# “The Global Issue of Brain Drain”

**IDSB01**
**Professor Berry**
**2005**

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## Introduction

Human capital ranks among the four indicators commonly mentioned as factors in a nation's development process; the other three being levels of technology, natural resources and level of investment. (Berry 2005). Most of the urgent issues facing the third world are dependent on raising the level of human capital. An important part of this is certainly enabling access to primary education and basic literacy, but whether it be the health services, industrialization, entrepreneurship or government and administration, they all require highly educated people. As McAuliffe and Maclachlan (2005) state:

> *"In many developing countries, the value of knowledge is in its capacity to save and enhance human lives. The absence, loss or restriction of such knowledge impacts at the lowest levels of disadvantage and poverty, in death and disease."*

However, as developing countries struggle to develop their education systems and fund the expensive training of specialists, they see their brightest and best leave for jobs in the first world. Some who got their higher education abroad (often partially funded by the source country), but many of whom finished their education in the source country, at a large expense to the state. We will examine the phenomenon, called "brain drain", by first assessing the magnitude of the situation through some current statistics and facts, then by investigating the process of leaving: who leaves, why they leave, and what role Southern and Northern governments play. Note that traditionally concern has also been raised about skilled migration within and between developed countries; however this essay will look mainly at migration of skilled labor from developing to developed countries. We will further examine the effects of a diaspora population on the home country, and finally discuss some possible policy options for addressing these issues.

## The Current Situation

Although skilled migration is not a new phenomenon (Scott, et al. 2004), various factors have lead to its prevalence growing steadily over the last few decades. Looking at macro-regions, we see that the emigration rate among the population with a university degree has been estimated at 41 percent for the Caribbean region, 27 percent for Western Africa, 18.4 percent for Eastern Africa, and 16 percent for Central America (Kapur & McHale, 2005, p. 1). Looking at individual countries, we also find stark statistics, like the fact that there are currently more Ethiopian doctors in Chicago than in Ethiopia (IOM, quoted in Carrington & Detragiache, 1999), and that 10% of all the doctors in Canada come from South Africa (ibid.) In addition, of the 600 Zambian medical graduates that have been trained at the medical school in Lusaka, only 50 now work in the Zambian public-sector health service (Bundred & Levitt, 2000). It is estimated that the loss to South Africa of educating health personnel that emigrated is roughly equal to one third of the development aid received between 1994 and 2000 (Alkire, S. & Chen, L., 2004).

An important problem when trying to quantify migration of skilled labor, and also its resulting flows of remittances, is that these are not nearly as well accounted for as other international resource flows. International financial institutions closely follow currency and capital fluctuations on the world markets, and have developed finely tuned instruments for capturing data that is underreported. However, data on human migration are often not disaggregated according to education or work experience, and may not reflect for example migrants who later return to their home countries (Kapur & McHale, 2005, p. 11). In a similar vein, the OECD currently tracks global remittances, but is hampered because large sums are sent through informal channels, such as the hawala system in Africa (Passos, 2005).

## Choosing to emigrate

The individual reasons for emigrating are never simple, and include considerations about professional opportunities in the source country, security and political stability, discrimination and economic necessity. In discussing this phenomenon, the contributing factors are usually divided into push and pull factors (see for example Kline, 2003). Push factors are the attributes of the source country that propels a professional to seek emigration, and pull factors are the attributes of the host country that attract foreign professionals (*ibid.)*. Using this division, it becomes clear that the issue needs to be addressed by both the source and host countries.

### *Push factors*

One of the most obvious incentives for a skilled professional to emigrate is to increase their salaries, and even after correcting for purchase power parity, the salaries after emigration are likely to be significantly higher (see for example Desai, Kapur & McHale, 2001, p. 9). However, possibilities for professional development, institutional support and future career opportunities are often just as important (Kapur & McHale, 2005, p. 198). Other push factors mentioned in the literature include avoiding military service in Turkey (Tansel & Güngör, 2003, p. 13), and instability and political strife (Marchal & Kegels, 2003).

There are also trade specific reasons for skilled emigration, and I would like to examine in particular the case of doctors trained in Western medicine. One of the reasons for the big exodus of health workers is that even with few resources; developing countries spend large amounts of money on educating a relatively small number of health workers to "international standards", which means that they can work just as well in a modern hospital in Toronto, as in Harare. An editorial at the British Medical Journal that suggested changing the medical education so that it would not be readily transferable was widely criticized as raising sub-standard doctors, yet one comment proposed that medical training in developing countries, often a relic of their colonial past, is in effect "training in becoming Westernized" (Pang, Lansang & Haines, 2002; Tarracena, 2002). Indeed, doctors in developing countries, following Western standardized literatures and curricula, might be more familiar with the latest development in lung cancer research, than with malaria and intestinal diseases that kill people locally.

Often times an "international standard" hospital in the capital of an African country will occupy up to half of the country's health budget, while people are dying from lack of access to clean water. Focusing on training large amounts of para-professionals might thus be a useful route to take. If this is seen as to radical, the prospect of brain drain should at least be taken into consideration in developing the training curriculum. Brobby and Ofosu-Barko (2002) propose one model, from the School of Medical Sciences, KNUST, in Ghana. They put the emphasis on early exposure to poor communities, a focus on the populations they were to serve, problem based learning and orientation to social needs. A special feature was that candidates fulfilled a 3-6 month internship in a European country or the US before they gave their final exam. Throughout the training, both the exposure to the actual social needs of the local population, and the residency abroad, were framed in terms of an explicit anti-brain drain policy (*ibid.*). While more questions need to be asked about how the residency abroad served to limit emigration, the program reports that not a single graduate has so far left the country to seek employment abroad.

***Pull factors***

There are many factors that induce developing country professionals to make the individual choices of emigrating, but developed countries have also been known to actively search out skilled immigrants. There are passive and active ways of doing this, the passive would be to target your immigration policy to attract skilled applicants (as in the case of Canada's point system). Active ways would include directly recruiting professionals in their home countries. For example, in the November 1998 issue of the South African Medical Journal (SAMJ) there were 23 pages of employment-related ads, and 11 of the pages were filled with job offers from Canada, the United Kingdom, New Zealand and Australia (Sullivan, 1999).

Developing countries have been calling upon developed countries to stop actively "poaching" their graduates, and a number of different treaties have been established; the countries of the Commonwealth have agreed on a protocol for fair recruitment of health personnel (Commonwealth, 2003), and the UK recently adopted as guiding principles for National Health Service (NHS) recruitment that 'developing countries should not be targeted for recruitment' (Department of Health Guidance on International Recruitment, 2001, cited in IDRC, 2001).

## Diaspora interaction

While émigrés are living abroad, they interact in myriads of ways, expected and unexpected, with their home countries and cultures. On the one hand, their absence has implications for the labor market in the sending country; scarcities of certain professionals might occur. This would at first seem to indicate that the salaries of those left behind would increase as a result, however Devesh & McHale (2004) suggest otherwise, stating that the unemployment rate of skilled workers is largely unrelated to the size of a country's labor force (pp. 87-88). Calculating the economical impacts on "those left behind" is thus very complex and a number of different economical models have been proposed, see for example Devesh & McHale (*ibid.*) or Commander, Kangasniemi & Winters (2003). However, there are many other kinds of impacts, both direct and indirect.

***Non-monetary interaction***

Professionals abroad can often provide an important non-monetary resource for the people left behind. Devesh & McHale (2004) start by suggesting that they can function as trust intermediaries, and Friedman (2005) gives the example of the Y2K-crisis and subsequent enormous rise of outsourcing to India: The reason that American companies trusted Indian firms with reviewing their code for Y2K bugs was that they already had good experience with the large number of Indian software engineers present in Silicon Valley. Professionals abroad, who understand the industry back home, can be crucial links for companies interested in investing in their countries, or for home-country companies looking to expand their exports.

They also funnel knowledge acquired abroad back home, both by eventually returning to their countries of origin, bringing with them their experience and networks, and by participation in formal and informal diaspora networks. Devesh & McHale (2005) uses the proxy of patent citations to show that researchers remain closely connected to their home country research environments, and that there is an ongoing mutual exchange of research and ideas (p. 94). This does not apply only to high-level research; the wig industry which emerged as a niche export sector for Korea in the 1970's was apparently fuelled by "intelligence" about changing fashions from hairdressing salons run by Korean Americans (*ibid.,* p. 126)

***Remittances***

Direct monetary interactions take the form of both remittances and investment. The two concepts are overlapping, since many of the remittances are meant to be invest locally by the family, however I will distinguish between formal investment and personal remittances.

In 2003, workers living abroad sent more than $100 billion in remittances to their home countries, and many countries' income from remittances are larger than their official aid, which has lead the World Bank proclaim remittances as a great hope for development (Wucker, 2004). The flows are cited as being more stable than international financial flows, and through the multiplier effect and ripple effects in the local society, they benefit not only the immediate family, but also those providing goods and services locally (*ibid.*). On the flipside there are two main problems: The costs and inconveniences of transferring money, and the anthropological and psychological effects on the receiving communities and states.

Transferring money to developing countries has traditionally been fraught with difficulty, since many of them do not have well developed banking institutions. This has prompted the upsurge of a number of alternative value transfer institutions, often operating illegally. While they have the advantage of reaching even the poorest and most underdeveloped nations, they are often very expensive – in the mid-1990's fees were as high as 30%, but now they have fallen to between 7-10% (*ibid.*, p. 39). Because of their illegal activity and unaccountability, they have also been targeted in the war against terror, and Devesh & McHale (2005) recounts how the remittance firm Al Barakaat, which dominated the transfer of money to war-torn Somalia, was shut down by the United States in 2001. Remittances represented between 15% and 40% of GDP, and the humanitarian impact of the freeze on remittances was considerable (pp. 157-158). There are many attempts at making the money transfer industry more price-efficient and accountable; several US banks have for example set up accounts with ATM-cards that work both in the US and in Mexico, attempting to lure the recipients of remittances into signing up for other banking services as well (*ibid*., p. 144).

Assuming that the money arrives timely and at a low cost, we still need to question its impact on local communities and receiving states. If development aid has been criticized for creating dependency, what makes remittances better? We find an early example of this concern in Philpott (1968), where he examines remittances from Montserratians working in England back to their families. At that time, a large amount of Montserrat's income came from remittances, and there was a strong culture of relying on remittances. He states:

> *"Children are impressed with the behaviour expected from migrants from a fairly early age. These expectations are implicitly taught in the home through the praise of migrants who send remittances and through the condemnation of the 'worthless-minded' kin who do not 'notice their families'. [...] In the excitement of receiving a registered letter (ie. containing money), or the disappointment of receiving nothing, they are constantly made aware of the ideal behavior expected of migrants."*

Some areas in Latin America that have produced many migrants have undergone profound social changes. Full of nice houses paid for by remittances, these *migra villages* house families that live on money from abroad, while waiting to emigrate themselves (Devesh & McHale, p. 153). Certainly, many of these effects are more prevalent in areas with large-scale unskilled migration, but the larger question of what psychological impacts remittances have on local communities are still largely unanswered – and will certainly vary widely with different locales. Looking at the bigger scale, we also need to consider what happens to states that base substantial portions of their income on remittances, the Philippines being a famous example. It is easier to produce workers for "export" than to produce long-term meaningful investment, however remittances tend to decrease with time; thus the only way of keeping the money flowing is through a continuation of the export of workers (*ibid.*; Wucker, 2004).

***Other sources of economic interaction***

Émigrés can also invest directly in their home countries. For example, a study of 2,300 foreign-born Silicon Valley engineers found that 51 percent had been involved with founding or running a start-up company in their home countries, and the most important case of this has been China (Wucker, 2004). China has been the most important case of diaspora investment ever since the opening up in the 1980's, and much of its economic growth has resulted from FDI by the Chinese diaspora first in South-East Asia, and later in Europe and Northern America (Braunstein & Epstein, 2002). Governments are recognizing their diasporas as a financial resource, and are increasingly promoting ways of channeling money into the formal banking systems, for it to be used for investment instead of consumption (Wucker, 2004). The levels of investment by diaspora of different countries vary greatly, for example the Chinese in the United States remit 1/7$^{th}$ of the Indian remittances per capita, but invest 10-20 times as much (Devesh & McHale, p. 140).

Another interesting economic impact is the growth in imports from developing countries, caused by émigrés wishing to access food and cultural products from their home countries, in Canada it has been calculated that for a 10% increase in immigrants from a given country, imports from that country will increase by 3%, and exports to the country from Canada by 1% (*ibid.*, p. 111).

**Indirect factors**

While skilled migration deprives developing countries of educated personnel, some studies have suggested that this is partly or wholly made up for by the fact that the possibility of skilled migration raises the value of education, and induces more people to pursue a higher education. The limited growth potential of a developing country economy means that the return to investment of higher education would often be negative for the individual. Since there are important positive externalities to education not always captured in the pricing of university fees, countries could be under-producing graduates. By providing the incentive of migrating, more people would be attracted to a higher education. In discussing this, Adams (2003) admits that the results would vary widely, and depend on what percentage of the graduates actually chooses to/was able to migrate.

**Conclusion and policy options**

Migration in general, and skilled migration in particular, are vexingly complex topics that can be approached from a number of different academic angles. Questions of economic benefit to their host countries as well as sending countries, the politics of post-modern identity and nationhood and the social implications of remittances are just some of the topics that deserve (and are receiving) further scholarship. It would be folly to doubt that the development processes of certain regions have been suffering greatly by the exodus of skilled personnel, yet we must acknowledging the important potential benefits these diaspora populations and the prospect of migrating brings to those "left behind".

The policy implications of migration have been widely discussed, and for our purpose we can focus on two main categories. Firstly, in order to impede people from migrating, educational systems must be designed with this in mind; like in the Ghanaian project, they must have a clear anti-brain drain emphasis. This does not mean providing students with a sub-standard education, but with one that is highly relevant to the communities they are about to serve. It has also been suggested that doctors that have had their education subsidized by the state be required to work a certain number of year in their source country, or that their education subsidies for overseas-studies are conditional on their returning to their home country; if they choose to stay abroad, they will have to pay back the cost of their studies.

It has even been suggested that when South African doctors arrive in Saskatchewan, for example, thereby saving Saskatchewan large sums of money in medical training, the province should be required to pay a "tax" to South Africa. This takes us to the second part; how to maximize benefits from the diaspora population. Devesh & McHale (2004) stresses that countries must ensure that emigrants remain economically and socially connected to their former homes, and include policies that affect the probability of return, making it easier for emigrants to travel, sending remittances, and making investments (p. 9). As an example, they cite the case of China; there was a large amount of diaspora Chinese before 1980's, but there were no flows of FDI until China opened up its financial system (*ibid.*). Finally, Western governments need to take responsibility for limiting poaching (direct targeting of foreign professionals) through international agreements, but also take steps to avoid "brain waste", skilled professionals that end up in menial jobs because of problems with certifications and recognition of foreign credentials.

Looking to the future, both the increased importance of technology and science in developed countries, and the demographic aging of the population seems to predict an increase in skilled migration. However, according to the Heckscher-Olin model, trade would gradually replace immigration through natural factor-prize equalization. Thus, Devesh & McHale (2004) suggest that capital from North to South might gradually come to replace people from South to North (as is already partly the case in India) (pp. 59-72).

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