Summit Level Group of Developing Countries
GROUP OF FIFTEEN

INTERNATIONAL MIGRATION, REMITTANCES AND THE BRAIN DRAIN IN G-15 COUNTRIES

Working Paper Series, Volume 5
January 2009

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INTRODUCTION

A variety of 'pull' and 'push' factors, such as widening income disparities between nations, cheaper international travel and shortage of workers in many countries have in recent times, led to a surge in cross-border migration. Today, it is estimated that approximately 191 million people in the world are immigrants, comprising 3 percent of the world's population.

In an acknowledgement of the rising importance of the phenomenon, G-15 Heads of State and Government issued the following appeal in September 2006: "Aware of the importance of the links between migration and development, we call upon the international community to adopt … a comprehensive, humane and balanced approach to this phenomenon, taking into account both the benefits and the challenges that international migration presents to the global community, in order to identify appropriate policies and measures for maximizing the development benefits of international migration. The international community should make the most of this momentum for evolving a political consensus in order to develop and promote cooperative arrangements for regular migration in an orderly, safe and non-discriminatory manner…"[1]

Around the same time the United Nations convened a High Level Dialogue on International Migration and Development on 14-15 September 2006. More recently, the importance of migration was also underlined in another high-level gathering in April 2008, when world leaders agreed that " Countries are encouraged to take into consideration the development dimension of migration in the areas of global, regional and interregional cooperation with a view to facilitating dialogue and the exchange of information and experience, fostering coordination at the regional and national levels, building common understanding, promoting cooperation, contributing to capacity building and strengthening partnership among countries of origin, transit and destination in order to take full advantage of the benefits and opportunities that migration brings to the global community."[2]

Clearly, the subject of international migration, which, on account of its perceived political sensitivity, lay dormant for decades, is rapidly moving out of the shadows to the centre of political and economic debate.

THE IMPORTANCE OF MIGRATION IN G-15 COUNTRIES

Migration can be an important policy issue for a variety of reasons. Some countries are important suppliers of skilled, semi-skilled or unskilled workers for other countries; others are labor deficient countries and hence important destination countries for overseas workers; In some countries, remittances sent by nationals working overseas are an important source of national income; Others, on the other hand, may be suffering from the economic and social consequences of 'brain drain'

[1] Paragraph 27 of the Joint Communiqué, XIIIth Summit of Heads of State and Government, 14 September 2006, Havana, Cuba.
[2] Paragraph 82, Accra Accord, UNCTAD XII, 20-25 April, 2008

caused by the emigration of skilled workers. Table 1 summarizes the main reasons why migration is an important policy issue for individual G-15 countries.

Table 1
G-15 countries and the significance of migration

	Principal reasons why migration is an important policy issue
Algeria	Receives large remittances; Brain drain is significant.
Argentina	Destination for a significant number of immigrants; Population beginning to age.
Brazil	Receives large remittances and sizeable no. of temporary foreign (business) workers.
Chile	Net importer of workers; Population beginning to age.
Egypt	Big exporter of workers in the Middle-east region; Receives large remittances.
India	Big source as well as destination of workers; World's largest recipient of remittances.
Indonesia	Big exporter of temporary workers; Receives significant remittances.
Iran	Major immigrant receiver; Experiencing moderately high brain drain.
Jamaica	Losing bulk of tertiary educated to migration; Remittances critical for economy.
Kenya	Experiencing severe brain drain; Remittances significant for the economy.
Malaysia	Important source as well as destination of workers; experiencing brain drain in sectors.
Mexico	World's largest sender of workers and third highest receiver of remittances.
Nigeria	Experiencing severe brain drain; Destination for workers from neighboring countries.
Peru	Big exporter of workers; receives large remittances.
Senegal	Experiencing severe brain drain; Remittances significant for the economy.
Sri Lanka	Experiencing moderate brain drain; Remittances significant for the economy.
Venezuela	Important destination of workers from neighboring countries.
Zimbabwe	Experiencing severe brain drain; Remittances significant for the economy.

Source: TSF table based on data from World Development Indicators 2008, The World Bank.

The economic argument in favour of facilitating migration is quite strong. Migration benefits both sending and receiving countries. For the sending country, the main benefits are derived from remittances of foreign exchange, transfer of knowledge and technology, while the main losses arise from brain drain. For receiving countries, migrants help fill worker-shortage gaps, thereby increasing national output. Local workers in a particular sector may lose initially as foreign immigrants help keep wages low, but in the long run everyone gains as migrants increase the gross national production. As migrants usually move from areas of low productivity to areas of higher productivity, the world as a whole benefits.

Both past and recent research studies support the above arguments. A study in 1984 concluded that global output would double if workers were allowed to move across borders freely[3]. Recently, the World Bank has carried out a study that concludes that a 3 percent rise in migration to the advanced countries by 2025 would lead to a global gain of $356 billion. Of this, $162 billion would go to the new migrants, $143 billion to people living in developing countries, and $51 billion to people living in high-income countries.[4] In sum, the migrants themselves as well as developing countries stand to derive the bulk of the benefits.

Given the extent to which they potentially stand to gain from migration, G-15 countries need to design appropriate policies that ensure that they are able to derive

[3] Hamilton, B. and J. Whalley (1984), Efficiency and Distributional Implications of Global Restrictions on Labour Mobility: Calculations and Policy Implications, Journal of Development Economics, Vol. 14 (1-2), pp.61-75.

[4] Global Economic Prospects 2006, The World Bank.

the maximum benefit they can for their citizens from this source of potential economic wealth. This paper sets out to provide a preliminary analysis of the pattern of migration in G-15 countries. Some of the main issues arising from this phenomenon such as remittances and the brain drain are then discussed in detail. The paper concludes with policy recommendations using examples of new initiatives from within G-15 member countries as well as other developing countries.

THE EXTENT AND PATTERN OF MIGRATION IN G-15 COUNTRIES

At the onset it is necessary to point out that international migration takes place through both official as well as unofficial channels. The extent of illegal migrants has not been accurately measured anywhere, though some experts estimate that the number of illegal migrants are around 50 percent of the total legal migrant population in the world. The analysis in this paper is based on official statistics that cover legal migrants only.

Table 2 shows the stock of emigrants and immigrants for each G-15 country. It also shows the main destination for emigrants and the main source for immigrants in each G-15 country.

Table 2
Pattern of Migration in G-15 Countries (2005)

	Emigration			Immigration			
	Stock of emigrants	Emigrants as % of pop.	Top destination country	Stock of immigrants	Immigrants as % of pop.	Top source country	Refugees as % of immigrants
Algeria	1,78,3476	5.4	France	242,446	0.7	n.a.	69.7
Argentina	806,369	2.1	Spain	1,500,142	3.9	Paraguay	0.2
Brazil	1,135,060	0.6	Japan	641,474	0.3	Portugal	0.5
Chile	584,869	3.6	Argentina	231,496	1.4	Argentina	0.3
Egypt	2,399,251	3.2	Saudi Arabia	166,047	0.2	n.a	54.9
India	9,987,129	0.9	U.A.E.	5,700,147	0.5	Bangladesh	2.8
Indonesia	1,736,717	0.8	Malaysia	159,731	0.1	n.a.	0
Iran	969,920	1.4	USA	1,958,703	2.8	Afghanistan	55
Jamaica	1,037599	39.1	USA	17,645	0.7	U.K.	0
Kenya	427,324	1.2	U.K.	344,857	1	n.a.	69.9
Malaysia	1,458,944	5.8	Singapore	1,639,138	6.5	Indonesia	2.8
Mexico	11,502,616	10.7	USA	644,361	0.6	USA	0.6
Nigeria	836,832	0.6	USA	971,450	0.7	Benin	0.8
Peru	898,829	3.2	USA	41,557	0.2	USA	1.9
Senegal	463,403	4	Gambia	325,940	2.8	Guinea	6.4
Sri Lanka	935,599	4.5	India	368,228	1.8	India	0
Venezuela	463,759	1.7	Spain	1,010,148	3.8	Colombia	0
Zimbabwe	761,226	5.9	S. Africa	510,637	3.9	n.a.	1

Source: TSF Table using data from Migration and Remittances Factbook, World Bank, 2008.
n.a. = not available

Several facts are immediately discernible from Table 2 about the pattern of migration in G-15 countries. In absolute terms, Mexico and India are by far the leading countries with the largest numbers of persons of national origin living overseas. In terms of emigrants as a percentage of population (emigration rate), the leading countries are Jamaica and Mexico with approximately 40% and 11 % of their respective populations having migrated abroad. In contrast, G-15 countries with low emigration rates are Brazil, Nigeria, Indonesia and India, where less than 1 percent of the total population has emigrated.

With regard to the main destination for migrants, G-15 countries exhibit a mix of South-North migration and South-South migration. In the case of 11 countries, the leading destination for emigrants is a rich country, with the USA alone being the preferred destination for six. By contrast, for Chile, India, Indonesia, Senegal, Egypt, Sri Lanka and Zimbabwe, the main destination country is a neighboring developing country that is usually more advanced in economic terms. The above geography of migration indicates that economic factors are the chief motivation for migration in the G-15 countries.

Looking at the patterns of *immigration* in G-15 countries, Table 2 shows that India, with 5.7 m people of foreign origin, has, by far, the highest number of immigrants among the G-15 countries. Immigrants as a percentage of the host country's population are the highest in Malaysia with 6.5 % of its population being of foreign origin, mostly from Indonesia. The main source countries for immigrants in the bulk of the G-15 countries are countries in the immediate neighbourhood. The exceptions are Jamaica and Brazil, which for reasons of history and language remain closely tied to Britain and Portugal, respectively, and Mexico and Peru, where regional economic treaties may have facilitated a large movement of businesspersons in search of economic opportunities from a leading trade partner like the US. Finally, in the case of Egypt, Iran, Kenya and Algeria, refugees comprise more than half the total number of immigrants.

Temporary migration or the 'temporary movement of natural persons'

Experts usually distinguish between permanent and temporary migration. The latter is sometimes referred to as the Temporary Movement of Natural Persons (TMNP) and finds place in international trade negotiations as 'Mode 4' under the General Agreement on Trade in Services within the World Trade Organization.[5] TMNP takes place when workers from one country travel abroad temporarily to supply particular services there. Examples include senior managers posted abroad to manage operations of a multinational firm operating in a foreign country; IT technicians traveling overseas to provide backup technical support for computer hardware or software; Nurses or teachers employed in a foreign hospital or educational institution for a fixed tenure; Seafarers working on contract in a foreign shipping line; unskilled and semi-skilled workers from one country employed on contract on construction sites in other countries; farm labor employed annually on agricultural lands and plantations overseas during peak seasons and foreign workers in major mining projects and workers employed in labor-intensive manufacturing activities, say, during an export boom in a foreign country.

Like in the case of illegal migrants, reliable data on TMNP flows are not readily available. This is mainly because many countries do not keep records of persons going abroad for work. In host countries the statistics are complicated by the fact that many workers admitted temporarily get themselves converted into permanent workers. Some experts use workers' remittances figures as an indirect measure of TMNP, given that temporary workers tend to remit a significant part of their earnings to their home countries relative to permanent migrants. On the basis of the size of

[5] GATS negotiations cover only temporary foreign workers in the services sector. However, temporary foreign workers are employed in the manufacturing and agricultural sectors of many countries too.

their remittance receipts, four G-15 countries can be presumed to have sent a large number of temporary workers to foreign shores. These are India (a majority to the oil-rich countries of the Middle-East), Mexico (to the United States), Indonesia (to Malaysia) and Egypt (to Saudi Arabia).

REMITTANCES FLOWS IN G-15 COUNTRIES

It is commonly acknowledged that one of the biggest benefits of migration to the sending country are the remittances received from overseas workers. The World Bank estimates that the quantum of remittances has doubled over the past decade, reaching $297 billion in 2006, with $221 billion going to developing countries. Table 3 shows the size of remittances inflows and outflows from G-15 countries.

Table 3
Remittances Inflows and Outflows in G-15 countries (2006)

	Inflows ($m)	% of GDP	Outflows ($m)	% of GDP
Algeria	2,527	2.2	…	…
Argentina	541	0.3	366	0.2
Brazil	4,253	0.4	691	0.1
Chile	3	0.002	6	0.004
Egypt	5,330	5	135	0.1
India	25,426	2.8	1,580	0.2
Indonesia	5,722	1.6	1,359	0.4
Iran	1,032	0.5	...	...
Jamaica	1,946	18.5	385	3.7
Kenya	1,128	5.3	25	0.1
Malaysia	1,535	1	5,560	3.7
Mexico	25,052	2.9	…	…
Nigeria	3,329	2.9	18	0.02
Peru	1,837	2	133	0.1
Senegal	633	7.1	77	0.9
Sri Lanka	2,349	8.7	283	1
Venezuela	165	0.1	253	0.1
Zimbabwe	…	…	…	…
TOTAL	82,808		10,871	

Source: TSF table constructed from data given in World Development Indicators 2008, World Bank

Table 3 shows that G-15 member countries received $82.8 billion in remittances in 2006. This was more than a quarter of total global remittance flows and a third of remittance flows to developing countries. Clearly, the G-15 is a very important grouping as far as remittances and migration are concerned and has the potential to influence global policy in this regard. India and Mexico head the G-15 countries in terms of remittance inflows, also ranking first and third globally in the list of countries that received the highest amount of remittances in 2006. Indonesia and Egypt are also significant receivers, ranking 13th and 14th in the list of global recipients. However, in terms of their importance to the economy, remittances are most significant in the smaller G-15 countries. These are Jamaica, where remittance inflows amounted to 18.5% of GDP in 2006, followed by Sri Lanka and Senegal with remittances- to-GDP rates of 8.7% and 7.1 % respectively.

In terms of remittance outflows, the G-15 was the source of $ 10.8 billion remittance outflows in 2006. This amounted to just under one-fourth of total outflows from all developing countries. Malaysia alone accounted for more than half the outflows of remittances from the G-15 countries, ranking as the 10th highest source of remittances in the world that year. Remittances contribute to economic development in several ways. IFAD thinks that 90 % of remittances to developing countries are spent on food, clothing, housing, education and health. A World Bank study found in 2007 that poverty falls by 3.5 % when international remittances rise by 10 %. The *Economist* argues that remittance flows are less volatile than foreign aid and investment. There is also less leakage of funds, as they are sent directly to families and cannot be siphoned away by middlemen.

On the whole, remittances have been contributing to the economic development of G-15 countries. In Mexico, remittances are larger than total FDI inflows; In Sri Lanka, they are larger than the revenue from tea exports and in Egypt, larger than the income from the Suez Canal. They have also served as safety nets in times of crisis. The World Bank has recorded that remittances to Indonesia and Malaysia rose sharply during the Asian financial crisis of 1998, even as these countries witnessed capital flight by foreign investors. Sri Lanka saw a rise in remittance inflows in the aftermath of the tsunami of 2004. Anecdotal evidence suggests that remittances provide many poor families in Zimbabwe with a lifeline to sustain themselves against the current inflationary crisis.

One challenge to remittance flows to developing countries is the high cost of sending remittances as banks, money transfer agents and other middlemen take advantage of limited competition and the lack of awareness of migrants in foreign lands to keep the price of their service high. Table 4 shows the cost of sending US $200 in a few important remittance corridors.

Table 4
The Cost of Remitting $200

Sending Country	Receiving country	Avg. costs ($)	%
Canada	Jamaica	28.21	14.11
France	Algeria	33.98	16.99
Italy	Sri Lanka	24.60	12.30
Japan	Brazil	30.27	15.14
Netherlands	Indonesia	45.09	22.55
Saudi Arabia	Egypt	10.93	5.47
South Africa	Zimbabwe	25.50	12.75
Spain	Peru	12.76	6.38
United Kingdom	Kenya	26.81	13.41
United States	Nigeria	18.97	9.47
France	Senegal	18.54	9.27
United States	Mexico	11.60	5.80
Germany	India	21.41	10.70
Malaysia	Indonesia	16.02	8.01
Singapore	Malaysia	11.72	5.86

Source: remittanceprices.worldbank.org/country corridors

The average costs for the above remittance corridors covering 15 G-15 countries comes to approximately 12 percent or around $25 for transmitting a paltry sum of $200. As remittances form an important part of family income, especially in poor countries, efforts need to be made to find ways to reduce these remittance costs, especially since economic crises such as the present one in rich countries, threaten such flows. **Box 1** below shows how two G-15 countries, Mexico and Kenya, have taken the lead in showing the rest of the world how remittance costs can be reduced with the help of mutual cooperation, improving pricing transparency and technology.

Box 1

Lowering the costs of remitting money – How G-15 countries are showing the way!

With foreign remittances crossing $25 billion in 2006, Mexico is the world's third largest remittance receiver (after India and China), and the largest recipient of remittances by far in Latin America. Though remittances are just 3 % of Mexico's GDP, they are the source of over 10 % of total bank deposits, and provide source of sustenance for thousands of poor families by paying for their health, education and housing needs. However, the transaction costs of remitting money to Mexico were high. For example, the cost of sending $500 from the US to Mexico varied from $12.25- if sent using the services of a traditional bank like the Bank of America (Safesend)- to $ 20.55 if sent via Western Union. The cost was much higher in case the remittance was sent through illegal channels. In order to get around this problem, two noteworthy initiatives are underway to help ease the cost of sending remittances to Mexico from the United States, which is the source of 90 % of all remittances received by Mexicans.

In the first case, many US banks agreed to waive the requirement of producing a Social Security Card issued by the US immigration department and accept instead the *Matricula Consular* as an alternative identification for opening a bank account. The Matrícula Consular is an identification card issued by the Government of Mexico through its consulate offices. The official purpose of the card is to demonstrate that the bearer is a Mexican national living outside of Mexico. This has facilitated many illegal Mexican migrants to use US banking services to remit money to Mexico in place of the more expensive illegal channels they would otherwise have to fall back upon.

Secondly, Mexico's consumer protection agency PROFECO has inititiated a programme to bring about greater transparency in the US-Mexico remittance process. PROFECO monitors the commissions charged by 24 remittance service providers in the US weekly and posts the information in Mexican Consulates in the US as well as on its own website. The information is also available vis a dedicated hotline within Mexico. As a result of this initiative, commisssions and exchange rate differentials are believed to have decreased significantly in the US-Mexico remmittances corridor.

However, the most exciting development in the efforts to lower the transaction costs of remittances comes from another G-15 country – Kenya, the second biggest recipient of foreign remittances in Sub-Saharan Africa, after Nigeria. For some time now, a local telecom company Safaricom has been offering money transfer services via mobile phones within Kenya. This company, which began offering its mobile banking service called M-Pesa in March 2007 had a subscriber base of 10,000 customers withing two weeks of its launch. In a short while it has developed into East Africa's most profitable company with a subscriber base of 10 million users. Safaricom's foreign associate Vodaphone has recently begun tests in the UK for an international money transfer operation through mobile phones by tying up with Western Union. Launching of M-Pesa in the UK is informed by the fact that the country accounts for more than 20 percent of total remittances to Kenya, which were estimated at $1.3 billion in 2006.

Remitting money via mobile phones has a number of advantages over other conventional electronic money transfer methods - such as the ability to reach recipients living in remote areas. In rural areas, an agent of a mobile phone company is likely to be located much closer in the immediate neighbourhood of the recipient than an agent of a conventional money transfer service. Also, the cost of remitting money is likely to be much lower – currently amounting to just $1 for money transfers within Kenya.

Once it comes into operation, this low cost method of transfering money across borders is likely to kick off fierce pricing competition among traditional players in the market for international remittance transfers. Western Union is already adapting itself to the new paradigm. Apart from tying up with Safaricom in Kenya, Western Union has also announced a mobile money transfer partnership with Orascom Telecom Holding SAE, the Egyptian telecommunications company which has several million subscribers in six African and Asian countries, including Algeria.

THE BRAIN DRAIN IN G-15 COUNTRIES

An important issue that needs to be considered in any analysis of international migration is that of the 'brain drain' - the exodus of skilled workers from developing countries to rich countries. It is argued that the brain drain deprives a developing country of a significant part of its trained work force, reducing already scarce human resources, thereby acting as a drag on economic development.

How large is the brain drain in G-15 countries? Table 5 uses two indicators to measure the extent of brain drain in G-15 countries – the emigration rate of tertiary educated persons and the emigration rate of doctors trained in the country.

Table 5
The Brain Drain in G-15 countries (2000)

	Emigration rate of tertiary educated (%)	Emigration rate of doctors trained in the country (%)
Algeria	6.5	44.3
Argentina	2.5	1.1
Brazil	3.3	0.3
Chile	5.3	2.2
Egypt	4.2	4.7
India	4.2	3.8
Indonesia	2	1.3
Iran	13.1	6.1
Jamaica	82.5	16.7
Kenya	26.3	50.8
Malaysia	10.4	11.9
Mexico	14.3	4.1
Nigeria	36.1	13.6
Peru	6.3	2.6
Senegal	24.1	51.4
Sri Lanka	27.5	17.4
Venezuela	3.3	1.1
Zimbabwe	7.6	51.1

Source: TSF table compiled from Migration and Remittances Factbook, World Bank, 2008

A cursory look at the above table reveals that several G-15 countries are victims of a severe brain drain. Jamaica, with 82.5 % of its graduates leaving its shores, has one of the highest exodus rates of skilled workers in the world. More than one-third of Nigerian graduates also migrate. The situation is even more serious when we look at the migration rates of medical professionals in G-15 countries. More than half of all doctors trained in Kenya, Senegal and Zimbabwe migrate, as do 44 % of doctors in Algeria. Migration of doctors is a serious problem for a developing country as many of such countries already suffer from a deficit in the doctor-patient ratio. In such countries medical education is often highly subsidized, an investment that goes down the drain once the doctor migrates. Poor working conditions at home, attractive salaries abroad as well as easy job opportunities caused by a shortage of medical personnel in rich countries are the main driving forces for this type of migration.

Can anything be done to stem the exodus of skilled personnel from developing countries in critical sectors like health? **Box 2** describes a recent initiative undertaken by the Government of South Africa in cooperation with the health authorities of the United Kingdom that can serve as a model for G-15 and other developing countries.

Box 2

How to stop the brain drain of doctors – an example from South Africa

One of the biggest sectors of brain drain in G-15 countries (and in many other developing countries) is that of medical professionals. As table 5 showed, more than half of all doctors trained in Senegal, Zimbabwe and Kenya migrate overseas. Algeria also loses 44 % of its medical professionals to other countries. Though the statistics are not so alarming in Sri Lanka, Jamaica, Nigeria and Malaysia, most of these countries face an acute shortage of doctors too, especially in the countryside. A country like India has witnessed a significant exodus of doctors to the West – 6 percent of government doctors in the UK and the 5 percent of the total number of physicians in the USA are of Indian origin.

One example that offers hope to countries suffering from this phenomenon is to be found in a joint initiative of the South African and British governments reported by the BBC*. The U.K. National Health Service (NHS) has, for decades, depended upon doctors from overseas. In response to requests from the Government of South Africa that the United Kingdom stop recruiting its health professionals, the NHS has adopted an alternative approach. Instead of luring South African doctors to migrate permanently, the NHS has been using them for short-term assignments to tackle a backlog of operations. Thus, under the Netcare program, doctors from South Africa travel to the United Kingdom to conduct operations ranging from cataract removal to hip and knee replacement. For the duration of their visit, the South African medical team is temporarily merged into the existing hospital department and subject to the same supervision as local medical staff. The doctors even fly back for the subsequent checkups and follow-up appointments. Such an arrangement allows for a "win-win" solution that facilitates health professionals to earn their overseas incomes, fill shortages of doctors in the UK health system, but still keep medical talent available to South Africa.

*Quoted in Kapur, Devesh and John McHale,. 'Give Us Your Best and Brightest', Centre for Global Development, Washington D.C., (2005).

Dual citizenship and the importance of diaspora links

There still exist at present, a handful of countries in the world that deny their citizens the right to migrate. For many of the rest however, the enormous push-pull factors mean that the emigration of their nationals cannot be easily stopped. In such a situation, allowing *dual nationality* offers one possible solution. Historically viewed with suspicion in view of the possibility of conflicts of interest, an increasing number of countries are permitting dual nationality as a second best solution to emigration of nationals in the belief that this arrangement helps maintain links between migrants and their country of origin. These links can have many positive consequences such as higher remittances and capital investments as well as lobbying power for issues of concern to the country of origin. Within the G-15, seven countries viz., Brazil, Mexico, Peru, Jamaica, Egypt, Nigeria and Senegal allow their nationals to hold dual citizenship. In the remaining 11 member countries, dual nationality is either completely prohibited or subject to severe preconditions.

Undoubtedly, dual citizenship can help to retain a bond between emigrants and their country of origin. However, cultivating the diaspora even without explicitly granting dual citizenship can have tremendous positive spillovers as seen in India, a country that does not allow dual citizenship. Since 2003, the Indian State has been organizing an annual event every January called 'Pravasi Diwas' or Indian Expatriates' Day, in which persons of Indian origin who have distinguished themselves overseas are publicly felicitated in a ceremony presided over by the Prime Minister. Curiously, this initiative of reaching out to emigrants has coincided with a phenomenal growth of the international outsourcing of computer-based services to India. **Box 3** shows how the Indian diaspora in the US may have contributed to the growth of computer-based service industry in their country of origin.

Box 3
How emigrants helped India become a leading exporter of computer services

While most unskilled and semi-skilled Indian workers have made their way to the Middle East, the main destination for *skilled* Indian migrants has been the West, especially the USA. Large-scale migration of Indians to the US occurred after the passing of the US Immigration and Nationality Act in 1965, which abolished nation-wide quota limits on immigrants that had been in place since 1924. During the 1960s and 1970s, a majority of Indians who moved to the US had tertiary degrees in education. Many subsequently earned masters degrees, doctorates, or became MBAs. By 2001, nearly 1.5 million Indians were working in the USA, mostly as engineers, doctors, scientists, teachers, accountants, business managers and hoteliers. Engineers of Indian origin often began their careers by working in government or private projects run by IBM, Boeing, Bell Labs and Du Pont. Several subsequently climbed up the corporate ladder, becoming high-level executives in mid-size or large US companies while some became entrepreneurs and venture capitalists. They were to play a critical role in finding a market for Indian software exports in the US.

India was among the first developing countries to recognize the importance of software as an item of export. Prior to the 1980s there was no separate software industry in the world. Multinationals such as IBM produced both computer hardware as well as software. The first Indian software exporting company was Tata Consulting Services (TCS), which began its software export operations in 1973-74 by exporting an inventory control software solution for an electricity generation unit situated in another G-15 country, the Islamic Republic of Iran. The advent of the personal computer in the mid-eighties and the decision of the then Indian government to embrace information technology as a stepping stone to modernizing and preparing the country for the 21st century, gave rise to a new computer education sector within the country that produced thousands of computer engineers and programmers. However, the IT exports industry remained small in India, mostly through lack of opportunities in the international market.

The breakthrough came in the late 1990s, when realization dawned among firms worldwide that the computers that were handling their critical operations were not programmed for operating in the new millennium (the so-called the ‘year 2000’ or ‘Y2K’ problem). In order to solve the Y2K problem, American and European firms urgently needed large numbers of computer professionals, a human resource that they themselves lacked. India, on the other hand had a technical education system that churned out 200,000 English–speaking engineering graduates annually, though not necessarily in computer science alone. However, Indian firms quickly seized upon this opportunity and by retraining the existing pool of engineering graduates through crash courses in programming languages like COBOL, were able to provide nearly all the manpower that was needed to take care of the Y2K problem in the Western countries. This provided Indian computer professionals with an initial opportunity to enter the software market in the West and to build trust with their clients there.

Having benefited from the computer skills of overseas workers at a relatively small cost during Y2K, it was only a matter of time before US firms began to contemplate the next logical step of outsourcing their computer operations abroad. It is precisely here the Indian diaspora played a critical role in directing the bulk of the contracts to Indian software firms. As pointed out, Indians had become senior executives in major corporations like American Express, IBM and General Electric. These executives played a crucial role in convincing US firms that India was a good place to get work done and that Indian firms had the ability to perform quality work. According to a study published by the World Bank Institute, in nearly every instance in which US companies invested in or outsourced work to India, a well-placed Indian expatriate executive crucially influenced the decision*. Subsequent US investing and outsourcing has enabled the Indian computer services exports industry to grow annually at over 25% during the present decade earning revenues of $31.3billion in 2006-07, 60 percent of which came from the USA. TCS remains the leading Indian software export firm, with earnings of over $4 billion in 2006-07.

*For some of the above content, the TSF is indebted to the chapter on the Indian Diaspora in “Diaspora Networks and the International Migration of Skills”, Yevgeny Kuznetsov (ed.), World Bank Institute (2006).

SOME POLICY RECOMMENDATIONS

The world is currently passing through a severe recession that has worsened the unemployment situation in many countries, including in some of the main destination countries for G-15 migrants. In such a depressed economic climate it is not unusual to witness heightened lobbying for reducing the dependence on foreign workers. However, it is unlikely to be long before the present crisis blows over and the time comes for G-15 countries to return to the larger task of preparing policies for long-term development in the 21st century. Integral to this will be the identification of suitable measures for maximizing the development benefits of international migration. When that occasion arises, some of the following policy recommendations that emerge from this paper will be worth considering:

1) G-15 countries need to build a global consensus to liberalize the temporary migration of workers. This is because the individual member countries of the Group are the source of around one-fourth of the world's supply of temporary migrants and also because this type of migration is the one likely to face the least obstacles from receiving countries, being a less sensitive subject politically, compared to permanent migration. It is also the channel that is likely to maximize remittances, given the observed tendency of permanent migrants to curtail remittances to their country of origin. G-15 countries should therefore make greater efforts to coordinate policies on Mode 4 negotiations under the General Agreement on Trade in Services (GATS) in the WTO. Not enough efforts have thus far been made in this forum - which is surprising, especially since migration is an issue where there is greater commonality of interests among G-15 countries when compared to, say, agriculture.

2) The costs of remitting monies in important remittance corridors such as South Africa to Zimbabwe, United States to Nigeria, the United Kingdom to Jamaica, Japan to Brazil or Peru and France to Algeria or Senegal remains prohibitively high - amounting to 10 percent or more of the amount remitted. These costs translate into lucrative profits for banks, money transfer operators and other formal and informal remittance agents in the source countries. Appropriate policy coordination within the G-15 member countries and the initiation of North-South dialogue on this issue can help reduce these high costs given that a very large proportion of global remittances flow to G-15 member countries, providing them significant bargaining potential. Simultaneously, individual member countries should work bilaterally with their leading source countries of remittances in the manner that Mexico has done with the US or take the help of new technologies for transmitting funds, initiatives that have been discussed in some detail in Box 1 on page 7.

3) The brain drain constitutes a serious problem in many G-15 countries, depriving them of skilled manpower in critical sectors such as education and health. Yet many countries have not been able to come up with a suitable policy response to this problem. In a Migration Survey conducted by the International Labor Organization in 2003, only two G-15 countries - Argentina and Mexico - stated that they had a policy goal to reduce emigration. In contrast, seven of the 13 G-15 countries that responded to the survey stated that their official policy towards emigration was one of 'non-interference'. These were Algeria, Brazil, Chile, Kenya, Malaysia, Senegal and Zimbabwe. Another three (India, Indonesia and Sri Lanka) stated that their policy was to 'maintain emigration at present rates', while Egypt's policy was stated to be to

‘raise’ the level of emigration[6]. Unfortunately as shown in this paper, many of these countries suffer from high to severe rates of brain drain. For such countries, the South African initiative for reducing the brain drain of health professionals described in Box 2 could be a good starting point to model a comprehensive migration policy that covers both immigration as well as emigration issues from the view point of national interest.

4) Finally, there are those G-15 countries where the push-pull factors are so strong that controlling the permanent emigration of nationals is virtually impossible. In these countries, a proactive policy of networking and building links with the diaspora while providing incentives that encourage return migration and/or allowing dual citizenship can serve as useful, alternative solutions. The Nigerians in Diaspora Organization (NIDO), which has chapters in Europe, Asia, Africa and the Americas, is one such initiative in the G-15 countries that aims to leverage the economic, human and technical resources among Nigerian emigrants for the development of the country of their origin[7].

January 2009

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[6] ILO Migration Survey 2003, *Country Summaries*, International Labor Organization,
[7] More information on NIDO is available at www.nidoeurope.org