

Introduction

For many poor countries, the share of their skilled nationals residing in rich countries is staggeringly high. The emigration rate among their tertiary-educated population has been conservatively estimated at 41 percent for the Caribbean region, 27 percent for Western Africa, 18.4 percent for Eastern Africa, and 16 percent for Central America.¹ There is growing concern that such outflows help trap countries in poverty. Yet departures from vulnerable regions have increased in response to reduced immigration restrictions for—and at times active recruitment of—skilled workers from poorer countries.

These selective reductions have aroused surprisingly muted criticism compared with other rich-country policies affecting development, such as the protection and subsidization of agricultural sectors, restrictions on access to cheaper medicines under trade-related intellectual property rights (TRIPS), and the austerity imposed on crisis-hit countries as part of bailout packages. The ambivalence surrounding targeted immigration is due in part to the fact that policy of this kind helps break down artificial barriers to freedom of movement—if only for a subset of the population. There is also some question as to whether skilled emigration is truly detrimental to development. Although the loss of a doctor serving

1. These estimates are from Docquier and Marfouk (2004), who conducted a massive survey of census and other data from all countries of the Organization for Economic Cooperation and Development (OECD) to estimate the size of the immigrant populations in each by education level and country of birth. Their findings are reviewed in chapter 2.

hundreds or even thousands of patients in rural Africa clearly depresses living standards for those remaining behind, does the emergence of tightly networked Chinese and Indian diasporas in Silicon Valley really harm their home country's domestic high-tech sectors? Since the 1960s, the pendulum seems to have swung from concern about the "brain drain" sapping development to a celebration of "brain circulation." This book is in part an effort to push the pendulum a bit of the way back.

This might seem like an odd moment to fret about talent being poached from the developing world. For one thing, the high-tech boom largely responsible for the rich-country immigration reforms of the 1990s recently came to an end, putting the liberalization drive into reverse in the United States (although it seems to be continuing to increase elsewhere).² For another, the terrorist attacks of 2001 and after have focused attention on security, with the result that potential migrants are coming under greater scrutiny and their applications taking longer to process. Although fallen from the front pages, international human capital flows will undoubtedly be an important development issue in the coming decades. Three powerful long-term trends are likely to rekindle the international competition for talent.³

2. Most notably, the United States has again capped H-1B visas at 65,000, lowering the level from 195,000, and made it more difficult for foreign students to obtain visas. The H-1B is a temporary visa used to attract large numbers of highly skilled workers. It often serves as a way station for workers waiting for employment-based permanent residency. The U.S. response has been more the exception than the rule. Australia has continued to accept close to record levels of skilled workers. Canada, meanwhile, has lowered the points cutoff on its revamped skilled-worker program to counter falling acceptance rates. Similarly, the United Kingdom has lowered the points cutoff on its Highly Skilled Worker Programme but increased the points for younger workers and workers with qualified partners. A somewhat unheralded development on the U.S. liberalization front is the recent removal of the severe restrictions on the availability of North American Free Trade Agreement-related (or TN) temporary visas for skilled Mexican workers. These visas have been available to Canadians in unrestricted numbers since the early 1990s, and they appear to have facilitated a substantial movement of skilled professionals from Canada to the United States.

3. Even the United States is becoming concerned about the barriers to talented foreigners. In a companion to its Science and Engineering Indicators for 2004, the National Science Board set off an alarm in "An Emerging and Critical Problem of the Science and Engineering Labor Force," stating that "the number of U.S. citizens prepared for [science and engineering] jobs will, at best, be level; and the availability of people from other countries who have science and engineering training will decline, either because of limits imposed by U.S. national security restrictions or because of intense global competition for people with these skills" (National Science Board, 2004, p. 1). The issue of demand-driven human capital outflows from poorer countries is likely to be with us for some time.

First, the skill bias of recent technological advancements is leading governments to strive for a competitive advantage in emerging knowledge-based industries. With a continuing high demand for skill, industry is likely to lobby for more liberal immigration policies to ease cost pressures, and strong skilled-wage growth will once again dampen domestic worker opposition. Although nothing fuels the desire for protection quite like deteriorating labor market conditions, skilled workers have enjoyed absolute and relative wage gains for several decades now and thus remain relatively relaxed about immigration. At the same time, even highly skilled workers are not immune to protectionist turns, as indicated by their mounting complaints about the outsourcing of some skilled service sector jobs. But cost-focused outsourcing is more likely to strengthen the high-tech sectors of rich countries than it is to weaken them and hence will probably bolster the confidence of the skilled workforce.

Second, international competition for skilled labor will be abetted by the aging of rich-country populations together with the ever-expanding technical possibilities for costly (and often highly beneficial) health care. On the labor market side, this trend is likely to increase the demand for less-skilled care and other services needed by an older population. But because the fiscal costs of population aging are huge, targeted attempts will also be made to attract higher-earning foreign workers to help pay for pension and health care benefits for the domestic population. The harsh reality is that, given the size of the tax increases that will be necessary to pay promised benefits for older citizens, these promises are at extreme risk of being broken by future politicians and electorates. The baby boom generation in particular will want to backfill the taxpaying workforce behind it to stave off the worst of this risk. As we show in later chapters, however, immigration is far from being a “silver bullet” for rich-country aging. Many of the immigrants being recruited as taxpayers to help pay for these overburdened systems will themselves acquire entitlements to future benefits to be paid for by future taxpayers, making immigration only a temporary fix to the long-term costs of an aging population. Despite this, with the alternatives of even greater tax increases for the working population or even greater benefit cuts for the retired population, there will be strong pressures to “import” taxpayers at the margin.

Third, international competition for talent is bound to increase because of 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. Multinational companies, for example, want to be able to move their staff between locations and sometimes use the threat of moving jobs to win more flexibility to hire foreign workers domestically. Familiarity with foreign cultures also makes people more willing to move and destination country populations more willing to accept them. Looking forward, as trade in services becomes more liberal, the lines between trade and migration become blurred. Perhaps most important, as product market competition intensifies, governments will be pressed to ease immigration restrictions so as to provide domestic firms, especially those in innovation-intensive sectors of the economy, with a source of competitive advantage through improved and cheaper access to a diverse set of skills.

How will this increased competition for talent affect the development prospects of poor countries? Our admittedly unsatisfying answer is that the benefits and costs will vary, depending on the country and sector. The direct costs of absent human capital can be substantial, as demonstrated by the shortages of skilled labor in key areas such as pediatrics in Africa or by the significant net fiscal losses due to disproportionate emigration of the highly skilled in India. But countries can also obtain substantial benefits from the international mobility of their human capital. To cite a few examples, the Chinese and Indian diasporas in Silicon Valley have facilitated international business for domestic high-tech firms, remittances to Latin America have been buffering consumption there, and Irish emigrants who left in the 1980s and subsequently returned were instrumental in sustaining the “Celtic Tiger” economy of the 1990s.

The effects of skilled emigration on poor countries occur through four basic channels. The *prospect* channel refers to the way the prospect or option of emigrating alters the level and form of human, social, and financial capital accumulated by forward-looking individuals. Having an emigration option can also affect domestic institutions and policies such as the progressivity of the tax system and the financing of higher education. The *absence* channel refers to the way the absence of such capital from the home economy affects domestic factor markets and institutions. In this case, standard measures of emigration costs that do not take into account the heterogeneity of skills are likely to underestimate the costs of lost specialized skills, with a key absence-related loss stemming from missing institution builders. The *diaspora* channel denotes the impact of emigrants on the home economy from afar. In addition to being a source of trade, investment, remittances, and knowledge, a successful diaspora can play a critical role in reducing barriers to

international business through its role as “reputational intermediary” and thus help poor countries integrate into global production chains and international trade. The last channel, *return*, represents the impact of emigrants returning with augmented skills, social networks, and wealth, now better equipped to contribute to their home economies than if they had never left.

As is increasingly recognized, the massive gap in living standards between the developing and the developed world reflects vast differences in the soundness of their institutional foundations. These foundations include security of property and person, scope for trusting trading partners, and honesty and capability of the providers of public services. They are weakest in truly failed states. But weak institutions also hold back growth in functioning but still predatory states. Of course, people are the ones who build institutions; and talented people are most likely to be the targets of rich-country recruiters. Moreover, the places that potential institutional builders are most likely to leave are those where institutional quality is worst.

If one assumes that people of exceptional talent and drive are essential to institutional reform, it is easy to see that the loss of institution builders—hospital managers, university department heads, political reformers, to name just a few—can help trap countries in poverty. At the same time, other channels of skilled emigration may have some positive effects on institutional development. The prospect of exit via emigration, for example, can increase the bargaining power of productive citizens compared with their more predatory brethren, in effect forcing the latter to give value creators better deals in such forms as lower taxes, smaller bribes, and better public sector working conditions. Also, members of the diaspora—especially returnees with a deep knowledge of successful institutional structures—can be important forces for reform. In sum, mobile talent can play a complex role in institutional development.

To best understand that role in poorer countries, one should perhaps first consider how the absence of highly talented individuals affects institutional development, meaning both 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 in order to reform schools, establish clinics, and fight for the rule of law. However, the individuals most likely to be institution builders by talent and temperament are also those most likely to be internationally marketable. Furthermore, the incomes of noncorrupt but talented individuals working in public institutions

with compressed wage scales are likely to compare unfavorably with foreign alternatives. Such people are highly susceptible to giving up and starting over in an environment where they are more valued. To compound the potential loss of institution-building supply, the *demand* for improved institutions may go down when the most productive leave, for they are the very individuals who are capable of being successful in high-quality institutional environments and thus have the strongest interest in seeing that these institutions are built.

Our discussion of the four channels of influence—prospect, absence, diaspora, and return—focuses on their effects on the welfare of “those remaining behind” (TRBs) in the home country. This is not to imply that the welfare of TRBs is all that matters. Emigration obviously has important welfare effects on the emigrants themselves. Presumably, these effects will generally be positive—otherwise they would not leave. However, the welfare effects on TRBs are less well understood. Of course, skilled emigration also affects destination countries and their skilled workers, who must compete directly in the job market with the emigrants. Although much still needs to be learned about the costs and benefits of skilled immigration, this aspect of the migration experience has been comparatively well studied.⁴

We also omit unskilled emigration from the discussion, though clearly an important phenomenon that will continue to occur (much of it illegally) as long as there are large gaps in living standards between countries. In view of these gaps, unskilled emigrants are likely to experience even larger welfare gains from emigration than are skilled workers, for whom international factor markets are more integrated. Even so, official immigration policy of rich countries has been focusing more on the need for skilled workers, portending a future of increased human capital outflows from developing countries. The causes and consequences of this phenomenon are the central concern of this book.

The reader might also wonder about likely developments on the supply side of the international skill market. Will the world’s skilled workers continue to uproot themselves in great numbers in pursuit of the living standards available to them in rich countries? The answer, of course, depends on the success of poorer countries in closing the now-large income gaps between themselves and rich countries. China’s (and more recently India’s) rapid growth is a positive sign that these income gaps have the potential to close, and that people may not be forced to

4. For surveys, see Borjas (1994, 1995) and National Research Council (1997).

seek prosperity through often highly disruptive international moves. Unfortunately, despite the possibility illustrated by the Chinese and Indian examples, extreme inequalities are likely to persist between the developed and developing parts of the world, providing a deep vein of potential emigrants for some time to come, with the prospects for Africa looking particularly bleak. In the chapters that follow, then, we assume that there is a willing (though not unlimited) supply of internationally mobile skilled labor and focus on the effects on flows of the selective demand-side removal of migration barriers.

So what should be done? We discuss the policy responses under four headings: control, compensation, creation, and connections. At the risk of oversimplifying a complex policy challenge, we offer the following formulation: control when absolutely necessary; compensation when it is feasible; creation and connections whenever possible. By *control* we mean efforts to curb the flow of skilled immigrants or emigrants. Even though “brain drains” can be damaging, we do not think the solution is to try to put the barriers back up. International migration is already too restricted and stands awkwardly as the missing element of globalization.⁵ As they seek economic advantage, rich countries are tilting their immigration policies more and more toward skilled workers for whom they anticipate easy assimilation. Although more balanced immigration would be fairer and better for development, even selective liberalization of immigration barriers that follows the path of least political resistance is better than no liberalization at all. At times, however, selective recruitment (or “poaching”) of talent will be so damaging—not least in enticing doctors and nurses from countries experiencing health crises—that rich countries should “just say no.” But rather than remove emigration options for those lucky enough to have them, we think 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* those remaining behind.⁶ The numerous mechanisms for this purpose differ in the degree

5. See the excellent discussions in Bhagwati (2004) and Wolf (2004).

6. We thank Jagdish Bhagwati for pointing out that compensation may be interpreted as making up for losses to “those remaining behind.” As he rightly notes, the case for emigrant taxation need not depend on whether TRBs are harmed by the emigration. The taxation could be viewed as compensation for the source country’s past investments in the emigrant’s human capital, or for the ongoing benefits of citizenship. We thus use compensation in the broad sense of payments in money or in kind to the source country and do not limit the case for such payments to situations in which the source country is harmed.

to which the compensation is paid by the rich-country governments, rich-country employers, or the emigrants themselves. They also differ in the agency that enforces the compensation. The options include tying development aid to human capital recruitment, arranging for rich-country personnel to act as replacements, sharing payroll and income tax revenues with poor-country providers of human capital, having countries of origin impose ongoing tax obligations on their emigrants (the Bhagwati tax), providing conditional education grants that are repayable on emigration, and sharing the proceeds of visa fees or the revenues of visa auctions. All of these mechanisms pose practical difficulties. And almost all require the cooperation of rich-country governments.

We also look at rich- and poor-country policies designed to *create* human capital and thereby address the skill imbalances that are both the 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 recur in sectors clearly being damaged by emigration, rich countries have an obligation to correct the problems with their own policies for creating human capital rather than continually relying on poor countries to fill the gaps. They are deterred from doing so, however, by the costs of investing in the necessary manpower, which must often be borne years before the benefits are realized. Also, governments have an obligation to use well what human capital they do recruit. To this end, Canada, for one, has pushed immigration policy in a more skill-focused direction. Nevertheless, when professionals such as doctors actually arrive, their credentials are not always recognized. Although all countries have the right—indeed an obligation—to regulate quality in professions with large asymmetries of information between sellers and buyers, such concerns sometimes seem to be a screen for the protection of domestic competitors or may simply be the result of too few resources being devoted to immigrant integration. Poor countries also need to respond to inevitable outflows with reforms of their own human capital-creation policies. Where substantial skill outflows are foreseeable, forward-looking poor-country governments need to “overinvest” in skill creation, possibly in association with policies that put a greater burden of the costs of those investments on the recipients of the education—especially if they ultimately decide to leave. In addition, poor countries need to improve the quality of their educational institutions, not least

because weak institutions themselves drive out the talented educators on whom successful domestic skill creation depends.

A less controversial approach is to ensure that emigrants remain economically and socially *connected* to their former homes, which include policies that affect the probability of return. The purpose here is to maximize the benefits from having a well-connected diaspora and the capital-augmented return. Receiving and sending countries can make it easier for emigrants to travel, send remittances, and make investments. They can also help in solving the collective action problems inherent in organizing a diaspora and cooperate with groups that do form. One way to increase the probability of return is to make visas temporary without the possibility of leading 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. Such policies seem fair if the migrants understand the terms of their visa from the outset. Indeed, time limitations are perfectly legitimate for short stays. But seeing that many people quickly put down roots in their adopted countries, we think that medium- to long-term temporary and nonconvertible visas are not humane policy. A better approach is to create *incentives* to return as opposed to prohibitions on staying. For instance, governments could allow emigrants to return again at a later time if things do not work out, make social security entitlements portable, sponsor the return of people with badly needed skills, put money in special accounts during the migrant's stay that can only be accessed on return, or ask the country of origin to provide information on opportunities at home.

Our analysis is structured in three parts. We set the scene in part I with a review of what is known about the extent of skilled emigration and about rich-country policies facilitating it. In chapter 2 we piece together a rough statistical portrait of international human capital stocks and flows that highlights emigration rates by education level, the incidence of the disproportionate losses of the very highly skilled, and the return patterns of students from developing countries who acquire their education in rich countries. In chapter 3, we document policy developments relating to skilled emigration in five leading recipient countries—Australia, Canada, Germany, the United Kingdom, and the United States—policies that are largely responsible for changes in emigrant stocks and flows. In chapter 4, we reflect on the long-term forces that are driving these policy evolutions and on whether the skill-focused

trend is likely to continue. Part II turns to the various channels through which these stocks and flows have affected the source countries, with a chapter on each of the prospect, absence, and return channels and two chapters on the poorly understood diaspora channel. In reviewing the limited evidence on the strength of these channels, we use boxes to outline their various effects in certain countries and sectors. The picture that emerges is quite complex. No broad statement about overall desirability is possible, though we can make stronger statements at the sectoral level and can also identify certain channels of influence that are detrimental and others that are beneficial (or could be made so). Part III provides some policy options for both rich (destination) countries and poor (source) countries that would help international skill mobility become more beneficial for poorer nations without making the international migration system even more illiberal than it is today.