
INDIAN MIGRATION: BRAIN DRAIN VERSUS BRAIN GAIN

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ABSTRACT

All the countries of the World have been experienced with the issue of migration. India is a major source of migrants, especially of highly-skilled and well-trained professionals and workers. This paper attempts to show that even with a high number of Indian talents abroad, India as well as destination countries takes advantage of the resources generated by this population. Traditionally the flows of Indian professionals have been directed towards the United States, Canada, the United Kingdom and other similar destinations. Recently, however, Western European countries are being selected as migration options.

In the present paper, the growing diversification of receiving countries is explained as a consequence of European immigration policies focusing on highly-skilled migrants, demographic trends which raise several questions related to labor shortages and, finally, the effects of the global economic crisis on mobility. The migration of highly-skilled Indians is analyzed and put in the context of globalization and the intensification of the knowledge-based economy. Finally, the paper shows that brain drain may be converted into a brain gain.

I. INTRODUCTION

The numbers of Indian migrants, especially highly-skilled migrants, have increased considerably in our globalized world. The departure abroad of a large number of well-trained Indians naturally has led to concerns about “BRAIN DRAIN” in India. In 2010, India with an estimated stock of 11.4 million emigrants was the second emigration country in the world, behind Mexico (11.9 million) in absolute terms; India is among the countries which lose most highly-skilled workers to foreign markets. In 2000, India was, for example, the first sending country of physicians with 57,383 or 9.9% of the total number of physicians trained in the country going abroad (Bhargava, Docquier, and Moullan 2010). India and the Philippines supply

most foreign-trained doctors and nurses to the OECD, notably to English-speaking countries. The emigration of health professionals has negative effects on India, especially in rural areas where the density of doctors is lower than in urban areas. Despite increasing internal demand, India still has a very low density of doctors (0.6 per thousand people in 2004) compared with 3 in the US and in Canada. Compared with other large origin countries, India records higher expatriation rate of doctors: 8%; while the expatriation rate of, say, Chinese doctors is about 1%. This does not prevent, of course, India from having a large and powerful modern health sector; as in other countries, the migration of health professionals may coexist with a dynamic urban sector and the inequitable social distribution of medical resources at the country level.

However, in spite of the high number of Indian specialists going abroad, the problem of brain drain is not a generalized phenomenon in India because only a few sectors deal with its negative consequences. One of the most affected sectors is genetic engineering and biotechnology which copes with shortages of junior staff, as approximately 90% of post-graduates in this field go to the US after the completion of their studies in India.

II INDIAN MIGRATION FLOWS

The geographical distribution of Indian migrant destination countries is defined by the level of qualification. The migration flows of the highly-skilled are oriented towards traditional Indian destinations, namely: the US, Canada, UK and more recently toward non-English speaking EU countries. This wave was accelerated by Indian integration into the world economy. Semi-skilled and unskilled Indian workers are predominantly concentrated in the high-income countries of the Gulf Cooperation Council. These migrants have also been viewed for a long time as key providers of remittances.

In 2009, enrolment in higher education in India was only 16% compared to 89% in the United States, 55% in France and 24% in China. Despite the low rate of enrolment in higher education, in absolute terms, India is the third largest higher-education system in the world, behind only the United States and China. Higher education in India evolved considerably after independence in terms of the number of universities as well as in terms of access to higher

education. Nowadays, the number of universities in India has grown some 35 times comparing to 500 colleges and 20 universities before independence which are enrolling more than 11 million students, more than 10 times before independence. Before independence education was limited and elitist: the current system is though more open with from 30-40% of enrolments from coming from the lower castes, and with women representing some 35% of the total number of students.

II. INDIANS IN THE CONTEXT OF A KNOWLEDGE ECONOMY INDIA IS “BRAIN” RESERVOIR IN THE NEW ECONOMY

The growth in knowledge intensive activities in the developed world has led to a growing demand for S&E professionals. With an important reserve of trained people in this domain, India is becoming a major supplier of human capital for the advanced economies. India is sending large numbers of these specialists compared to other important origin countries. A relevant example is the number of Indian students in science and engineering enrolled in US undergraduate degree programs. India, China, and South Korea are the top countries of origin for foreign students in the United States in science and engineering: India with 68,000 students in 2009 accounts for the largest number of foreign students here, followed by China with 54 000 students. Together these countries account for almost 47% of all foreign science and engineering student enrolled in U.S universities Germany is also recruiting foreign students from India, notably in engineering and computer sciences. The United States remain the most important host country of highly-skilled Indian migrants with more than 80% of Indian skilled migration to all developed countries. In the host countries, Indian migrants are among the best educated and highest-earning groups.

III INDIAN STUDENTS: AN IMPORTANT SOURCE OF LABOUR FOR DEVELOPED ECONOMIES

An important place in the flows of well-trained Indian migrants is taken by Indian students. India, for example, accounts for 5.5% of the 2.8 million students studying outside their home-country. After China (421,100), the country sends the greatest number of students abroad: 153,300. In 2009, the EU-27 hosted 1.6 million foreign students in tertiary education.¹³ 53,930

were Indian citizens. The first destination was the UK (42,406) followed by Germany (3,629), Cyprus (1,588) and France (1,252) According to the table below, in 2009, India was behind only China in sending students in the EU-27. The other two main countries of origin were Morocco with 44,800 students and the United States with 32,100 students. Nigeria and Brazil, the two non-Asian big demographic pools send only, respectively half and one third of India's numbers.

TABLE: 1 MAIN COUNTRIES OF ORIGIN OF NON-NATIONAL STUDENTS IN THE EU MEMBER STATES

	Foreign students in EU-27 (In Thousands)				
	2000	2006	2007	2008	2009
Total	787,90	1349,00	1430,20	1467,40	1554,10
Europe	383,80	566,30	599,60	608,14	653,30
Africa	134,20	241,30	246,00	242,00	253,00
Morocco	38,20	47,90	46,30	44,20	44,80
Algeria	14,90	23,20	21,80	20,20	20,70
Nigeria	3,50	19,30	22,00	23,30	27,50
Asia	183,00	376,10	405,50	413,50	459,30
China	18,60	113,50	117,50	115,80	123,60
India	6,60	33,10	39,30	43,10	53,90
Japan	10,70	12,70	12,40	10,50	10,30
America	63,00	110,40	121,60	124,30	141,10
USA	22,70	29,80	32,20	30,80	32,10
Canada	5,80	10,10	10,80	10,80	11,50
Brazil	6,80	11,30	12,90	14,60	17,60
Oceania	2,90	7,40	7,70	7,01	7,11
Australia	2,10	5,30	5,60	5,20	5,21
Unknown nat.	20,90	47,50	49,80	72,45	40,29

SOURCE: EUROSTATS

According to the US Department of Homeland Security India was, in 2009, the first country of origin among foreign students enrolled in US universities: indeed, 16% of all foreign students were Indian. Engineering is a favorite career choice for a large number of students at the undergraduate level in India. It is estimated that, in 2008, 350,000 engineering degrees, 23,000 engineering masters degrees and about 1,100 PhD's were awarded in India itself Due to their preference for science and engineering disciplines, international Indian students are a potential

source to fill labor shortages in host country's knowledge-intensive sectors. Their top three fields of study are: engineering; Maths and computer science; and business and management.

IV THE SHIFT IN THE GLOBAL DISTRIBUTION OF KNOWLEDGE

India is not only a supplier of skilled manpower. It is also a key player in knowledge creation. According to the UNESCO Science Report 2010, a shift in global influence in the stock of world knowledge was recorded. Asian countries now contribute more to the world GERD. Thanks; above all, to China, India and the Republic of Korea, Asia's world share grew from 27% to 32%, at the expense of the Triad (US, EU and Japan). India's participation in the world GERD grew from 1.6% in 2002 to 2.2% in 2007 while the participation of the Triad decreased during this same period. India registers good results in terms of economic growth and investment in knowledge. Tertiary education and R&D activities are at the heart of public policy. A priority here is the improvement in terms of the quality and quantity of human resource in science and engineering. Government efforts in science and technology are expressed by the initiative to establish 30 new universities in India, increasing the number of enrolled students from fewer than 15 million in 2007 to 21 million by 2012 (UNESCO Science Report 2010).

V. DIVERSIFICATION OF DESTINATIONS FOR INDIAN HUMAN CAPITAL

The internationalization of knowledge creation and the rapid expansion of R&D activities determined the diversification of receiving countries for professionals and skilled workers from India. Traditional migration streams of highly-skilled Indian were directed toward the United States and the UK. In the 2000s, new non-English-speaking destinations emerged in Europe such as Italy, France, Germany and other European countries. The number of skilled Indian migrants moving to Australia, Canada, and New Zealand also increased.

Increase in the immigration of Indian migrants to the EU due to favorable policies: Over the last few years, the EU has been seeking to put in place measures which comprise effective integration policies addressing education and labour market issues. This is proven by the number of Indian immigrants who acquired EU citizenship. In 2006, 20,600 (2.8%) of 735,000 citizens granted by the European countries were Indians. In 2008, in a context of lower immigration

figures, 15,200 Indians acquired citizenship of an EU Member State which represents 2.2% of the total number of acquisitions recorded in the EU. In 2009 this number doubled. Among 776,000 naturalized persons, 4% were Indian citizens, making Indians the third largest group after Moroccans (7.7%) and Turkish citizens (6.7%) to become citizens of an EU member State (Population Database - Eurostat).

India a supplier of young and well trained-people for European countries: With the global reliance upon skilled people and new demographic conjuncture, the EU is increasingly likely to draw on the available pool of young and well-trained Indians. In order to sustain growth and to address population ageing issues, the EU has to consider the capacity of India in terms of human capital formation. Increasing economic interdependence among nations, growing demand for skilled labour in the knowledge economy not to mention demographic trends are all strengthening the position of India as a major supplier of young, educated and qualified manpower for the EU. Owing to its demographic profile and its English-speaking population, India, with its large reserves of highly-skilled workers, has emerged as one of the most prominent country to fill the supply gaps in the labour-deficient economies of the developed world. Taking into account EU economic objectives coupled with demographic and ageing effects, Member States have put in place selective immigration policies aimed at attracting highly-skilled professionals and tertiary-level international students from South

The Economic downturn resets the flows of highly-skilled Indians: The OECD countries economic downturn since 2008 has revealed new trends in migration flows from India. Anecdotal evidence indicates that the number of Indian immigrants increased in Europe after the beginning of the crisis, to the detriment of the United States. At the same time, due to current favorable economic conditions at home, many Indian professionals settled abroad decided to return to India.

The favorable situations at home return migration: Driven by a multi-dimensional force of economic growth, India is becoming more attractive to its highly-skilled migrants. The economic growth rate, the improvement of living and working conditions in the home country and the

deteriorating growth of advanced economies coupled with the feeling of nostalgia motivate many skilled Indian migrants to return.

India has been the second fastest-growing economy in the world, second only to China, averaging over 6 percent growth per year over the past decade and a half. During the global recession, 2008-09, China and India witnessed slightly slower rates of growth, consequently their economies continued to catch up even during the crisis. While most of the world's economies including the US and the EU are dealing with the recession, India's GDP still grew 4.9% in 2008, 9.1% in 2009 and 9.7% in 2010. The United States witnessed a decrease of 2.7% in 2009 and a slight growth of 2.9% in 2010 (World Bank Data). EU economic growth also suffered from the 2008 global economic and financial crisis. Real GDP contracted by 4.3 % in 2009 and recorded a moderate increase of 1.9% in 2010 (Eurostat statistics).

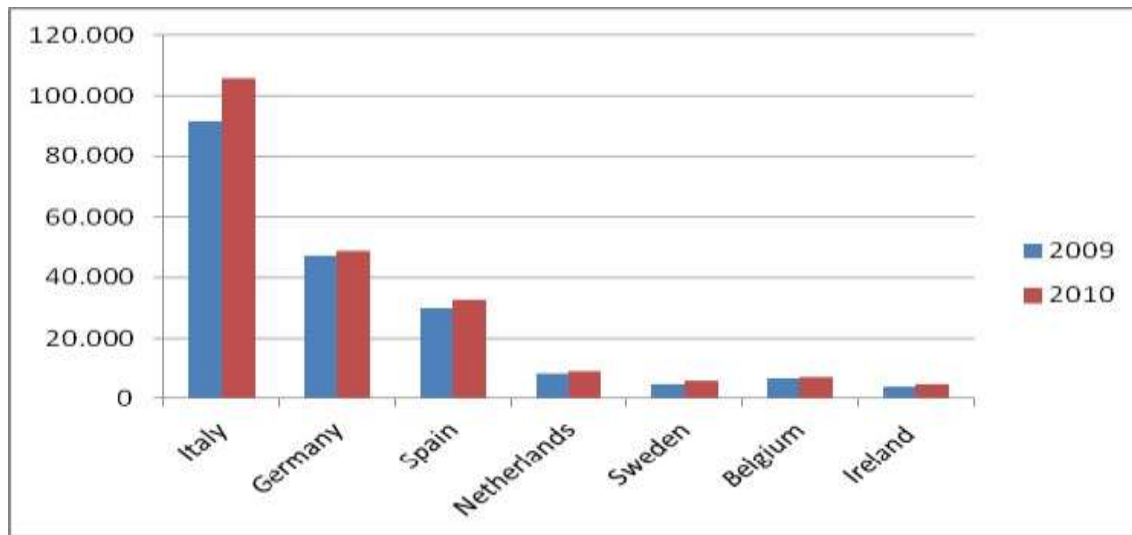
After the crisis peak of 2008 Indian migrants preferred EU countries to the US: Even though the US recorded superior economic growth in 2010, compared to the EU, Indian migrants seem more attracted by European countries. Beyond economic conditions in host countries, there are other factors that explain the current orientation of highly-skilled flows of Indian migrants towards Europe such as the possibility of getting the status of permanent resident lower school fees more easily and the possibility of integrating into the local labour market after graduation. It is important to note that due to the current European sovereign debt crisis, these aspects may deteriorate temporarily.

Table: 2 Indian Immigrant Stock In The EU In 2008 And 2009

YEAR 2008			YEAR 2009		
Indian immigrants stock	Total immigrants EU27	% of Total immigrants EU27	Indian immigrants stock	Total immigrants EU27	% of Total Immigrants EU 27
477,383	30 800 000	1,5%	518,645	31 800 000	1,6%

Source: Eurostat Migration Data and OECD International Migration Database

The same trend stuck in 2010. According to Eurostat data, the stock of Indian migrants in the main European destinations continued to grow.



Source: Population Database-Eurostat, International migration

As already mentioned, due to the ongoing European crisis Indian migrants inflows might decline and consequently the stock of Indian migrants in 2011. In 2009, Indians were the biggest group of third-country nationals receiving authorizations to reside in the EU. In 2010 the Indian group was overtaken by US citizens who obtained 213,428 new resident permits (27% of them came for studies).

VI. CONVERTING INDIAN BRAIN DRAIN INTO BRAIN GAIN

There is increasing awareness that migration can benefit both the 'sending' and the 'receiving' country. In the long run brain drain may be converted into brain gain: something particularly relevant to India. Until recently, the role of the overseas Indian community in the development of the homeland concerned only financial resources. Estimated at 30 million and with a presence in 189 countries, the Indian Diaspora produces an annual economic income of about \$400 billion, almost 30 percent of India's GDP. Desai, Kapur and McHale (2001) found that the 1 million Indians in the United States who represent only 0.1 percent of India's population earn the equivalent of about 10% of India's national income. The estimated volume of remittances in 2010 was \$55 billion or 3.9% as a share of GDP. Despite the economic crisis since 2008, the volume of remittances has remained resilient due to the geographical

diversification of Indian migrants. After a 1% fall off in 2009 compared to 2008 (\$49.9 billion), in 2010 the total amount climbed to \$55 billion. Comparing to other regions which were suffering from a decrease in remittance inflows, India continued to receive an increasing volume of remittances: Mexico, for example saw a reduction of 16% in 2009 (\$22 billion) and in 2010 with a lower level of remittances than before the crisis.

Transition to a knowledge economy: The contribution of US-based Indian IT specialists to the growth of the software industry in India is an illustration of a win-win scenario, in which the international mobility of Indian skilled professionals has helped India's transition to a knowledge economy and has led to the development and has increased the innovation capacity of the host country. Currently, about 14% of India's net domestic product is composed of knowledge intensive activities, mostly in the services sector The IT-BPO industry in India has today become a growth engine for the economy, contributing substantially to GDP growth, urban employment and exports. The success and achievements of Indian expatriates helped the origin country to create an image of a young and open India.

VII INTERNATIONAL TRADE EFFECTS

As far as international trade effect is concerned, Indians abroad represent an important market for products from India. Their contribution to the expansion of trade relations can be made through direct or through indirect effects. Besides their own consumption, they may induce new consumption habits in the host country. The Indian community in the UK has changed general consumption and cuisine patterns. Indian migrants have demonstrably affect and contribute to the promotion of local goods such as basmati rice, Indian films, etc. The growing consumption of Basmati rice in the UK due to diaspora influence is a key driver of growth of Basmati rice exports. In 2010, the imports into the EU from India were estimated at €33.2 billion and agricultural products represented 8% On the one hand, Indians abroad create a new demand for Indian products and on the other hand, the native population is encouraged to consume as well.

VIII CONCLUSION

So, this paper underlined how Indian migration is problematic in the coming future for the sake of economic growth and development of the country. There has been continuous growth of trends in migration from the developing nations to the developed countries and India is not exception for that. In the present paper we have discussed that statistical numbers are alarming to the country and needs to be prevented, through reverse BRAIN DRAIN. It is possible through the strong steps by the Government and awareness amongst the people of patriotism and to render their talent to the Indians.

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