Pakistan. India's FDI/GDP growth increased from 6.7 per cent during 2000–2005 to 14.9 per cent over 2005–2010, while Pakistan's rate increased from –0.6 per cent to 3.3 during the same period.

Using fitted regression model with actual data from 2005 to 2010, we can predict what the average annual rate of growth will be up to 2015. Overall, the annual average growth of FDI/GDP is expected to increase from 1.5 per cent in the second half of the 2000s to 3.9 per cent up to 2015 (column 3, Table 5). This reflects a large jump in FDI/GDP growth Bangladesh, and more moderate increases in Bhutan, Nepal, and Pakistan, but slower growth in the other South Asian countries.

An alternative forecast is provided in column 4, which makes a hypothetical forecast that assumes that South Asian countries are to make progress on policies that attract FDI/GDP (up to the developing country average) and maintain their

Table 5. Model Predictions (Inward FDI Stock (% GDP) Annual Avg. Growth)

Country	(1) Actual FDI/ GDP Growth 2000–2005	(2) Actual FDI/ GDP Growth 2005–2010	(3) Predicted FDI/GDP Growth, to 2015	(4) Predicted FDI/ GDP Growth, to 2015, Improving to Developing Country Average*
South Asia Avg.	6.5%	1.5%	3.9%	6.6%
Bangladesh	4.3%	–0.1%	12.9%	14.0%
Bhutan	17.4%	0.03%	4.5%	8.0%
India	6.7%	14.9%	3.2%	6.1%
Maldives	13.7%	8.9%	3.2%	7.9%
Nepal	3.5%	0.4%	1.7%	5.7%
Pakistan	–0.6%	3.3%	5.9%	7.6%
Sri Lanka	0.8%	0.1%	–4.0%	5.2%

Source: UNCTAD statistics, FDI markets database and World Bank staff calculations.

Note: * Improved predicted FDI inflow, 2005–2015, is based on the value of the explanatory variables adjusted to developing countries average whenever they are less than the developing countries average.

other policies that are already above average. Under this scenario, annual FDI/GDP growth would increase to 6.6 per cent through 2015, which is 2.7 percentage points higher annually than if policies were maintained. Overall, the results suggest South Asia has the potential, through policy changes, to take important steps to becoming a much greater magnet for foreign investment.

Conclusions

Globally, inward FDI flows have followed a hump-shaped pattern over the past decade, with strong growth before the global crisis and a sharp drop as many economies struggled during 2008–2009. FDI inflows to developed economies fell significantly in the midst of the crisis, and have yet to fully recover; by contrast, FDI flows to developing economies have begun to recover more rapidly than many forecasters would have predicted. Recent decades have seen a gradual shift of the centre of gravity for FDI inflows from developed economies to developing ones. Currently, more than half of the FDI goes to developing countries. Strong growth in the developing countries, overall improvement in their business environments, and more open FDI policies have played a large role in the paradigm shift. Many emerging economies have been actively courting FDI from both advanced and other developing countries. They are doing so to take advantage of supply-chain linkages, technology transfers, and natural resource opportunities. India has been a notable player in this process.

While South Asia has seen FDI increases in the past decade, as have other regions, the region's challenges put in sharp contrast policies that can impact FDI for all developing countries. Weak fundamentals have prevented more FDI flows into South Asia. The composition of FDI is heavily focused on the service industry, which may reflect the region's comparative advantage in this sector, but also may indicate that FDI into other sectors, such as manufacturing, is low due to insufficient infrastructure and cumbersome regulations that discourage FDI inflows to these industries more than into services.

The empirical analysis presented in this study offers a powerful set of factors as key contributors to FDI growth—control of corruption, non-punitive corporate taxes, reduced trade protection and greater investment openness. Developing countries have several good options for improving FDI flows and doing so could provide a strong foundation for continued growth. For South Asia, progress has been made on the policy front over the past decade, but policy-makers need to remain vigilant and keep the reform momentum going forward rather than sliding backwards, particularly in the current context of South Asia's economic slowdown. Regional growth has slowed from 9.3 per cent in 2010 to 5.4 per cent in 2012, and some local businesses are advocating quick short-term solutions through protected markets. Concerns have recently been raised by multinational corporations that new policies to protect domestic business are

deteriorating the attractiveness of investing in the region, and thus may hurt long-term growth prospects. Initiatives to promote domestic interests, while at first appearing to help strengthen the domestic economy may, in the end, do just the opposite. While foreign direct investment is not the only building block of a strong and growing domestic economy, it complements other components and is oftentimes a bellwether for future growth prospects.

Acknowledgements

The authors wish to thank, Kaplana Kochhar, Martin Rama, Sergio Schmukler, Peter Kusek, Eric Manes and Cem Mete for excellent comments and reviews of earlier drafts. The authors are grateful to anonymous referees of the journal for very useful comments. All remaining errors are their own. Views expressed by the authors are their personal views. Usual disclaimers apply.

Annexure

Summary Statistics and Correlation Matrix

Summary Statistics, 2000–2005 World Sample

Variable	No. Obs. (Countries)	Mean	Standard Deviation	Min	Max
Inward FDI/GDP Growth	78	0.047849	0.056528	–0.1653	0.169577
Inward FDI/GDP Stock	78	33.44786	24.95549	1.521672	132.9266
Human Capital Growth	78	0.017685	0.011039	–0.01034	0.048578
Corporate Tax Reduction	78	0.014498	0.028767	–0.09885	0.100688
Energy Loss Reduction	77	0.012179	0.050157	–0.22063	0.173316
Natural Resource Per Capita	78	13.09878	22.55607	1.192	169.15
Financial Sector Development Growth	72	0.039427	0.052276	–0.06018	0.209108
Trade Liberalization Growth	78	0.035777	0.088296	–0.26995	0.374208
Investment Policy Openness Growth	78	–0.00519	0.026108	–0.07879	0.070707
Macroeconomic Stability	77	–0.0024	0.059492	–0.16384	0.150653
Control of Corruption Changes	78	–0.00557	0.035648	–0.14866	0.102065

(Annexure Continued)

(Annexure Continued)

Variable	No. Obs. (Countries)	Mean	Standard Deviation	Min	Max
ICT Infrastructure Growth	78	0.180361	0.113777	0.028388	0.483358
Political Stability Changes	78	–0.01869	0.123197	–1	0.208901
Road Infrastructure Growth	66	0.003774	0.041965	–0.16662	0.146267
Real Wage Growth	62	–5.63332	4.522851	–20.1918	0.252715

Source: World Bank staff calculations.

Note: Summary statistics belongs to the variables within 2000–2010 period for the countries included in the base model.

Notes

1. The South Asia region refers to Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan and Sri Lanka.
2. The IMF's most recent Balance of Payments Manual (BPM6) defines FDI as 'a category of cross-border investment associated with a resident in one economy having control or a significant degree of influence on the management of an enterprise that is resident in another economy'. This is operationally defined as having at least a 10 per cent equity stake in the foreign firm. Inward FDI refers to foreign investment flows into the home countries, whereas outward FDI is the countries' investment flows to other countries. FDI is classified by two types: (*a*) greenfield investment involves constructing new operational facilities (factories, machinery, etc.) from the ground up; and (*b*) mergers and acquisition (M&A) involve foreign firms acquiring existing assets from local firms. Our analysis in this study will cover both types of FDI together, although the literature has sometimes made a distinction between these two entry modes of FDI in terms of their impact on productivity, growth and jobs. Some empirical studies suggest that greenfield investment and M&As are not perfect substitutes (Bertrand et al., 2012; Blonigen, 1997; Nocke & Yeaple, 2007, 2008; Norbäck & Persson, 2008). The choice of entry modes may influence FDI performance and the host country's performance through research and development (R&D), localization of supplies and human resources and technology transfers. In fact, a group of studies including Calderón et al. (2004), Harms & Méon (2011), Kim & Zhang (2008), Neto et al. (2010) and Wang & Wong (2009) argue that greenfield has bigger welfare impacts on the host countries via increasing capital formation and productivity.
3. For example, interview with Joseph Stiglitz, *The Times of India*, 21 October 2012 and the work of Hellman et al. (2002), and Golberman and Shapiro (2003).
4. In this report, developing economies include both developing and transitional economies as defined in UNCTAD.
5. 'FDI inflows' are defined as net investments in domestic firms by foreigners. This is a different concept from 'net' FDI (net investment in domestic firms by foreigners minus the net purchases of foreign firms by domestic agents). Broner et al. (2011) find that 'gross' capital flows tend to be more volatile than 'net' capital flows. When

foreigners invest in a country, domestic agents tend to invest abroad, and vice versa. Gross capital flows are also pro-cyclical, with foreigners investing more in the country and domestic agents investing more abroad during expansions. During crises, especially during severe ones, there is a retrenchment in both capital inflows by foreigners and capital outflows by domestic agents. Research has shown that a financial crisis is associated with the exit of investors; however, such crises are equally consistent with an inflow of foreign capital in the form of M&A, dubbed 'fire-sale FDI' by Aguiar and Gopinath (2005). After noting that foreign acquisitions increased by 90 per cent in the East Asian crisis of 1996–1998, Aguiar and Gopinath provide an explanation for FDI's puzzling stability during crises. Firms plagued by liquidity problems are willing to sell their assets at lower prices to foreign investors—hence, the fire sale. India and China were the standout survivors of the financial crisis of 2008–09, invited to the Group of Twenty high table and expected to help steer the course for twenty-first century commerce. During the financial crisis, we observed large M&A activities flowing from India and China into those countries at the crisis epicentre—an outcome consistent with the theory.

6. Regional group definitions are from the World Bank, retrieved from http://data.worldbank.org/about/country-classifications/country-and-lending-groups.
7. FDI to GDP ratios are frequently used to control for the size of the economies when doing comparisons of FDI.
8. The service sector includes: finance; wholesale and retail trade; business activities; transport, storage and communication; electricity, gas and water; hotels and restaurants; health and social services; education; construction; community, social and personal service activities; public administration and defence; and other services.
9. In 2006, the Agreement on South Asian Free Trade Area (SAFTA) was launched to reduce trade barriers within the region, although much remains to be implemented. In addition, three bilateral free-trade agreements have been signed: India–Bhutan, India–Sri Lanka, and Pakistan–Sri Lanka. Other trade agreements that incorporate South Asian countries include the Asia-Pacific Trade Agreement (India, Bangladesh, Sri Lanka, Philippines, Lao PDR and Korea) as well as the Bay of Bengal Initiative for Multi-sectoral Technical and Economic Cooperation (BIMSTEC), which involves Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka and Thailand, aims to achieve its own free trade area by 2017.
10. For example, Barro and Sala-i-Martin (1992, 2003); Baumol (1986); Borensztein et al. (1998).
11. This specification follows similar application of FDI can be found in Asiedu (2002), Lall et al. (2003), Mohamed and Sidiropoulos (2010), Noorbakhsh et al.(2001), and Walsh and Yu (2010).
12. We specifically examine long-run trends in FDI inflows to GDP to abstract from short-term cyclical factors.
13. The summary statistics table is provided in the Annex.
14. For example, see Barrell and Pain, (1999), Campos and Kinoshita, (2003), Walsh and Yu, (2010) and Wheeler and Mody, (1992).
15. For example, see Narula (1996), Noorbakhsh et al. (2001), Root and Ahmed (1979) and Schneider and Frey (1985).
16. http://www.barrolee.com/
17. For example, see J.P. Agarwal (1980), Asiedu (2002), Dutta and Roy (2008), Root and Ahmed (1979), Solomon and Ruiz (2012), Wei (2000) and Wheeler and Mody (1992).

18. For example, see Addison and Heshmati (2003), Asiedu (2002), and Blonigen and Piger (2011).
19. Please refer to Gastanaga et al. (1998) to learn about different measures of openness.
20. For example, see Noorbakhsh et al. (2001) and Wilhelms (1998).
21. The energy–investment relationship is detailed in a global corporate survey by PricewaterhouseCoopers (2012).
22. For example, see Anyanwu (2012), Asiedu (2002), McKern (1996), Mohamed and Sidiropoulos (2010) and UNCTAD (1993, 1998).
23. For example, see Beck et al. (2000) and Demirgüç-Kunt and Beck (2009).
24. World Development Indicators (http://data.worldbank.org/data-catalog/world-development-indicators).
25. The rate of convergence is calculated as $\lambda - \ln(1 + \hat{\beta})/t$, where t is 1 (since growth is annualized, the period over which growth is calculated is 1) and $\hat{\beta}$ is the estimated coefficient on the level of FDI/GDP in the starting period.
26. South Asia is a great host of labour-intensive FDI due to its cheap labour force. However, it suffers from inefficiencies and frictions in the labour market, for example, stringent labour regulations, and so the final impact of labour on FDI attraction is undetermined. This issue will be better investigated if industry-level FDI data becomes available.
27. The equations were estimated utilizing the Huber–White sandwich estimators, with account for a collection of potential concerns over the violation of the standard assumptions of OLS estimators, such as normality and possible heteroscedasticity. Other potential problems like model specification and nonlinearity of the parameters were tested using the Ramsey Reset test, but were not found to be statistically important issues.
28. It should be noted that while moving to zero corporate tax rates may promote higher growth in FDI/GDP, it may not be conducive to fiscal revenue objectives, nor be the least distortionary way of raising revenues. This article does not address these issues.

References

Addison, Tony & Heshmati, Almas (2003). *The new global determinants of FDI flows to developing countries: The importance of ICT and democratization*. Discussion Paper No. 2003/45, WIDER.

Agarwal, Jamuna P. (1980). Determinants of foreign direct investment: A survey. *Weltwirtschaftliches Archiv*, *116*(4), 739–773.

Aguiar, Mark & Gopinath, Gita (2005). Fire-sale foreign direct investment and liquidity crises. *The Review of Economics and Statistics*, *87*(3), 439–452.

Al Nasser, Omar M. & Gomez, Xavier Garza (2009). Do well-functioning financial systems affect the FDI flows to Latin America? *International Research Journal of Finance and Economics*, *29*, 60–75.

Anyanwu, John C. (2012). Why does foreign direct investment go where it goes?: New evidence from African countries. *Annals of Economics and Finance*, *13*(2), 433–470.

Asiedu, Elizabeth (2002). On the determinants of foreign direct investment to developing countries: Is Africa different? *World development*, *30*(1), 107–119.

Athukorala, P. (2007). *Multinational enterprises in Asian development*. Cheltenham: Edward Elgar.

Barrell, Ray & Pain, Nigel (1999). Domestic institutions, agglomerations, and foreign direct investment in Europe. *European Economic Review*, *43*, 925–934.

Barro, Robert J. & Sala-i-Martin, Xavier (1992). Convergence. *Journal of Political Economy*, *100*(2), 223–251.

——— (2003). *Economic Growth* (2nd ed.). Cambridge, MA: MIT Press.

Baumol, William J. (1986). Productivity growth, convergence, and welfare: What the long-run data show. *American Economic Review*, *76*(5), 1072–1085.

Beck, Thorsten, Demirgüç-Kunt, Aslı & Levine, Ross E. (2000). A new database on financial development and structure. *The World Bank Economic Review*, *14*(3), 597–605.

Bertrand, Olivier, Hakkala, Katariina N. & Norbäck, Pehr-Johan (2012). Should countries block foreign takeovers of R&D champions and promote greenfield entry. *Canadian Journal of Economics*, *45*(3), 1083–1124.

Bitzer, J. & Görg, H. (2009). Foreign direct investment, competition and industry performance. *World Economy*, *32*(2), 221–233.

Blalock, Garrick & Gertler, Paul J. (2004). Learning from exporting revisited in a less developed setting. *Journal of Development Economics*, *75*(2), 397–416.

Blonigen, Bruce (1997). Firm-specific assets and the link between exchange rates and foreign direct investment. *American Economic Review*, *87*(3), 447–465.

Blonigen, Bruce A. & Wang, Miao G. (2005). Inappropriate pooling of wealthy and poor countries in empirical FDI studies. In Theodore H. Moran, Edward M. Graham and Magnus Blomström (Eds), *Does Foreign Direct Investment Promote Development?*, Chapter 9. Peterson Institute of International Economics.

Blonigen, Bruce A. & Piger, Jeremy (2011). Determinants of foreign direct investment. Working Papers 16704, National Bureau of Economic Research (NBER).

Bloom, Nicholas (2009). The impact of uncertainty shocks. *Econometrica*, *77*(3), 623–685.

Bloom, Nicholas, Bond, Stephen & Van Reenen, John (2007). Uncertainty and investment dynamics. *Review of Economic Studies*, *74*(2), 391–415.

Borensztein, E.J., De Gregorio, J.W. & Lee. J.W. (1998). How does FDI affect economic growth? *Journal of International Economics*, *45*(1), 115–135.

Broner, Fernado, Didier, Tatiana, Erce, Aitor and Schmukler Sergio L. (2011). Gross capital flows: Dynamics and crises. Policy Research Working Paper 5768, World Bank, August.

Calderón, César, Loayza, Norman & Servén, Luis (2004). Greenfield foreign direct investment and mergers and acquisitions: Feedback and macroeconomic effects. Policy Research Working Paper 3192, World Bank.

Campos, Nauro F. & Kinoshita, Yuko (2003). Foreign direct investment and structural reforms: Evidence from Eastern Europe and Latin America. IMF Research Conference on the Causes and Consequences of Structural Reforms.

Caves, R. (2007). *Multinational enterprise and economic analysis*, 3rd ed. Cambridge University Press.

Demirgüç-Kunt, Aslı & Beck, Thorsten (2009). Financial institutions and markets across countries and over time: Data and analysis. Policy Research Working Paper 4943, World Bank.

Dunning, J. & Lundan, S. (2008). *Multinational enterprises and the global economy*. 2nd. edition. Cheltenham: Edward Edgar.

Dutta, Nabamita & Roy, Sanjukta (2008). Foreign direct investment, financial development and political risks. *Journal of Developing Areas*, *44*(2), 303–327.

Eichengreen, B. & Tong, H. (2007). Is China's FDI coming at the expense of other countries? *Journal of the Japanese and International Economies*, *21*(2), 153–172.

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

Goberman, Steven & Shapiro, Daniel (2003). Governance infrastructure and US foreign direct investment. *Journal of International Business Studies*, *34*(1), 19–40.

Harms, Philipp & Méon, Pierre-Guillaume (2011). An FDI is an FDI is an FDI? The growth effects of greenfield investment and mergers and acquisitions in developing countries. Proceedings of the German Development Economics Conference, No. 38. Berlin.

Hellman, J.S., Jones, G. & Kaufmann, D. (2002). *Far from home: Do foreign investors import higher standards of governance in transition economies*. Washington, DC: World Bank.

IMF Balance of Payments Statistics. Retrieved from http://elibrary-data.imf.org/finddatareports.aspx?d=33061&e=170784

Javorcik, Beata S. (2004). Does foreign direct investment increase the productivity of domestic firms? In search of spillovers through backward linkages. *American Economic Review (American Economic Association)*, *94*(3), 605–627.

Kee, Haiu Looi (2011). Local intermediate inputs, foreign direct investment and the performance of domestic firms: When firms share common local input suppliers. Policy Research Working Paper, World Bank, 2011.

Kim, Jun Yuep & Zhang, Le-Yin (2008). Formation of foreign direct investment clustering–A new path to local economic development? The case of Qingdao. *Regional Studies*, *42*(2), 265–280.

Lall, Pooran, Norman, David W. & Featherstone, Allen M. (2003). Determinants of US direct investment in the Caribbean. *Applied Economics*, *35*(13), 1485–1496.

Levchenko, Andrei & Mauro, Paolo (2007). Do some forms of financial flows protect from sudden stops? *The World Bank Economic Review*, *21*(3), 389–411.

Lucas, R.E. Jr (1990). Why doesn't capital flow from rich to poor countries. *American Economic Review*, *80*(2), 92–96.

McKern, Bruce (1996). *Transnational corporations and the exploitation of natural resources*. London: Routledge.

MIGA (2014). *World investment and political risk (WIPR). Annual report*. Washington, DC: Multilateral Investment Guarantee Agency.

Mohamed, Sufian E. & Sidiropoulos, Moise, G. (2010). Another look at the determinants of foreign direct investment in MENA countries: An empirical investigation. *Journal of Economic Development*, *35*(2), 75–96.

Moran, Theodore H., Graham, Edward M. & Blomström, Magnus (2005). *Does foreign direct investment promote development? New methods, outcomes and policy approaches*. Washington, DC: Peterson Institute for International Economics.

Narula, Rajneesh (1996). *Multinational investment and economic structure: Globalisation and competitiveness*. London: Routledge.

Neto, Paula, Brandão, António & Cerqueira, Antonio Melo (2010). The impact of FDI, cross-border mergers and acquisitions, and greenfield investments on economic growth. *The IUP Journal of Business Strategy*, *VII*(4), 24–44.

Nocke, Volker & Yeaple, Stephen (2007). Cross-border mergers and acquisitions vs. greenfield. *Journal of International Economics, 72*(2), 336–365.

——— (2008). An assignment theory of foreign direct investment. *Review of Economic Studies*, *75*(2), 529–557.

Noorbakhsh, Farhad, Paloni, A. & Youssef, A. (2001). Human capital and FDI inflows to developing countries: New empirical evidence. *World Development*, *29*(9), 1593–1610.

Norbäck, P. J. & Persson, L. (2008). 'Globalization and profitability of cross-border mergers & acquisitions. *Economic Theory*, *35*(2), 241–266.

Root, Franklin R. & Ahmed, Ahmed A. (1979). Empirical determinants of manufacturing direct foreign investment in developing countries. *Economic Development and Cultural Change*, *27*(4), 751–767.

Sabirianova Peter, Klara, Svejnar, Jan & Terrell, Katherine (2005). Distance to the efficiency frontier and FDI spillovers. *Journal of the European Economic Association*, *3*(2–3), 576–586.

Schneider, Friedrich & Frey, Bruno S. (1985). Economic and political determinants of foreign direct investment. *World Development*, *13*(2), 161–175.

Solomon, Blen & Ruiz, Isabel (2012). Political risk, macroeconomic uncertainty, and the patterns of foreign direct investment. *The International Trade Journal*, *26*(2), 181–198.

UNCTAD (1993). *World Investment Report. Overview*. Geneva: United Nations.

——— (1998). *World Investment Report. Overview*. Geneva: United Nations.

——— (2011). *World Investment Report. Overview*. Geneva: United Nations.

——— (2012). *World Investment Report. Overview*. Geneva: United Nations.

Walsh, James P. & Jiangyan Yu (2010). Determinants of foreign direct investment: A sectoral and institutional approach. Working Paper No. 10/187, IMF.

Wang, Miao & Sunny Wong, M.C. (2009). What drives economic growth? The case of cross-border M&A. *KYKLOS*, *62*(2), 316–330.

Wei, Shang-Jin (2000). How taxing is corruption on international investors? *The Review of Economics and Statistics*, *82*(1), 1–11.

Wheeler, David & Mody, Ashoka (1992). International investment location decisions: The case for US firms. *Journal of International Economics*, *33*(1/2), 57–76.

Wilhelms, Saskia K.S. (1998). Foreign direct investment and its determinants in emerging economies. Discussion Paper No. 9, Harvard University, Cambridge: EAGER.

Zhang, Kevin H. & Markusen, James R. (1999). Vertical multinationals and host-country characteristics. *Journal of Development Economics*, *59*(2), 233–252.