

Brain Drain or Brain Exchange?

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The rich world is worrying about skills shortages, especially at the upper levels of their economies. The causes are many—such as a “demographic cliff” in Japan and in some European countries, significantly reducing the numbers of university-age young people, especially too few students enrolling in science, technology, engineering, and mathematics (STEM) fields, a leveling off of access, and low-degree completion rates. What is a solution of these problems? Increasingly, it is to boost the “stay rates” of international students—in other words, to convince international students, mainly from developing and middle-income countries, to remain after they complete their degrees. To oversimplify, the rich are robbing the brains of the developing countries—or for that matter any qualified brains who can be lured. Although the brain drain has been part of academia for a century or more, the situation is increasingly acute for all sides. For developing and emerging countries, the danger is that they will be left behind in the global knowledge economy, thus permanently damaging their futures.

CURRENT REALITIES

In the era of globalization, it may be a bit of an exaggeration to call this a deliberate policy to encourage brain drain, but only slightly. Stay rates are

already quite high. For example, 80 percent or more of Chinese and Indians who have obtained their advanced degrees in the United States over almost a half century have remained in the country. It is hardly an exaggeration to point out that a significant part of Silicon Valley has been built with Indian brainpower. A recent analysis of data from the National Science Foundation's Survey of Earned Doctorates shows that the large majority of doctoral recipients from developing countries plan to remain in the United States, contributing to the academic labor force, particularly in the STEM fields. While data are seldom available, other European countries and Australia no doubt show similar trends. However, return rates are modestly increasing globally as developing country economies improve, and some of the rich world remains mired in recession.

SUBSIDIES FROM THE POOR TO THE RICH

Emerging and developing economies are actually contributing significantly to the academic systems of wealthier countries. International students contribute significantly to the economies of Europe, North America, and Australia while they are studying as well as if they remain. Data from 2011 indicate that the 764,000 international students studying in the United States contribute more than US\$22 billion to the American economy annually. Similar statistics can be cited for the other major host countries. Indeed, Australia, which earns US\$17 billion from international scholars, and the United Kingdom, where higher education is a US\$21 billion earner, have both clearly stated national policies to increase income from overseas students.

Perhaps of greater concern are the subsidies provided by emerging and developing economies—through their doctoral graduates—who remain and join

the academic profession in the rich countries. Here are examples from India and China—the two largest “brain exporters” in the world. It should be noted that these statistics are suggestive since details are unavailable and data points vary. In 2012, 100,000 Indian students were studying in the United States, mostly at the postbaccalaureate level. The large majority of these students remain after earning their degrees, and many join the local professoriate. Using UNESCO statistics, a rough estimate is that it costs the Indian taxpayer around US\$7,600 in purchasing power parity (PPP) to educate a student from primary schooling through a bachelor’s degree. It can be estimated that an Indian family may invest a similar amount in the education of a child—particularly since many of the young people who qualify for admission to overseas universities have been educated in private English-medium schools in India—for a total estimate of US\$15,000. Thus, the approximate Indian investment in America, by paying for the education of 100,000 young people through the bachelor’s degree, is approximately US\$1.5 billion annually. The China figures are likely even higher. Although public expenditures on education are not available, research shows the average Chinese family invests US\$39,000 PPP dollars to educate a student from primary through the completion of a bachelor’s degree. There were 194,000 students from China studying in the United States in 2012. One can estimate that Chinese families were investing US\$7.6 billion in brainpower in the United States. Significant additional funding from Chinese state sources were also being invested, although figures are unavailable.

It seems possible to approximate the educational contributions of the various, mostly developing, countries—whose young people are studying

abroad—to the economies of the host countries. While not all of these students will remain after completing their studies, the sums are significant.

In addition to direct costs, the host countries benefit from an immense amount of intellectual capital from some of the brightest young people from the developing world. At the same time, the losses for developing countries are huge—for academe in particular, in research and teaching talent, new and innovative ideas that might have been cultivated from overseas experience, practices in university management, and many others.

RICH COUNTRY STRATEGIES

Hans de Wit and Nannette Ripmeester provide an excellent summary of some of the policies aimed at increasing “stay rates” through changes in immigration policy, the provision of scholarships, closer links between universities and employers, and others (*University World News*, February 17, 2013). There is wide agreement in Europe and North America that new initiatives to entice the “best and brightest” of professionals from other countries, whom they educate, to stay and join the local labor force are a good idea. Efforts to liberalize visa regulations; open employment opportunities; permit postgraduate work, easier degree recognition; improvement of cooperation between the universities, governments, and industry; and many other initiatives are being implemented.

Countries, such as the United Kingdom and Australia, that recently implemented more stringent immigration limits, are rethinking their policies. The US National Academy of Sciences as well as universities advocate liberalizing visa regimes, in order to make it easier for foreign graduates to remain and work in the United States. There is absolutely no recognition of any

contradiction between, for example, Millennium Development Goals, which stress the necessity for educational development in the emerging nations and policies aimed at attracting the best brains from developing countries.

African countries as South Africa and Botswana, which have relatively advanced higher education systems and pay more attractive salaries, also lure talent from elsewhere in Africa. Further, the academic brain drain operates between the major “academic powers,” as well. Germany tries hard to attract back its postdocs and doctoral graduates, working in the United States, back to Germany, with only limited success. The attraction of a more stable academic career structure and somewhat higher salaries in the United States are attractive, and American universities try to keep the brightest international graduates, whatever their nationality.

THE COMPLEXITIES OF A GLOBALIZED WORLD

While location still matters and the world is by no means flat when it comes to academic excellence and power, globalization has certainly impacted universities and academic systems worldwide. The Internet has made communication and collaboration much easier. The proportion of research and publication conducted jointly by academics in more than one country has grown dramatically at the top of the system. Distance education, joint-degree programs, and branch campuses exhibit another aspect of a globalized academic world. None of this, however, makes up for losses in personnel.

China, as a country with large numbers of its academics working overseas, has instituted a number of programs to lure top Chinese researchers back to China. Joint appointments have also been offered for academics in key fields, so

that Chinese universities can benefit from top scholars who wish to remain abroad. Other developing and middle-income countries also seek to leverage the academic diaspora through encouraging joint research projects, attracting investment, sponsoring academic organizations, and others. Successful programs have at least ensured that top local talent can benefit by expertise from compatriots who live abroad. Countries such as South Korea, Turkey, Scotland, and others have implemented programs.

In all of these cases, however, the advantage remains with the major global academic centers for obvious reasons. Also, location matters a great deal; being part of an academic community is a much more powerful draw, even than Internet-based communication or sabbaticals or summers abroad. Stable academic careers, attractive salaries, academic freedom, unfettered access to the latest scientific and intellectual ideas, among other things, are a tremendous attraction. Few programs to bring back researchers and academics or efforts to limit academic mobility have been very successful. The fact is that until universities in developing countries offer the academic culture and facilities that top academics expect—including academic freedom, unrestricted information access, and laboratories—they will be unable to attract and retain top academic talent, but the policies of the rich countries certainly do not help.

ACADEMIC JUSTICE?

Do the “academic powers” have any responsibility to developing academic systems? A sense of responsibility for encouraging doctoral graduates from the developing world to return home, to build universities, and to improve the quality of emerging academic systems is entirely absent from the current

discussion. The only concern is to improve “stay rates” and liberalize immigration rules to ensure that the maximum number of the best and brightest from the developing world remains. Should the rich world at the least, in the context of Millennium Development Goals, remit to the developing world the costs incurred, by developing countries, in educating their nonreturning young people? There are many ways to at least ameliorate the situation—for example, joint doctoral degrees that provide young developing country scholars an opportunity to study abroad for part of their PhD work, while retaining a link to their home university and at the same time building research capacity. Then, at least, the developing countries would not be directly subsidizing the academic systems of the rich.