

RIS Discussion Papers

Demographic Change, Brain Drain, and
Human Capital: Development Potentials in
Services-Driven South Asia

Biswajit Dhar and Sayan Samanta

Discussion Paper # 188



RIS

Research and Information System
for Developing Countries

Demographic Change, Brain Drain, and Human Capital: Development Potentials in Services-Driven South Asia

Biswajit Dhar and Sayan Samanta

RIS-DP # 188

February 2014



RIS

**Research and Information System
for Developing Countries**

Core IV-B, Fourth Floor, India Habitat Centre

Lodhi Road, New Delhi – 110 003 (India)

Tel: +91-11-2468 2177/2180; Fax: +91-11-2468 2173/74

Email: publication@ris.org.in

RIS Discussion Papers intend to disseminate preliminary findings of the research carried out within the framework of institute's work programme or related research. The feedback and comments may be directed to the author(s). RIS Discussion Papers are available at www.ris.org.in

Demographic Change, Brain Drain, and Human Capital: Development Potentials in Services-Driven South Asia

Biswajit Dhar*
Sayan Samanta**

Abstract: The growing dominance of the service sector in South Asian economies suggests that the development potentials that these economies can realise depend on their ability to get the fast growing younger cohort of their population absorbed in this sector. However, there is overwhelming evidence to suggest that South Asian countries suffer from significant skill gaps, particularly, with respect to the high-end services that tend to be relatively skill intensive. Skill development, therefore, holds the key to the future development of this region. South Asian economies need to make serious efforts to improve their educational achievements not only at the tertiary level, but also at primary and secondary levels. These countries need to adopt appropriate policy initiatives that will ensure future availability of skilled labour force in their services sector. This discussion paper seeks to understand the nature of the ongoing demographic transition in South Asia and the challenges faced by the countries of the region to augment their future supply of skilled labour in South Asia.

Key words: Demographic transition, demographic dividend, human capital, skilled migration, brain drain

Introduction

In the past few decades, most South Asian economies have experienced structural changes that have been unique. Defying historical experiences, the economies of the region have made transition from their high dependence on agriculture to become service sector-led¹, while the share of manufacturing in the gross domestic product has

* Director-General, RIS. Email: biswajit@ris.org.in

** Consultant, RIS. Email: sayansamanta@ris.org.in

remained almost unchanged. This pattern of production shift has implications for both opportunities and participation in the labour market, which, in turn, would determine the development prospects of a region that is home to the largest number of poor in the world.² Service sector being relatively skill intensive in nature, the region's development potential in the coming decades would, therefore, be largely dependent on its ability to provide a steady supply of skilled labour. Fortunately, the present ongoing demographic change being experienced by the region suggests that there will be large cohort of young people joining the workforce in the coming decades. However, the growth prospects of the region will eventually depend on the extent to which this young labour force can get access to education and appropriate skill development opportunities in order that they can secure productive employment.

South Asia has often been termed as remittance economy. Over the past few decades, the inflows of remittances have been steady and are relatively high as compared to foreign direct investment and official development assistance.³ Remittances augment incomes of the recipient households and can thus enable them to gain access to essential services like education and health. At the same time, however, effective utilisation of personal remittances remains as a major challenge, for they are largely conditioned by the individual incentives. While their perceived comparative advantage in semi-skilled services helps South Asia to send large numbers of its residents mostly to West Asia, resulting in high inflows through remittances, the region has also seen an increase in skilled migration over time.⁴

The increase in productivity in services across South Asian region arises from the fact that the countries started from low initial technological base and there is, therefore, tremendous potential for catch up.⁵ Thus, not only has the region as a whole moved from low-skill agricultural production to services production, some of

the countries have also moved into exports of high-end services. Notwithstanding this scenario, these countries suffer a productivity gap in high-end services vis-a-vis developed countries⁶, but if the various externalities of existing diaspora are utilised effectively, the possibilities of realising the demographic dividend, even in the presence of high skilled migration in a services driven economy, is large.

Presently, there exists considerable heterogeneity in demographic experiences and related economic outcomes, such as across and within countries' income inequalities, which can lead to changes in economic conditions in South Asia. Gains from demographic changes had been identified in models with assumption that international migration was not quantitatively important.⁷ However, in today's globalised context the process is far more complex and as it is obvious that merits and demerits of skilled migration from the developing countries are based on externalities and are largely qualitative in nature. Therefore, with communication revolution⁸ the interrelated phenomena such as, increase in labour force participation, high-skill migration, high-tech service exports and diaspora network externalities altogether have important role in realisation of future development potential of South Asia.

There have been many attempts to understand the economic prospects of South Asia through the lens of demographic performances of the region. The causal relationship of demographic change and future development of the region with specific policy intervention has been well portrayed. It has been argued that the prevailing demographic scenario in the region presents the region with a wide range of economic opportunities, which can have a virtuous influence on its growth prospects. Effective participation of the large and relatively young women and men who have been joining the workforce in the region has immense potential to add to the domestic capital

as the region has always had a high domestic savings ratio. Policies directed towards creating productive employment will enable the region exploit the demographic dividend. In this discussion paper, we delve into the association between demographic experiences, and migration scenario to assess and utilise the services led future growth potential in South Asia.

The paper is organised as follows. In the following section, we discuss South Asia's demographic transition (trends, characteristics and overall challenges) with view to highlight the differences for different South Asian countries. Section 3 discusses the issue of feminisation of human capital and in labour market participation, resulting from the service sector led growth and employment experiences in South Asia. Section 4 raises some critical issues of skilled migration. Finally, in the last section we present the conclusions.

South Asia's Demographic Transition

In South Asia, the mixed demographic experiences definitely raise the question about its nature of future economic fate and coherence.⁹ The region is marked by very similar demographic trends across the countries. However, there are some notable differences.

Table 1: Demographic Transition in South Asia

Periods	Life expectancy at birth, total (years)	Mortality rate, infant (per 1,000 live births)	Population growth (annual per cent)	Fertility rate, total (births per woman)
2011	65.7	48.3	1.3	2.7
average 2000s	63.8	56.6	1.5	3.0
average 1990s	60.0	76.3	2.0	3.8
average 1980s	57.0	96.4	2.3	4.7
average 1970s	50.3	120.9	2.3	5.6
average 1960s	44.9	147.6	2.2	6.0
1960	43.3	162.3	-	6.0

Source: World Development Indicators (WDI), online database.

The Table 1 depicts the demographic changes in South Asia over the past decades. Infant mortality rate (IMR) declined in the region from an average of 147.6 per thousand live births in the 1960s to 48.3 per thousand live births in 2011. This decline in IMR was accompanied by a sizeable decline in total fertility rate (TFR), which declined from 6.0 births per woman in the 1960s to 2.7 in 2011. Life expectancy at birth also shows considerable improvement; from 43.3 years in 1960 to 65.7 years in 2011. The growth rate of population has been falling steadily and stands at 1.3 per cent now.

Table 2 shows demographic patterns in each of the South Asian countries. The demographic experiences across countries are mostly similar with the exception Afghanistan, Maldives and Sri Lanka. While Afghanistan has lagged behind the other countries in the regions in almost all indicators, Maldives and Sri Lanka have outperformed their neighbours in South Asia, often by a considerable margin.

Afghanistan continued to record the highest IMR in the region. In 2011, its figure of 72.7 per thousand live births was more than 50 per cent higher than the average for the region as a whole. Maldives and Sri Lanka are at the other end of the spectrum, with figures far lower than those recorded by the upper middle-income countries. In the same vein, the total fertility rate in Afghanistan is still very high at 6.2 children in 2011. The region's lowest TFR was recorded by Maldives, 1.7 children. The life expectancy at birth is almost 26 years higher in Maldives (76.9 years) than Afghanistan (48.7 years). The population in Sri Lanka is growing only at 1 per cent per year.

Viewed in the context of the Millenium Development Goals (MDGs), South Asia shows somewhat of a mixed picture in the progress it has made towards meeting the 2015 targets. In case of under-five IMR, three of the four least developed countries in the region, viz., Bangladesh, Nepal, and Bhutan, can boast of strong performances. In these countries, under-five IMR declined by at least 60 per cent, or more than 4.5 per cent a year on average.¹¹

Table 2: Key Determinants of Population Growth in South Asia

Countries	Life expectancy at birth, total (years)		Fertility rate, total (births per woman)		Mortality rate, infant (per 1,000 live births)		Population growth (annual per cent)			
	2000-11	1960s	2011	2011	2000-11	1960s	2011	2011		
Afghanistan	46.9	32.8	48.7	6.2	83.5	231.5	72.7	3.1	2.2	2.5
Bangladesh	67.0	48.4	68.9	2.6	48.5	156.6	36.7	1.3	3.0	1.1
Bhutan	64.8	38.5	67.3	2.9	52.8	198.1	42.0	2.3	2.5	1.7
India	63.5	45.5	65.5	2.8	55.3	144.4	47.2	1.4	2.1	1.3
Maldives	74.2	40.3	76.9	2.2	21.7	189.9	9.2	1.8	2.5	1.9
Nepal	65.6	40.2	68.7	3.3	49.6	172.1	39.0	1.5	1.9	1.1
Pakistan	64.2	49.6	65.4	3.8	67.3	152.7	59.2	1.9	2.6	1.7
Sri Lanka	73.6	59.8	74.9	2.3	13.3	64.5	10.5	0.8	2.4	1.0
Standard Deviation ¹⁰	0.1	0.2	0.1	0.4	0.6	0.4	0.8	0.4	0.1	0.3

Source: WDI, online database.

However, the wide differences in performance as between countries mean that the region as a whole is making slow progress towards the attainment of the MDGs. Assessment made by the United Nations shows that the South Asia does not seem to be on course to meet the 2015 under-five IMR target.

The measure of dispersion of the logarithmic values of demographic indicators shows that South Asian countries are catching up with respect to life expectancy at birth. In all other parameters, countries seem to diverge from each other. Moreover, countries that have been performing well in the indicators listed above continue to do well. These observations raise the important question as to what extent the process of demographic change is exogenous to the countries in South Asia. It is generally argued in the literature¹² that the similar timings of decline in mortality across South Asian countries are probably due to the exogenous factors. On the other hand, differences in speed of fertility decline and the lag between mortality decline and initiation of fertility decline across countries are due to the demand driven endogenous factors.

One of the major endogenous factors that have caused a significant change in fertility rate is the increased feminisation in education. The literature on the “feminisation U hypothesis”¹³ of labour force participation argues that the increase in female labour force participation in the labour market in developing countries is due to more of push factors than increase in opportunities, as women in these poor countries cannot afford to stay unemployed. Not much evidence has been found in favour of the role played by increased opportunities in feminisation in countries like India.¹⁴ Moreover, endogenous characteristics of demographic change the age structure of an economy and consequently affect economic development.

Bloom and Williamson have argued that East Asian miracle can be explained by its demographic factors. The region managed to effectively translate its increased young working age cohort to

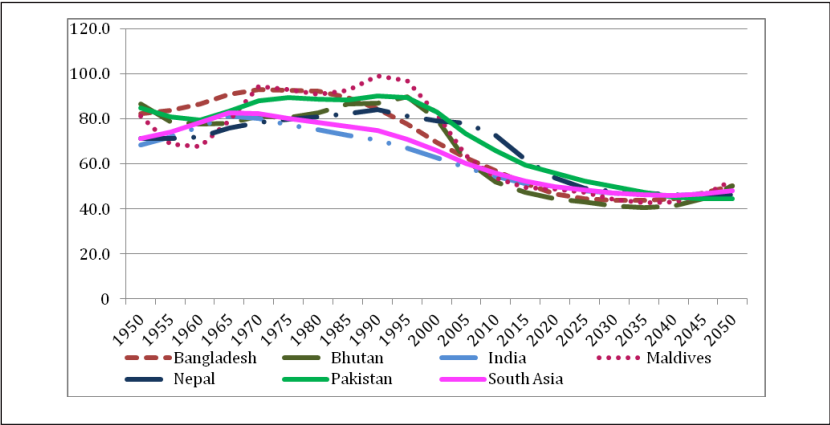
productive employment. In this context, two major differences with South Asia can be identified. First, in East Asia manufacturing sector played an important role and its growth generation. Second, feminisation in education and employment in East Asia has been quite widespread.

Changes in Composition of the Working Population

The demographic scenario corresponds to economic outcomes of a region through the changes in the ratio of non-working age population to working-age population¹⁵, in other words, the dependency ratio. This ratio is an indicator of the extent of support that the working age population is expected to provide to its non-working population. Population growth resulting from the demographic change translates into economic development when it affects the ratio of the dependent non-working age population to working-age population.¹⁶ In the late 1950s, Coale and Hoover primarily emphasised the importance of the dependency ratio, a completely opposite but not contradictory to the concept of demographic dividend. Since the 1970s, rapid decline in child mortality resulted in population growth, which, in turn, led to higher consumption burden and less savings and therefore lower growth. However, in the coming decades, South Asia should witness a reversal of this process as it starts reaping the benefits of the demographic dividend. The region should surpass its neighbours in the growth dynamics on the back of massive influx of human capital into its production system.

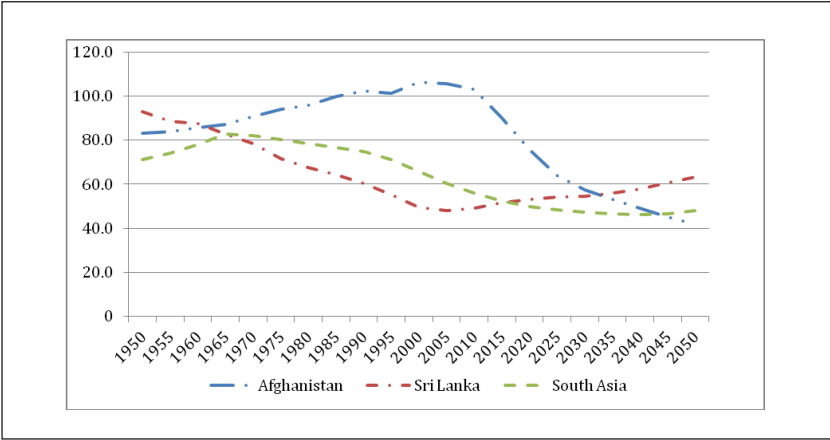
Different periods of fertility decline, fuelled by a range of endogenous factors, have led to differences in age structures in countries of South Asia. Figures 1a and 1b show dependency ratio (ratio of non-working age population to working population) in the region as it has evolved since 1950 and is expected to develop until the middle of the present century. Table 3 and Figures 1a and 1b show the trajectory of the dependency ratio in South Asia.

Figure 1a: Trends in Dependency Ratios in Select South Asian Countries



Source: World Population Prospects 2012 Revised, United Nations.

Figure 1b: Trends in Dependency Ratios in Select South Asian Countries



Source: World Population Prospects 2012 Revised, United Nations.

Table 3: Dependency Ratios in South Asia (1950-2050)

Years	Afghanistan	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka	South Asia
1950	83.0	82.3	86.5	68.4	81.1	71.3	84.9	92.9	71.3
1955	84.0	83.6	78.8	72.0	68.6	71.2	80.8	88.4	74.2
1960	85.8	86.6	77.7	76.5	67.8	71.9	79.5	87.5	78.2
1965	87.0	90.9	77.9	81.2	79.1	75.8	83.4	82.8	82.6
1970	90.9	92.9	81.2	80.0	94.5	78.3	88.1	78.5	82.2
1975	93.8	92.7	80.5	77.4	93.0	79.8	89.3	71.5	80.1
1980	95.9	92.3	82.6	75.2	90.7	81.0	88.8	67.4	78.4
1985	99.9	89.4	86.5	72.8	92.7	82.4	88.3	64.2	76.6
1990	102.1	84.5	87.1	70.6	98.9	84.2	90.1	60.2	74.8
1995	101.1	77.5	89.6	67.0	97.1	81.2	89.3	55.2	71.0
2000	106.2	69.6	79.9	62.8	82.1	79.1	83.2	49.5	65.8
2005	105.5	62.9	61.5	58.6	63.7	78.1	73.3	48.1	60.3
2010	103.1	56.9	52.1	54.4	53.8	72.5	66.0	49.0	55.9
2020	75.4	46.6	44.6	49.0	48.6	53.7	56.0	53.1	49.9
2030	57.4	43.8	41.2	46.9	44.0	47.7	49.9	54.4	47.1
2040	49.1	44.5	41.2	46.1	43.1	46.4	45.3	57.6	46.1
2045	45.3	46.8	44.4	46.5	46.0	46.0	44.4	60.5	46.6
2050	41.8	50.4	50.1	47.6	52.8	46.3	44.5	63.3	48.0

Notes: Figures for 1950 to 2010 are estimates. Projections for up to 2050 are based on the assumption of medium fertility, i.e., total fertility in all countries is assumed to converge eventually toward a level of 1.85 children per woman.

Source: World Population Prospects 2012 Revised, United Nations.

With the exception of Afghanistan and Sri Lanka, all South Asian countries seem to be headed for a convergence in their dependency ratio by the middle of the present century, assuming that these countries continue to be in the “medium fertility” bracket. In case of Sri Lanka, the dependency ratio has already bottomed out, according to the estimates. Having achieved an early decline in the fertility ratio as compared to its other South Asian neighbours, Sri Lanka is expected to face the burden of an aging population in the coming decades; by 2050, the dependency ratio would have increased to 63 per cent as compared to 50 per cent in 2010. Estimates show that since 1990, Afghanistan has had higher numbers of non-working population in relation to the working population. This scenario is expected to change in the next several decades during which the country should witness a rapid decline in the dependency ratio, a trend that is likely to continue beyond the middle of the century. Although Afghanistan is expected to lag behind its South Asian neighbours in lowering the dependency ratio, the country should reach a level that would not be attained by any other country in the region.

All other countries in South Asia are expected to see a bottoming out of the dependency ratio by 2040, by when the working population in the working age group should be slightly more than one-half of the population in the non-working age groups. Available scenarios suggest that in the subsequent decade, there would be a slight increase in the relative weight of the non-working population. It is interesting to note that for the three larger economies, viz. India, Pakistan and Sri Lanka, the dependency ratios would be bottoming out at a relatively higher level as compared to the other economies. This implies that the smaller economies can take advantage of the larger population they would have in the working age bracket to improve their economic conditions.

For all these countries, the dependency ratios had begun to dip during the 1990s, which raised expectations regarding the

demographic dividend. However, the major decline in the dependency ratio is expected from the middle of this decade. These trends in the dependency ratios underline the importance of imparting adequate training to the able-bodied persons who would constitute the working age population, to enable South Asian countries to take full advantage of the demographic dividend. This implies that each of the countries will have to put in place appropriate policies and provide for adequate resources necessary for investment in human capital formation and effective health services, as most countries in the region suffer from sizeable deficits in these two critical areas.

Service Sector-led Growth, Employment and Human Capital in South Asia

It has been argued that South Asia's growth performances in the past decades have been attuned to the region's demographic changes¹⁷, and the gradual increase in the per capita income growth had strong correspondence with the changes in age composition in population, i.e. the increase in the ratio of working-age population to non-working age population. With appropriate policies of job creation and skill development, South Asia has large potential in reaping the demographic dividend. However, to delve into the future prospects of economic fate, we move to sources of the realised economic growth in South Asia during the past decades and its association with the demographics.

Prior to the analysis on the sectoral growth and employment, the observations on the rate of total labour force participation raise the concern over the non-inclusive nature of growth during the past decade in South Asia. As it can be seen in Table 4, the rate of total labour force participation in the region was higher in the 1990s at the level of 62.9 per cent compared to 59.3 per cent in 2011. Majority of the countries show a decline in their rate of total labour force participation during the past decade. Smaller countries like Maldives and Bhutan show some improvements. Among the larger countries

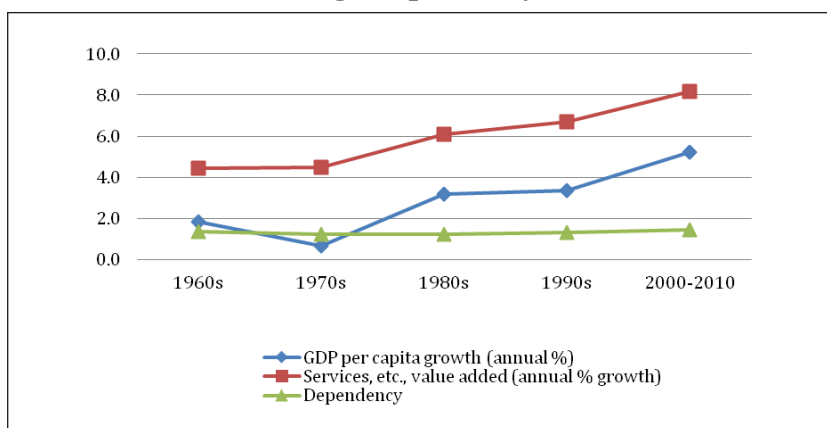
only in Pakistan the size of labour force has grown. While the rate of labour force participation is much higher than the world average in East Asia and the Pacific, South Asia remains quite far from catching up with the world average rate even when it is declining.

Table 4: Labour Force Participation Rate, Total (per cent of total population age 15-64)

Countries	1990s	2000-10	2011
Afghanistan	50.5	49.7	50.3
Bangladesh	75.1	73.0	73.5
Bhutan	64.8	71.2	73.9
India	62.5	61.2	57.7
Maldives	52.3	62.9	68.3
Nepal	87.6	86.7	86.0
Pakistan	51.3	53.5	55.1
Sri Lanka	60.4	59.9	59.5
East Asia & Pacific	79.9	78.4	77.7
South Asia	62.9	61.8	59.3
World	70.8	70.0	69.3

Source: WDI online database.

Figure 2: Per Capita Income Growth, Services Growth and Age Dependency



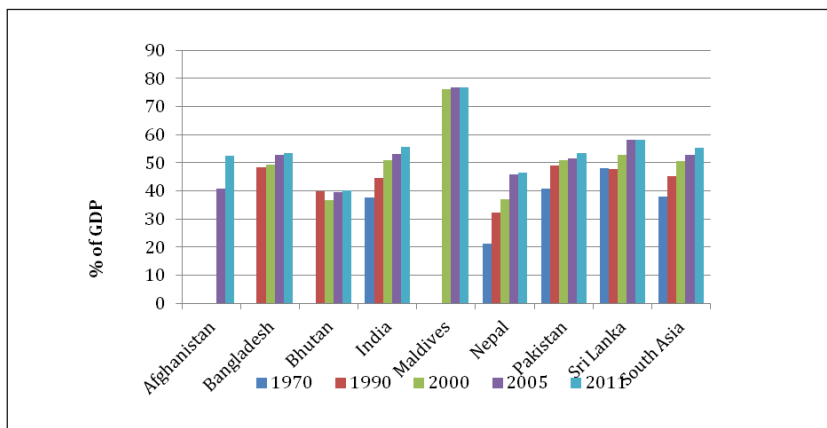
Source: WDI online database.

As stated earlier, over the past two decades, economic growth in South Asia has been conditioned by its rapidly increasing service sector. This phenomenon is captured in Figure 2, which shows the relationship between growth rates of GDP and those of the service sector. This relationship strengthened post-1980s when the service sector started growing at rates that were distinctly higher than those recorded by the manufacturing sector, in particular.

At present, South Asia derives more than 55 per cent of its income from the service sector. This showing of the service sector comes on the back of sustained growth that this sector has experienced in almost all major economies in the region over the past several decades (see Figure 3 for details). India's service sector is the most prominent in the region, accounting for more than 55 per cent of the country's GDP (in 2012). The sector has grown at an impressive rate of over 7 per cent in the recent decades. With the exception of Pakistan, all the large economies in South Asia have been experiencing a degree of buoyancy in their service sector growth. During the past decade, Bangladesh has been able to accelerate its service sector growth on the back of some impressive performances from its information technology and enabled services sub-sectors. Maldives, which has been overwhelmingly dependent on its service sector (contribution of the sector is in excess of 75 per cent), is now witnessing a tapering-off of the growth in its lead sector.

Given the importance of the service sector, it is quite evident that the future growth potential of the region crucially depends on the performance of this sector. Arguments have been made that the modern service sectors, including communication, banking, insurance and a range of professional services, can provide significant impetus to the South Asian economies on a scale that could be similar that provided by the manufacturing sector in East Asian economies.¹⁸

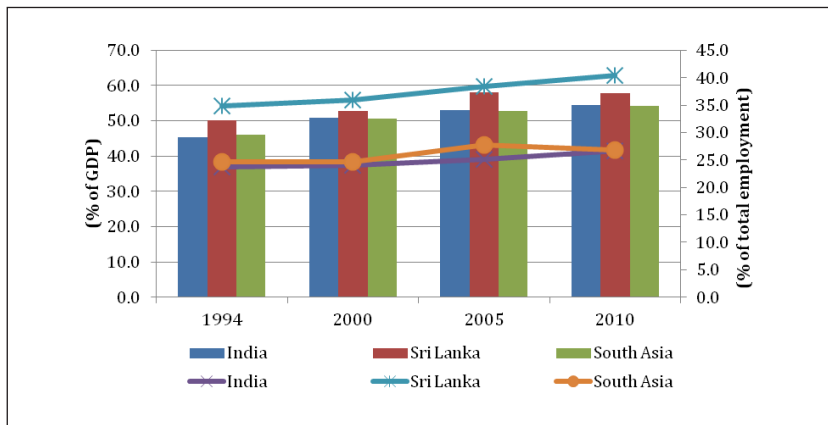
Figure 3: Growth of the Service Sector in South Asia



Source: WDI, online database.

The growth and employment experiences in the South Asian economies, especially in the service sector, provide some pointers to the challenges that these countries face in reaping the demographic dividend. High share in GDP and high growth rates across the countries were not matched by the low share of employment in the service sector. In South Asian economies, agriculture is still the major source of employment generation. While the contribution of the service sector in the region's GDP was about 55 per cent in 2010, only 27 per cent of the work force found employment in this sector. The largest economy in the region, viz. India, broadly followed this trend: services accounted for more than 54 per cent of the country's GDP in 2010, while providing only 26 per cent of total employment. Perhaps more importantly, in a decade and a half since the mid-1990s, the share of service sector in India's GDP had increased by nearly 10 per cent, but the share of workforce had increased by only 3 per cent. Sri Lanka's experience was considerably different: services sector absorbed a considerably larger share of the country's workforce (40 per cent) as compared to the average for South Asia (Figure 4).

Figure 4: Service Sector's Contribution in South Asian Economies



Source: WDI, online database.

One of the reasons behind the mismatch between growth and employment in service sector of South Asia is the high productivity in this sector. In the region, only Bangladesh and Bhutan have the higher productivity in manufacturing than services. As the countries started with a low technological base in this sector, the high productivity is the consequence of the catch-up mechanism with the developed countries and it has been argued that there are immense potential in this regard.

It has been argued in the literature that the sustainability of economic growth is possible through service sector as it is generating growth in demand for industrial products. The limited opportunities created in terms of job creation seem to be good with high wages.¹⁹

One of the major concerns in South Asia is the female labour force participation in the development process. The region is remarkably lagging behind in this regard (see Table 5 for details). As compared to the global average of 40 per cent, female labour force

was in South Asia was just 21 per cent in 2010. The performance of South Asia was conditioned by the below par performance of the three largest economies in the region, viz. India, Pakistan and Sri Lanka. While in Sri Lanka, females were about a third of the labour force, in India and Pakistan, the ratios were even lower at a fourth and a fifth of labour force respectively. In sharp contrast, the smaller countries performed quite admirably. In Nepal, the females formed the majority of the labour force (50.5 per cent), and Bhutan, Maldives and Bangladesh were around the global average of 40 per cent.

A similar picture presents itself regarding the female labour participation rate in the female working age population. South Asia's figure of nearly 32 per cent was well below the global average of over 51 per cent. Nepal recorded a staggering 80 per cent figure. Bhutan, Maldives and Bangladesh were once again above-par performers, and the three leading economies showed considerably lower performance of female labour participation.

The decline in fertility rate in South Asia did not accompany the increase in female work force participation. The concern is more severe when the growth in female employment takes place due to push factors. The increase in female employment in India is an outcome of the socio economic pressures, as women have to seek employment opportunities to sustain their livelihoods.²⁰

Data on South Asian economies' female participation in service sector is extremely limited. The available figures, included in Table 5, only allow us to arrive at some broad conclusions regarding female participation in the services labour market. Service sector is the preferred sector for female employees in Maldives. In 2006, the latest year for which data is available, more than 56 per cent of female employees were engaged in the services sector, increasing from 39 per cent in 2000. Bangladesh and India, the two countries

show an increase over 1990s to recent (2000-2012) average women participation in service sector. Maldives has the highest female labour force participation of 39.3 per cent in the region almost touching the world average of 40.1 per cent followed by Bangladesh (38.4 per cent). Significant increase of female employment in services in Bangladesh leads the question of push factors as in this country productivity is low in service sector compared to manufacturing. Pakistan has the worst female employment scenario-female workforce participation was only 12.9 per cent in 2005. Slowing down of services growth in this country was also accompanied by a fall in female labour force participation. South Asia is far away from East Asia and Pacific (EAP) with respect to female labour force participation. Poor performance of the region in this regard has serious consequences for future human capital formation. The poor performance can be also attributed to the education level of women in this region.

Table 5: Female Work Force Participation

Countries	Employees, services, female (per cent of female employment)			Labour force, female (per cent of total labour force)			Labour participation rate, female (per cent of female population ages 15+)		
	1990	2000	Latest available	1990	2000	2010	1990	2000	2010
Afghanistan	N.A.	N.A.	N.A.	15.2	13.6	15.6	15.5	13.4	15.5
Bangladesh	N.A.	12.1	19.4 [@]	38.8	37.1	39.7	61.7	54.3	56.9
Bhutan	N.A.	N.A.	28.0 ^β	36.4	38.6	41.5	49.6	53.5	65.5
India	N.A.	13.7	17.0	27.5	27.9	25.4	34.8	34.3	29.0
Maldives	42.9	39.0	56.1 ^β	19.4	33.7	41.9	20.2	37.4	55.1
Nepal	N.A.	N.A.	13.3 ^Ω	47.5	48.7	50.5	80.0	81.9	80.3
Pakistan	13.5	18.1	12.9 ^α	12.7	15.2	20.6	13.4	16.0	22.4
Sri Lanka	N.A.	N.A.	27.2	31.5	33.1	32.5	36.3	37.2	34.6
South Asia	N.A.	13.6	17.2	28.0	28.3	27.1	35.8	35.0	31.7

Notes: @ for 2005, α for 2008, β for 2006, Ω for 2001. All other figures are for 2010.

Source: WDI online database.

In order to benefit from the demographic changes that are afoot in the region, South Asia needs to accord priority to building its human capital base. This factor becomes even more imperative with skill-intensive services emerging as the drivers of the economies in the region. Countries in South Asia would, therefore, have to shift their priorities in the education sector, and have to go beyond the primary education, which has been the focus of their policy in this sector. In other words, these countries would have to invest in secondary and tertiary sectors, including on vocationalisation, in order to bring the workforce in sync with the requirements of the sectors that are driving the growth of their economies. Table 6 provides the key indicators of human capital formation in South Asian economies. The numbers presented in the table help us in understanding the challenges that the economies in the region face in this regard.

The considerable increase in tertiary school enrolment ratio across the countries of South Asia reflects the increase in demand for tertiary education due to services growth and wage level. Investment in tertiary education also depends on opportunities of migration to developed countries. Sri Lanka with highest skilled migration rates show highest tertiary school enrolment ratio. In anticipation to migrate, the increase in tertiary school enrolment can be complementary to services growth.

Currently, only Pakistan is spending more in education compared to 2000 among the larger countries (see Table 7). All the other major large countries are experiencing a cut in public expenditure in education. Privatisation of education may be one of the explanations. The fall in public expenditure in Sri Lanka can be explained in demographic terms as its young age population started to decline from 2005. Ratio of girls to boys in primary and secondary education shows an overall improvement in South Asia but far away in achieving the Millennium Development Goals target of 100 per cent that has been already achieved by EAP.

Table 6: Education Scenario

Countries	School enrolment (per cent)										Ratio of girls to boys in primary and secondary education (per cent)		
	Primary			Secondary			Tertiary			1990	2000	2010	
	1990	2000	2010	1990	2000	2010	1990	2000	2010	1990	2000	2010	
Afghanistan	29.3	19.5	97.1	10.6	N.A.	45.5	2.1	N.A.	N.A.	N.A.	N.A.	63.8	
Bangladesh	81.3	N.A.	N.A.	20.7	48.2	51.1	4.1	5.5	N.A.	75.5	N.A.	N.A.	
Bhutan	N.A.	77.4	111.1	N.A.	40.7	65.8	N.A.	N.A.	7.0	N.A.	86.1	101.6	
India	91.2	93.8	112.0	N.A.	45.3	63.2	5.9	9.4	17.9	N.A.	78.8	96.3	
Maldives	N.A.	131.5	106.3	N.A.	52.8	N.A.	N.A.	N.A.	N.A.	N.A.	101.5	N.A.	
Nepal	110.2	117.8	N.A.	32.2	35.0	N.A.	5.0	4.1	N.A.	56.7	77.0	N.A.	
Pakistan	55.3	70.4	94.9	20.9	N.A.	34.1	3.0	N.A.	N.A.	49.0	N.A.	79.6	
Sri Lanka	110.4	N.A.	98.8	71.9	N.A.	100.2	N.A.	N.A.	15.5	102.0	N.A.	101.6	
South Asia	85.9	89.5	108.4	35.3	43.6	58.4	5.3	8.0	15.7	67.8	79.5	95.0	
Low & middle income countries	99.6	98.9	107.1	41.4	53.7	66.1	7.4	12.1	22.5	83.1	90.5	96.7	

Source: WDI, online database.

**Table 7: Public Spending on Education, total
(per cent of GDP)**

Country Name	2000*	Recent#
Afghanistan	NA	NA
Bangladesh	2.4	2.2
Bhutan	5.5	4.7
India	4.3	3.3
Maldives	6.3	7.2
Nepal	3.0	4.7
Pakistan	1.8	2.4
Sri Lanka	3.1	2.0
East Asia & Pacific	3.5	3.8
South Asia	2.7	2.8
World	3.9	4.7

Notes: *Data for Maldives and Sri Lanka is available for 2002 and 1998. #data for Bangladesh is available for 2009. For Bhutan, Maldives and Sri Lanka data is available for 2011 and for the rest of the countries the data are available for 2010.

Source: WDI, online database.

Though the overall education outcomes show improvements over the previous decades, South Asia remarkably lags behind EAP. In future decades of change in age composition will demand much more from the existing human capital infrastructure. For the future growth process to become inclusive, access to public quality education is essential. The major challenge in this regard is to modernise the education sector and quality education delivery to future generation.

Issues of Skilled Migration and Development Potential in South Asia

The literature in the 1960s, in traditional trade-theoretic framework mainly argued that the impact of the brain drain on the development

of source country is trivial. Rather its impact through creation of international public good (knowledge) on the world community is more profound.²¹ While this argument is more general, a specific region based application of it can be interesting. Lack of political coherence in South Asia and the growing importance of the issues of global governance, knowledge created through South Asian Diaspora can be of importance to solve the regional issues. Regional institutions along with the national governments of the region have important role in creating the common platform of such knowledge base as well as dealing with issues of intellectual property rights in this context to ensure the diffusion of the knowledge.

Presently, more than 26 million people born in South Asian countries are living outside their countries of birth. This is around 1.6 per cent of the total population of the region. Although India has the highest number of migrants (11.4 million), the rate of emigration is higher from smaller countries like Sri Lanka, Afghanistan, and Bhutan. Interestingly, the rate of skilled migration is also very high in some of these smaller countries. Table 8 shows the pattern of emigration in South Asia. Sri Lanka has the highest rates of total emigration and skilled emigration in the region. More than 9 per cent of the population of Sri Lankan origin lives outside their country of birth. In addition, almost 30 per cent of the country's tertiary educated population is working as skilled work force in other countries of the world. The similar pattern is observed in Afghanistan. The rate of emigration from Afghanistan is 8.1 per cent and the rate of skilled emigration is 23.3 per cent. Pakistan has also a high rate of skilled emigration of 12.6 per cent, although its rate of total emigration is relatively low at 2.5 per cent. Bangladesh and India share a moderate 4.3 per cent skilled emigration rate.

Table 8: Status of Emigration in South Asia

Country	Stock of emigrants as per cent of population	Emigration rate of tertiary-educated population-2000	Stock of immigrants as per cent of population	Females as per cent of immigrants
Afghanistan	8.1	23.3	0.3	43.6
Bangladesh	3.3	4.3	0.7	13.9
Bhutan	6.3	0.6	5.7	18.5
India	0.9	4.3	0.4	48.7
Maldives	0.6	1.2	1	44.7
Nepal	3.3	5.3	3.2	68.2
Pakistan	2.5	12.6	2.3	44.7
Sri Lanka	9.1	29.7	1.7	49.8
South Asia	1.6	10.2	0.7	45.6

Source: Migration and Remittances Fact book 2011, World Bank.

In terms of destination of the South Asian emigrants (see Table 9), the two major destinations are West Asia (34 per cent) and high-income OECD countries (almost 24 per cent) as may be seen in Table 8. In fact, emigration to other countries in the region are the second most popular destination, with all other developing countries attracting only about 10 per cent of the emigrants from the region. Migrants heading to the developed OECD countries are relatively skilled whereas migrants to the countries of West Asia and other developing countries are either semi-skilled or unskilled. In terms of the benefits to the countries of origin, while emigrants finding employment in the OECD countries can be seen as an important channel of technology transfer and network formation in the future. On the other hand, migrants in developing countries, in particular those employed in West Asia, have been a major source of remittances inflows.

The immigration stocks in the South Asian countries are mostly due to the immigration from the neighbouring countries. The high

share of female immigrants in these countries leaves the hope of better integration in the society.

Table 9: Top Destination Countries for South Asian Emigrants

Afghanistan	The Islamic Republic of Iran, Germany, the United States, the United Kingdom, Tajikistan, Canada, the Netherlands, Australia, Saudi Arabia, Denmark
Bangladesh	India, Saudi Arabia, the United Kingdom, Kuwait, Oman, the United States, Malaysia, the United Arab Emirates, Italy, Jordan
Bhutan	Nepal, India, Germany, the United States, France, Australia, the United Kingdom, Belgium, the Netherlands, Switzerland
India	the United Arab Emirates, the United States, Saudi Arabia, Bangladesh, Nepal, the United Kingdom, Canada, Oman, Kuwait, Sri Lanka
Maldives	Nepal, Australia, the United Kingdom, India, New Zealand, Germany, the United States, Switzerland, Japan, Italy
Nepal	India, Qatar, the United States, Thailand, the United Kingdom, Saudi Arabia, Japan, Brunei Darussalam, Australia, Canada
Pakistan	India, Saudi Arabia, the United Arab Emirates, the United Kingdom, the United States, Qatar, Canada, Kuwait, Oman, Italy
Sri Lanka	Saudi Arabia, Kuwait, India, the United Arab Emirates, Canada, the United Kingdom, Jordan, Qatar, Italy, Australia
South Asia	High-income OECD countries (23.6 per cent), High-income non-OECD countries (34.2 per cent), intra-regional (28.2 per cent), other developing countries (9.4 per cent), unidentified (4.6 per cent)

Source: Migration and Remittances Fact book 2011, World Bank.

The pattern of emigration from South Asia has had an impact on the services trade from the region. The high rate of skilled migration in this region resulting in 24 per cent of its migrants in developed countries contributes critically to diaspora network formation. The region is growing with respect to its exports of both modern impersonal

services and traditional personal services (trade, hotel, restaurant, beauty shops, transport and public administration). Information technology (IT) enabled modern impersonal services growth is key to future development potential in South Asia. Blinder argues that the communication revolution will transform more services into modern impersonal services.²² At present, there is productivity gap between South Asia and the developed countries. If fully utilised, the diaspora network can be an effective as source technology transfer and therefore play an important role in narrowing this productivity gap. However, in order to adapt the technology developed in the advanced countries to suit their needs, South Asian countries must ensure that the high rates of tertiary educated emigration is complimented by high demand for technical education in their own countries. This, in other words, implies that South Asia must be able to provide adequate opportunities for the development of skills necessary for the assimilation of critical technologies.

Diaspora, Services Delivery, and Human Capital Potential in South Asia

The high rates of skilled emigration of relatively small countries can affect the distribution of income in the region even in the short run, and, therefore, naturally demands research attention. As the region is going through the demographic change with varied rate almost all the countries are experiencing the decline in fertility rate as the population growth rate is falling. Lower population growth and relatively high rate skilled migration may have both qualitative and quantitative effect on future supply of skilled labour. The shortage of skilled labour can be prevented if the positive externalities of the diaspora network pull the level of human capital in the source countries. To what extent the externalities are extracted and demographic dividend is achieved through skill development, may actually decide the nature of inequality within the region.

Diaspora can foster human capital accumulation in the home country in two major ways. Firstly, remittances may directly augment incomes and can, therefore, ease the liquidity problems of the beneficiary households. Secondly, the diaspora can improve the average level of education in the home country through knowledge spillovers. However, the effect of remittances on development of poor countries remains a debatable issue. This is partly due to the paucity of detailed data on the use of remittances in developing countries. However, it has often been argued that the larger portion of the remittances received in the home country is used for individual consumption rather than productive investment. Therefore, the relationship between remittances and development is broadly conditional on individual incentives and needs further research, in our view. Table 10 shows the relative importance of remittances in the total inflows of foreign funds in South Asian countries.

In 2011, foreign remittances received by South Asian countries were larger than all other major forms of inflows, namely, foreign direct investment, development assistance and foreign aid, put together. Remittances have been critical to Nepal's economy; in 2011, they were almost 22 per cent of the country's GDP. Among the other countries, Bangladesh showed a fair dependence on remittances; as a share of GDP, inflows on this account had increased by almost three-fold over the past two decades. Remittances have played an important role in narrowing the current account deficit in India, particularly over the past couple of years when the country has faced severe payments problems on its current account.

The impact of migration through remittances on economic potential depends on how the money received is being spent. It may lead to income poverty reduction in the source countries but may or may not ensure better access to public services. There may not be any direct impact of remittances on the health and education outcomes of the economy.

Table 10: Remittances, FDI and ODA

Countries	Net ODA and official aid received as per cent of GDP				FDI, net inflows (per cent of GDP)				Net remittances as per cent of GDP			
	2011	2000-10	1990s	1980s	2011	2000-10	1990s	1980s	2011	2000-10	1990s	1980s
Afghanistan	37.2	40.3	NA	NA	0.5	1.9	NA	NA	NA	NA	NA	NA
Bangladesh	1.3	2.1	3.8	6.5	1.0	0.9	0.2	NA	10.8	8.2	3.4	2.8
Bhutan	7.8	10.5	20.2	12.5	0.9	1.5	NA	NA	-4.8	-4.1	NA	0.0
India	0.2	0.2	0.5	0.7	1.7	1.8	0.4	0.0	3.2	2.9	1.8	1.0
Maldives	2.1	3.4	8.3	13.3	13.1	7.2	2.3	0.8	-9.9	-7.7	-6.2	-1.5
Nepal	4.7	6.0	9.4	10.0	0.5	0.2	0.2	0.0	22.0	14.7	0.8	0.0
Pakistan	1.7	1.7	1.9	2.8	0.6	1.9	0.9	0.4	5.8	4.3	2.5	7.2
Sri Lanka	1.0	2.4	4.4	8.4	1.6	1.5	1.3	0.7	7.7	6.7	6.1	5.2
South Asia	0.7	0.8	1.2	1.6	1.6	1.8	0.5	0.1	4.0	3.5	2.1	1.8
World	0.2	0.2	0.2	0.3	2.4	2.8	1.6	0.7	0.2	0.1	0.0	0.0
Low & middle income	0.7	1.0	1.3	1.4	3.0	3.4	2.2	0.6	1.4	1.6	1.0	0.7

Source: WDI, online database.

On the other hand, when perceived as the sources of human capital, the diaspora has important roles in the growth process. Efficient entrepreneurship and knowledge diffusion through the diaspora network can positively contribute to economic growth in the services-led economies. For example, the active network of Indian diaspora engaged in the IT and the enabled services has played an important role in making Indian IT sector familiar to the rest of the world and, therefore, more exports of modern services.²³

However, the effect of direct services delivery by the existing diaspora on human capital formation in the source country did not receive much research attention yet. Scientists and technologists, among others, may spend some part of their professional life in the country of their origin and can thus contribute directly to the development outcomes. This has happened particularly in the current phase of globalisation of the economies in South Asia. Available evidence suggests that in this phase, networks of migrants have played an important role on two counts. First, foreign firms that expanded their operations in countries like India found it was more convenient to send employees of Indian origin to manage their overseas operations in order to resolve local problems. In order to interact with the bureaucracy to overcome the regulatory bottlenecks and to cope with the challenges of implementing their projects, foreign firms found it convenient to deploy their employees who were well versed with the cultural knowledge and their language skills. In several instances, members of the Indian diaspora holding executive positions in these firms were also able to convince their non-Indian colleagues to relocate in India.

The second set of contributions from the diaspora became evident when successful entrepreneurs of India origin, particularly those involved in the coming of age of Silicon Valley, began investing their time and money to support business ventures in India. Through

associations such as TiE (The Indus Entrepreneurs)²⁴ or SIPA Silicon Valley Indian Professional Association²⁵, these professionals assisted the Indian IT entrepreneurs with business start-up. Not only did the Indian technology professionals get the critical technical advice, the diaspora also helped them in getting access to investible funds. A study of their participation in venture capital in Bangalore showed that nearly 50 per cent of Indian companies established in the early years of the 2000s received funding from the diaspora.²⁶ Literature suggests that Bangalore has served as a “corridor” for the return of a large number of Indian IT professionals from abroad.

Conclusion

This paper was an attempt to understand the nature of demographic change that is occurring in the South Asian countries and the implications that this phenomenon could have on the development prospects of the region. Almost all countries in the region are currently undergoing far-reaching changes in their demographic profiles, which is evident from the declining dependency ratios. Estimates show that for all countries barring Sri Lanka and Afghanistan, the dependency ratios should be declining until the 2040-45. While in the case of Sri Lanka, the dependency ratio had bottomed-out in the previous decade and is currently increasing, Afghanistan should be witnessing declining trend in its dependency ratio even by 2050.

Falling dependency ratios present huge opportunities to the countries in South Asia for they can benefit from demographic dividend offered by the large young population who are getting into the working age group. However, the challenge for these countries is to ensure that this employable population is able to join the workforce.

Alongside the changes in the demographic profile, South Asia has also been going through a rapid change in the structure of its economy. In almost all countries in the region, service sector has emerged as

the driver. More than 50 per cent of the GDP in large economies like India are accounted for by this sector. This changing composition of the GDP therefore necessitates imparting adequate skills to the young population so that they can be considered employable by the skill-intensive services.

This is an area where most countries in South Asia suffer from major deficiencies. Education levels of the population are still at much lower levels relative to those in the other regions. While all countries have realised the target of universalisation of primary education, they have made little progress in secondary and tertiary education. This has created the spectre of growing skill gaps, which can eventually deny the South Asian countries the benefits of demographic dividend.

Over the past several decades, South Asia has contributed to the workforce in several countries around the world. This migrant population from the region has been benefiting the countries through several different channels. Remittances, particularly from the semi-skilled and unskilled workforce, are the immediate sources of benefits. Nepal and Bangladesh are the main beneficiaries from remittances inflows; in case of the former, remittances were as high as 22 per cent of GDP in 2011. Remittances received by India, which have been in excess of 3 per cent of the country's GDP, have prevented its bulging current account deficit from brimming over.

More recently, migration of its population has benefited South Asian countries in yet another important manner. South Asian Diaspora has been contributing to the development processes in the countries of the region, especially in sectors like information technology and enabled services. Most countries in the region have been making efforts to seek this important source of resources, both technological and financial, for they realise that if harnessed effectively, these resources can help address the development deficits that these countries suffer from.

Endnotes

- ¹ Presently South Asia derives more than 55 per cent of its gross domestic product from the service sector.
- ² It has been observed that currently the services sector contributes more than 70 per cent in global GDP, and therefore, the potential for service sector to be further globalised is huge (Ghani 2009). Moreover, the South Asian service sector accounts only for 2.5 per cent of global services value added.
- ³ In 2011, South Asia received 4.3 per cent of its income as remittances which was more than all other types of foreign inflows, namely, FDI (1.6 per cent), development assistance and foreign aid (0.7 per cent), combined together.
- ⁴ Sri Lanka has the highest emigration rate of tertiary-educated population (29.7 per cent in 2000), and lowest rate of population growth (1 per cent in 2011) in South Asia.
- ⁵ Only Bangladesh and Bhutan have higher labour productivity in manufacturing than in services in South Asia.
- ⁶ Ghani (2009).
- ⁷ The global international migration has been steady at 3 per cent in past few decades. However, skilled migration from developing to developed countries has been increasing.
- ⁸ Communication revolution has led to reduction in cost differential in services delivery which was earlier only possible through migration. Blinder (2006) argues there will be considerable increase in the number of globalised and digitised services.
- ⁹ Bloom and Rosenberg (2011).
- ¹⁰ Standard deviations are calculated on natural logarithmic values of the respective indicators for all the previous decades considered in the analysis.
- ¹¹ The Millennium Development Goals Report, 2012, p. 27.
- ¹² Bloom and Williamson (1998).
- ¹³ This hypothesis argues that there is an U-shaped relationship between female labour force participation and economic development, the latter typically being proxied by GDP per capita.
- ¹⁴ Gaddis and Klasen (2011).
- ¹⁵ Relates the number of children (0-14 years old) and older persons (65 years or over) to the working-age population (15-64 years old).
- ¹⁶ Bloom and Williamson (1998).
- ¹⁷ Bloom and Williamson (1998) and Bloom, Canning and Rosenberg (2011).
- ¹⁸ See Ghani (2009).
- ¹⁹ See Bosworth, Barry and Annemie Maertens (2009) in Ejaz Ghani (ed).
- ²⁰ Gaddis and Klasen (2011).
- ²¹ Grubel and Scott (1966).

- ²² Blinder (2006).
²³ Leclerc (2008).
²⁴ Leclerc (2008), quoting Lal, 2006.
²⁵ Saxenian, 2000.
²⁶ Upadhyia, 2004.

References

- Agunias, Dovelyn R. and Kathleen Newland. 2012. "Engaging the Asian Diaspora." Issue in Brief, No. 7, Migration Policy Institute, Geneva.
- Blinder, Alan S. 2006. "Offshoring: The next Industrial Revolution?" *Foreign Affairs*, 85(2): 113-28.
- Bloom, David E. David Canning and Larry Rosenberg. 2011. "Demographic Change and Economic Growth in South Asia." PGDA Working Paper No. 67, February.
- Bloom, David E. and Jeffery G. Williamson. 1998. "Demographic Transition and Economic Miracles in Emerging Asia." *World Bank Economic Review*, Vol. 12, No. 3, pp. 419-55.
- Bloom, David E. and Larry Rosenberg. 2011. "The Future of South Asia: Population Dynamics, Economic Prospects, and Regional Coherence." PGDA Working Paper No. 68, February.
- Coale, Ansley J. and Edgar Hoover. 1958. *Population Growth and Economic Development in Low-Income Countries*. New Jersey: Princeton University Press.
- Docquier, Frederic and Hillel Rapoport. 2012. "Globalization, Brain Drain, and Development." *Journal of Economic Literature*, Vol. 50 (3), pp. 681-670.
- Gaddis, Isis and Stephan Klasen. 2011. "Economic Development, Structural Change and Women's Labour Force Participation: A Re-examination of the Feminization U Hypothesis." Working paper No. 71, University of Gottingen, Germany.
- Ghani, Ejaz (ed.). 2009. *The Service Revolution in South Asia*. Poverty Reduction and Economic Management Unit, South Asia Region, World Bank.
- Grossmann, Volker and David Stadelmann. 2011. "Does International Mobility of High-Skilled Workers Aggravate between-Country Inequality?" *Journal of Development Economics*, Vol. 95, pp. 88-94.
- Grubel, Herbert B. and Anthony D. Scott. 1966. "The International Flow of Human Capital." *The American Economic Review*, Vol. 56, No. 1/2, pp. 268-274.
- Kolben, Kevin. 2001. "Globalisation and Labour in South Asian Communities." *Economic and Political Weekly*, Vol. 36, No. 34.
- Leclerc, Eric. 2008. "India Recentred: The Role of Indian Diaspora in the Globalisation Process." Working Paper No. 2, International Migration and Diaspora Studies Project, Jawaharlal Nehru University, December. Accessed from http://www.jnu.ac.in/library/IMDS_Working_Papers/IMDS_Dec_2008_WP_2_21-290001.pdf
- Lal, B.V., P. Reeves and R. Rai. 2006. *The Encyclopedia of the Indian Diaspora*. Honolulu: University of Hawaii Press.

- MDG. 2012. The Millennium Development Goals Report 2012. United Nations, New York.
- Mountford, Andrew and Hillel Rapoport. 2011. "The Brain Drain and the World Distribution of Income." *Journal of Development Economics*, Vol. 95, pp. 4-17.
- Newland, Kathleen and Hiroyuki Tanaka. 2010. "Mobilizing Diaspora Entrepreneurship for Development." Migration Policy Institute, Geneva.
- Ozaki, Mayumi. 2012. "Worker Migration and Remittances in South Asia." South Asia Working Paper Series, No.12, Asian Development Bank, Manila, May.
- Saxenian, A.L. 2000. "Brain Drain or Brain Circulation? The Silicon Valley-Asia Connection." Modern Asia Series, Weatherhead Center for International Affairs, Harvard.
- Upadhy, C. 2004. "A New Transnational Capitalist Class? Capital Flows, Business Networks and Entrepreneurs in the Indian Software Industry." *Economic and Political Weekly*, Vol. 39, pp. 5141-51.
- World Bank. 2011. Migration and Remittances Fact Book. Accessed from: <http://data.worldbank.org/data-catalog/migration-and-remittances>
- World Development Indicators, World Bank Accessed from: <http://data.worldbank.org/data-catalog/world-development-indicators>.
- Yang, Dean. 2011. "Migrant Remittances." *Journal of Economic Perspectives*, Vol. 25, No.3, pp.129-151.

RIS DISCUSSION PAPERS

Available at: http://ris.org.in/index.php?option=com_content&view=article&id=21&Itemid=21

- DP#187-2014 *The Changthang Borderlands of Ladakh: A Preliminary Inquiry* by Siddiq Wahid
- DP#186-2014 *India-Japan Comprehensive Economic Partnership Agreement (CEPA) Some Implications for East Asian Economic Regionalism and RCEP* by Ram Upendra Das
- DP#185-2013 *Transatlantic Trade and Investment Partnership* by V. S. Seshadri
- DP#184-2013 *Financial Crisis of 2008 and Shifting Economic Power Is there Convergence* by Manmohan Agarwal and Sayan Samanta
- DP#183-2013 *Balancing State and Community Participation in Development Partnership Projects: Emerging Evidence from Indian SDPs in Nepal* by Sachin Chaturvedi, Sushil Kumar and Shashank Mendiratta
- DP#182-2013 *The Trans Pacific Partnership (TPP)* by V. S. Seshadri
- DP#181-2013 *Logistics, Trade and Production Networks: An Empirical Investigation* by Prabir De and Amrita Saha
- DP#180-2012 *India and Africa: Development Partnership* by Ambassador Shyam Saran
- DP#179-2012 *Towards a More Equitable Outcome from Rio Plus 20* by Ambassador A. Gopinathan
- DP#178-2012 *India 2050: Can We Celebrate the Centenary of the Republic as a Developed Country?* by Ramgopal Agarwala
- DP#177-2012 *BRICS and South-South Cooperation in Medicine: Emerging Trends in Research and Entrepreneurial Collaborations* by Sachin Chaturvedi and Halla Thorsteinsdóttir
- DP#176-2011 *The R&D Scenario in Indian Pharmaceutical Industry* by Reji K Joseph
- DP#175-2011 *India-Baltic Sea Region Trade and Connectivity: Myth or Reality?* by Prabir De
- DP#174-2011 *Productivity in the Era of Trade and Investment Liberalization in India* by Ram Upendra Das
- DP#173-2011 *Assessing Barriers to Trade in Services in India* by Prabir De
- DP#172-2011 *South-South Cooperation in Health and Pharmaceuticals: Emerging Trends in India-Brazil Collaborations* by Sachin Chaturvedi

RIS A Think-Tank of Developing Countries

Research and Information System for Developing Countries (RIS), a New Delhi based autonomous think-tank under the Ministry of External Affairs, Government of India, is an organisation that specialises in policy research on international economic issues and development cooperation. RIS is envisioned as a forum for fostering effective policy dialogue and capacity-building among developing countries on international economic issues.

The focus of the work programme of RIS is to promote South-South Cooperation and assist developing countries in multilateral negotiations in various forums. RIS is engaged in the Track II process of several regional initiatives. RIS is providing analytical support to the Government of India in the negotiations for concluding comprehensive economic cooperation agreements with partner countries. Through its intensive network of policy think tanks, RIS seeks to strengthen policy coherence on international economic issues.

For more information about RIS and its work programme, please visit its website: www.ris.org.in

— Policy research to shape the international development agenda



RIS
Research and Information System
for Developing Countries

Core IV-B, Fourth Floor, India Habitat Centre, Lodhi Road, New Delhi-110 003, India.
Ph. +91-11-2468 2177-80, Fax: +91-11-2468 2173-74, Email: publication@ris.org.in
Website: www.ris.org.in