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The Global Migration of Talent: What Does it Mean for Developing Countries?

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Summary: Human capital flows from poor countries to rich countries are large and growing. A leading cause is the increasing skill-focus of immigration policy in a number of leading industrialized countries—a trend that is likely to intensify as rich countries age and competitive pressures build in knowledge-intensive sectors. The implications for development are complex and poorly understood. While fears of the "brain drain" were overwrought in earlier decades, the recent celebration of "brain gain" is also overdone, especially as highly selective migration policies deprive poor countries of scarce innovators and institution builders. We explore available policy responses to improve the net effect on development without making the international migration system even more illiberal than it is today.

Cross-border financial capital flows have transformed the global economic and political landscape over the last half-century. Over the next few decades, global migration, driven by demographic and technological factors and the inevitable persistence of large income gaps across countries, is likely to play an equally influential role in shaping the nature of politics and economics internationally. The bulk of migration will take place within developing countries themselves, specifically regarding the movement from rural to urban settings in the giants—China and India. The second largest migration flows will occur internationally, among developing countries, thus continuing the trend of recent years. A third body of migrants will travel from developing to developed countries.

The consequences of substantial immigrant inflows have prompted much debate and analysis about their effects on advanced industrial countries. As these inflows continue to swell over time, the welfare of many migrants, both intra- and international, will require the attention of policymakers the world over, irrespective of the specific circumstances—income gaps, ethnic cleansing, economic instability, or human trafficking—that provoked their departure from their country of origin. However, another reality has received short shrift. What will be the consequences of large cross-border flows of people on the countries of origin? While the majority of international migrants will be low-skill workers, a critical number of them will be highly skilled. What will be the impact of these flows on development, and how substantial will these effects be? The issue demands greater attention because competition for developing country talent will intensify in the years ahead.

Brain-Drain Trends

Skilled emigration rates substantially increased during the 1990s (Table 1). For many poor countries, the share of skilled nationals residing in rich countries is staggeringly high—more

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than two-fifths of nationals of the Caribbean (Figure 1) with a tertiary education live in OECD countries, while the figure is more than a quarter for many African countries (Table 2). Although the bursting of the technology bubble as well as heightened security concerns are casting a shadow, the selective dismantling of rich country barriers to immigration of the highly skilled from poor countries will continue, driven by three powerful long-term trends:

- First, the combination of the skill-bias of much recent technological advancement with governments' desire to have a competitive advantage in emerging knowledge-based industries. Modern growth is about innovation and it is here, rather than in labor market effects, that the long-term gains of human capital inflows are probably most manifest.

- Second, the aging of rich-country populations. On the labor market side, this trend is likely to increase demand for service providers for an older population. But the huge fiscal costs of population aging are also likely to drive targeted attempts to attract higher-earning foreign workers to help pay for pension and health care benefits for the domestic population. With the alternatives being greater tax increases on the working population or more substantial benefit cuts for the retired population, there will be strong pressures to "import" taxpayers at the margin.

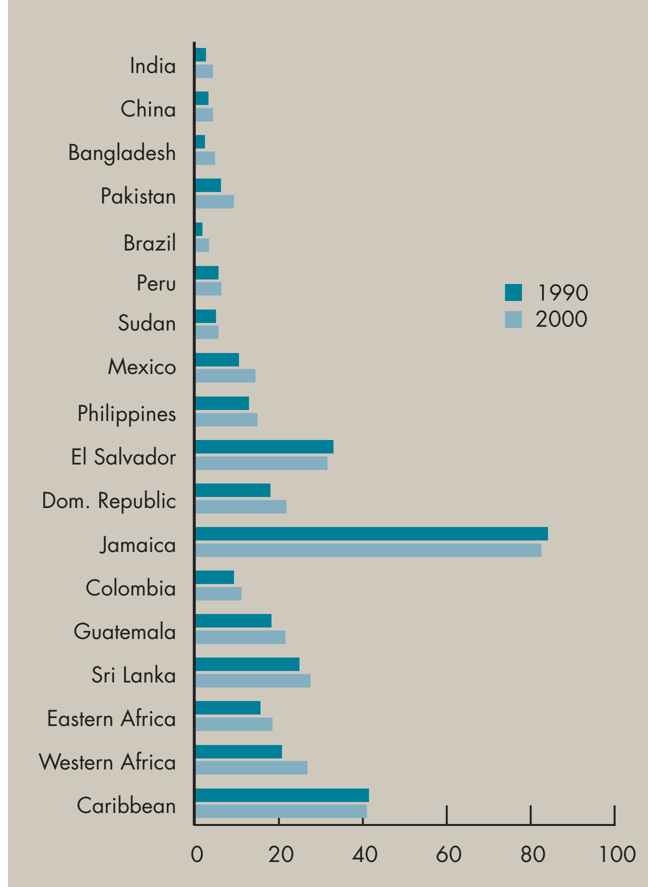
- Finally, the broader globalization of production and trade. Although in theory international product and capital market integration can substitute for international labor market integration, in practice they tend to evolve together. For example, multinational companies desire the flexibility to move their staff between locations, and sometimes use the threat of moving jobs to win more flexibility to hire foreign workers domestically.

Table 1. Better-educated Workers Are More Likely to Emigrate:*

Country of birth	1990 Primary	1990 Tertiary	2000 Primary	2000 Tertiary
Mexico	6.5	10.4	9.5	14.3
Philippines	1.1	12.8	1.4	14.8
India	0.1	2.6	0.1	4.2
China	0.1	3.1	0.1	4.2
El Salvador	8.2	32.9	11.2	31.5
Dom. Republic	3.8	17.9	5.8	21.7
Jamaica	11.0	84.1	8.3	82.5
Colombia	0.5	9.2	0.8	11.0
Guatemala	2.1	18.2	3.5	21.5
Peru	0.3	5.6	0.7	6.3
Pakistan	0.2	6.1	0.3	9.2
Brazil	0.1	1.7	0.1	3.3
Egypt	0.2	5.3	0.2	4.2
Bangladesh	0.1	2.3	0.1	4.7
Turkey	4.2	6.3	4.6	4.6
Indonesia	0.1	6.2	0.1	2.0
Sri Lanka	0.8	24.8	1.9	27.5
Sudan	0.0	5.0	0.1	5.6
Tunisia	4.6	12.3	4.2	9.6

* Percent of population living in OECD countries, by education level

Figure 1. Percentage of Skilled Workers Living in OECD Countries, (1990-2000)



Source for Table 1 and Figure 1: Docquier and Marfouk (2004) and authors' calculations.

Table 2. Estimates of the Brain Drain from Africa: Emigration Rates for Tertiary Educated, 2000

Percentage of nationals with university education living abroad, 2000

> 50	Cape Verde, Gambia, Seychelles, Somalia
25–50	Angola, Equatorial Guinea, Eritrea, Ghana, Guinea Bissau, Kenya, Liberia, Madagascar, Mauritius, Mozambique, Nigeria, Sao Tome and Principe, Sierra Leone
5–25	Algeria, Benin, Burundi, Côte d'Ivoire, Cameroon, Chad, Comoros, Congo, DRC (formerly Zaire), Djibouti, Ethiopia, Gabon, Guinea, Malawi, Mali, Mauritania, Niger, Morocco, Rwanda, South Africa, Senegal, Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia, Zimbabwe
< 5	Botswana, Lesotho, Burkina Faso, Central African Republic, Egypt, Libya, Namibia

Looking forward, the evolving liberalization of trade in services is likely to blur the lines between trade and migration. The intensification of product market competition will increase the pressure on governments to ease immigration restrictions so as to provide domestic firms with a source of competitive advantage through improved and cheaper access to a diverse set of skills. When it comes to the innovation-intensive sectors of the economy, governments of rich countries will be more and more sensitive to claims that other countries are providing more conducive competitive environments to their firms.

Effects on Developing Countries

How will this increased competition for poor countries' talent affect their development prospects? There are four key channels through which international skilled migration affects sending countries. Our analysis of each of the four channels—prospect, absence, diaspora, and return—focuses on effects of skilled emigration on the welfare of "those remaining behind" (TRBs) in the home country. This is not to say that the welfare of TRBs is all that matters. Emigration obviously has important welfare effects on the emigrants themselves. Generally, however, the effect will be positive—otherwise they would not leave. However, the welfare effects on TRBs are less well understood and the multiple channels strongly suggest that the implications for international skilled migration are complex and defy any simple-minded, facile bottom lines.

The *prospect* channel captures the way in which a prospect or an option of emigration affects the decision-making of people in sending countries, whether or not they actually end up emigrating. In particular the prospect of emigration increases the inducement to get more education as well as the type of education. The massive increase in nursing education in the Philippines illustrates this phenomenon. This channel affects decisions related to the types of skill acquisition, the supply of entrepreneurship, the development of relationships with co-located individuals, and the extent and form of savings.

The *absence* channel focuses on the effects on TRBs when skilled individuals actually leave. At the simplest level, the country loses an "emigration surplus"—the difference between the values an emigrant was adding to the economy and that which the emigrant was being paid. This is a direct money measure of the economic loss of the emigrant's absence. However, the *absence* of skilled workers on the domestic economy also results in larger skill premiums, fiscal losses, diminished scale economies, and changed comparative advantage.

Most importantly, it might affect a country's capacity to build domestic institutions, increasingly recognized as the critical variable for development. How does the absence of highly talented individuals affect institutional development? We find it useful to distinguish between the impacts of emigration on the supply of institution-builders and the demand for better institutions. The *supply* side is the more straightforward. Countries have limited supplies of people willing and able to take on entrenched interests to reform schools, establish clinics, and fight for the rule of law. The dilemma is that potential institution-builders are most likely to leave where institutional quality is worst. And the very individuals most likely to be institution-builders by talent and temperament, be it professionals or managers, are the most likely to be internationally marketable. If people of talent and drive are essential for building institutions, then their loss can have severe consequences. Added to this, the incomes of non-corrupt but talented individuals working in public institutions with compressed wage scales are likely to compare unfavorably with foreign alternatives. Such people are highly vulnerable to giving up and starting over where they are more valued. This potential loss of an institution building middle-class

Source for Table 2: Docquier and Marfouk (2004) and authors' calculations.

Table 3. Where the Migrants Are:

Countries with Migrant Stocks of More than One Million in 2000[a]

Country	Thousands	Percent of total population
United States	34,988	12.4
Russia	13,259	9.1
Germany	7,349	9.0
Ukraine	6,947	14.0
France	6,277	10.6
India	6,271	0.6
Canada	5,826	18.9
Saudi Arabia	5,255	25.8
Australia	4,705	24.6
Pakistan	4,243	3.0
United Kingdom	4,029	6.8
Kazakhstan	3,028	18.7
Hong Kong, China	2,701	39.4
Côte d'Ivoire	2,336	14.6
Iran	2,321	3.3
Israel	2,256	37.5
Moldova	2,088	5.4
Jordan	1,945	39.6
United Arab Emirates	1,922	73.8
Switzerland	1,801	25.1
Italy	1,634	2.8
Japan	1,620	1.3
Netherlands	1,576	9.9
Turkey	1,503	2.3
Argentina	1,419	3.8
Malaysia	1,392	6.3
Singapore	1,352	33.6
South Africa	1,303	3.0
Belarus	1,284	12.6
Burkina Faso	1,124	9.7
Kuwait	1,108	57.9
Venezuela	1,006	4.2

Source: United Nations Population Division (UNPD) (2002).

a. For most countries, the migrant stock number is a midyear estimate of the number of foreign-born. Estimates of the number of noncitizens are used where data on nativity are not available (Japan, Iran, Jordan, Kuwait, and Germany).

may be compounded by the reduced *demand* for improved institutions when the most productive leave. It is the productive individuals who are capable of being successful in high quality institutional environments that have the strongest interest in seeing that these institutions are built.

The third channel is the role of *diasporas,* which is the effect of overseas resident emigrants on TRBs. These *diasporas* are resident in both rich and poor countries and some developing countries such as Iran, Turkey and South Africa are host to large immigrant communites, while serving as the source of large emigrant communities as well (Table 3). Recently, the upsurge in financial remittances has given this channel the most salience. While important for augmenting and smoothening consumption, it would be a singular mistake to believe that financial remittances can address the development problems of countries such as Albania, Haiti or Liberia, given that their source—international migration—is often itself the result of serious problems in the country of origin. The flows of ideas and business networks that are critical for economic dynamism and institutional change are likely to have more significant long-term consequences. Emigrants can also link domestic residents to international social networks, use their accumulated wealth to invest in home-country projects, and act as transnational entrepreneurs.

> The dilemma is that those most likely to be institution-builders are those most likely to emigrate.

Finally, the *return* channel looks at how emigrants returning with augmented capital—financial and human—can affect the domestic economy differently than if they had never left. They may have greater education and financial wealth; different experiences and changed expectations; new ideas and connections to international supplies, customers and financiers.

So what should be done?

Policy responses should keep in mind that the maximum advantages of international human capital flows accrue to the migrants themselves and the receiving countries, and to those sending countries in which the flows are a relatively modest fraction of the stock. The policy options can be classified in four broad categories: control, compensation, creation, and connections (Table 4).

Control related policies seek to curb the flow of skilled immigrants or emigrants. Although there will be occasions when the damage being done by selective recruitment (or "poaching") of talent is so damaging—not least the recruitment of doctors and nurses from countries experiencing health crises—that curbs are justified, in general we recommend against going down this policy route, for both normative and pragmatic reasons. Rather than removing emigration options for those lucky enough to have them, it is generally better to look for ways to make sure that everyone shares in the spoils when those options are exercised.

This leads us to consider ways of *compensating* the society of "those remaining behind." There are numerous conceivable ways that such compensation could be paid. These mechanisms differ in the degree to which the compensation is paid by the rich-country governments, rich-country employers, or the emigrants themselves. The mechanisms also differ in the agency that enforces the compensation. The options include: tying development aid to human capital recruitment; arranging for replacement of rich-country personnel; sharing payroll and income tax revenues with poor-country providers of human capital; U.S.-style continuing post-emigration tax obligations to countries of origin (the "Bhagwati tax"); conditional education grants that are repayable on emigration; sharing the proceeds of visa fees or the revenues of visa auctions. All of these mechanisms face practical difficulties. And almost all require the cooperation of rich-country governments. But given the skill-biased trends and the development stakes, the issue of compensation needs to be addressed.

Table 4. Policy Responses to Skilled Migration

	Instruments		
Policies	*Rich countries*	*Poor countries*	*International organizations*
CONTROL	Shift balance toward unskilled immigration Curb skill-poaching programs unless compensation schemes are in place	Curb illegal migration Improve economic and political stability	Promote economic development
CREATION	Avoid shortages in areas such as health and education due to poor human capital planning Transparent mechanisms for recognition of foreign credentials	Higher education reforms Liberalize skilled immigration	Increase support for higher education
COMPENSATION	Share social security taxes Tie development aid to skilled emigration Firms pay headhunter fees to source country	Exit tax Tax foreign income	Improve migration-related data
CONNECTION	Encourage circulatory migration Strengthen temporary migration programs	Develop systems of IRAs for migrants Dual citizenship	Develop network infrastructure

An important implication is that policy makers need to pay much greater heed to both rich and poor country human capital *creation* policies that address the skill imbalances that are both cause and consequence of emigration. On the rich country side, systematic underinvestment in sectors such as health care and education (especially for public systems) has led to almost permanent skill shortages, and ongoing "crisis" recruitment from poorer countries. When such crises reoccur in sectors where poor countries are adversely affected by emigration, rich countries should increase their own human capital investments, as well as invest in cheaper human capital creation institutions in developing countries. The problem is that the costs of investing in the necessary manpower must often be borne years before the benefits are realized, leading to systematic neglect by governments and individuals with short horizons and financial constraints.

Also, rich country governments must do more to use well what human capital they do recruit. Too often when professionals such as doctors actually arrive, they find it difficult to have their credentials recognized. While all countries have an obligation to regulate quality in the professions, they sometimes serve as a screen to protect domestic competitors, and other times the result of too few resources being devoted to immigrant integration. Temporary skilled migration programs often bar spouses from working, again unnecessarily wasting talent. Poor countries—and the development community—need to place much greater attention on reforms in tertiary education, not least because weak institutions themselves drive out the talented educators on whom successful domestic skill creation depends. Needless to say this begins with a macroeconomic and political environment that does not drive out talent. And where substantial skill outflows are foreseeable, governments need to "over-invest" in skill creation and implement tuition fees and loans in public institutions that put a greater burden of the costs of those investments on the recipients of the education—especially if they ultimately decide to leave.

Poor and rich countries alike must invest in human capital creation.

A less controversial policy approach is to ensure that emigrants remain economically and socially *connected* to their former homes, which include policies that affect the probability of return. This approach seeks to maximize the benefits that come from having a well-connected diaspora and the capital-augmented return. Receiving and sending countries can ease barriers to travel, to sending remittances, and to making investments. One way to increase the probability of return is to make visas temporary without the possibility of transitioning to permanent status. The idea is that young people build skills, savings, and social networks while abroad, and then return to use their accumulated human, financial and social capital to the benefit of the home country.

Countries need talent to ensure innovation, build institutions and implement programs—the key pillars of long-term development.

One could argue that such policies are fair if the migrants understand the terms of their visa from the outset. And indeed we think that such time-limitations are perfectly legitimate for short stays. But recognizing the way many people quickly put down roots in their adopted countries, we think that medium- to long-term temporary and non-convertible visas are not a humane policy. A better approach is to create *incentives* to return as opposed to prohibitions on staying. Such policies include making it possible to re-return if things do not work out, making social security entitlements portable, having rich-country governments facilitate the return of people with badly needed skills, putting money in special accounts during the migrant's stay that can only be accessed on return, and having origin country governments provide information on opportunities at home.

Conclusion

It is foolhardy to make simple judgments about the desirability of talent flows from poor to rich countries. For small, poor countries, the migration of a significant fraction of their best and brightest risks being harmful to those remaining behind. The fundamental reality is that countries need talent to ensure innovation, build institutions, and implement programs—the key pillars of long-term development.

With large income gaps across countries likely to persist over the foreseeable future, flows of talent from poor to rich countries are more likely to increase than decrease, as the rich country demand for talent appears more powerful than any possible reduction in poor country supply from the

narrowing of income gaps. Given the substantial, complex, and often negative effects on those remaining behind, the international development community needs to pay much greater attention to this neglected phenomenon.

However, when society's most skilled people leave at a high rate, it is invariably a signal of deep and significant problems in a country. In such cases, tackling the brain drain would simply be treating the symptoms of the problem rather than its root causes. The checkered history of foreign aid clearly illustrates the severe limitations of what outsiders can do. To the extent that the problems of a country are endogenous, the solutions are also likely to lie largely within. Like foreign aid, diasporas can facilitate (and sometimes harm) development, but they cannot by themselves fundamentally improve the development prospects of a country. And while financial remittances are helpful, they are not a substitute for institution-building human capital.

Rich countries need to understand that remittances are not a quid pro quo for the brain-drain. The broad elements of a development-focused policy agenda are clear: more balanced recruitment of less skilled; greater emphasis on temporary recruitment with incentives to return; enhancement of financial and other connections with the diaspora; and emphasis on remedying the institutional failures that drive the most talented out. With these elements in place, migration from poor to rich countries stands a better chance of being beneficial for development.

Related CGD Works

Migration is one of the Center's core areas of policy-based research. Our work on migration concentrates on the challenges and opportunities that large-scale migration presents to global development and poverty reduction, including issues of "brain drain" and labor mobility across national boundaries. For related CGD materials on this issue, please refer to the following works, which are available online at www.cgdev.org.

Lant Pritchett, *Boom Towns and Ghost Countries: Geography, Agglomeration, and Population Mobility*. Working Paper 36 (Washington, DC: Center for Global Development, 2004).

For a complete ranking of 21 of the world's richest countries according to the "development friendliness" of their policies, including migration, see the *Commitment to Development Index*, migration component. Available at www.cgdev.org/rankingtherich.

Devesh Kapur and John McHale, *Give Us Your Best and Brightest: The Global Hunt for Talent and Its Impact on the Developing World* (Washington, DC: Center for Global Development, 2005).

Forthcoming Titles

Nancy Birdsall, *Global Demographic Change: Economic Impacts and Policy Challenges* (Washington, DC: Center for Global Development, 2006).

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