WPS5079

Policy Research Working Paper 5079

How Will Changes in Globalization Impact Growth in South Asia?

Ejaz Ghani
Rahul Anand

The World Bank
South Asia Region
Economic Policy and Poverty Sector
October 2009

Policy Research Working Paper 5079

Abstract

The current global crisis may change globalization itself, as both developed and developing countries adjust to global imbalances that contributed to the crisis. Will these changes help or hinder economic recovery and growth in South Asia? This is the focus of this paper.

The three models of globalization--trade, capital, and economic management--may not be the same in the future. Changes in globalization could change the composition of trade flows, capital flows, and economic management, which in turn, could accelerate or restrain growth.

South Asia is somewhat peculiar and different from other regions in how it has globalized, although there is a lot of diversity within the region. Its trade characteristics are different. India's growth has been spearheaded by exports of modern services and less by goods exports. Modern service trade tends to be more resilient compared with goods trade. Globalization of services is still at an early stage. So, as consumers pull back in the United States, service trade is likely to be less impacted compared to goods trade. Trade also contributes to growth through knowledge spillovers, externalities, and learning. The global crisis has not reduced the stock of global knowledge.

Changes in capital flows are also not likely to have a big impact on growth in South Asia, as South Asia's investments are largely driven by domestic savings. Its dependence on foreign capital is low. South Asia has attracted capital flows that are less volatile. Remittances, which are more resilient, have been the dominant form of capital inflows, exceeding foreign direct investment and other inflows.

This global downturn calls for counter-cyclical economic management. But South Asia has limited room for fiscal stimulus, given high debt-to-gross domestic product ratios. Nevertheless, reduced commodity prices have created some fiscal space that can be used for growth enabling infrastructure and safety nets. As South Asia undergoes structural transformation, the region is well positioned to bounce back with global economic recovery.

This paper—a product of the Economic Policy and Poverty Sector, South Asia Region—is part of a larger effort in the department to better understand how changes in globalization will impact growth. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at Eghani@worldbank.org.

The Policy Research Working Paper Series disseminates the findings of work in progress to encourage the exchange of ideas about development issues. An objective of the series is to get the findings out quickly, even if the presentations are less than fully polished. The papers carry the names of the authors and should be cited accordingly. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.

Produced by the Research Support Team

HOW WILL CHANGES IN GLOBALIZATION IMPACT GROWTH IN SOUTH ASIA?

Ejaz Ghani,
Rahul Anand*
September 2009

We are grateful to Vivek Suri for inputs, and for suggestions and comments to Ernesto May, D. Dasgupta, M. Pigato, and S. Mishra. Any errors are our responsibility. The views expressed here are those of the authors and do not necessarily reflect the views of the World Bank or its Board of Directors.
eghani@worldbank.org, ra254@cornell.edu .

Table of Contents:

A. Introduction 4
B. Trade, recovery and growth 7
C. Capital flows, recovery and growth 23
D. Macro-Economic Management, recovery and growth 30
E. Conclusion 37

Figures

Figure 1: Service Value added (% of GDP) and log per capita GDP 8
Figure 2: Sectoral Contribution of Service, Industry, and Agriculture to GDP Growth, 1980-85 and 2000-2007 9
Figure 3: Sectoral Contributions to National Labor Productivity in 10
Figure 4: Growth in Labor Productivity, Sector and Reallocation Effects 1990-2006 11
Figure 5: Growth in Share of Services and Goods Exports From South Asia and East Asia 13
Figure 6 Modern & Traditional Service Export Growth, 2000-2006 15
Figure 7: Share of IT-enabled services exports and log per capita GDP 2006 16
Figure 8Figure: Service Sophistication Index (EXPY) for Select Emerging Economies, 1990-2007 17
Figure 9a. Log per-capita GDP and Services Export Sophistication, 1995 18
Figure 9b. Log per-capita GDP and Services Export Sophistication, 2000 19
Figure 9c. Log per-capita GDP and Services Export Sophistication, 2006 19
Figure 10: Share of India's Bilateral Trade with China and USA 21
Figure 11: Share of Pakistan's Export with South and USA 22
Figure 12: Capital Inflows into South Asia 25
Figure 13: Sources of External Financing for South Asia: 1999-2007 26
Figure 14: Remittance Inflows to South Asian Countries 27
Figure 15: Coefficient of Variation of Remittances in South Asia 28
Figure 16: Share of 60+ Population by Region 29
Figure 17: Balance of Payment Savings from Falling Oil Prices (in % of 2008 GDP)[1] 31
Figure 18: Fiscal and External 'Space' Prior to the Global Downturn 32
Figure 19: Log per capita GDP and Expenditure on Transport, 2003 35
Figure 20: Log per capita GDP and Expenditure on Telecommunications, 2000 35
Figure 21: Log per capita GDP and Expenditure on Power, 2000 36
Figure 22: Log per capita GDP and Expenditure on Water and Sanitation 2000 36

Tables

Table 1: South Asia Labor Productivity Levels by Sector, 2005 10
Table 2: South Asia & China in the Cross Section: Share of Service and Exports in Total Goods and Services Exports 14
Table 3: Cross Sectional OLS Regression: Average Growth in Manufacturing and Services and Investment, 1995 - 2005 20
Table 4: Cross Country Comparisons of Investment and Savings 23
Table 5: Cross Section Regression: Savings and Growth, 2000-07 25
Table 6: South Asia & China in the cross section: shares of remittances in GDP and imports 27
Table 7: Cross Country Comparison of Public Expenditure on Education and Health.... 33
Table 8: Cross Country Comparison of Infrastructure Outcomes, 2000 34

A. Introduction

Many economists are beginning to see signs of an end to the global economic crisis. Talk has turned now to how long the recovery will take. But there is another concern about how this crisis may have reshaped the global economy and how it may have changed globalization in ways that will hinder recovery in many countries. Some Finance Ministers are concerned whether changes in globalization will help or hinder the pace of economic recovery.

Past experiences with global recessions show that when global recessions are financial in nature and synchronized, it typically takes much longer to recover (World Economic Outlook, IMF, April 2009). This crisis is the mother of all crises. Its scope and amplitude are unprecedented. Thus it is likely that the recovery process may be long and painful and thus the concern about the timing of recovery.

South Asia has witnessed a growth miracle in the past five years. The growth rate has been exceptional by any standard. Globalization has accelerated growth in the region and contributed to poverty reduction. But the current global crisis may potentially change globalization itself, as developed countries adjust to global imbalances that contributed to the crisis. It appears that the three aspects of globalization - capital flows, trade flows, and economic management - may not be the same in the future. Trade flows will be diminished and exports may not be a powerful engine of growth as developed countries try to correct the imbalance by consuming less and saving more. Also, growth in the developed world is either negative or stagnant. Thus, the chances of external demand for traded goods picking up anytime soon are bleak. Capital flows are not likely to reach its pre-crisis levels in the short-term, and South Asia's rising public debt means there is less room for economic management, such as fiscal stimulus.

So, how will these changes in globalization impact South Asia's recovery and prospects of medium term growth? South Asia's recovery will be determined by a number of factors. Particularly critical are trade, foreign capital flows, and economic management. In the present paper we analyze these three major channels of globalization to study whether the changed globalization is going to hinder or assist the recovery of South Asia. We show that South Asia has followed a very peculiar path of growth and the distinctive features of the region are going to help them in recovering faster than most other regions and also in sustaining high growth in the medium term.

South Asia's foreign trade has grown considerably over the last decade, which has contributed to rapid growth. Trade is always low during crisis, but rebounds quickly during recovery. Many countries in past crisis have accelerated their recovery with the help of expanding exports. The recovery of East Asian countries following the crisis in the 1990s was achieved by exporting to developed countries. Given that the current crisis is synchronized and global in nature, and world economic growth may be slower, it leaves less room for an export led recovery.

South Asia is less likely to benefit from a goods export led recovery, as its goods trade to GDP ratio is small compared to others. South Asia has a very unique and distinctive growth and trade pattern. Unlike East Asia, South Asia's economy is largely service driven. Services have been the largest contributor to growth in the region. Contrary to the growth experience of other regions, South Asia has transformed itself from a region of primary products to a region of services virtually skipping the manufacturing stage. Quality of service exports from the region resemble that of developed countries.

This unique trade and growth pattern of South Asia has important implications for the recovery of the region. Service exports are less volatile compared to goods exports. Globalization of services is still at an early stage and they are likely to grow faster even during the crisis. Structural transformation and very high quality of service exports is likely to help the region sustain growth in the face of the present crisis.

What matters for growth is the income gap between the developing and developed countries and since there is a large scope for catching up for South Asia, the region is likely to recover quickly. Also, growing South-South trade is likely to counteract the declining external demands from advanced countries. Thus, a service led export growth strategy will likely enable South Asia to recover faster and sustain high growth over the medium term. But not all countries will benefit as there is tremendous diversity within South Asia. Countries will be required to focus on their competitive advantages.

Foreign capital inflows—remittances, international syndicated bank lending, private capital investments, and issue of bonds—to South Asia had surged in recent years, but collapsed in the aftermath of the crisis. With the ongoing global financial restructuring, it will take time for foreign capital flows to recover. Even then the capital flows will be less in a new risk-averse environment, and the cost of capital will be higher. This will slow down the economic recovery. However, South Asia, even with lower capital flows, will suffer less compared to other regions because of its peculiar features.

South Asia is much less dependent on foreign capital than many other regions. South Asia's investments are largely driven by domestic savings. Most South Asian countries have a large and significant positive savings rate compared to other developing countries which can help the region recover even though the flows will take some time to recover. Also, entering the crisis with a high level of investment and saving rates, South Asia is better positioned to stage a recovery and sustain growth.

South Asia is also unique in attracting capital flows that are less volatile. The region relies more on remittances inflows than traditional forms of inflows like portfolio flows and bank loans. Remittances have exceeded FDI and portfolio flows during most of the last two decades. Remittances are less volatile and more persistent (although not totally immune to the global downturn). Given the high domestic savings and less dependence on volatile capital inflows, South Asia is likely to bounce back faster.

The speed of recovery will also be determined by the scope and implementation of fiscal policies. South Asia is vulnerable in this area. South Asia, unlike East Asia, did not

tighten its fiscal policies and reduce public debt during the boom period to create sufficient room for fiscal stimulus during the downturn. Unlike East Asia, the region suffers from high ratios of public debt to GDP. This limits the scope for a large scale fiscal stimulus. But there is some room.

South Asia is the largest net importer of commodities (food, metal, and oil) in relation to GDP. Decline in commodity prices, especially oil, has reduced large commodity-related subsidies, creating some room to pursue expansionary and growth enabling fiscal policy.

However, the profligacy in pre-crisis times has proved to be a boon in disguise for some of the countries like India. It has boosted the internal demand and thus helped the process of recovery.

What kind of fiscal stimulus is appropriate for South Asia? Will South Asia benefit more from increased investments in hard infrastructure (roads, power, water) or in soft infrastructure (education, health, safety nets), or both? South Asia spends too little on education, health, roads, power, and water compared to the rest of the world. Increased and better expenditure with a greater focus on improved outcomes in social and physical infrastructure, and safety nets can speed up the recovery consistent with long-term growth.

The current literature on the global financial crisis has largely focused on the causes of the crisis. It has been a bit silent on what impact this will have on the medium-term growth outlook of developing countries. This paper addresses this gap. This paper is an attempt to answer an important question bothering the policy makers. Will the changes in globalization accelerate or restrain recovery?

We contend that new trends in globalization will create new challenges but will also provide new opportunities. Increased trade from globalization of services, goods, and increasing South-South trade will provide new trade opportunities for South Asia. There are substantial opportunities for developing countries to catch-up with developed countries. South Asia will continue to benefit from demographic dividend and productivity growth will remain on an upward trajectory. As South Asia undergoes structural transformation from agriculture to manufacturing and service sectors, the region will be well positioned to bounce back with global economic recovery. The findings in this paper are meant to stimulate discussion rather than come up with precise solutions, which will vary from country to country, and region by region, and the speed of global economic recovery.

The rest of the paper is organized as follows. Section B examines trade globalization. Section C discusses capital globalization. Section D analyzes the macro management dimensions of globalization. Section E concludes.

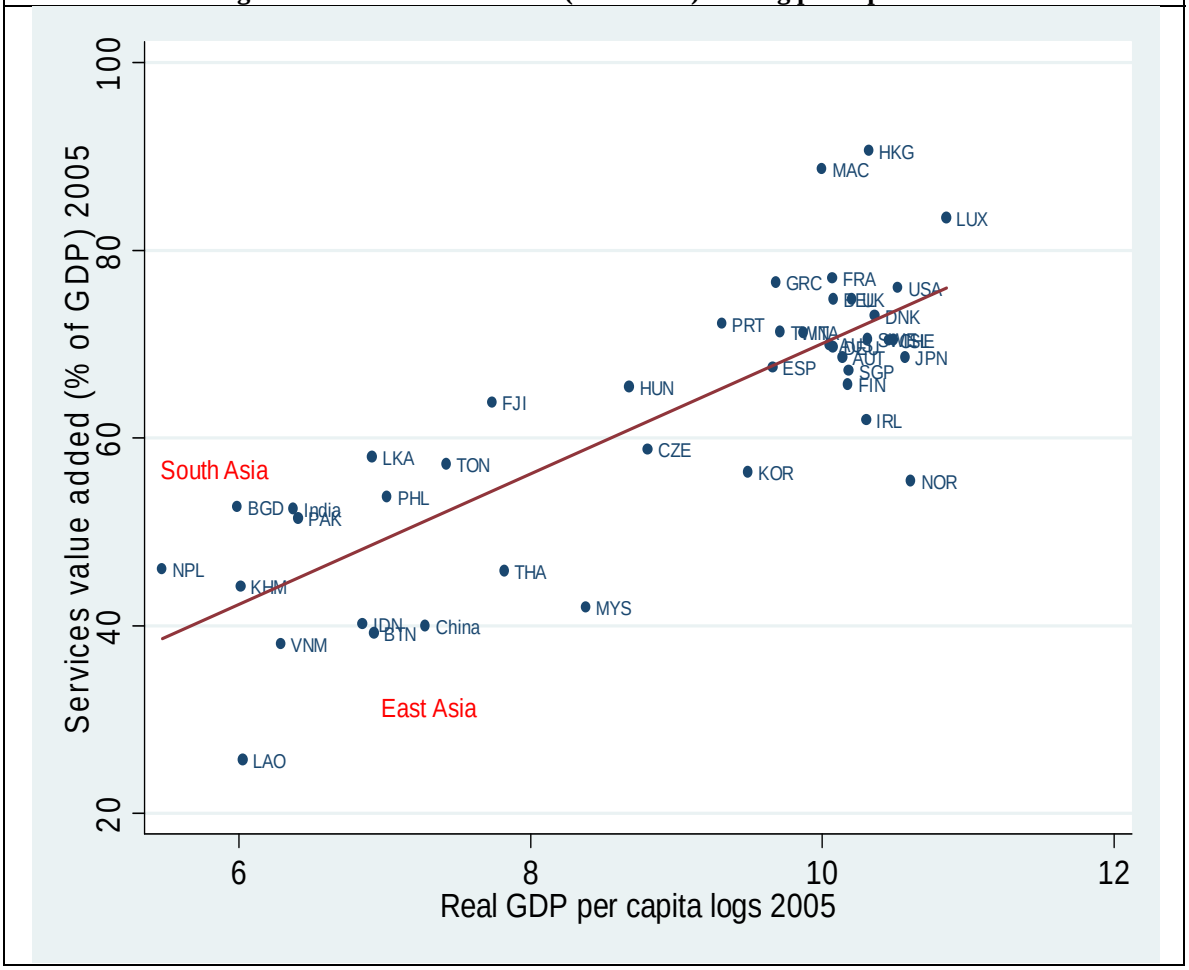
B. Trade, recovery and growth

Increased trade integration and rapid expansion of trade is widely believed to be a major contributor of the phenomenal growth witnessed by South Asian economies in the last decade. Financial crisis has changed the very process of globalization. Global trade has contracted. Declining trade and lowered external demand has put serious questions about the role of trade being a vehicle of recovery and growth in South Asia. Growth in advanced countries has turned negative (or at best has been stagnant). They are also compelled by this crisis to correct some of the imbalances (by reducing consumption and increasing savings). Implication is that the chances of external demand for exports picking up in near future are rather grim. This changed scenario implies that export led recovery, a strategy adopted by East Asian economies following the 90s crisis, is less of an option this time around.

This crisis has changed the very agenda of debate on trade globalization and growth. How this changed trade flows model is going to affect the recovery and future growth of South Asia? We analyze the question by looking at the distinctive growth and trade patterns of South Asia. There is no doubt that reduced trade is going to have an adverse effect on the recovery and growth of the region. However, their distinctive features put them in a different category from others. It seems that the impact of crisis through the trade channel is going to be less severe and recovery much faster for South Asia than other regions.

First, we look at the distinctive growth features of South Asia. What is driving growth in South Asia? How is it different from the growth experience of other regions? Growth miracle of South Asian is service led unlike East Asia which is a story of manufacturing-led growth miracle. Services are the major contributor to GDP in South Asia, accounting for more than 50% of GDP in all South Asian countries—India, Pakistan, Bangladesh, Sri Lanka and Nepal.

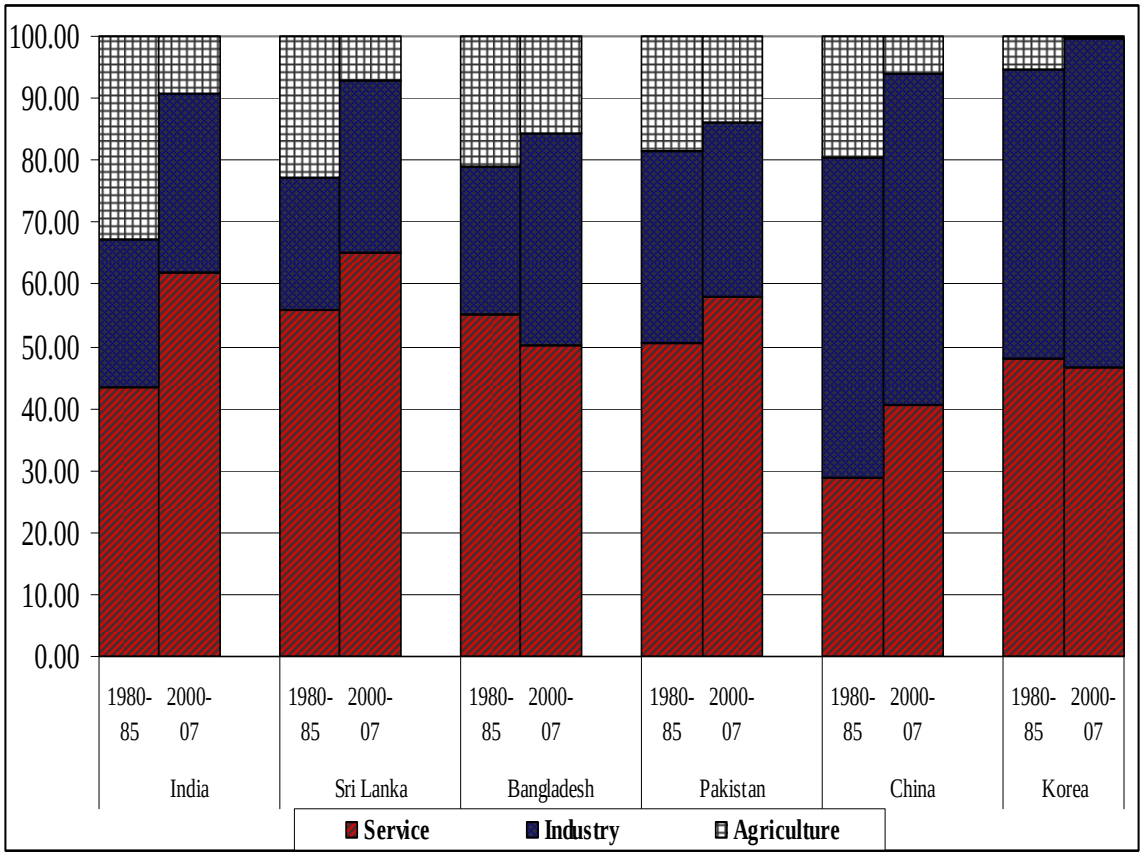
Figure 1: Service Value added (% of GDP) and log per capita GDP



Source: World Development Indicators, 2008, World Bank.

How distinctive is this pattern of growth for South Asia? Figure 1 shows the size of service value added in GDP in South Asia, East Asia, and OECD countries, as a function of the level of GDP per capita. All South Asian economies have a much bigger share of services in GDP relative to their level of real GDP per capita. In contrast, service sector is relatively smaller in all East Asian countries considering their much higher income levels. South Asian GDP composition resembles that of developed economies like Ireland and Norway, rather than that of China and Malaysia. Despite being a low income region, South Asian countries have adopted the growth patterns of middle/high income countries i.e. their growth is driven by services and not by agriculture or manufacturing.

Figure 2: Sectoral Contribution of Service, Industry, and Agriculture to GDP Growth, 1980-85 and 2000-2007



Source: World Development Indicators, 2008, World Bank.

Apart from being the largest contributor to GDP levels, services are also the largest contributor to GDP growth in South Asia. Figure 2 compares the sectoral contribution of service, industry, and agriculture, to GDP growth for South Asian countries with China and Korea for the period 1980-85 and 2000-2007. Contribution of service sector to GDP growth in South Asia is nearly double than the contribution of industry to GDP growth. On the contrary, in China and Korea, the contribution of industry to GDP growth is much higher as compared to the contribution of service sector to GDP growth. Contribution of services in GDP growth is increasing over time in all South Asian countries, except Bangladesh.

Growth in South Asia is driven by structural changes

Unlike other economies, the miraculous growth story of South Asia is scripted by the service sector growth. South Asia, it seems has consciously skipped the manufacturing sector, and has leaped straight from agriculture into services. This massive structural transformation from primary good producer region into the region of services has been a key driver of growth in the region.

Table 1: South Asia Labor Productivity Levels by Sector, 2005

PPP International Dollars per worker

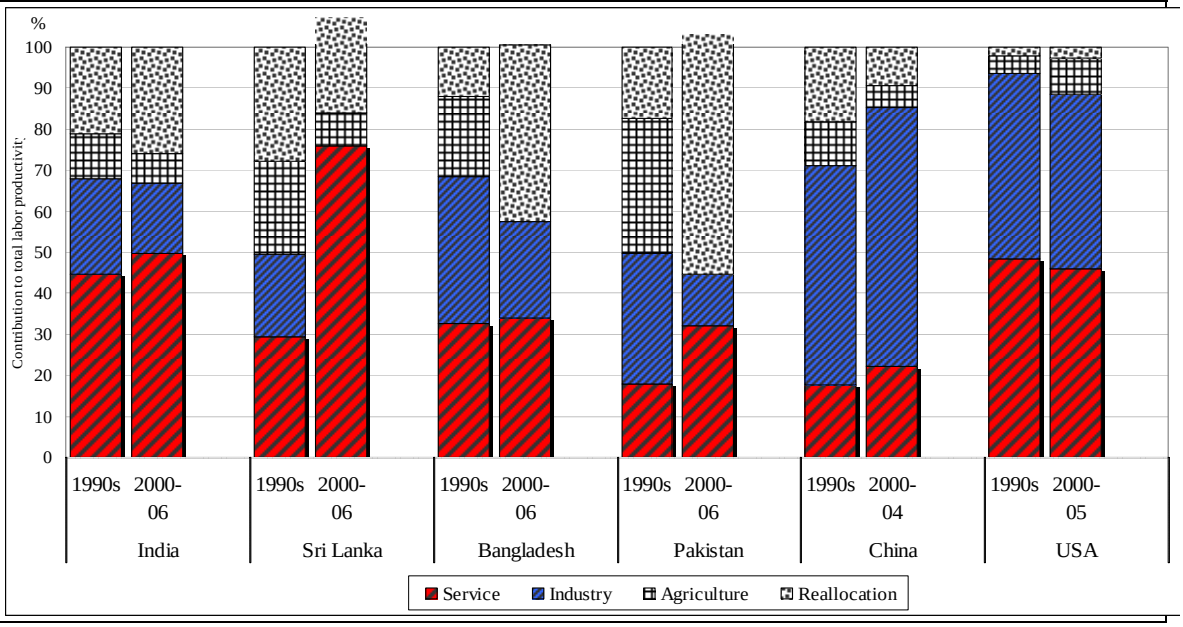
	Total	Agriculture	Industry	Services	Ratio (3)/(2)	Ratio (4)/(2)
	(1)	(2)	(3)	(4)	(5)	(6)
Bangladesh	3,319	1,390	6,208	4,679	4.5	3.4
Bhutan	8,940	4,841	19,366	8,938	4.0	1.8
India	4,540	1,597	7,479	8,901	4.7	5.6
Maldives	10,271	8,474	7,533	12,790	0.9	1.5
Nepal	2,596	1,513	1,716	5,552	1.1	3.7
Pakistan	7,952	3,556	10,439	11,829	2.9	3.3
Sri Lanka	8,990	4,968	8,906	11,856	1.8	2.4
Addendum						
China*	7,230	2,021	14,853	9,608	7.4	4.8
Thailand	12,647	3,335	24,948	14,818	7.5	4.4
Malaysia**	30,593	17,544	49,270	25,439	2.8	1.5
Korea	40,013	17,199	60,012	34,556	3.5	2.0

* Data for China is from 2004.

** The utilities industry in Malaysia is included in services rather than industry.

Source: Bosworth and Maertens, 2009.

Figure 3: Sectoral Contributions to National Labor Productivity in



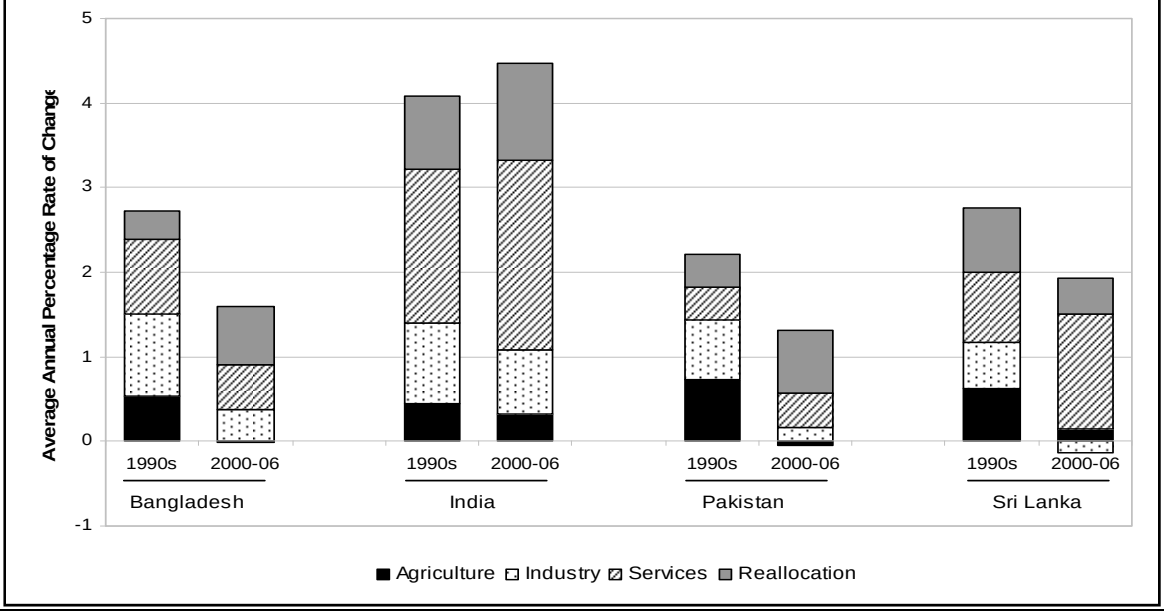
Source: World Bank 2008a.

Note: Labor Productivity is calculated as average annual growth in real output per worker. The contribution from resource reallocation is calculated by subtracting each sector's growth rate, weighted by the sector's share in value added at the outset of each sub-period, from the total economy's growth rate. The figure is restricted to only positive contributions to labor productivity growth.

Services in South Asia have much higher productivity as compared to agriculture and industry (Table 1) and growth in service productivity has contributed the most to the

overall growth in labor productivity in the region (Figure 3). South Asia differs significantly on these dimensions from East Asia. In East Asia, industrial sector has the highest productivity growth and has contributed the most to the growth of national productivity. Even in USA the contribution of industrial and service productivity growth are nearly equal.

Figure 4: Growth in Labor Productivity, Sector and Reallocation Effects 1990-2006



Source: Bosworth and Maertens, 2009.

This structural transformation of the region has led to the reallocation of resources from traditional low productivity activities (agriculture) to modern high productivity activities (services). Reallocation of resources has resulted in an increase in the overall productivity and high growth (Figure 4). It is clear that the benefits of reallocation have been higher in the period 2000-06. Even though other countries have also benefited from this reallocation, the increase in the national labor productivity growth rate from the re-allocation of labor across sectors is much higher in South Asia as compared to China and USA (Figure 3).

Thus growth in South Asia has been driven by structural changes and the benefits of reallocation therein. There is still a huge productivity gap between agriculture and services in the region. Also, the size of agricultural sector (a low productivity activity) is huge in South Asia. Thus there is an ample scope for sustaining a service-led growth in South Asia, as resources will continue to reallocate from low productivity to high productivity sectors even during the crisis.

Also, even though the productivity of services is higher than other sectors in South Asia, there is an enormous scope of catching up with developed countries. The crisis has not diminished the stock of global knowledge and South Asian economies can still benefit from them to raise their skill levels and reap the benefits of structural change and reallocation effects.

Catching up will drive the growth and not the rate of growth of advanced countries.

Slowing down of growth in advanced countries can only have indirect impact on the growth of South Asia through the channels of trade and capital flows. Per se lower growth rate in advanced countries does not imply an automatic slowing of growth in developing countries. What matters for growth in South Asia is not the growth rate of the advanced countries but the difference between the income levels of the rich and South Asian economies. It is this convergence gap, which matters for growth and hence recovery (Rodrik, 2009). South Asia still faces a huge convergence gap with high income countries and it is the catching up which is going to drive growth even during the crisis and thereafter.

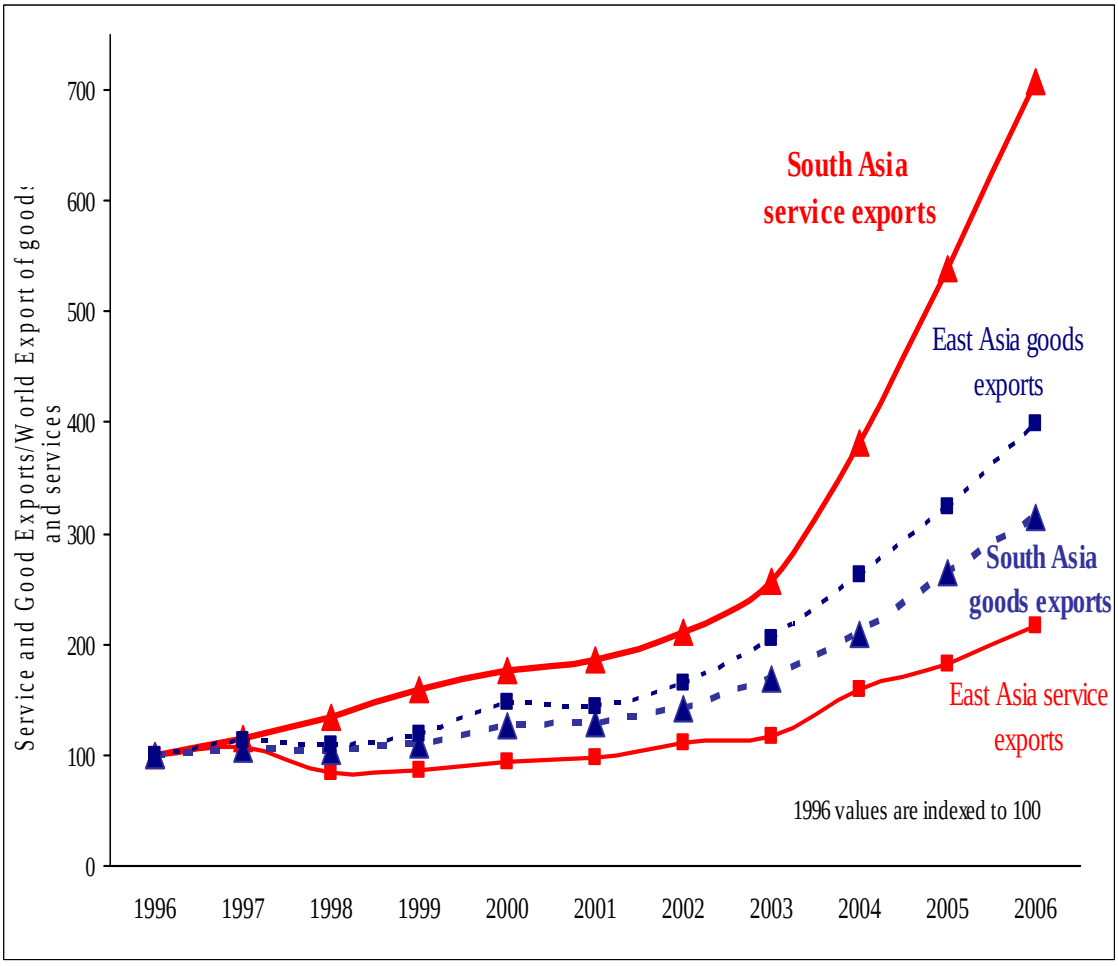
There is an ample scope for catch up in productivity for South Asian economies. Overall labor productivity is still very low in South Asia (Table 1). Even though services have been a major driver of growth, the productivity of this sector is still too low compared to advanced economies. South Asian countries have started from a low technological base compared to international best practice in services. It is the catching up phenomenon which has resulted in the rapid productivity growth in services in South Asia in last couple of years. As we notice (Table 1) there is still an enormous scope for rapid catch up in this sector just like manufacturing. Services have huge potential for productivity gains from learning, networking, and knowledge spillovers. Even though the growth in advanced countries has become low or even negative the pool of technological know how has not gone down in these economies. Since important factors which can potentially improve productivity of services sector remain unaffected by the crisis South Asian economies can continue to improve their productivity and hence grow.

Since there is a huge convergence gap between South Asia and advanced economies, the present crisis is not likely to hurt the growth prospects of South Asia. With suitable policies in place this could be used to stage a recovery and sustain growth.

What matters is not how much you export but what you export.

Declining trade volumes have affected growth adversely in the region. Reduced quantity of exports has raised doubts about the recovery and sustainability of growth in South Asia. However, what matters for growth is not how much a country exports but what they export (Rodrik, 2008). Growth potential of different exported goods differs significantly and high productivity exports lead to much higher growth. Thus Countries can grow rich by exporting what rich countries export. One implication of this is that developing countries can grow even during the crisis by exporting modern, high quality products. South Asia over the last decade has emerged as a hub for service export. From a low base, South Asia has experienced an exponential growth in service export compared to East Asia (see Figure 5). The pace at which the share of service export has grown has exceeded the growth rate in share of service export and goods export from East Asia during the last decade.

Figure 5: Growth in Share of Services and Goods Exports From South Asia and East Asia



Source: Balance of Payments, IMF. 2008.
Note: Growth in share of export in world export is calculated by taking the respective region's export as a share of the world's export of goods and services.

Is South Asia an outlier in terms of service exports? Which kind of services export has grown faster – modern or tradition? What is the level of sophistication of service exports from South Asia?

Table 2: South Asia & China in the Cross Section: Share of Service and Exports in Total Goods and Services Exports

Panel A

	Share of services exports in total exports				*Share of computer, information services**			
	1982	**1982**	**2006**	**2006**	**2000**	**2000**	**2006**	**2006**
Log GDP per capita	-7.2	-9.3	-1.41	-3.01	-2.01**	-1.94*	-3.17*	-3.21*
	(27.09)	(29.95)	(26.37)	(27.1)	(1.06)	(1.08)	(1.90)	(1.89)
Log GDP per capita^2	0.83	1.1	0.59	0.81	0.35**	0.35**	0.53*	0.57*
	(3.94)	(4.3)	(3.82)	(3.9)	(0.18)	(0.18)	(0.30)	(0.30)
India indicator		0.87		18.3***		7.98***		14.74***
		(4.73)		(3.3)		(0.09)		(0.16)
China indicator		-1.37		8.03		0.38		0.68*
		(7.6)		(8.4)		(0.28)		(0.41)
Bangladesh indicator		-6.3		-17.6***		0.04***		0.10
		(4.4)		(2.8)		(0.01)		(0.07)
Pakistan indicator		-1.1		-9.2***		0.25***		0.34***
		(3.2)		(2.5)		(0.04)		(0.09)
Sri Lanka indicator		-5.1*		-9.7***		-0.0004		0.99***
		(2.7)		(2.6)		(0.04)		(0.09)
Control for size	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	109	109	125	125	137	137	116	116

Panel B

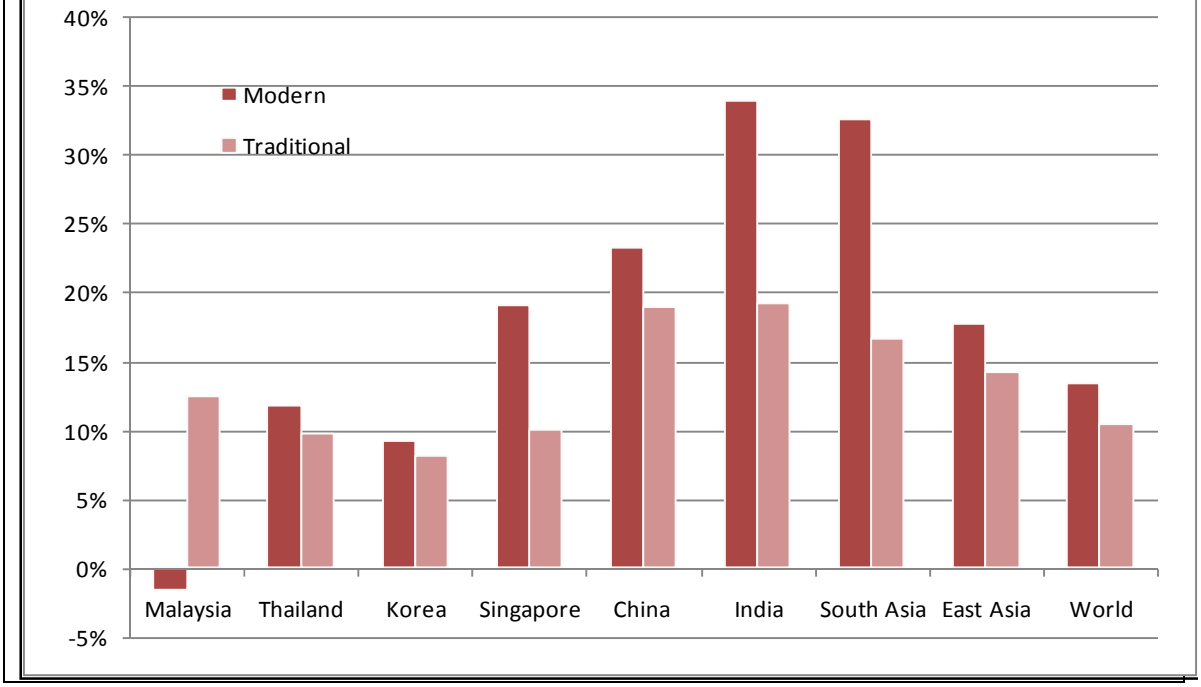
	hange in share of services exports		*Change in share of computer services*	
	1982-2006		**2000-2006**	
	(1)	**(2)**	**(3)**	**(4)**
Log initial GDP per capita	1.40	1.27	0.20	0.28**
	(2.73)	(3.09)	(0.14)	(0.14)
Average annual GDP growth	-0.69	-0.77	5.73	4.01
	(0.71)	(0.87)	(3.77)	(0.20)
India indicator		14.9***		6.59***
		(4.95)		(0.09)
China indicator		2.44		-0.22
		(7.48)		(0.17)
Bangladesh indicator		-11.61***		0.11
		(4.51)		(0.08)
Pakistan indicator		-8.27**		0.08
		(4.11)		(0.06)
Sri Lanka indicator		-3.45		1.00***
		(3.70)		(0.05)
Observations	93	93	94	94

Notes: Robust standard errors are reported in parenthesis.
* represents significance at 10%,
** represents significance at 5%,
*** represents significance at 1%,
Country size is measured by area in square kilometers.

Table 2 reports cross-country level and growth regression results for share of service exports in total exports and share of modern impersonal service export (IT and IT-enabled service exports) in total exports. In 1982, China and South Asian countries were negative outliers, when we compare the share of their service export in total exports with

other countries controlling for the stage of development, non-linearities in development, and country size. Only India had a positive coefficient, but it was not significantly different from zero. In 2006, India was a significant and large positive outlier. Its share of service export in total exports was 18.38 percentage points greater than the norm. China also had a positive coefficient but it was not significantly different from zero.

Figure 6 Modern & Traditional Service Export Growth, 2000-2006



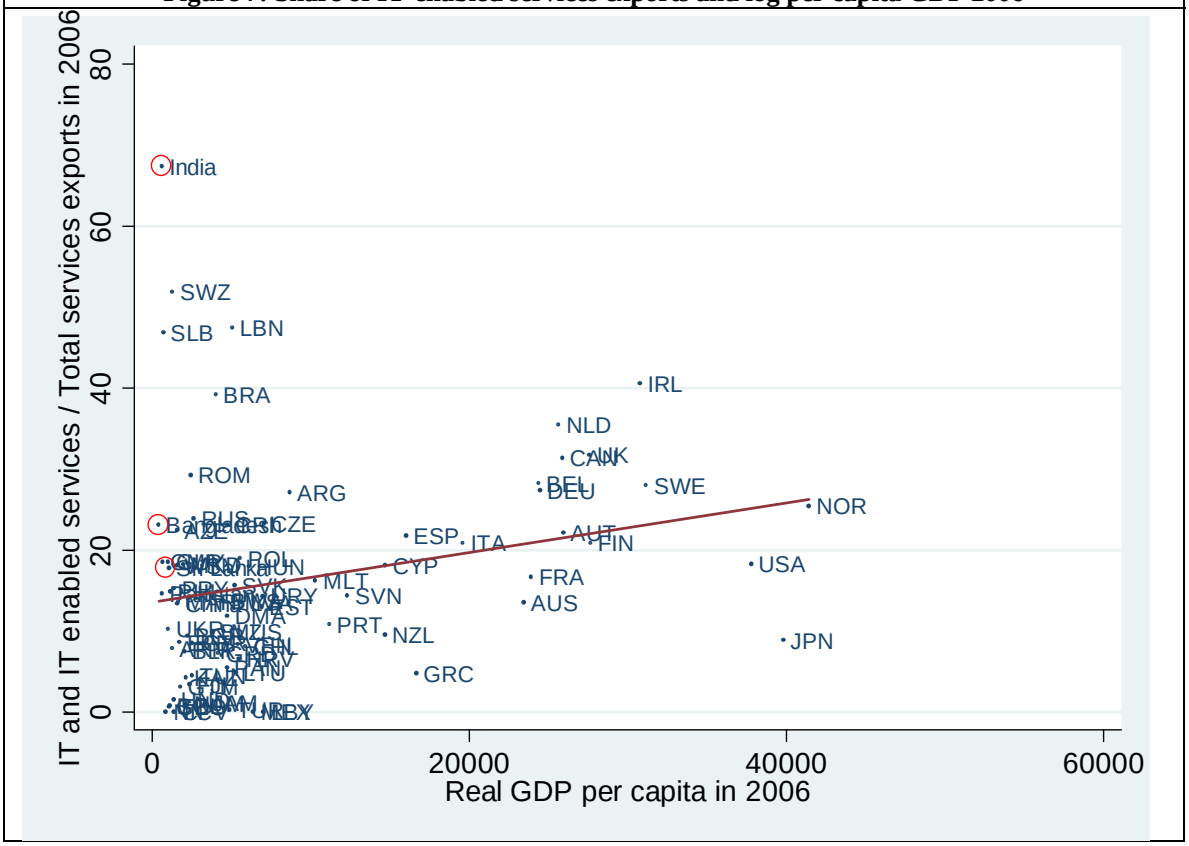
Source: Balance of Payments, IMF. 2008.
Note: Modern service include exports in telecommunications, computer and information services, other business services, financial services, insurance, royalties and license fees. Traditional services include travel, transportation, construction and personal, cultural and recreational service exports. * Data for China is from 1995-2007.

Modern impersonal service exports have grown much faster than the traditional service exports (Figure 6)[1]. South Asia seems to be an exception in this regard too. Growth of modern services in South Asia has been more than double the global growth rate. It is much higher than any of the East Asian countries with India leading the pack. A good measure of modern impersonal service export is IT and IT-enabled services. Cross-country data for IT exports is available only from 2000 onwards. In 2000, India stands out as a significant and positive outlier when we compare its share of IT and IT-enabled exports in total exports of goods and services with the rest of the world controlling for the

[1] The modern impersonal service includes what Baumol called in 1984 "progressive impersonal services." They can be delivered impersonally and electronically. These include communication, banking, insurance, and business related services. These services take advantage of ICT, globalization, scale economies, and benefit from higher productivity growth rates. Traditional personal service includes what Baumol has called "stagnant personal services" such as trade, hotel, restaurant, beauty shops, barbers, education, and health. It requires face to face transaction. Traditional services also include "stagnant impersonal services" such as transport, government, and public administration service.

level of development and non-linearities in development (Table 2). Other South Asian countries including Pakistan and Sri Lanka also have significant positive coefficients. Bangladesh is the only country in South Asia whose modern service export is no different than the norm. Figure 7 compares the share of IT and IT-enabled service, the fastest growing modern impersonal service, in total service export against real GDP per capita for South Asia, East Asia and OECD countries. Bangladesh, Pakistan and Sri Lanka have a much higher share of IT and IT enabled services in their service export for their level of income while most East Asian countries including China are below the global norm. India is a huge outlier on this count.

Figure 7: Share of IT-enabled services exports and log per capita GDP 2006



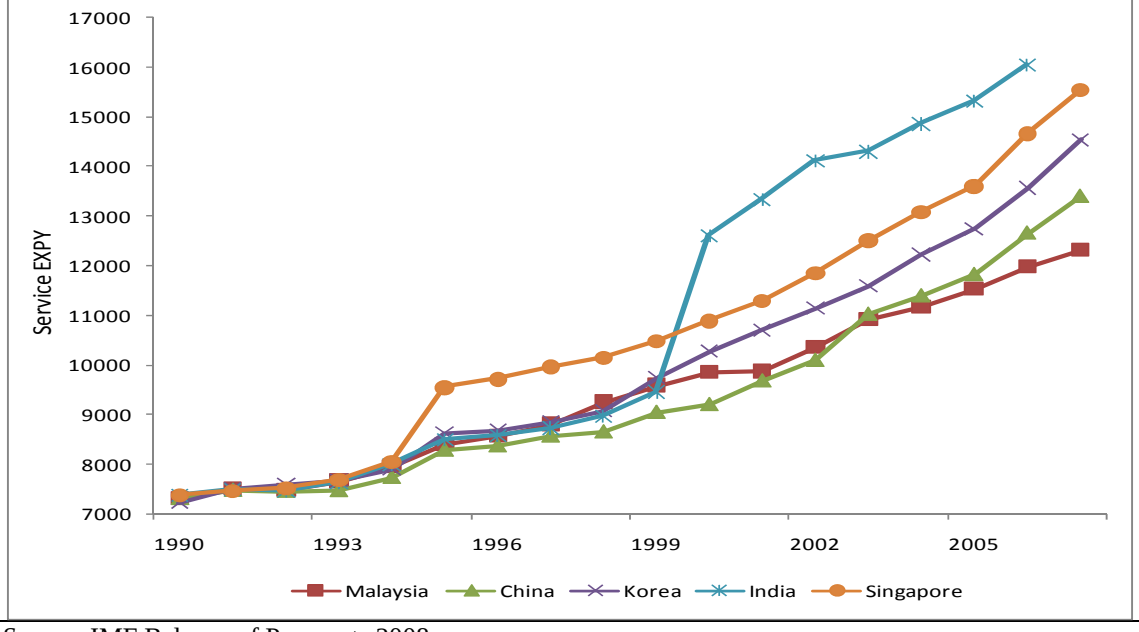
Source: Balance of Payments statistical yearbook, IMF. 2008.
Note: IT and IT-enabled services is measured by adding the Computer and information services plus miscellaneous business services category in the Balance of payments.

In general, service exports from South Asia, which are mostly skill intensive, have more in common with OECD countries, than with other developing countries. The share of modern services export (such as IT and IT enabled service exports) in total service exports for South Asia resembles the export patterns of more developed economies like USA. Thus in terms of export sophistication South Asia is like advanced economies.

In order to firm up this idea we construct an index to measure the sophistication level of service exports of South Asian countries on the lines of sophistication level of goods

export provided by Hausmann, Hwang and Rodrik (2007)[2]. It is more of an indicative measure mirroring the concept of EPXY of Hausmann, Hwang and Rodrik (2007) since we don't have the finer classification of services as compared to those for goods and also availability of data for various types of services is not easily available for most countries[3]. We plot the trend sophistication for selected emerging economies in Figure 8. Starting from a very similar level of sophistication, India has taken off exponentially since 2000. The result is largely driven by large share of modern computer and IT exports from India which is a very high skill product. In terms of sophistication of service exports, India is much ahead of rest of the East Asian economies.

Figure 8: Service Sophistication Index (EXPY) for Select Emerging Economies, 1990-2007



Source: IMF Balance of Payments 2008.
Note: EXPY is calculated as described in text.

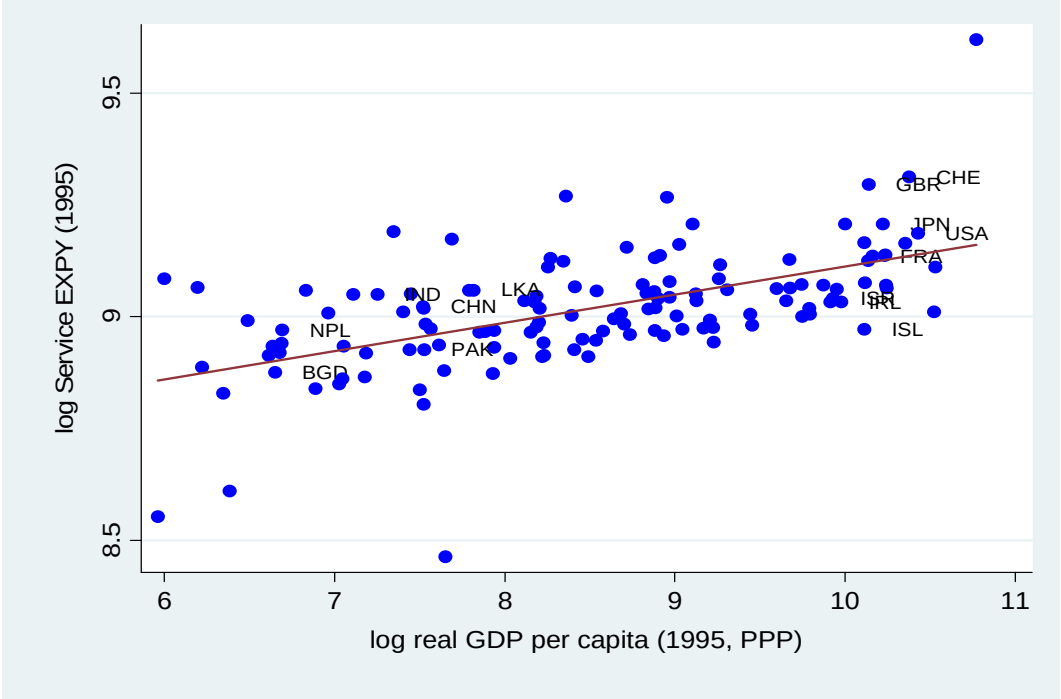
2 We calculate the PRODY and EXPY for services on the similar lines of Hausmann, Hwang and Rodrki (2007). More formally, the PRODY and EXPY measures are calculated in the following way:

$$PRODY_j = \sum_i \frac{x_{ij} / X_i}{\sum_i x_{ij} / X_i} Y_i$$ and $$EXPY_i = \sum_j \frac{x_{ij}}{X_i} PRODY_j$$ where Yi is the per-capita GDP of country i and x_{ij} / X_i is the value-added share of commodity j in the country's overall export basket. While PRODY is a measure of productivity level associated with a product while EXPY is the measure of the productivity level of a country's export basket. Thus it can be interpreted as sophistication level of a country's export basket. For details see Hausmann, Hwang and Rodrik (2007).

3 Due to data and classification issues we are forced to use ten different categories of services as income weights to come up with this measure as opposed to thousands of commodities categories used by Hausmann, Hwang and Rodrik (2007).

Is South Asia an outlier in its sophistication of service exports? We plot individual year scatter plots of the export sophistication index (in logs) with the log level of GDP per-capita for a sample of around 134 countries for the year 1995, 2000 and 2006 (Figures 9). Figures show striking evidence of the positive correlation between growth and services sophistication, a relationship which Hausmann, Hwang, and Rodrik argue runs from export sophistication to growth rather than the other way around for goods export. Thus there is clear evidence that countries that produce services of higher quality grow faster.

Figure 9a. Log per-capita GDP and Services Export Sophistication, 1995

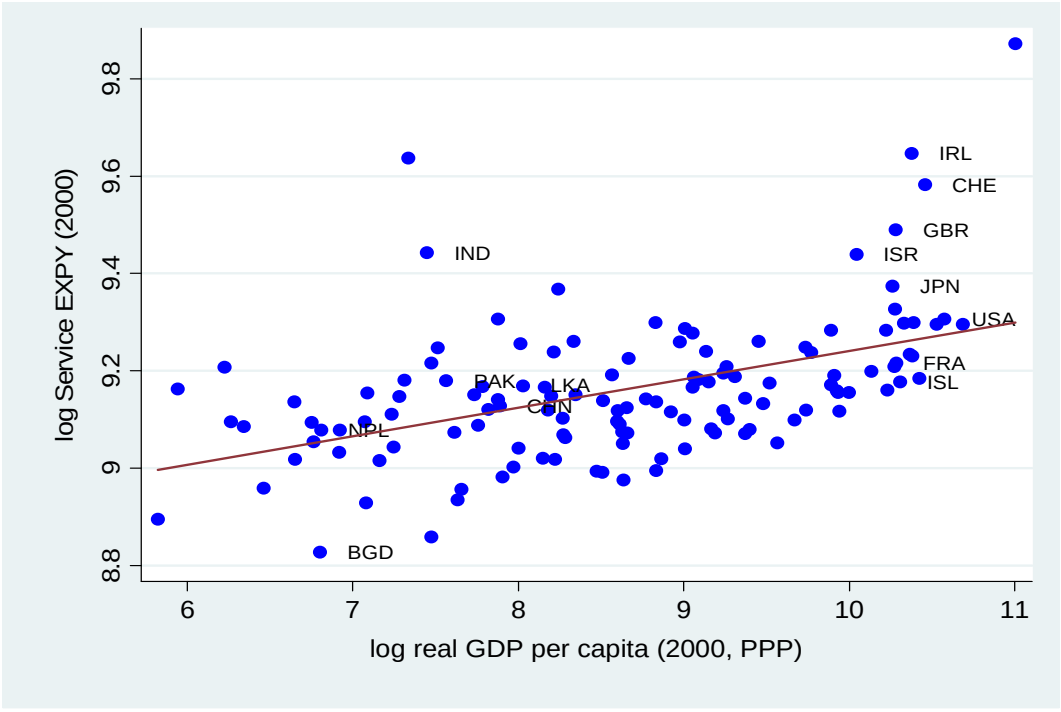


Source: Flaaen, Ghani, Mishra 2009

Most of the South Asian countries were exporting services of much higher quality than their incomes suggest in 1995. While India and Sri Lanka have remained above the norm, Nepal and Pakistan had moved below the norm by 2006[4]. Bangladesh has always been below the norm. India is an exceptional story. They have moved way ahead in terms of service exports sophistication over the period. The level of sophistication of India's export is very much comparable to rich countries like UK, Ireland and USA. In essence India is producing goods which are being produced by rich countries.

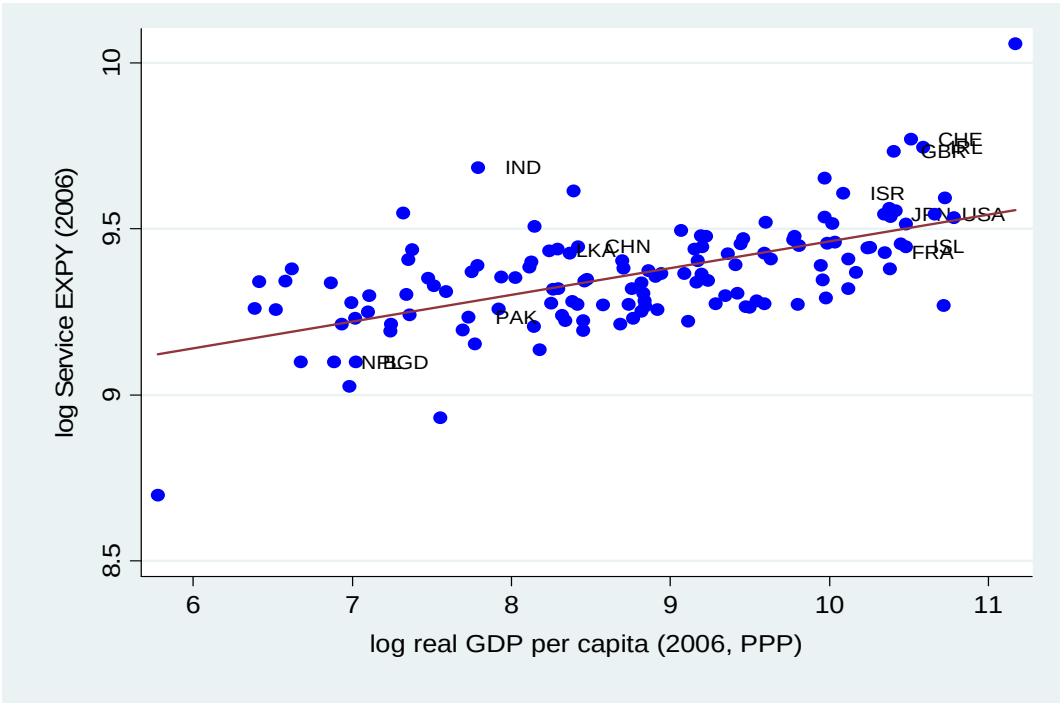
4 They were above the norm in 2000.

Figure 9 b. Log per-capita GDP and Services Export Sophistication, 2000



Source: IMF Balance of Payments, 2008 and authors' calculations.
Note: EXPY is calculated as described in the paper

Figure 9 c. Log per-capita GDP and Services Export Sophistication, 2006



Source: IMF Balance of Payments, 2008 and authors' calculations.
Note: EXPY is calculated as described in the paper

Since it is the sophistication of the exports which matter for growth, in this changed global trade scenario, South Asian countries are going to benefit a lot. Their service exports are of very high quality and modern. Over the period it is this high quality of exports which has grown much faster. So, at this troubled time they can exploit their high sophistication to recover from the crisis. However, the policy implication for other South Asian countries which are below the norm is that they should try to catch up with their neighbors and try modernize their service exports.

Service growth and exports are more resilient

The globalization of services will continue to be a strong force for two reasons. First, services account for more than 70 percent of global GDP, more than double in size compared to the manufacturing sector. So, there is tremendous scope for services globalization. Second, the cost differential in the production of services across the world is enormous. In the past, the only option to narrowing such cost differentials was through migration, but migration has been heavily regulated and global international migration has remained steady at about 3 percent for decades. Now that service providers can sell services without crossing national borders by making use of the internet (outsourcing), the scope for exploiting cost differentials is much higher. What is more, it is very hard for governments to regulate modern impersonal services, so prospects for rapid expansion in service exports are good.

How resilient is service growth to the decline in investment? To see this we look at the dependence of manufacturing and service sector growth on investments. This will determine whether the slow down in investment will affect South Asia differently.

Table 3: Cross Sectional OLS Regression: Average Growth in Manufacturing and Services and Investment, 1995 - 2005

	Average Manufacturing growth	*Average Service growth*
Investment (as ratio of GDP)	0.74***	0.16***
Initial GDP per capita	0.000	0.000
Openness (trade as % of GDP)	0.01	0.003
Credit (% of GDP)	-0.08***	-0.01
Population growth	0.94**	0.04
Control for size	Yes	Yes
Observations	157	161

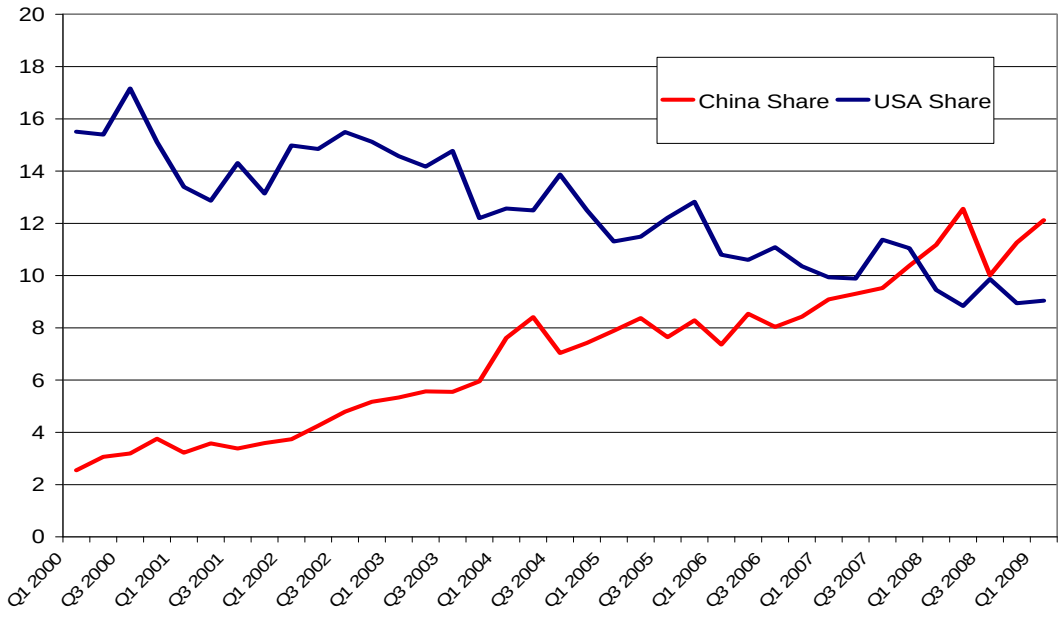
Notes: Robust standard errors are reported in parenthesis.* represents significance at 10%** represents significance at 5%, *** represents significance at 1%,
Country size is measured by area in square kilometers.

We run a cross section OLS for 1995 – 05 on manufacturing and service growth against investment rate controlling for the factors associated with growth. We use controls for financial development (proxied for by percentage of domestic credit provided by banks), openness (proxied for ratio of exports and imports to GDP), initial level of development (proxied for by initial GDP per capita) and demographic features (proxied for by population growth). Results are presented in Table 3. We see that growth in manufacturing and services both depend positively on investment rate. However the interesting and striking feature is that the coefficient on investment rate is much higher for manufacturing than for services. It suggests that manufacturing growth is much more dependent on investment rate than service growth. This has a significant implication for the macro stability and recovery of South Asia. In the wake of slowing down of investments, it implies that the service sector which is the mainstay of growth miracle of South Asia is likely to suffer less and also the recovery is likely to be faster.

South-South Trade

Another interesting feature of last decade has been a shift in the direction of trade. There is growing evidence that in the period of globalization developing countries are increasingly engaging in more South-South trade. The share of South-South trade is on the rise. Some kind of decoupling has started taking place between the business cycles of South and North (Prasad et al 2008).

Figure 10: Share of India's Bilateral Trade with China and USA

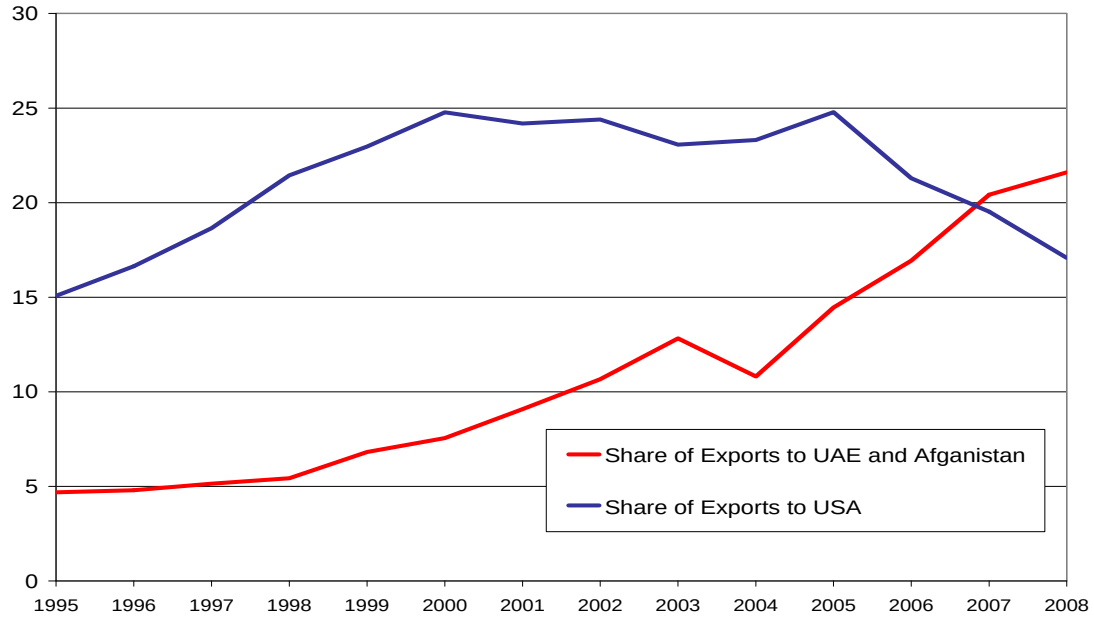


Source: Terms of Trade Database, IMF 2009 and authors' calculations.

We plot the share of bilateral trade in the total trade between India and China, and India and USA (Figure 10). It shows that the bilateral trade between India-China has been on

the rise and has taken over the bilateral trade between India and USA since 2008. Another interesting thing to note is that since the onset of the crisis, trade between India and China has held up while between India and USA has shown a declining trend. This is clear cut evidence that South-South trade is far more important now and has recovered much faster than South-North trade.

Figure 11: Share of Pakistan's Export with South and USA



Source: Economist Intelligence Unit database and authors' calculations.

There is similar evidence from other South Asian countries. Share of exports from Pakistan to UAE plus Afghanistan has surpassed the share of exports from Pakistan to USA (Figure 11). It is also worth noting that all the top four importing countries to Pakistan are developing countries or Middle Eastern countries. Similarly for Bangladesh and Sri Lanka, China and India are the two most important trading partners accounting for 30% of their total imports for both the countries.

Decoupling of trade for South Asia only means that for its own recovery, the region is not fully dependent on the developed economies recovery. South Asia is not yet as globally integrated as other regions. This crisis provides an opportunity to open its doors not only to the rest of the world but also to its neighbors. Increased South-South trade in the region could add two percentage points more to GDP growth and enable the land locked regions in Afghanistan, Pakistan, Nepal, Bangladesh and lagging regions of India to transform globalization into inclusive growth.

Thus we see the unique and distinctive growth and trade patterns of South Asia are going to help rather than hinder the recovery. Its high quality service exports led growth is likely to help it recover quickly and sustain its high growth in the medium run.

C. Capital flows, recovery and growth

South Asia has become much more financially integrated in the global economy over the last decade receiving higher capital inflows than ever before. With the onset of crisis, the euphoria of massive inflows witnessed by some economies of the region has given way to reversal of capital flows. With the ongoing global financial restructuring, it will take time for private foreign capital flows to recover. Even then the capital flows will be less accessible in a new risk-averse environment, and the cost of capital will be higher. How does this changed financial architecture going to affect recovery and medium term growth of South Asia?

In order to analyze this question we examine - how dependent is South Asia on these capital flows for growth? How vulnerable are the capital flows to South Asia?

Domestic Savings driving Investments in South Asia

Before analyzing how dwindling capital inflows are going to affect the investment prospects in South Asia, we look at how South Asia was doing in terms of investment as compared to rest of the world prior to the crisis.

Table 4: Cross Country Comparisons of Investment and Savings

Panel A			**Panel B**		
	Investment (% of GDP)			*Savings (% of GDP)*	
	1995	2006		1995	2006
log (real GDP per capita)	13.05***	7.92***	log (real GDP per capita)	16.03***	15.28*
log (real GDP per capita)^2	-0.80***	-0.49***	log (real GDP per capita)^2	-0.72***	-0.62
India	9.16***	13.67***	India	12.90***	13.7***
China	17.60***	22.93***	China	27.33***	26.64***
Bangladesh	2.73**	5.01***	Bangladesh	3.72*	4.94***
Pakistan	-1.37	-0.19	Pakistan	2.62	-2.91
Srilanka	4.37***	2.21***	Srilanka	1.55	-0.48
Control for Size	Yes	Yes	Control for Size	Yes	Yes
Observations	164	137	Observations	164	138

Notes: Robust standard errors are reported in parenthesis.
*** represents significance at 1%, ** represents significance at 5%, * represents significance at 10%.Country size is measured by population.

We report the cross-country level regression on investment rate for 1995 and 2006, controlling for the level of per capita income, non-linearities in development (captured by the square of per capita income), and country size (proxied for by population) in Table 4,

panel A[5]. All the South Asian countries (except Pakistan) are big positive outliers both in 1995 and 2006 controlling for other relevant factors. China as expected is the biggest positive outlier. Thus all these economies were investing more than the norm both in 1995 and in 2006.

To gauge the impact of reduced capital flows on investment, we need to examine how this huge investment is provided for. Is it through domestic savings or external capital? How does South Asia do on domestic savings front? Are they saving too little or too much?

We report the cross-country level regression on savings rate for 1995 and 2006, controlling for the level of per capita income, non-linearities in development (captured by the square of per capita income), and country size (proxied for by population) in Table 4, panel B. It shows that amongst the South Asian economies, India and Bangladesh are positive outliers in both 1995 and 2006[6]. China as expected is a significant positive outlier too in both these years. So South Asian countries are saving much more than the rest of the world controlling for the relevant factors.

South Asian economies are investing and saving at a much higher rate than other developed and developing countries. A significant portion of the investments are coming from domestic savings. Even when capital flows have increased in significance in the last decade, high investments in South Asia have been largely driven by domestic savings. So even in the face of greatly reduced capital inflows the region will suffer less as compared to some other regions whose investments were driven by external capital. High domestic savings are going to rescue the investments (though it does not mean that investments are not going to be hit at all) and help the region to recover and sustain growth in the medium term.

South Asia entered the period of crisis with a very high savings rate. How does this high domestic savings likely to affect recovery in South Asia? We run an OLS on GDP growth and savings rate for the period 2000 – 2007. We use a variety of controls which seem to have been related to growth. We use controls for financial development (proxied for by M2 as a ratio of GDP), openness (proxied for ratio of exports and imports to GDP), initial level of development (proxied for by initial GDP per capita) and demographic features (proxied for by life expectancy at birth). The results are presented in Table 5.

5 We picked 1995 and 2006 to see how the saving and investment behavior changed before and after the East Asian financial crisis.

6 We picked 1995 and 2006 to see how the saving and investment behavior changed before and after the East Asian financial crisis.

Table 5: Cross Section Regression: Savings and Growth, 2000-07

Average GDP growth	2000-07
Saving (as ratio of GDP)	0.083***
Initial GDP per capita	-0.0001***
Financial development	-0.012*
Openness	0.01**
Life expectancy	0.017
Control for size	Yes
Observations	157

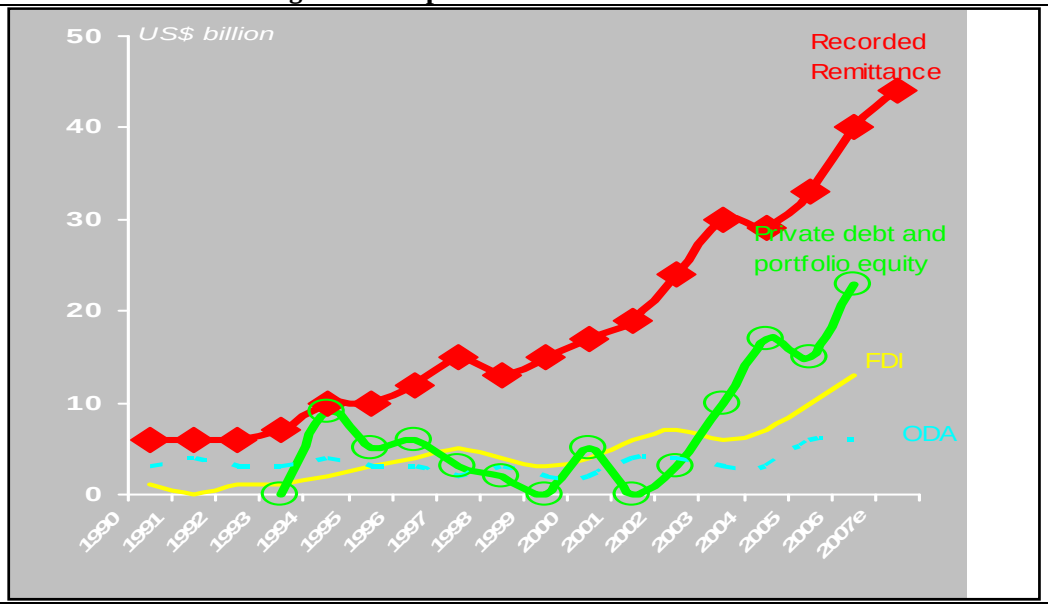
Source: World Development Indicators, 2008. * represents significance at 10%,** represents significance at 5%,*** represents significance at 1%, Country size is measured by population.

The results suggest that domestic savings are positively and significantly related to growth controlling for various factors. South Asian countries have a large and significant positive savings rate compared to other developing countries, thus they are likely to recover quickly from the crisis.

How vulnerable is South Asia to declining capital flows?

South Asia has been peculiar in attracting capital flows. Even though different kinds of flows in the region have been increasing, remittances are the most important capital flows into the region (dwarfing the other forms of flows).

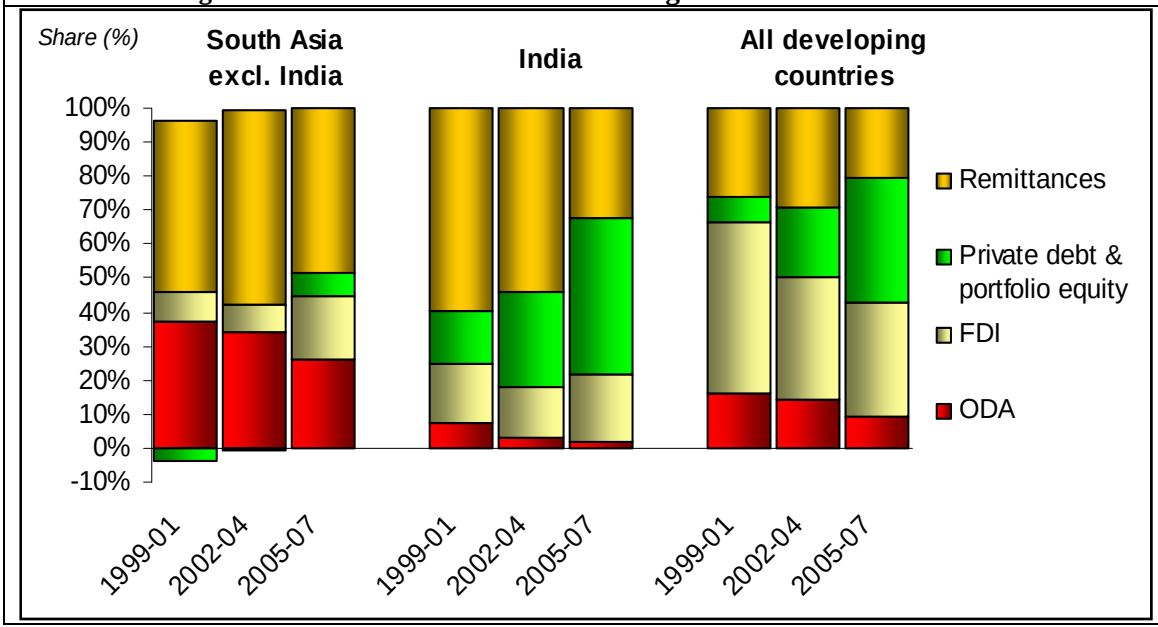
Figure 12: Capital Inflows into South Asia



Source: World Development Indicators, 2008, World Bank.

Figure 12 shows that the bulk of capital inflows into the South Asian economy consist of remittances followed by FDI in 2007, both relatively stable forms of capital flows.[7] While remittances amount to almost 6 percent of GDP, FDI inflows amount to one-third of this. Portfolio and other investment inflows only account for a small portion of the total inflows in the region.

Figure 13: Sources of External Financing for South Asia: 1999-2007

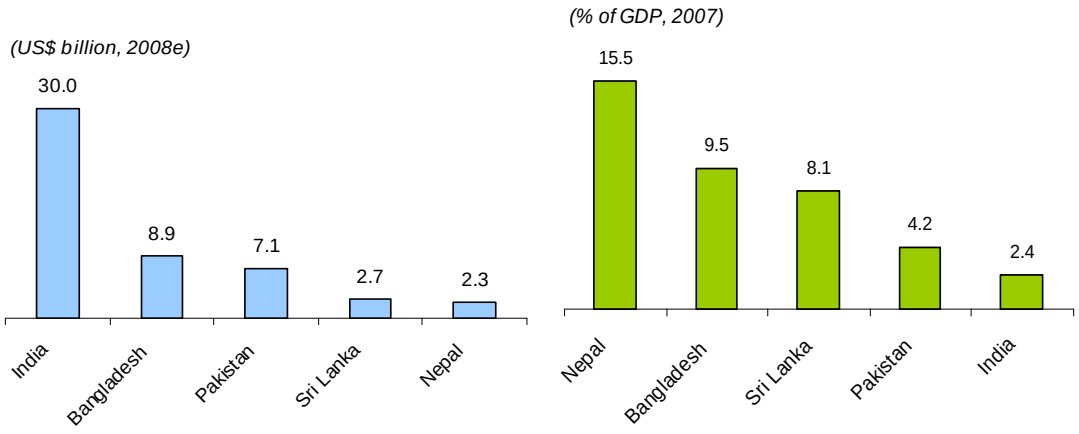


Sources: Ratha, Mohapatra and Xu (2008).

Compared to all developing countries as a group, migrant remittances have accounted for a larger share of external flows to South Asia (Figure 13). While the share of remittances in external flows to all developing countries ranges from 21 percent to 29 percent during 1999 to 2007, the share for remittances in South Asia has been much higher, accounting for 55 percent and 58 percent of total flows in 1999 to 2001 and 2002 to 2004 respectively, and 37 percent in 2005 to 2007. (The decrease in the share in 2005 to 2007 was primarily due to the sharp increase in portfolio flows to India.)

[7] Countries included into this average are India, Pakistan, Sri Lanka, and Bangladesh.

Figure 14: Remittance Inflows to South Asian Countries



Sources: Ratha, Mohapatra and Xu (2008).

As a share of gross domestic product (GDP), remittances were 3.1 percent of GDP for South Asia in 2007 – compared to 2 percent of GDP for all developing countries. Remittances as a share of GDP were the highest in Nepal (15.5 percent), followed by Bangladesh (9.5 percent), Sri Lanka (8.1 percent), Pakistan (4.2 percent) and India (2.4 percent). See Figure 14.

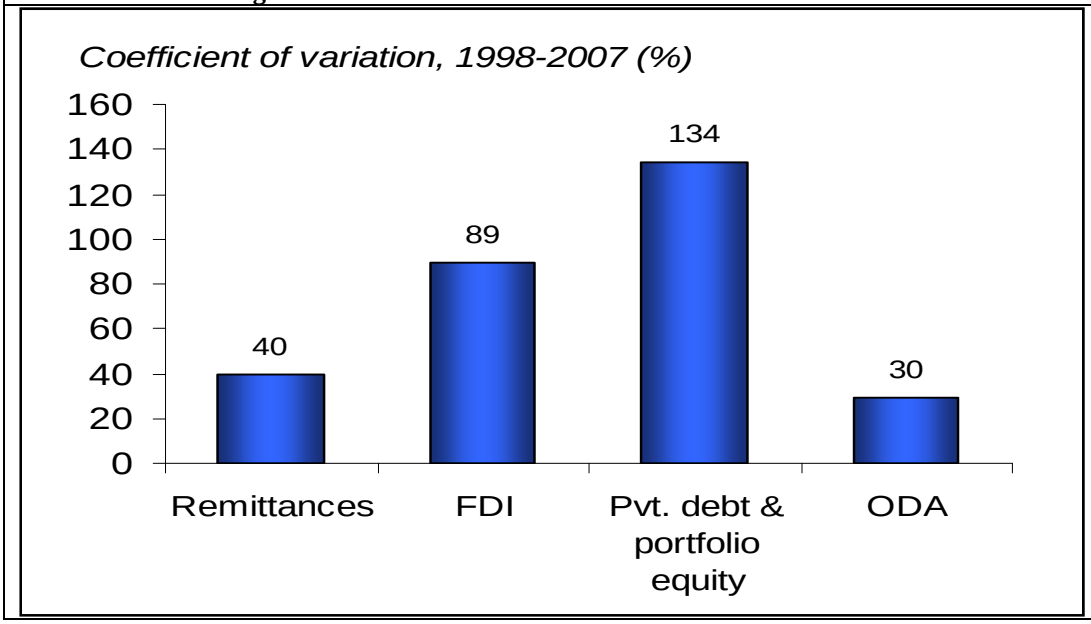
Table 6: South Asia & China in the cross section: shares of remittances in GDP and imports

	Share of remittances in GDP		*Share of remittances in imports*	
	1982	**2005**	**1982**	**2005**
Log GDP per capita	0.18**	0.15**	0.36**	0.31***
	(0.07)	(0.06)	(0.16)	(0.11)
Log GDP per capita^2	-0.02**	-0.02***	-0.05**	-0.05**
	(0.01)	(0.009)	(0.02)	(0.01)
India indicator	0.02***	-0.01*	0.16***	0.03***
	(0.009)	(0.006)	(0.02)	(0.01)
China indicator	0.03	-0.01	0.07**	-0.02***
	(0.01)	(0.01)	(0.03)	(0.02)
Bangladesh indicator	0.03***	0.02***	0.20***	0.20***
	(0.008)	(0.008)	(0.02)	(0.01)
Pakistan indicator	0.08***	-0.006	0.37***	0.05***
	(0.006)	(0.007)	(0.01)	(0.01)
Sri Lanka indicator	0.05***	0.02***	0.11***	0.08***
	(0.006)	(0.008)	(0.01)	(0.01)
Nepal indicator		0.08***		0.31***
		(0.009)		(0.02)
Control for size	Yes	Yes	Yes	Yes
Observations	97	124	99	124

Notes: Robust standard errors are reported in parenthesis*** represents significance at 1%, ** represents significance at 5%, * represents significance at 10%. Country size is measured by area in square kilometers

Is South Asia an outlier on remittances? Table 6 shows that South Asian countries were significant and positive outliers when we compare their remittances as a ratio of GDP with the rest of the world, and control for stage of development, country size and non-linearities in development. India, Bangladesh, Pakistan, and Sri Lanka were all significant positive outliers compared to the norm in 1982. China was not a significant outlier compared to the norm. Thus remittances have been an important source of foreign exchange for South Asia. However, its importance as a source of foreign exchange earning has declined over time in India and Pakistan. Bangladesh, Sri Lanka and Nepal, however, remained significant and positive outliers in 2005, when we compare their share of remittances in GDP with more than 100 countries. These results hold up when we compare their remittances as a ratio of imports.

Figure 15: Coefficient of Variation of Remittances in South Asia



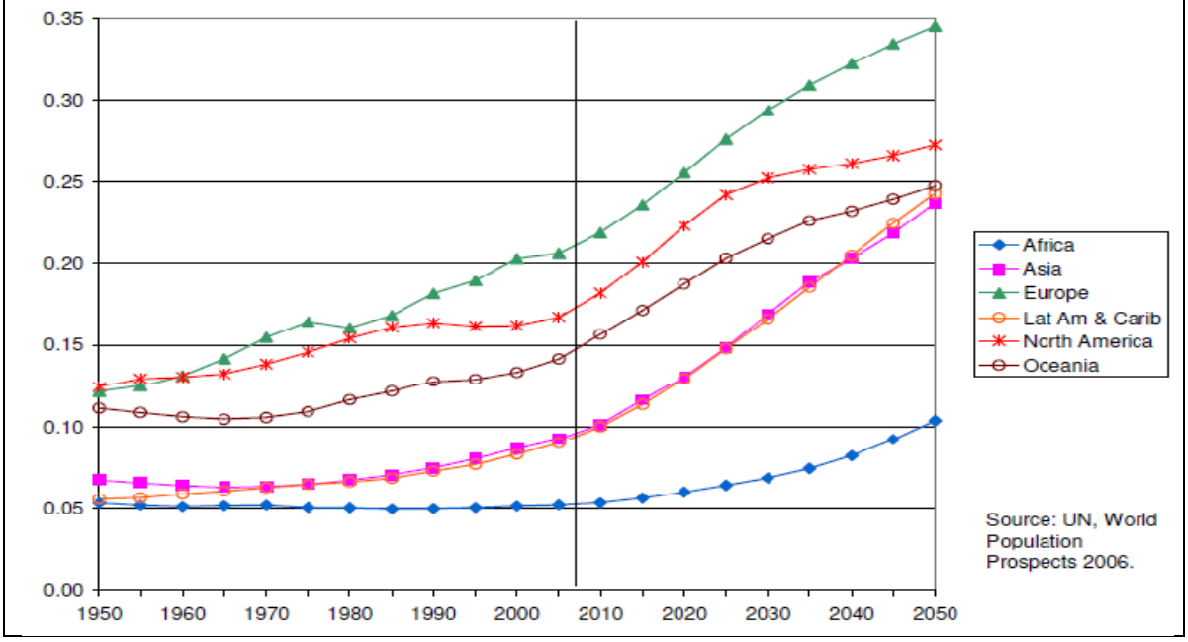
Sources: Ratha, Mohapatra and Xu (2008).

Considering that remittances are the major form of capital for the region the next question is how stable are remittances compared to other forms of capital inflows? Remittances are distinctive by their stability, persistence, and reliability. In order to examine the resilience of remittances to South Asia, coefficient of variation of remittance flows is constructed relative to three other categories of external financial flows – foreign direct investment (FDI), private debt and portfolio equity; and official development assistance (ODA) for 1998 to 2007. These findings are presented in Figure 15. Private debt and portfolio equity flows to South Asia were the most volatile, with a coefficient of variation of 134 percent, followed by FDI with the coefficient of variation of 89 percent. Migrant remittances were significantly less volatile than both categories of private flows, with variation coefficient of 40 percent during 1998 to 2007. The volatility of migrant remittances was slightly higher than that of official aid during this period. Migrant remittances received by South Asia were therefore more stable than foreign direct investment and other private capital flows and behaved similarly to official aid between 1998 and 2007.

South Asia likely to benefit from its demographic composition

This financial crisis has seen a surge in protectionist policies both in developing and developed countries in terms tightening the barriers to migration and outsourcing. Having considered the importance of remittances and services in the growth and recovery process of South Asia it is pertinent to look if these protectionist policies going to significantly affect the prospects of South Asian recovery and medium term growth.

Figure 16: Share of 60+ Population by Region



Source: Bloom, Canning and Fink (2008)

To answer this question we look at trend of the demand and supply of labor in the developed economies. During 2000-2050, share of population above 60 is going to increase considerably. Bloom et al.(2008) have shown that in the period 1994-2006, rate of growth of 60+ population in developed countries has been 12.6% as compared to -0.5% in the developing countries. The projections suggest that the proportion of 60+ population in developed countries is going to be much larger than in the developing countries. Region wise projections are shown in Figure 16. As it is evident, Europe and North America are going to have much higher population of 60+ than Asia by 2050.

Since different age groups have different economic needs and productive capacities this increase in old age population is going to has a significant impact on the growth prospects of the countries. 60+ population work less, save less and generally will need more social spending. This means developed countries are going to have a significant shortfall in labor and capital in the coming decades.

Since South Asia has a very different age profile, it is imperative that this shortfall in labor in advanced countries has to be met from South Asia and Sub-Saharan Africa.

Thus in the coming decades to keep up the economic growth in advanced countries it appears that protectionist policies in terms of migration and outsourcing are not going to work. In order to grow, advanced economies have to allow for migration and outsourcing. Thus in the medium and long term, we don't see much decline in either remittances or service exports.

So South Asia, which is less dependent on foreign capital and rely more on less volatile remittances is much better placed than other regions to recover quickly despite a fall in global capital flows.

D. Macro-economic management, recovery and growth

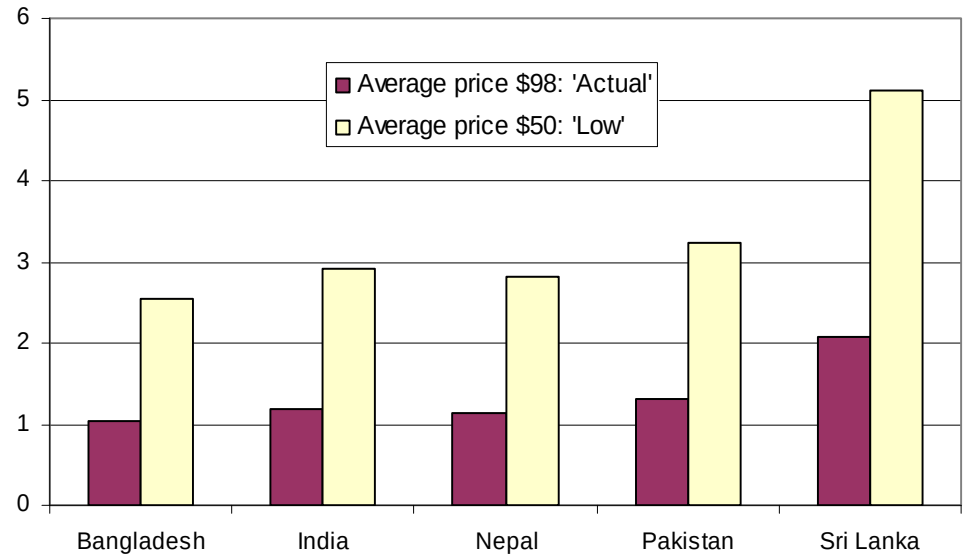
A good strategy for emerging markets is to run counter-cyclical fiscal policies, so that they tighten fiscal policies during booms and go for fiscal stimulus during downturn. This has worked well in developed economies which have automatic stabilizers. If countries have low public debt and sound external balance they can go for a large counter-cyclical fiscal policy. However, South Asian countries have weak track record on macro management. In boom times they did not do enough to reduce the budget and trade deficits. The food and oil price increases aggravated the problem and left most countries in South Asia with widening twin deficits. This has severely restricted the scope of these countries to use counter-cyclical fiscal policies to boost aggregate demand and prevent economic downslide during the crisis.

However, this peculiar feature of South Asia, that it ran large budget deficits before the global downturn actually seems to have proved a boon in disguise for these economies. India increased the wages of civil servants, increased food, fuel and fertilizer subsidies and gave loan waivers to farmers. Consequent increase in the domestic demand has more than compensated the loss in external demand and has helped in sustaining positive growth rates during the crisis period.

Room for fiscal policy limited

Is there room for countercyclical fiscal policy? Discretionary fiscal measures can either come from the revenue side, in the form of tax breaks, or through higher expenditures, or a combination of the two. Even in the absence of discretionary measures, revenues were expected to decline, and are indeed declining, with the slowdown in economic activity. Governments are faced with a choice of either reducing expenditures to match the falling revenues, or run a possibly much higher deficit.

Figure 17: Balance of Payment Savings from Falling Oil Prices (in % of 2008 GDP)[1]

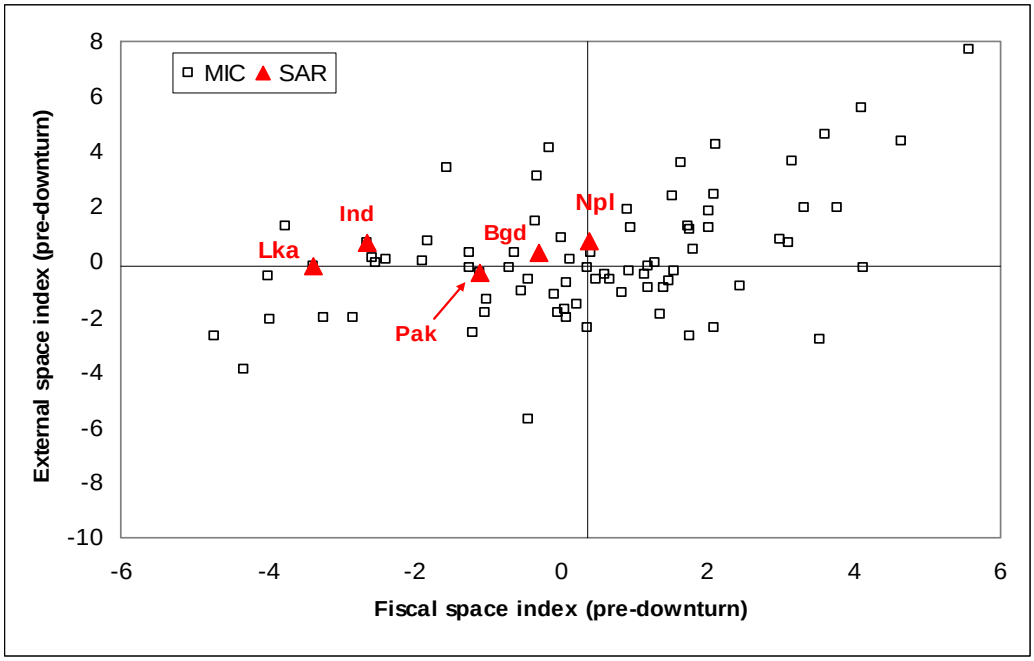


Note: 1/ Represents the reduction in trade deficit relative to average oil price of $125 bbl in 2008. The 'actual' average price in 2008 is estimated to be around $98.

On the expenditure side, a major positive for South Asia, the largest net importer of commodities (food, metal, and oil) in relation to GDP, is the sharp decline in commodity prices, especially oil. Given that this would bring a sharp contraction in the large commodity-related subsidies, these 'savings' could be used to finance discretionary fiscal stimulus (see Figure 17). Note, however, that despite these savings the overall deficit to be financed could nevertheless be substantial.

The capacity of a country to undertake countercyclical fiscal policy depends upon its ability to finance the accompanying fiscal deficit without jeopardizing macroeconomic stability. Options for financing include borrowing (domestic or external), donor grants, or monetization. If there is strong evidence that through monetizing its deficit the government can address a key bottleneck, the alleviation of which will allow a quick increase in output (supply response), then such financing could be justified. However, it will always be a risky proposition especially in countries with a weak track record of fiscal discipline and where inflation fears have not abated. Once introduced such financing may be hard to reverse.

Figure 18: Fiscal and External 'Space' Prior to the Global Downturn



Note: Axes are drawn at median levels

Relative to a set of lower middle income and middle income countries, prior to the global downturn, South Asian countries ranked well below the median on a fiscal space index (save for Nepal) (see Figure 18).[8] However they did somewhat better on the external space index reflecting, for instance in India, an accumulation of reserves and low private external debt. In terms of the indices countries far in the N-E quadrant should generally have the ability to run a countercyclical fiscal policy while those deep in the S-W quadrant would not. Prior to the crisis S. Asia fell in the "undefined" zone. Though Pakistan and Sri Lanka were arguably closer to the "no space" zone they appear to be firmly there after the global downturn has intensified.

To combat the economic and social downturn, South Asian countries have announced fiscal packages to boost their economies. The fiscal stimulus has been largely targeted towards building social and physical infrastructure as well as strengthening the social safety nets. Infrastructure spending can provide an effective counter-cyclical stimulus in South Asia. The South Asia region enters the current global crisis with very low endowments of infrastructure stock and services. Counter-cyclical public spending in infrastructure is an effective tool both to provide the foundation for rapid recovery and job creation, and to develop a robust economic platform for long term growth.

[8] The median refers to data for lower middle income and middle income countries and so does not strictly apply to Bangladesh and Nepal. Also in these two countries the relatively large availability of grants gives the impression of higher fiscal and external space. The fiscal space index reflects levels of public debt and fiscal deficits over the last five years, while the external space index reflects external private debt, reserves, and current account deficits.

South Asia is a negative outlier in investment in Infrastructure

In order to examine the role of fiscal stimulus, we examine how much South Asian economies are spending on physical and social infrastructures, and what is the potential of this stimulus in overcoming the crisis. Is South Asia spending too much or too little on education, health, roads, power and water compared to the rest of the world?

Table 7: Cross Country Comparison of Public Expenditure on Education and Health

Panel A			**Panel B**		
	(% of GDP)	(% of Total Government Expenditure)		(% of GDP)	(% of Total Government Expenditure)
Public Expenditure on Education	2003	2003	*Public Expenditure on Health*	2004	2004
log (real GDP per capita)	0.56	0.95	log (real GDP per capita)	-1.51*	-2.51
log (real GDP per capita)^2	-0.005	-0.99	log (real GDP per capita)^2	0.15***	0.25*
India	0.88	-4.83**	India	-1.41**	-6.10***
Bangladesh	-0.73*	-0.45	Bangladesh	-1.34***	-2.53***
Pakistan	-1.34***	-9.43***	Pakistan	-1.96***	-7.34***
China	.	.	China	-0.91*	-8.94***
Sri Lanka	.	.	Sri Lanka	-0.75***	-0.81
Control for Size	Yes	Yes	Control for Size	Yes	Yes
Observations	85	62	Observations	116	115

Source: WDI
*** represents significance at 1%, ** represents significance at 5%, * represents significance at 10%.
Country size is measured by population.

Table 7 reports cross-country regressions on public expenditure on education and health both as a share of GDP and total government expenditure. As evident, South Asia is a big negative outlier controlling for the level of income, non-linearities in development and country size (proxied for by population). In terms of expenditure on health, all countries in South Asia are big negative outliers. Pakistan is a large negative outlier on expenditure on education. This global downturn provides an opportunity to increase spending on education and health. This will not only help in stimulating the economy but also serve to bring them at par with the rest of the world.

What about physical infrastructure? Is South Asia investing too little or too much? The biggest problem in answering this question is the extreme paucity of comparable data for a large number of countries. The data reported for different countries use very different definitions thus limiting the scope of our exercise.

Table 8: Cross Country Comparison of Infrastructure Outcomes, 2000			
	Improved sanitation facilities(% of population with access)	*Road paved(%of total roads)*	*Electric power consumption(kwh per capita)*
log(real GDP per capita)	65.28***	-4.17	-4969***
log(real GDP per capita)^2	-3.23**	1.08	430.78***
India	-20.72***	10.25	142.08
China	-1.64	33.46	277.897
Bangladesh	-6.80	-21.9*	-135.54
Pakistan	-2.8	20.46	29.34
Srilanka	16.78***	-	-368.54
Control for size	Yes	Yes	Yes
Observations	57	44	61

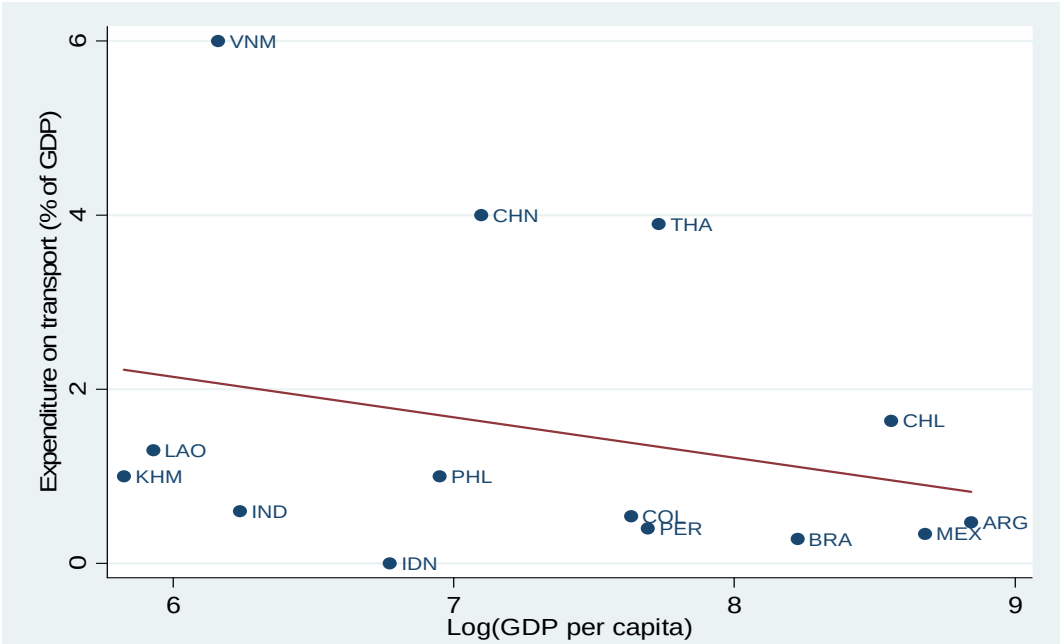
Source: WDI

*** represents significance at 1%, ** represents significance at 5%, * represents significance at 10%. Country size is measured by population.

One way to get around this problem is to look at how infrastructure outcomes vary across the countries when we control for the stage of development, non linearity in development and country size. We looked at several outcome variables (% of population having access to improved sanitation, roads paved as % of total roads, and per capita electric power consumption) to ascertain if South Asia differs from rest of the world. The results are presented in Table 8.

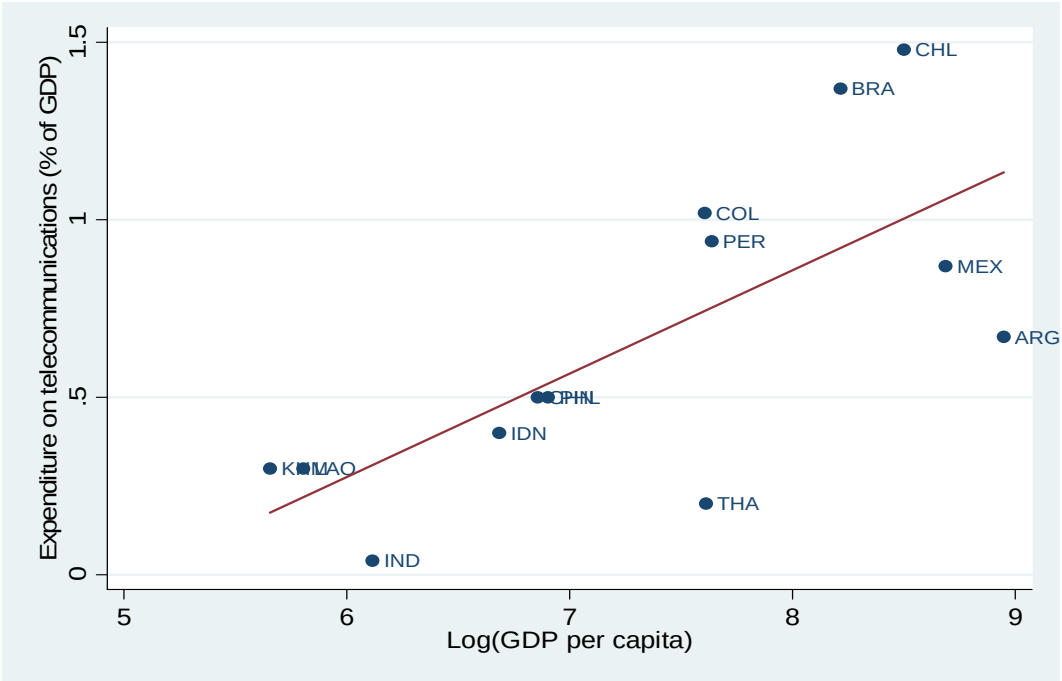
As we can see India is a big and significant negative outlier on access to sanitation after controlling for stage of development, non linearity in development and size. Sri Lanka is a large positive outlier amongst the South Asian countries. South Asian countries are no different from the norm on paved roads as a share of total road. The exception is Bangladesh. It is a significant negative outlier. All South Asian countries are no different than the norm on energy power consumption per capita. Both India and China have positive coefficients, although they are not significantly different from zero. Only Bangladesh and Sri Lanka have negative coefficients.

Figure 19: Log per capita GDP and Expenditure on Transport, 2003



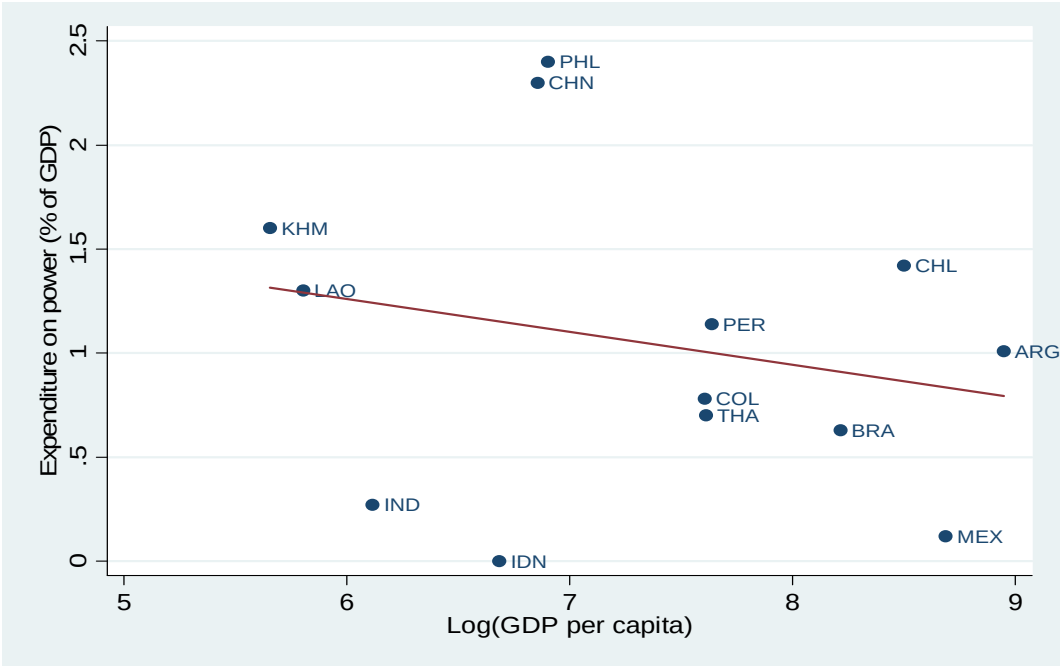
Source: Appedix A, Connecting East Asia a New Framework for Infrastructure, Calderon and Serven, 2008 and authors' calculations

Figure 20: Log per capita GDP and Expenditure on Telecommunications, 2000



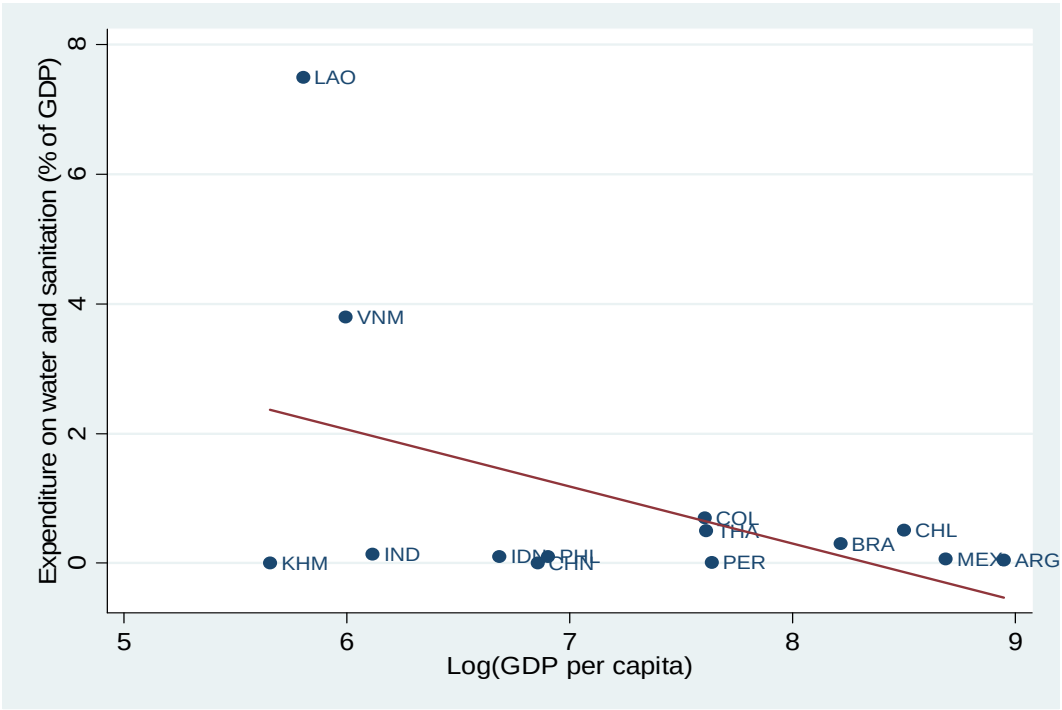
Source: Appedix A, Connecting East Asia a New Framework for Infrastructure, Calderon and Serven, 2008 and authors' calculations

Figure 21: Log per capita GDP and Expenditure on Power, 2000



Source: Appedix A, Connecting East Asia a New Framework for Infrastructure, Calderon and Serven, 2008 and authors' calculations

Figure 22: Log per capita GDP and Expenditure on Water and Sanitation 2000



Source: Appedix A, Connecting East Asia a New Framework for Infrastructure, Calderon and Serven, 2008 and authors' calculations.

Since the comparable data availability for public expenditure on physical infrastructure is not readily available we just do simple plots to see how countries differ on spending on transport, communication, power and water & sanitation[9]. The plots are presented as Figures (19)–(22). From the plots it is clear that among the sample countries, for a given level of per capita income, India is under investing in all these sectors. As expected some of the East Asian countries (notably China, except in water and sanitation) are spending a higher proportion of their GDP for the level of per capita income they have.

All this rudimentary analysis points to the fact that there is a big gap in infrastructure spending in South Asia and there lies a big scope for going for a large scale infrastructure spending. Investment in infrastructure is likely to promote growth and create employment.

All in all, in South Asia, where countries lag on infrastructure development and spending (both social and physical) it can be a good strategy to increasing spending on them. It is likely to stimulate GDP and employment growth. Also, it will set the stage for future high growth and help them to bridge the gap and come at par with more advanced economies.

E. Conclusion

While many feared that exposing South Asia's economy to globalization and global competition would reveal South Asia's economic weakness, it has rather revealed strengths (often unexpected strengths in new areas no planner would have dreamed of).

The peculiarities of South Asia's globalization are reflected in trade channels, capital flow channels, and in economic management. South Asia's trade channels differ from other regions of the world as its trade to GDP ratio is small, its service exports (modern ITC export, and migration and remittances) are more resilient, and it is experiencing a rapidly increasing South-South Trade. The quality of export from South Asia is very similar to those of the rich countries. These peculiar features of the South Asia's trade model have not prevented South Asia's growth from falling, but as recovery begins, its diversified trade model will accelerate the recovery. Also the structural transformation of the region from agriculture to services holds an enormous potential for recovery and sustained growth. Overall, there are ample opportunities for South Asian countries to catch up with developed countries and grow.

South Asia's capital flow models also differ from the rest of the world. It is not as dependent as Eastern Europe on capital flows. Its domestic savings rate is very high. South Asia is starting from a strong position of high investments and savings. Most of its investment needs are met by domestic savings. The region has been unique in terms of attracting more resilient capital flows. Remittances are the major capital inflow in the

[9] We only have comparable data for 14 countries. They include countries from Latin America, East Asia and India.

region. Being less volatile they are likely to hold up in the crisis and help the recovery of the region.

The third peculiar feature of South Asia is that it ran large budget deficits before the global downturn. This helped them tide over the decline in global demand and record positive growth. But as recovery deepens, South Asia will need to tighten fiscal policy and reduce the size of public debt which is relatively large. Declining commodity prices have created some room for pursuing counter-cyclical fiscal policy. Given that South Asia is a big negative outlier on infrastructure (both physical and social) it is imperative that they should target their stimulus to increase their infrastructure base. It will not only help in staging a recovery in the short run, it will go a long way in sustaining growth in the medium run.

The peculiarities mean that South Asia will dance to different tunes. It will ride on the wave of service led growth, high domestic savings supporting high investments, and less volatile capital inflows..

Annex A: List of variables, data description and sources

Variable	Definition	Source
Coefficient of Variation	Ratio of standard deviation over mean for each kind of flows	Ratha, Mohapatra and X 2008
Country Size	Country area in square kilometers, Country population	World Bank, 2008, WDI
Credit	Percentage of domestic credit provided by banks	World Bank, 2008, WDI
Electric power consumption	Electric power consumption (kWh per capita)	World Bank, 2008, WDI
Expenditure on Physical Infrastructure	Expenditure on transport, telecommunications, power and water and sanitation as percent of GDP	Appedix A, Connecting Asia a New Framework Infrastructure, Calderon
Financial services	Financial services cover financial intermediary and auxiliary services (except those of insurance enterprises and pension funds) conducted between residents and non-residents.	Balance of Payments,2008.IMF
Goods Exports	Goods exports refer to all movable goods (including nonmonnetory gold) involved in a change of ownership from residents to nonresidents.Forms of processed goods, repairs on goods, and goods procured in ports by carriers.	Balance of Payments,2008.IMF
Goods and Services Export Share	region's export as a share of the world's export of goods and services.	Balance of Payments,2008.IMF
Insurance Services	insurance services cover the provision of various types of insurance to non-residents by Trade in services by service-category and country resident insurance enterprises,and vice versa.	Balance of Payments,2008.IMF
Improved sanitation	Improved sanitation facilities (% of population	World Bank, 2008, WDI
Investment	Gross fixed capital formation as a ratio of GDP	World Bank, 2008, WDI
IT services	Information Technology services (ITS) like custom application development,application o NASSCOM,2008.Packaged software installation and support,network infrastructure management,IT training and education,network consulting and integration.	
IT and IT enabled Services	IT and IT-enabled services is measured by adding the Computer and information services plus miscellaneous business services category in the Balance of payments.	Balance of Payments,2008.IMF
Industrial Labor Productivity	Value added by industry (at constant 2000 US$) divided by total employment in the industrial sector	World Bank, 2008,WDI Sivasubramanium,2007 India Balance of Payme 2008. IMF. Bosworth,Collins,2007 f China
Life Expectancy	Life expectancy at birth	World Bank, 2008, WDI
Log GDP per capita	Natural log of GDP per capita,which is measured in constant 2000 US$	Planning Commision of 2007 for subnational W Bank, 2008,WDI
Manufacturing Growth	Growth in manufacturing value added	World Bank, 2008, WDI

Modern Services	Modern service include exports in telecommunications, computer and information services, other business services, financial services, insurance, royalties and license fees.	Balance of Payments,2008.IMF
Openness	Ratio of exports and imports to GDP	World Bank, 2008, WDI
Personal, cultural and recreational services	(i)audiovisual and related services and (ii)other personal, cultural and recreational services.	Balance of Payments,2008.IMF
Population Growth	Year on year growth in population	World Bank, 2008, WDI
Public Expenditure on Education	Public expenditure on education as a share of GDP, Public expenditure on education as a share of total Government expenditure	World Bank, 2008, WDI
Public Expenditure on Health	Public expenditure on health as a share of GDP, Public expenditure on health as a share of total Government expenditure	World Bank, 2008, WDI
Roads Paved	Roads, paved (% of total roads)	World Bank, 2008, WDI
Savings	Gross domestic savings as a ratio of GDP	World Bank, 2008, WDI
Service Exports	Services refer to economic output of intangible commodities that may be produced,transferred, and consumed at the same time.	Balance of Payments,2008.IMF
Service Labor Productivity	Value added by services (at constant 2000 US$) divided by total employment in the tertiary sector	World Bank, 2008,WDI Sivasubramanium,2007 for India Balance of Payments, 2008. IMF. Bosworth,Collins,2007 for China, Bosworth, Maertens, 2009
Service Growth	Growth in the service value added	World Bank, 2008, WDI
Service Sophistication	EXPY of the country's exports basket, calculated using the formaula given in the text	Balance of Payments,2008.IMF
Share of bilateral trade	Ratio of total bilateral trade to total trade	Terms of Trade, 2009, IMF
Share of 60+ population	Population over 60 as a ratio of total population	Bloom, Canning and Fink, 2008
Share of exports	Ratio of bilateral exports to total exports	Economist Intelligence Unit,
Traditional Services	Traditional services include travel, transportation,	Balance of
Value Added	Value added in Agriculture, Industry and Sercies in constant 2000 US$	World Bank, 2008, WDI
Value Added Share	Value added in Agriculture, Industry and Sercies in percent of GDP	World Bank, 2008, WDI

Reference:

Ahmed, S., and E. Ghani. 2008. “Making Regional Cooperation Work for South Asia's Poor.” Policy Research Working Paper 4736, World Bank, Washington, DC.

Asian Development Bank. March 2009. *Asian Devleopment Outlook 2009: Rebalancing Asia’s Growth.* Manila.

Baumol, William J.. 1985. “Productivity Policy and the Service Sector”, in Inman R P (ed), *Managing the Service Economy: Prospects and Problems,* Cambridge: Cambridge University Press.

Bloom David E., David Canning & Günther Fink, 2008. "Population Aging and Economic Growth.” PGDA Working Papers 3108, Program on the Global Demography of Aging.

Biller, Dan, Nune, Fernanda Ruiz. Feb 2009. South Asia’s Infrastructure and global financial crisis: Feb 2009, Background note. World Bank.

Blinder, Alan S. 2006. “Offshoring: The Next Industrial Revolution?” *Foreign Affairs* 85 (2): 113-28.

Bosworth Barry and Annemie Maertens, 2009. “The Role of the Service Sector in Economic Growth and Employment Generation in South Asia.” in Service Led Growth in South Asia. World Bank Manuscript.

Calderón, C., and L. Servén, 2008. "Infrastructure in Latin America: A quarter-century retrospective: 1980-2004." Washington, DC: The World Bank, manuscript, July.

Eichengreen, Barry. 2008. Integrating Financial Markets in South Asia. World Bank. Washington DC.

Ghani et. al. December 2008. How should South Asia deal with global financial crisis?, Background note, South Asia region, World Bank

International Monetary Fund. April 2009. *World Economic Outlook 2009*. International Monetary Fund, Washington, DC.

Kose, M. Ayhan & Otrok, Christopher & Prasad, Eswar, 2008. "Global Business Cycles: Convergence or Decoupling?," NBER Working Paper No. 14292.

Kose, M. Ayhan, Eswar Prasad, Kenneth Rogoff and Shang-Jin Wei, 2009. “Financial Globalization: A Reappraisal” **IMF Staff Papers**, April 2009.

Prasad E., Raghuram Rajan, A. Subramanian, 2007.“Foreign Capital and Economic Growth,” ***Brookings Papers on Economic Activity,*** September 2007

Rajan, Raghuram, G. 2006. "India: The Past and Its Future." *Asian Development Review* 23 (2): 36-52.

Rashid, M., December 2008. **Social** Safety Net in South Asia: Background note. World Bank.

Ratha, Dilip, Sanket Mohapatra, and Zhimei Xu. 2008. "Outlook for Remittances: 2008-2010." Migration and Development Brief 8, World Bank, Washington, DC.

Rodrik, D. 2006. What's so special about China's exports? *China & World Economy, 14(5)*, 1-19.

Rodrik, Dani, 2007. "The Real Exchange Rate and Economic Growth: Theory and Evidence." Manuscript, Kennedy School of Government, Harvard University.

Rodrik, Dani, A. Subramanian, 2009. "Why Did Financial Globalization Disappoint?", IMF Staff Papers, Volume 56, Number 1, March 2009, forthcoming.

Rodrik, Dani, Ricardo Hausmann, J. Hwang, 2007. "What You Export Matters", J*ournal of Economic Growth*, volume 12, no. 1, March, 2007.

Rodrik, Dani, 2009. "Growth after Crisis". http://ksghome.harvard.edu/~drodrik/papers.html

World Bank. 2003. Worker's Remittances: An Important and Stable Source of External Finance, Global Development Finance, Washington, DC.

World Bank. 2005. *Global Economic Prospects 2006: Economic Implications of Remittances and Migration*. World Bank: Washington, DC.

World Bank. 2008. *World Development Indicators.* Washington, DC: World Bank.

World Bank. 2009a. *Reshaping Economic Geography.* Washington, DC: World Bank.

World Bank, 2009b, *Can Regional Collaboration in the ITES Industries Power Growth for South Asian Countries?* Washington, DC: World Bank.

World Bank. 2009c. *Bottom Half Billion in South Asia.* Washington, DC: World Bank, forthcoming.

World Bank, 2009d, Service Revolution in South Asia, Washington DC, World Bank.