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## **BRAIN STRAIN**

### **Optimising highly skilled migration from developing countries**

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## Preface

The British Royal Society is thought to have coined the phrase ‘brain drain’ in the 1950s to describe the flow of scientists from Europe to North America. Since that time, the term has been widely used to refer to the ever-increasing flows of highly skilled migrants from the developing world to the developed world. There has been particular concern about the negative impacts on the countries of the developing world which can often lose out on the knowledge and skills of these highly educated people. Whilst countries such as the UK have benefited from the economic, entrepreneurial and social contribution made by these highly skilled migrants, the impact on development in the countries from which they originate has been less benign. For those who oppose labour migration to the UK and Europe, the potential for brain drain has become a useful political stick with which to beat those who want to see access to the world’s most successful labour markets opened up to those who live outside them.

The intellectual and political problem in much of this debate has been the tendency to view migration and its outcomes as straightforward processes with simple positive or negative impacts, and to assume that migration flows per se are the problem rather than the policies put in place by governments across the world in an attempt to control and regulate them. There has also been a tendency to view migration as counter to, or separate to, development processes rather than integral to them. A recent report by the House of Commons International Development Committee examines the important nexus between migration policy and development policy. The Committee suggests that, although this nexus presents complex challenges for policymakers, it may also offer possibilities that have previously been largely ignored. As the Committee’s report suggests, well-managed migration can be important economically and politically because of the linkages it creates between countries. Even if some of the 93 billion dollars that is remitted annually by international migrants through formal channels to the developing world is invested in economic development and poverty reduction, this could make a significant difference.

Given that the impacts of highly skilled out-migration can be positive as well as negative, this paper introduces a new term, ‘brain strain’, to describe the effect that such movement can have on the sending countries. The authors suggest that this term is preferable to ‘brain drain’ because it suggests that two-way flows are often involved and highlights the potential for both positive and adverse consequences inherent in the mobility of highly skilled migrants. Reflecting this, the paper sets out the evidence on skilled migration and economic development and then outlines a set of policies that, taken

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together, strike a balance between the benefits of migration and the potential for that movement to have a detrimental impact on sending countries. At the global level, the issue of brain strain highlights the need for multilateral approaches to managing migration that are underpinned by shared responsibilities.

It is clear from the evidence presented in this paper and elsewhere that the developed world can no longer simply plunder the human resources of the developing world. But it is also clear it neither can nor should close the doors to migrants. By stressing the need to optimise flows, rather than minimise or maximise them, this paper offers a way out of these dilemmas. Moreover, by highlighting the differential impact of emigration on countries, regions, and sectors, the paper shows that brain strain is neither a necessary or universal outcome of migration. For progressive politics, this shift from arguing for or against migration to discussing better ways of managing the process better for the mutual benefit of developed and developing countries is a subtle but important one.

**Heaven Crawley & Dhananjayan Sriskandarajah**

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## About the authors

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## Introduction

A large number of skilled workers are on the move around the world. The trend is driven by the forces of globalisation and the increasing integration of labour markets worldwide. Because of the great scale of the migration many developing countries experience a significant loss of their highly skilled workers. This phenomenon, often labelled ‘brain drain’, can slow economic growth and hamper economic development. There is a need, therefore, to identify policies to maximise the benefits and minimise the costs to the countries that send highly skilled workers.

The emerging priority is not simply to *avoid* brain drain from developing countries, but instead to optimise migration flows so that the loss of highly skilled people does not cause what we have termed ‘brain strain’. We generally prefer this term over brain drain because it suggests the two-way flows that are often involved and highlights the potential for both positive and adverse consequences inherent in the mobility of highly skilled migrants. In the UK there is now welcome recognition that the nexus between migration and development may offer possibilities that have previously been largely ignored. This has emerged, for example, as a significant strand in the evidence presented to the UK House of Commons Select Committee on International Development (2004). Policymakers increasingly see international migration as part and parcel of economic development and recognise that good management of international migration can produce a win-win situation for both sending and receiving countries. Many of the proposals made in this paper rest however not only on economic arguments, but also relate to a rights-based approach to migration policy in line with the recent International Labour Organization (ILO) (2004) international action plan on labour migration.

This paper first sets out the evidence on skilled migration and economic development. The paper then examines a range of policy options that have been, or could be, devised to ensure skilled migration is to the mutual advantage of both sending and receiving countries, and avoids brain drain. The paper outlines - and provides evidence about - three policy areas that have the ability to address skilled migration’s potential. These are managing migration (including temporary worker programmes and facilitated return), utilising the diaspora option, and promulgating democracy and targeted development. A penultimate section deals with inter-governmental approaches to the issue, before a concluding section offers a number of recommendations. Underneath these broad policy approaches are a number of specific policy options that are highlighted through examples and supporting research.

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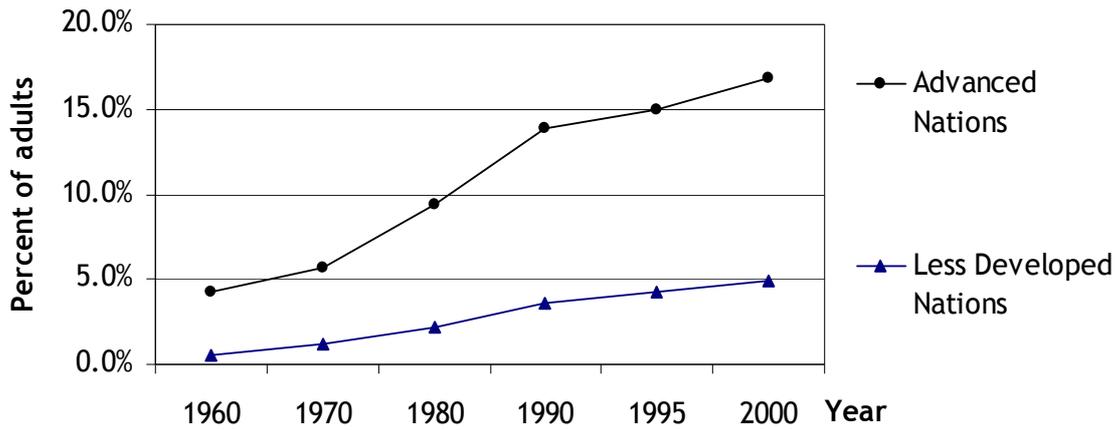
## What is highly skilled migration?

In this paper ‘highly skilled’ refers to someone who has some university or post-secondary education. Of course what is considered ‘highly skilled’ may differ from context to context given the diversity of skill needs and resources available to economies at different stages of development. The definition of highly skilled is sometimes further refined to refer only to science and technology workers. We recognise that many developing countries also have few craftsmen or technically trained persons who they can ill-afford to lose.<sup>1</sup> But college educated knowledge workers are at the core of concerns over emigration’s potentially adverse impacts on development.

The mobility of the highly skilled has been growing rapidly in volume and complexity. The 1990s saw a surge in the number of highly skilled migrants entering the United States, Canada, Australia and Western Europe. At the same time as more skilled migrants settle permanently in these countries, another stream increasingly circulates between countries. The occupational composition of both streams has broadened over time (OECD 2003a). These trends are related to the nature of modern economies and their appetite for knowledge workers; the impacts of an ageing population and the demands of the healthcare and caring sectors; the process of globalisation; and competitive immigration policies (Salt 1997).

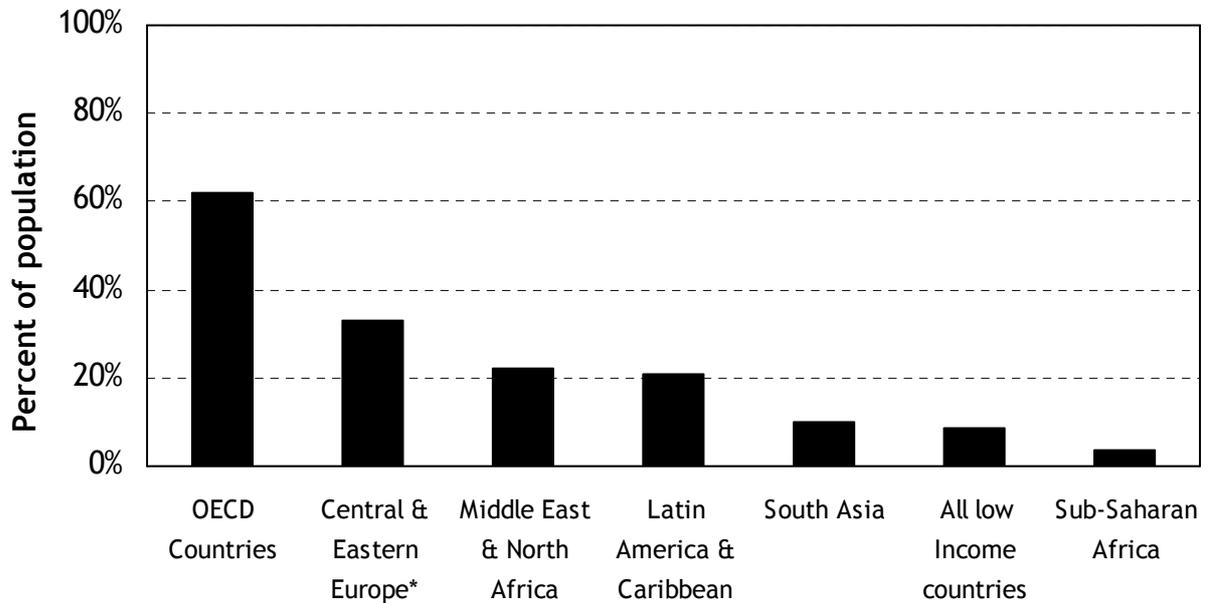
The trend of increasing skills mobility needs to be set against the trends in global inequality. The income gap of the poorest and richest nations has been increasing over the past several decades (Milanovic 1999). There are gaps of other sorts in areas of technology, digital divides, and research and development (R&D); to say nothing of poverty and health, or expenditures on education. There is also a growing gap between advanced and less developed nations in the adult population with a tertiary education (see Figures 1 and 2). Concerns over possible brain drain have much to do with this juxtaposition of increasing skills mobility with the gap in human capital. At the heart of this debate are the demographics of brain drain and its potential economic fallout (what we call brain strain) for developing countries.

Figure 1. Tertiary Education



Source: Barro and Lee 2000

Figure 2. Gross tertiary enrolment ratios, selected regions, 2000



Source: World Bank 2002; \*CEE figure is unweighted average

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## The scale of brain drain

A loss of highly skilled workers is a necessary, if not sufficient, condition for a brain drain. It is most often confined to a particular social class or occupational group. The occurrence of a loss, in and of itself, does not always mean a loss to economic development. In fact, in a globalising world economy some developing countries lobby for more liberal immigration policies in advanced nations to allow a freer flow of high and medium level skilled workers.

### Overall averages

While highly skilled migrants from the developing world may only form a small portion of all international migrants, the scale of brain drain in the context of the relatively small numbers of highly skilled people in developing countries can be significant. We estimate that nearly one in ten tertiary educated adults born in the developing world resided in North America, Australia or Western Europe in 2001 (see Figure 3).<sup>2</sup> About five per cent of the developing world's emigrants with secondary education live in advanced nations. These averages are similar to the emigration rates

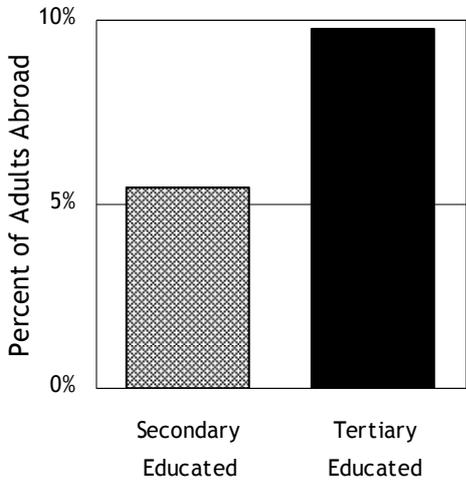
estimated by other researchers in this field (see, for example, Adams 2003; Carrington and Detragiache 1998). However, these estimates are of *all* tertiary educated persons and the figures for the upper echelons are yet higher. It is estimated that 30 to 50 per cent of the developing world's population of persons trained in science and technology live in the developed world (Meyer and Brown 1999; Barré *et al.* 2004).

### Differences between countries

Averages, however, hide important differences between countries in the scale of brain drain. A selection of statistics from other countries and regions suggest that brain drain of tertiary graduates, and sometimes of secondary graduates, can be a significant problem:

- nearly one-third of the 55 developing countries sampled by Carrington and Detragiache (1998) in 1990 experienced losses of more than 15 per cent of their tertiary educated population;

Figure 3. Developing Nation citizens in Advanced Nations, 2001



Source: Authors, SOPEMI data

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- some 40 per cent of tertiary educated adults from Turkey and Morocco, and nearly a third of Ghana's, have emigrated to OECD countries;
  - over half of tertiary educated adults from the Caribbean live in the US, including 75 per cent of tertiary educated Jamaicans and Haitians;
  - a little over ten per cent of Mexico's tertiary educated population lives in the United States, about 30 per cent of its doctoral graduates do so; and
  - in the case of Nicaragua and El Salvador, the proportion of secondary educated persons living abroad rises to 40 per cent and 50 per cent respectively.

### ***Differences between sectors***

The flow of highly skilled migrants may differentially impact upon specific sectors of the sending country's economy. While the flows of workers in the education and information technology sectors has been well documented, perhaps the sector that has seen the most worrying effects has been health (SOPEMI 2003).

- about 10 per cent of South African healthcare workers lived abroad in 2000 and 17 per cent of practitioners;
- each year Jamaica loses about eight per cent of its registered nurses and more than 20 per cent of its specialist nurses (Wyss 2004);
- about 12 per cent of India's doctors are working in the UK (Chanda 2001);
- by the end of the 1990s, Indians working in the US may have accounted for 30 per cent of the Indian software labour force (Commander et al. 2002); and
- about half of the Philippine's information technology workers emigrate (Alburo and Abella 2001).

### ***Differential impact***

While there is an overall disparity between educational levels in the developed and developing nations (Figures 1 and 2), important differences in the educational profile of different regions and countries within the developing world mean the impact of any brain drain varies accordingly. For example:

- about a third of adults in the former Eastern bloc countries have secondary education or better;
- but in Sub-Saharan Africa, despite a doubling of secondary education rates over the 1990s, less than 10 per cent of adults received secondary education; and
- in South Asia the rate hovers around 11 per cent.

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## Highly skilled emigration and economic development

Brain strain can only be said to have occurred where there is clear evidence that migration flows have had adverse consequences for the sending economy. Most studies find that adverse impacts are most commonly associated with *permanent* as opposed to temporary emigration of the highly skilled.

A first wave of research on brain drain in the 1960s was inspired by post-World War Two migration from the UK to the US. Later, concern turned to the outflow of skills from the developing world. Researchers concluded that source governments lose both their initial educational investment, as well as their downstream taxes. By the 1990s economists linked a nation's educated workforce (human capital) to economic development. Research found, for example, that an advanced economy such as Germany's benefited from the immigration of educated workers at the expense of less developed neighbouring states (Straubhaar and Wolburg 1999).

Yet, emigration can also lead to an increase in the number of educated persons in the sending country, an effect known as 'optimal brain drain.' Because workers can expect higher earnings when they are able to seek employment abroad, they are motivated to pursue education. As long as the majority of these persons do not emigrate - which is unlikely - there is an increasing level of education or human capital available to developing countries. This spurs economic development and has led some authors to conclude that a 'well-controlled restrictive' migration policy is in the best interests of developing countries (Stark 2003).

One recent econometric analysis supports the theory of optimal brain drain (Beine *et al.* 2003). It finds that skilled emigration stimulates education, but that the impact on economic development is not always favourable. Twenty-one of 50 countries in their sample with emigration rates for tertiary educated persons of over 20 per cent, and already low levels of education, would benefit from reduced emigration. Such countries included El Salvador, Guyana, Jamaica and Trinidad and Tobago. At the same time, nine countries with low levels of adult education and low emigration rates would benefit from increased skilled emigration. These tended to be large countries like China or Brazil.

Another position is evident in the economic geography literature which suggests that innovation thrives with the agglomeration of specialists and skilled migrants. Locations isolated from skilled migration lose out. Global cities in both developing and developed

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countries prosper through sustaining high levels of 'brain circulation', the exchange of highly skilled people (Findlay *et al.* 1996). There are also important and favourable feedbacks like return migration and diaspora effects such as remittances, technology transfer, and investment. Commander *et al* (2002) are more guarded in their conclusions, noting on the one hand that 'there is clearly a possibility that the brain drain is beneficial to the residents left behind in the home countries', while on the other hand stating 'there are reasons - some of them of recent origin - to be suspicious of that conclusion' (Commander *et al* 2002, 27). Reflecting this, Commander *et al* call for more research, and in particular for detailed national and occupational case studies that tease out the complex and sometime offsetting pathways by which emigration impacts on economic development.

It is also important to note the particularity of impacts on specific countries. For example, Ukrainian and Slovakian emigrants who are employed in formal or primary markets tend to send remittances and other transfers home that boost development, but those employed in secondary markets depress savings and investment (Williams *et al.* 2001). In the medical arena, despite the loss of nurses and teachers from the Philippines, the Philippine government continues to support the institutionalised management of the temporary contract worker programme as a means of absorbing unemployed skilled workers from the Philippines (Alburo and Abella 2002). By contrast, in Jamaica the loss of nurses is so significant that Cubans are imported to fill shortages (Thomas-Hope 2002). A review in South Africa concludes that the emigration of its medical workers is only one aggravating factor out of many affecting healthcare delivery (SOPEMI 2003).

The mobility of skilled labour is part of today's increasing pace of globalisation and technological innovation (Findlay 2001a; Findlay 2001b). Developing countries that engage in appropriate brain circulation stand to reap the rewards of international and intra-company capital investment, the attraction of highly skilled workers, increased trade, and the transformation to a service-oriented economy. Monetary and knowledge flows result from international skill exchanges that. If the circumstances are right, these can help generate economic development in sending countries. Mechanisms for appropriate exchange have the potential to improve conditions in the developing as well as developed countries.

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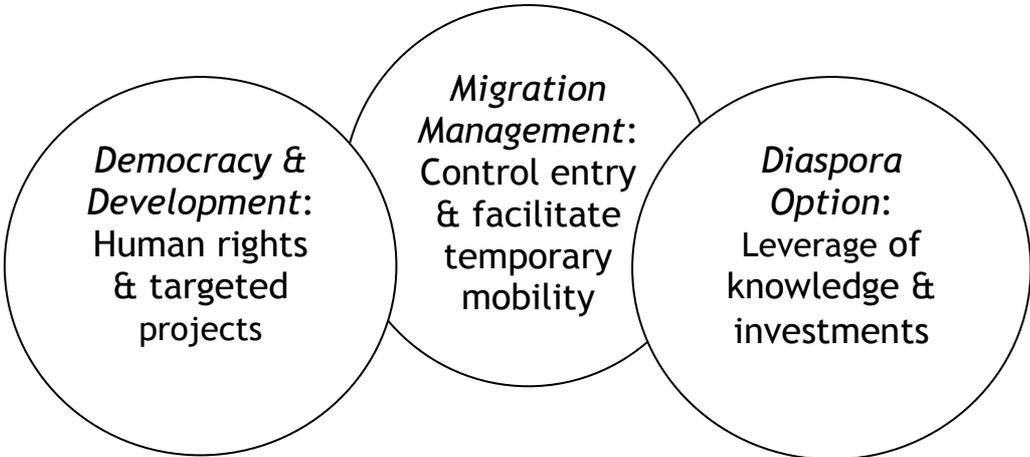
## Policies That Optimise Skilled Migration

The benefits of highly skilled labour migration flows are neither automatic nor inevitable. The extent to which these flows benefit developing countries that send migrants will depend on the development and implementation of appropriate policies that optimise the benefits and minimise the costs. These policies must be developed in both sending and receiving countries, both separately and in partnership with one another. We focus on three alternative areas which we believe have the potential to generate policy options to address the issues raised in this paper (Figure 4).

These are:

- **Migration management** - with a particular emphasis on migration regimes that are temporary by the use of admission policies and by establishing best practices that facilitate and create incentives for return;
- **The ‘diaspora option’** - which draws upon a nation’s expatriates, their knowledge and their financial resources to stimulate the transfer of resources to sending countries in a relatively low-cost way; and
- **Democracy and development** - given that the lack of these is one major cause of skilled migration, there is a need to incorporate the phenomenon of skilled migration, and its many facets, into thinking and planning in developing countries.

**Figure 4. Policies for Skilled Migration**



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## Migration management

Strong forces drive international mobility. Highly skilled emigrants report that they seek higher wages; however, they are equally likely to cite a desire for challenging work settings and political stability. Yet, restrictions on outflow conflict with individual rights, interfere with the marketplace, and are notoriously difficult to enforce. So the balancing act is to devise policies that manage the process in a way that protects domestic labour markets and the economic interests of developing countries, while at the same time delivering the skills that are appropriate to developed economies. Receiving countries are most in control of the number of movers. They may choose to exercise control in targeted ways and should certainly legislate against exploitative behaviour by employers and recruitment agencies. Both sending and receiving countries could strive to establish temporary worker programmes that have embedded in them strong incentives favouring return migration of skilled persons to their country of origin.

### *Control out-migration from at-risk countries*

Most advanced nations restrict the scale of immigration. Most domestic labour markets are protected by numerical visa limits, or by granting visas only after stringent steps to protect indigenous workers, or by narrowly defining professional credentials. It is hard to argue against protecting domestic workers first, especially in occupations that are not in shortage. However, stringent and inflexible protection measures interfere with domestic businesses growth, to say nothing of unreasonably penalising foreign workers and global economic growth.

At any rate, as far as skilled emigration is concerned, from the vantage point of economic development it makes eminent sense to control movements from nations or sectors that stand to be affected adversely by the loss. For example, South Africa has banned the recruitment of doctors from other, poorer nations in the African Union (formerly the Organisation for African Unity) (Bundred and Levitt 2000).

The United Kingdom has been at the forefront of innovations to control the movement of skilled workers from nations that stand to lose from excessive emigration. In 1999 the UK Department of Health banned National Health Service (NHS) trusts from recruiting from South Africa and the Caribbean countries where nursing shortages were reported. A list of countries in which recruitment is banned, based on the list of OECD development assistance, forms part of the code of practice. It also includes countries with which the UK

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has an agreement (DHS 2004). Alternatively, a list of recommended source countries for employers is provided based on government to government recruitment provisions.

There remains a question mark however over whether the UK's pro-active policies are adequate to address this issue. In 1997, 392 nurses came from South Africa to the UK but, despite the ban, the number of South African nurses entering the UK rose to 2114 (figures from Nursing and Midwifery Council quoted in BBC News 2002). The problem is that the ban applies only to NHS trusts and does not cover private recruitment agencies. The list also includes most developing countries, making it rather difficult to adhere to (SOPEMI 2003). In addition, if individuals come to the UK for other (non-employment related) reasons, they will be considered for employment by NHS trusts in accordance with the trust's usual employment policy, regardless of whether or not they originate from a country from which recruitment is not permitted. Despite these problems with implementing the policy, the UK's list is a good model for moving towards a targeted mobility strategy.

Receiving nations, preferably in consultation with source countries, should identify origin countries that are most vulnerable to skill losses and ban recruitment. Furthermore, coordination is needed between receiving countries since, if just one nation restricts movement, it is likely that skilled emigrants simply go elsewhere. Finally, a refined list could reflect sectoral strengths and weaknesses. It could be acceptable to recruit from certain occupations, but not others. That is, of course, the rationale behind both South Africa's and the UK's restriction on healthcare workers as that sector is so heavily impacted by global migration.

### ***Accountability for recruitment agencies and employers***

International recruitment agencies are widely used by employers to source staff from other parts of the global labour market. Much of the exploitative behaviour that is reported can be directly traced to the operation of such agencies (Jones and Pardthaisong 1997). A key priority therefore must be to make recruitment agencies and employers accountable. There are, of course, many very professional and well-run recruitment agencies. But there are also examples of particularly bad practice. Some international recruitment agencies require potential migrants to accept a period of work without pay prior to departure on the pretence of training applicants. Workers may be forced to pay high fees in developing countries even to be short-listed for an interview or to gain immigration documentation.

Governments must ensure that employers agree to follow clearly set out ethical guidelines when recruiting foreign workers. This may include specific rules for using recruitment

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agencies or constructing a register of accredited international recruitment agencies that meet desired standards. Also, employers could be liable to pay fees to international recruitment agencies.

There need to be international rules on recruitment, particularly in vulnerable areas such as healthcare (Schubert 2003). The UK Department of Health *Guidelines on the International Recruitment of Nurses*, produced in 1999, is one example of good practice. The UK Department of Health Code of Practice (2001) has also been established and large numbers of recruitment agencies have now signed up to this initiative. Guidelines for the international recruitment of consultants and general practitioners for the NHS have also been developed (Department of Health 2002).

These steps are commendable and show the power of ‘guidelines’ to shape changes in practice should never be under-rated. Governments should, however, go further and promote good practice among recruitment agencies by legislating to ensure employers only recruit through accredited agencies that comply with the *Commonwealth Code of Practice for International Recruitment of Health Workers* (adopted by the Meeting of Commonwealth Health Ministers, Geneva, 18 May 2003). There is a need for instruments, both in terms of jurisdiction and information technologies, to monitor and control these activities. There is also a need for a mechanism whereby unethical practices of registered recruitment agencies can be reported to the relevant authorities (ANC 2003), perhaps through some form of independent auditing process.

### ***Best practice for employing foreign workers***

Protecting foreign workers is integral to protecting domestic labour markets and it is a necessary part of optimising impacts on developing countries. Best practice guidelines set standards that combat exploitation, while assisting employers gain the greatest benefits from foreign staff. The absence of guidelines can leave employers in highly competitive industries in an uncertain situation that could result in exploitative actions justified on the basis that ‘other companies do it.’ There are mutual benefits to be had in ensuring that foreign workers enjoy good conditions, both from the perspective of the migrant and for the long-term competitiveness of domestic industries.

Two principles have been suggested for setting ethical guidelines in international recruitment (Couper 2002). The first is autonomy or recognition of the right of the individual migrant to freedom of choice and of movement. The second is justice, namely distributive justice that involves the fair distribution of resources for the common good. This has been applied for example to specific occupations in the health sector (ANC 2003).

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Any code of practice should also advocate transparency, fairness and mutuality of benefits. The *Commonwealth Code of Practice for International Recruitment of Health Workers* includes a section on the recruit's rights. This provides clarity about the terms of employment, counselling about the new culture, advice on labour and licensing laws in the host country, information about the rights of indigenous and migrant workers and the position of migrants relative to the local community. The International Council of Nurses (2001) position statement on ethical recruitment calls for transparent hiring processes and the enforceable regulation of recruitment agencies.

Patel (2003) has proposed the following guidelines for ethical foreign recruitment in the medical sector:

- training schemes for doctors from developed countries to work in developing countries;
- partnerships with institutions in developing countries involving funding, training and strengthening of infrastructure;
- grants for returning doctors to re-establish personal and professional lives; and
- evaluation of the number of doctors who return after overseas training.

Best practice for foreign workers also includes measures to prevent brain waste, or the underemployment of foreign workers. This can occur when, for example, health workers from developing countries end up working outside the health sector. Best practice needs to give due attention to core human rights (Ruhs and Chang 2004). Temporary foreign workers normally enjoy far fewer and less robust rights than those enjoyed by permanent residents. It has been noted that temporary workers are often forced to trade-off their basic rights to gain economic returns.

### ***Temporary worker schemes***

The most direct means of achieving a high rate of return is to create temporary worker programmes with short durations of stay and mechanisms that ensure return (Martin P L 2003). The longer migrant workers stay abroad, the smaller the chance of their return to the place of their origin. In terms of economic development, there are also strong reasons to encourage the return of migrant workers at the end of fixed-term contracts.

Yet, for return to occur there needs to be political acceptance and commitment. In fact, many 'temporary' work permit programmes in Europe sanction a transition to permanent status after a period of several years. Similarly, temporary programmes in the US place few obstacles in the way of workers who ultimately choose to pursue permanent residency. Habit and history conspire against widespread implementation of temporary programmes –

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think of the oft-repeated lessons of the low-skilled Turkish *Gästarbeiters* in Germany industry, or the Mexican *Braceros* in US agriculture.

There is clearly a need to understand what elements make for the successful return of highly skilled workers (Findlay 2002). Studies in the UK of migrant intentions tell a somewhat complex story (NOP/IES 2002). More than half (57 per cent) of current work permit holders intended to apply for UK citizenship and 30 per cent intended to apply for an extension of their permission to work. These figures could be read as supporting the view that most temporary migrants wish to stay permanently, but this would be to oversimplify the picture. At the same time, one quarter of temporary migrants have active plans to return home, and over one quarter are unsure of their intentions and may return home once their work permit expires. All of which is to say that there appears to be leeway for expecting a significant share of migrants, in an appropriately constructed regime, to return home.

In fact, rates of return migration for US visa holders were high until rule changes tightened labour market entry and encouraged migrants to stay. Return rates for the H-1 temporary speciality worker up until about 1990 ran well above 75 per cent, but that dropped well below 50 per cent by the mid-1990s (Lowell 2001). Rule changes in a 1990 law made it easier to extend stay and lengthened the maximum stay from five to six years. More importantly, the new law no longer required workers to demonstrate a clear intent to return home at the end of their stay.<sup>3</sup> Without a mutual understanding of the expectation of return, most skilled H-1 workers today believe that they are entitled to permanent residence.

The study of temporary programmes around the world provides ample evidence regarding their weaknesses, as well as lessons on implementation. Problems include the creation of immigrant sectors, the employment vulnerability of immigrants under such schemes, the bloating of the temporary migrant population over time, the possibility of increased local opposition and hostility to immigrant workers, and the circumvention by migrants of the constraints imposed by temporary worker schemes. Drawing on the experience of five nations, Ruhs (2003) suggests the following:

- foreign workers need some degree of freedom of movement between employers in order to avoid exploitation;
- the number of workers admitted should be based on actual market demand in order to avoid oversupplying or fostering employer dependence (and exploitation);
- there should be transparent rules and procedures about rights (or lack of rights) in the transition to permanency in order to gain commitment to return;

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- there should be mechanisms to protect domestic workers and, if necessary, some form of compensation in order to avoid domestic backlash;
  - foreign workers who have been illegally employed for a certain number of years should be offered some sort of legal status ('amnesty') in order to avoid the creation and entrenchment of underground labour markets;
  - there should be a unified temporary worker programme that accommodates foreign workers of all skill-levels in order to facilitate administration; and
  - the design and implementation of programmes should include dialogue with all parties concerned in order to secure their commitment.

Not all of these suggestions work equally well in all settings. Rolling 'amnesties' are likely to foster expectations that feed illegal overstays and would meet stiff political opposition in many countries, including the UK. The role of market-based mechanisms in controlling admission is essential to keeping larger forces of supply and demand in balance. But that is easier said than done, and some nations also lack the necessary administrative apparatus. The list above also lacks what would seem rather obvious and fundamental aspects of any truly workable temporary programme:

- illegal entries must be controlled in order to maintain the essentially closed system necessary to a successful legal temporary programme;
- an effective means of identification should be available to all workers/employers to monitor work authorisation (and illegal overstay); and
- there should be capable but non-intrusive enforcement, both through pre-screening and post-employment surveillance, in order to protect working conditions.

It is beyond the scope of this paper to lay out all the elements that would make a temporary programme workable. The terms of the working agreement need to be clear at the outset and should not foster unreasonable expectations. Underlying the list above are a few basic points. Foreign workers and their employers should be held accountable to their mutually agreed-upon contract. Periods of work should be truly temporary, say no more than two to three years, and foreign workers should operate as much as possible as free agents. Enforcement should be integral to any programme.

None of these fundamentals should prevent workers from returning later for further stints of work or progressing to permanent status. One example is the US 'J' cultural exchange visa. These are issued for varied durations for work in healthcare, research and development, summer programmes, and other work for the purpose of fostering international exchange and experience. After the permitted stay, generally measured in months or the years needed for training, the exchange visitor is required to return home

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for a two-year period before applying for re-admittance. This visa is designed to increase the experience of the foreign worker and also to create incentives for return to the country of origin. The scheme sets clear expectations for return to the origin country, and it involves cooperative agreements with the sending country.

The challenge is to ensure that temporary work programmes remain truly temporary in nature and do not foster permanent settlement. A managed approach to temporary migration will mean benefits for both the receiving country (that is, through clearly stated programmes) and sending countries (that is, guarantee of skills return and not loss). The key to this is through policies that create incentives for return, as well as facilitating return.

### ***Facilitate and create incentives for return***

Return migration is thought to generate significant benefits for the migrant-sending country (Ellerman 2003).<sup>4</sup> Especially in the case of skilled returnees, their newly accrued skills, taste for innovation, and networks can be advantageous. Certainly, skilled returnees offer benefits that are often overlooked when foreign advisors or businesspersons are used in their stead (Haque and Kahn 1997). In addition temporary or short-term movers retain a commitment to sending money back home.

Favourable impacts have been attributed to returning scientists and engineers in Korea and China (Cervantes and Guellec 2002). Policies that foster strong R&D environments and infrastructure are attractive and, in the case of Korea, once in place lure back migrants who have been abroad for many years. China encouraged its students to seek education abroad and now seeks to reap the rewards of their return. Taiwan's leapfrog advancement is in no small degree attributed to returning scientists and may well have served as one model for India's current information technology boom (Saxenian 2001).

High rates of return generate the most direct and significant developmental impact. However, given that only 50 per cent of overseas graduate students in the US return on average (and just 20 per cent of Indian and Chinese students) (Johnson and Regets 1998), brain circulation does not seem an apt description. Remittances and diaspora effects are limited if return rates are low as it reduces the number of individuals who can migrate; and by fostering permanence ultimately reduces expatriates' commitment to their place of birth. Programmes are needed that facilitate return, if not permanently, at least for the purpose of collaboration and knowledge sharing.<sup>5</sup>

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Starting with young persons who study abroad, a number of governments, sometimes in partnership with the private sector, fund programmes that encourage return (Angel-Urdinola *et al.* nd). Mexico's *Consejo Nacional de Ciencia y Tecnologia* programme repatriates recent PhD scientists coupled to an initiative that increases the pay of productive academics to, in part, encourage retention. During the 1990s, 2093 researchers were repatriated at a cost of US\$56.95 million. Colombia's *COLFUTURO* programme awards stipends to students who return home after completing their studies. These programmes are similar to US Fulbright grants awarded to students who return home for at least two years following completion of their degrees.

International agencies seek out senior scientists and engineers. The International Organization for Migration's *Return for Qualified Afghans Programme*, co-funded by the European Commission, offers comprehensive packages to qualified Afghans residing in the EU who would like to re-establish residency. While somewhat expensive, the cost of such a programme in the medium term is small relative to its advantages. The United Nations Development Programme (UNDP) runs a programme for the *Transfer of Knowledge through Expatriate Nationals* (TOKTEN) that aims to persuade migrants established abroad to return at least temporarily. Assignments generally last from three weeks to three months, but some expatriates have returned permanently. The *Migration for Development in Africa* (MIDA) programme provides a range of activities by which migrants contribute to economic development including using IT to transfer skills, short or sequenced visits, or permanent relocation.

It has been suggested that for return migration policies to be successful there needs to be incentives and the potential for prosperity after return. For example, Thailand and Ireland have reverse brain drain programmes that offer generous research funding and monetary incentives, as well as services and assistance to attract medical professionals. Other examples include government programmes, such as China's industrial parks, that are aimed at luring back entrepreneurs. It is essential that technological and scientific development be rooted in the local community (Pellegrino 2002). Receiving countries can collaborate and contribute funding, as they already do through the UN or their own development agencies.

All of these examples of programmes that create incentives to return build on the idea that given the choice and opportunity to utilise their skills and experiences, many migrants would prefer to live and work in their countries of origin, close to family members and with the benefits of shared language.

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## The diaspora option

A nation's expatriates abroad - its 'diaspora' - can feedback knowledge and technology that can benefit developing countries (Bhagwati 2003). Exercising the so-called diaspora 'option' is therefore potentially a relatively low-cost way of capturing tangible returns from émigrés other than through their repatriation. However, the common assumption that remittances are significant and therefore out-migration must automatically benefit the sending country is not always the case, especially if skilled emigrants remain abroad permanently.

### *Knowledge and skills transfer*

The exchange of knowledge from a diaspora draws primarily upon networks, often informally constituted, of intellectuals and scientists abroad. Networks can also be fostered by government programmes and through the establishment of ongoing contact between source country academic and private sector institutions (Barre et al. 2003).

One study identified 41 informally evolved e-based expatriate networks founded during the 1990s in a variety of receiving nations. But there are several types of diaspora organisations of a more or less formal nature such as student/scholarly networks, intellectual/scientific associations, and assistance through the UNDP's *TOKTEN* (Brown 2000). Government sponsored projects like the *Thai Reverse Brain Drain Project* facilitate technical linkages with Thais living overseas. Colombia co-ordinates the *Caldas Network of Scientists and Engineers Abroad* (Ellerman 2003). There are literally dozens if not hundreds of such examples.

How effective is the diaspora option? One of its leading proponents argues that this connectionist approach turns brain drain into a brain gain (Meyer 2001). Theoretically diasporas and networks overcome institutional barriers to the flow of information. Research indicates that international cooperation in academia and research bolsters economic growth (Smallwood and Maliyamkono 1996). A study of Columbia's *Caldas network* established expatriates' involvement in oversight committees and active collaboration in areas of scientific research (Meyer *et al.* 1997). While the evidence on the diaspora option is encouraging, broadly applicable best practices are not established. Some researchers believe that there is too little systematic empirical measurement (Faini, 2003; Rapoport, 2002). Still, the diaspora option may hold increasing promise as the global marketplace becomes more integrated.

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Information-based approaches require the least economic or political capital. Over the past decade governments in Malaysia, South Africa and Thailand among others have increasingly made use of the Internet to involve expatriates. These websites are essentially sources of information and exchange. The stated goal of the government backed Thai Reverse Brain Drain Project (RBD) is not simply to facilitate discussion, but to serve concretely as a clearinghouse for the dissemination of technical, often engineering, and other scientific knowledge. It seeks to create collaboration between expatriates with domestic individual and institutional partners.

Migrant receiving countries could assist in organisation through funding the mapping of networks and communications. They can collaborate with migrant sending nations in activities that draw upon the diaspora. For example, members of the Caldas network take part in oversight boards and collaborative ventures in Columbia that could be part of already ongoing foreign aid or inter-university projects. Sending countries have increasingly sought to organise their diasporas. Receiving countries should take an interest as well.

A great advantage of the diaspora option is that it does not require a massive infrastructural investment beyond the reach of many developing countries. But it does require a firm commitment to strategic thinking and management (Meyer *et al.* 1997, 23). In whatever way a diaspora network is developed, the underlying principle should be 'knowledge transfer'. This can boost productivity, provide resources for development, stimulate education and business, develop two-way trade, and create more stable long-term partners.

Thus far there are no examples of the UK, as a receiving country, supporting such networks. There would seem considerable scope, however, to facilitate such a network amongst, for example, the many Indian migrants who have received work permits in recent years to enter the UK IT sector. Indian IT workers in the US are credited with making many positive feedbacks to the Indian IT sector, and it seems probable that the same potential exists in the UK.

### ***Remittances and investment***

Remittances sent by migrants to the developing world through formal channels were estimated to total 93 billion dollars in 2003, although the true volume may be much larger than that since many migrants do not use official channels to send money home (World Bank 2004). Remittances represent a sizable chunk of many nations' GDP or international

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trade and it is almost always greater than foreign aid. It is estimated that each remittance dollar ‘multiplies’ into two to three dollars of GNP (Taylor and Adleman 1995).

There is some evidence to suggest remittances can reduce poverty, especially where collective remittances, by hometown associations, are invested in infrastructure like fresh water wells, clinics, schools, and roads. Mexico has been a leader in matching funds for such investments; almost all such policies have been implemented by sending countries. Receiving countries are only now beginning to pursue ways of leveraging greater returns from remittances. For example, the US Agency for International Development has sought proposals for collaborative ventures from hometown associations. However, hometown associations are relatively scarce and are the preserve of less skilled migrants (Lowell and de la Garza 2000). Further, remittances also tend to be spent first on consumer goods and can act to generate further migration.

The remittance behaviour of high-skilled and low-skilled migrants can also vary. Multiplier effects of remittances are greatest in rural areas, but skilled migrants tend to originate in urban areas. Skilled emigrants assimilate rapidly and, because they tend to bring their families with them, they are less likely to remit over time. Similarly, research finds that remittances can exacerbate inequality, an outcome more likely if emigrants are highly skilled (Fiani 2002). Econometric studies suggest that remittances may not offset the adverse effects of brain drain (Straubhaar and Wolburg 1999). So while remittances should not be dismissed, they are not a sufficient benefit in and of themselves to justify skilled migration.

Nonetheless skilled migrants may have a powerful impact by way of more sophisticated financial flows (Lowell and Findlay 2002). They purchase remittance backed bonds and hold foreign currency accounts that may strengthen the portfolios of sending country banks. Rather obviously, skilled emigrants have the wherewithal and interest to invest in business creation or philanthropic ventures. There is evidence that, for example, Indians working in the United States are investors in information technology start ups in India (Saxenian 2001). When it comes to skilled emigrants, these sorts of contributions to their home countries are little studied, but are likely to be as, if not more, important than remittances over the long run.

Much of the responsibility falls on sending countries for leveraging potential investments. Remittance backed bonds, foreign currency accounts, investment tax breaks, and exemption from import tariffs on capital goods imports are not within the purview of receiving countries. But host countries can monitor their own banks and financial transfer

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agents to make sure that competitive costs are charged. Receiving countries can work to lower the costs of remitting, as well as make to make international banking more secure and transparent. Receiving countries might also offer low-cost loans for business investments folded into foreign aid packages. Once diasporas are seen as agents for change, host countries can seek out a nation's expatriates as facilitators of projects for international assistance.

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## Policies for democracy and development

In order to manage migration successfully it is necessary to adopt a holistic approach to the issue which includes tackling the causes of migration (Spencer 2003). Other than fundamental demographic and economic factors, highly educated individuals very often migrate because of a lack of basic freedoms or because of the constraints of R&D and educational institutions.

### *Strengthening institutions and human rights*

The loss of highly educated persons can undermine the foundations of democracy and the institutions needed for well-run economies. Human rights abuses and the lack of democracy are at important push factors for many migrants. Addressing these issues is essential to retaining a necessary class of knowledge workers and intellectuals.

Intellectuals contribute the ideas essential to democratic institutions and they are activists in the struggle for freedom (Dalpino 2000). They often flee when their security and integrity are threatened. Examples abound from the present and not too distant past including Argentina, Columbia, Iraq and Zimbabwe (Pellegrino 2001; Albuero and Abella 2001; Crush 2003). Tens of thousands of Chinese students and many highly educated Soviet Jews entered the US as refugees. The top countries of origin for asylum seekers in the UK, including many highly skilled persons, have been countries such as Zimbabwe, China, Iraq and Iran where democracy and freedom are under threat (Home Office 2003).

There are many examples than can be cited here of programmes carried out by major national and international agencies to promote human rights, capacity building, and democratisation. The US Agency for International Development assisted in creating networks of think tanks in Eastern Europe that have played a part in democratic, market-oriented reform (Cornell 1996). Non-governmental organisations like the Center for the Education of Democracy and Grupo Fundemos were maintained by prominent Nicaraguan intellectuals perceived to be critical to a transition to democracy. The Asia Leadership Fellow Programme supports intellectuals and their role in a democratic society.

Investment in the protection of human rights and the promotion of democracy should take into account the role of intellectuals, seeking means of retaining them, as well as ways of benefiting from the diaspora. Expatriate organisations can and do play a political role in actively promoting free speech and democracy. Return migrants, especially those with skills in mediation, minority rights, and legal action can help developing countries rectify

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conditions. In countries where democracy and freedom are insecure, improved conditions may be rewarded by the retention and return of skilled individuals.

In a UK context, the government's policy of providing services to asylum seekers through an alternative welfare system - the National Asylum Support Service - has produced a considerable increase in recent years in the number of non-governmental organisations serving this sector. Many of these groups involve or are run by members of the migrant community themselves. They serve not only migrants in this country, assisting those interested in establishing themselves more fully within the UK, but also liaise with communities in sending countries from which migrants and asylum seekers have come. These organisations currently receive financial support from the government to deliver services and contribute to the process of integration. With additional or different kinds of support from government, these organisations might well play a stronger role in a variety of ways in promoting democracy and development in regions of origin and provide an opportunity for the UK government to tap in positively to the transnational networks established by international migrants. One example of such an intervention might be encouraging migrants to channel remittances in more productive ways to the benefit of those in their country of origin. Migrants might be encouraged to invest remittance money in health insurance for their family members abroad. This would be just one way for the migration-development nexus to operate to reduce problems associated with poverty in developing countries.

Another terrain for intervention might be at the international level where the UK government might lead the more advanced nations by being the first to ratify the UN Convention on the Protection of Rights of all Migrant Workers and Members of their Families. This would help to establish a yardstick against which the quality of provision of migrants' rights might be judged and would help to put pressure on those countries and international employers that continue to pay insufficient attention to the human rights of international migrants. This recommendation has the support of major non-governmental organisations such as Oxfam but has not been ratified to date. It is certainly important that the UK responds positively to the new multilateral framework for a rights-based approach to labour migration agreed by the ILO (2004). This lays out international guidelines on many of the issues discussed above such as expanding avenues for legal temporary migration, encouraging voluntary return and reintegration, and facilitating the transfer of technology and capital by migrants.

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## ***Education and targeted development***

The theory of 'optimal brain drain' tells us that, when emigration is a possibility, more individuals in sending countries may choose to pursue higher education in the hope of working abroad.

Currently, research comes to ambiguous conclusions about which type of education to emphasise in order to offset skilled migration. Source countries that improve tertiary education may unwittingly increase the rate of loss as their nationals are better prepared to compete abroad. If higher education is short-changed the best and brightest students may have little opportunity other than studying abroad (Haque and Kahn 1997). Policies that strengthen educational institutions and promulgate training are rather likely to have a beneficial long-term impact. Cooperative ventures between developed and developing nations are, perhaps, some of the more policy-relevant tools available (Smallwood and Maliyamkono 1996). Such approaches address one reason for talented people wanting to leave developing countries, while at the same time improving the educational capacity and the long-run economic development of sending nations. They are certainly more realistic than proposals that imagine that it is possible to somehow dissuade highly skilled people altogether from the possibility of migrating (Martin S F 2003).

Closing the digital divide is another avenue as it holds promise for facilitating education and fostering the dynamics of the diaspora option. In the late 1990s, heads of state in the Association of Southeast Asian Nations signed the e-ASEAN Framework Agreement that plans to speed up economic integration through the Internet (Xinhua General News Service 2001). Receiving countries can benefit from these activities and should seek to support them by various means.

The UK, in its recent trend to recruit highly skilled health and IT staff from developing countries, needs to recognise more fully the educational costs of this for sending countries. The UK government might productively explore how its international development budget might be more specifically targeted to help increase the scale of training of, for example, nurses and IT staff in the main sending countries (in recognition of the need in these countries to train many more staff to allow for the subsequent leakage of a proportion of these trainees abroad). Targeted educational funding of this kind has the additional advantage that it is geared to enhancing training in the developing countries in the precise skills that are most marketable in the world economy. It would therefore provide a positive signal regarding appropriate ways to engage in the development of educational and training systems in these economies.

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### ***Include civil society in the policy process***

Government will retain its primary role in devising policies and administering them, but there are limits to their effectiveness. Further, in a globalising economy an active role by other stakeholders may markedly improve the ability to manage immigration. Good governance is about facilitating initiatives from the civil society through indirect, strategically chosen and carefully managed actions. For example, diaspora networks are part of the civil society and many non-governmental organisations represent or coordinate them such as the African Foundation for Development (AFFORD) in the UK. Supporting such initiatives could be part of a broader policy and a complement to legislative and other measures taken by government. The Department for International Development (DFID), as well as, British NGOs could be involved in the process along with institutions such as research councils, universities and international firms, where high skilled expatriates are numerous.

### ***Inter-governmental agreements and harmonisation***

Agreements between nations are one of the best ways to exchange workers, especially where there is a chronic undersupply of labour in the receiving country and a supply of appropriately skilled labour in the sending country. Just as it took decades to construct international regimes to regulate trade, it may take years before there are equivalent migration regimes. The enlargement of the EU in 2004 clearly presents new challenges to the pre-existing policy of free mobility within the EU that will take some time to resolve. It is regrettable that some countries appear to have approached the issue in a piecemeal and sometimes ad hoc fashion. In the meantime, bilateral and regional accords may be both more achievable and, in some cases, preferable for other reasons.

Some observers believe there is a need for a World Migration Organisation that coordinates migration policies for all groups of movers and seeks to benefit all parts of the world (Bhagwati 2003). Indeed, the governance of international mobility by international organisations is highly fragmented. The International Labour Organisation is concerned with international worker and migrant rights, the United Nations High Commissioner for Refugees has responsibilities for refugees, and the World Trade Organisation has only relatively recently taken an interest in liberalising the exchange of service workers.

Frameworks exist for the creation of international regimes for worker mobility. These include the TransAtlantic Learning Connection (TLC 1999), or the International Regime for Orderly Movements of People (Ghosh 2000). The International Organization for Migration (IOM) launched the Global Consultative Process for Inter-State Cooperation on Migration

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Management in 2001 with ongoing discussions on inter-state frameworks (IOM 2003).<sup>6</sup> Recently, the Global Commission on International Migration was launched by the United Nations Secretary-General with the support of a number of governments. Its final report in 2005 will make recommendations on ways to improve the national, regional, and global management of international migration (United Nations 2003).

Projects such as these are oriented towards the orderly management of migration on a worldwide basis and are in some ways on a par with international trade agreements. They offer ideas for the cooperative management of highly skilled workers between developing and developed countries. But in the absence of an umbrella organisation for international mobility, and with no agreement probable in the next few years on a harmonised global migration regime, policymakers will continue to pursue bilateral and regional agreements.

### ***Bilateral and multilateral agreements***

There are many examples of bilateral agreements, such as those between the UK and select nations that supply its healthcare workers. Regional agreements, such as the North American Free Trade Agreement (NAFTA), include similarly narrow accords. The NAFTA permits easy mobility for skilled workers to move between Mexico, Canada, or the United States, but is broadly limited to a list of agreed-upon occupations. Different categories of workers are granted free mobility, but all of these are highly skilled.

Martin (Martin P L 2003) has made several recommendations including that receiving countries should replenish the human capital they import (linking compensation directly to the number of migrants and their earnings abroad). Bilateral and multilateral cooperation could lead to regional agreements on best practice. Others have suggested the bilateral sharing of tax revenues to compensate countries losing investments in human capital. The latter recommendation, a variant of a three-decade old suggestion, makes most sense for temporary programmes based on national agreements.

Inter-governmental agreements have the potential to regulate the exchange of workers and the categories of occupations or workers to be encouraged. Such agreements can prevent the damaging practice of ‘head-hunting’ by private international recruitment agencies that often seek foreign workers from at-risk developing countries. At the same time, bilateral agreements can stipulate that foreign workers must be trained in skills that are appropriate to the needs of the developing country. Development agencies could target investment in appropriate training. Nevertheless, bilateral and multilateral agreements may not be able to meet short-term or cyclic shortages; and they may place developing countries at a disadvantage in certain bargaining situations (Koivusalo 2003).

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### ***General Agreement on Trade in Services (GATS)***

The General Agreement on Trade in Services (GATS) provides one promising approach to establishing a broad framework for multilateral skill exchanges (Findlay 2001a). GATS was part of the Final Act of the Uruguay round (1986-1994) of multilateral trade negotiations and was incorporated in 1995 into the founding principles of the WTO. It was the first multilateral and legally enforceable agreement whose central objective has been the progressive liberalisation of trade in services. It encompasses different modes of service delivery and GATS Mode 4 refers almost exclusively to the movement of highly skilled personnel.

The case for liberalising temporary migrant programmes under GATS is based on theories of international trade and factor mobility (Winters *et al.* 2003). A flow equivalent to three per cent of developed countries skilled and unskilled work forces would generate an estimated increase in world welfare of over US\$150 billion, shared fairly equally between developing and developed countries (Cattaneo and Nielson 2003; OECD 2003). For receiving countries, Mode 4 could contribute to gains in competitiveness and provide short-term relief for labour market shortages. For sending countries it can reduce pressure on labour markets, increase capital flows from earnings received from the sale of migrants' services and at the same time (because of the temporary nature of the skill flows involved) counter the risk of permanent brain drain of these skilled workers (Ammassari and Black 2003). Unfortunately, restrictions on skill mobility by developed countries (in terms of their immigration laws) are greatest in the very occupational sectors where developing countries have the strongest comparative advantage (Findlay and Warren 2000).

Multilateral trade negotiations at Doha in 2001 sought a 'GATS visa' for the facilitation of movement by service workers (OECD 2003a). These talks also tried to tackle the apparently conflicting demands of developing and developed countries regarding the implementation of GATS (Deardorff and Stern 2003). Unfortunately at Doha the advanced countries were unwilling to offer the kind of service migration liberalisation that the developing countries wanted. The talks broke down without achieving any improvements for most developing countries.

Future progress requires clear definitions and transparent regulations (Findlay and Warren 2000). There should be unambiguous definitions of terms such as 'temporary' so that policies are applied evenly and fairly. In addition, it would be valuable to have a definitive list of the temporary service occupations covered by GATS (Winters *et al.* 2003). Short and

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long-term social security contributions should also be separated from one another if temporary skill exchanges are to operate effectively. Other constraints needing attention include establishing an internationally recognised system for granting entry visas, creating an agreed mechanism for the international recognition of qualifications, tackling differentials in the treatment of domestic and foreign workers; and linking the operation of Mode 4 with Mode 3 (WTO 2003).

It would also be helpful if a GATS code of conduct on the employment of foreign workers could be agreed. This could be drawn up for all GATS signatories with regard to fair wages, prohibitions on dangerous and undesirable types of work, prohibition on confiscation of travel documents, rules for treatment of workers following contract termination and guidance on the relative treatment of local workers engaged in the same sectors.

Multilateral agreements on temporary skilled migration that are sensitive to both the needs of the advanced nations and the contexts of developing countries are clearly very hard to achieve. Given the fragility of multilateral agreements on other types of flows such as those that regulate trade, it should be no surprise that equivalent migration regimes are hard to establish. Agreements at this level remain, however, a highly desirable goal (and one that the UK government should champion). In the absence of any such commitment, it seems likely that bilateral and regional accords on migration will persist, reproducing migration conditions unfavourable to the developing countries and leaving individual migrant receiving nations to decide whether to establish migration legislation that serve anything more than their national interest.

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## Conclusions and recommendations

Advanced nations need highly skilled migration for many reasons, including the maintenance of global economic linkages, response to short-term surges in demand for new production skills and the need to respond to the growth in demand for highly skilled service workers at a time of domestic demographic stagnation or decline. In these circumstances, skilled migration between advanced economies and from developing to advanced economies is not only inevitable but also desirable. The key question which has been addressed in this paper is whether these flows can take place without cherry-picking the talents of the world's poorer economies to the latter's detriment.

Our review of the literature leads to the conclusion that the most likely direct impact of very high rates of emigration is slower economic growth in a developing country. But in certain circumstances lower rates of skilled emigration can be helpful to a developing economy and need not cause a brain strain. Migration can create feedback effects that promise significant advantages for developing countries. In fact, skilled mobility can be a sign that a nation is successfully integrating in the global economy. This leads to the twin observations that policymakers should both take the threat of brain strain seriously, and also recognise that they can pursue mechanisms that are able to ameliorate adverse effects and stimulate positive feedbacks.

We have sought to further a positive policy approach through the ideas presented in this paper. We have identified policies that are likely to be effective:

- in the short to medium term, temporary labour migration programmes linked to strong measures to encourage migrant return hold many advantages; and
- over the long run policies that capitalise on expatriate diasporas, support human rights, and harmonise international migration policies of sending and receiving states provide the best policy approaches.

We conclude that advanced economies cannot avoid engaging in competitively organised global labour markets. In this context, migrant-receiving states should work towards migration policy regimes that encourage temporary migration, primarily because temporary migration is the form of skill transfer from developing to advanced economies that has the greatest benefits for sending countries. In the future there are likely to be more pressures from both ends for more international skill mobility. So while controversial, only temporary migration regimes hold the promise of successfully managing migration flows while at the same time bolstering development in the short to medium term.

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Over the longer run advanced nations should incorporate skilled mobility into their thinking about foreign aid, utilising diasporas, and targeting support for the educational sector in attempts to reduce international inequalities in opportunities for skill acquisition. Such policies need to be embedded in wider development strategies that are practical in their attempt to achieve the oft-stated ambition to make ‘globalisation work for the poor’ (DFID 2000).

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## Endnotes

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<sup>1</sup> There is a concern that this definition may be too restrictive a definition for many developing countries struggling to establish, and benefit from, widespread secondary education and fearful of losing an element of this population through emigration (Black and King 2004).

<sup>2</sup> The estimates are made using SOPEMI (2003) data that differentiate major foreign populations in advanced nations (adjusted to be 25 years of age and older) and gives foreigners' educational shares. The denominator is the immigrant population and the sending-country population

<sup>3</sup> Most US temporary visa holders must demonstrate that they have family, housing, vacation plans, bank accounts, etc., to whom they intend to return. This 'intention' helps identify likely future actions of migrants and sends a transparent message of obligation.

<sup>4</sup> A recent review, while supportive, argues for more research (Ammassari and Black 2001). Most studies address less skilled returnees and the productivity/selectivity effects of returnees is little studied.

<sup>5</sup> Return can be facilitated, if not always permanently, then in targeted ways that benefit the sending country. One caveat that should be noted however is that many return programmes involve modest numbers and they alone are unlikely to reverse migration flows. Yet, they capitalise on the synergies of return in a practical and relatively low-cost fashion.

<sup>6</sup> See discussion on the IOM website: <http://www.iom.int/berneinitiative/>.