A Very Expensive Gift
Mexico's Scientific Diaspora

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Introduction

For years, the only general truth in an ocean of statistics on international migration was that the average migration rate for educated individuals had risen with globalization. Recently, this truth has ceased to exist. Figures on the financial crisis that started in 2008 show its effects on migration: fewer people leave their own homes to study or work abroad, especially in well known cases of sending countries like Eastern Europe, Turkey and Mexico. According to a report by Fix, et al., these declines are quite severe: annual flows from Mexico to the United States dropped from 1 million to 600,000 between 2006 and 2009.[1]

With this new situation in mind, there are two preliminary considerations to note about the Mexican talent problem. First, before the current economic crisis, the tendency in Mexico and Central America was different from the overall migratory flow, with more unskilled than highly skilled workers leaving their countries.[2] With recent cuts in its science and technology budget, Mexico will send fewer and fewer scholars abroad because there will be fewer brains to drain.

Second, difficulties in the country's ability to deal with organized crime, poverty and the AH1N1 virus have given Mexico a dreadful image abroad. Countries like China even temporarily closed their borders to Mexicans. Foreign investment and tourism have drastically declined in Mexico and as one public relations Golden Rule says, a bad image is always hard —if not impossible— to repair.

So, herein lies the main question: could the Mexican skilled diaspora provide the country with a different image of "talented" and "skilled" people, as opposed to the poor, sick, outlaw Mexican stereotype? Even though this question may offend the supporters of the brain drain perspective, that was always a point to start with. Even more pertinent: is the brain drain a problem for Mexico, and if so, how big?

Brain drain is defined as the permanent emigration of skilled persons from one jurisdiction to another. A brain drain normally refers to two types of problems: 1) structural: retention, repatriation and diaspora communication issues, and 2) technical: immigration regimes, taxation, science-and-technology legislation and accreditation of qualifications. In this sense, Mahroum asks himself the ethical question as to whether or not an economy should get a "free ride" by im-

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porting human capital that has been produced abroad and financed by others.[3]

Still other scholars object to the alternative of closed border policies in the age of globalization. The work of Docquier and Lodigiani shows that the diaspora is important because it creates or replaces trust in peak international legal environments; also, it provides market information or supplies matching and referral services.[4] The positive effect of large countries' diasporas on foreign direct investment is that they reinforce the potentially beneficial effect that prospects for migration have on human capital formation. Small countries, on the other hand, are less likely to benefit from skilled migration both in terms of human and physical capital.

WEIGHTING THE MEXICAN BRAIN DRAIN

With these details in mind, we can now take a look at figures on the migration of Mexican talent and corresponding government policies.

Licea, et al. estimate that between 1945 and 1970, 30,000 to 40,000 Mexicans, mostly from upper-middle-class families, graduated from U.S. universities.[5] Seven thousand more were estimated to have done graduate studies in France during the same period. The National Council on Science and Technology (Conacyt) awarded 24,000 scholarships to study abroad between 1971 and 1995; of these, 9,800 were fellowships leading to a doctoral degree.

Lozano and Gandini show that the Latin America and the Caribbean was the region with the highest growth in the migration of the skilled workforce (155 percent) between 1990 and 2007, followed closely by Asia and Africa with 145 and 152 percent, respectively.[6] Among the Latin American countries, Mexico and Brazil are the largest exporters of highly skilled emigrants.

The main destination for both highly skilled and unskilled Mexicans is the United States. As a matter of fact, Mexicans living in the U.S. are one of the largest immigrant populations in the world. According to Adams, 16.5 percent of Mexicans live in the U.S.[7] In 2000, 895,515 Mexicans with tertiary education resided in the U.S., of whom 6.67 percent had done graduate work.

In 1998, the number of Mexican students at U.S. universities was almost the same as the number of members of the National System of Researchers in Mexico. Ten years later, Waldinger did a study with Mexican migrants in the U.S. according to which a great majority of Mexican respondents have taken at least one trip home;[8] however, their ties with the home country were attenuating, as fewer than one-half sent remittances and almost 80 percent plan to stay in the U.S. for good.

WELCOME HOME POLICIES

A few initiatives by the Mexican government should be remembered. In 1991, Conacyt created a program to retain and repatriate Mexican researchers and reverse the brain drain. Between 1991 and 1997, the program achieved the repatriation and retention of 1,859 researchers, a number equivalent to almost half the research fellows and one third of the members of National System of Researchers. The majority of those repatriated came from the U.S. (40 percent), France (15 percent), Great Britain (13 percent), Spain (9 percent), Canada (5 percent) and Germany (5 percent), the main destinations for Mexicans who study abroad.

The 2002 Science and Technology Law launched a special program to create networks among Mexicans living abroad. In 2003, the Institute of Mexicans Abroad was created. In 2005, the Chamber of Deputies passed a law to help former Mexican migrant workers.

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WHO GETS WHAT

Due to the new circumstances of the global financial crisis that has also hit the U.S., conditions for foreign scientists in general and Mexicans in particular, may have changed. We only have to remember that in July 2009, professors at several California educational institutions were paid with a kind of IOU (checks that could not be cashed until months later).

On the other hand, Mexico is not only a source of foreign talent for the U.S., but also a destination for highly skilled workers. Down through history, it has been known for receiving refugees from Europe (Spain in particular), as well as foreign students and workers from places like China, Eastern Europe and even the U.S. Also, Mexico is the country with the largest population of Americans living abroad: about 1 million.

Discussions about who loses and who gains from migration are therefore complex enough, even when examined statistically.

The Need for Transmigrants

To conclude, we must remember that internationalization has long been recognized as a prerequisite for sustained participation and access to global science. It can take place through international scientific organizations, international facilities, programs, collaborative agreements between research institutions or at a personal level. Internationalization can be a strong driver of talent from overseas as it stimulates local research communities to become better known across the world.

In this sense, two needs are created: 1) networks among scientists and 2) transmigrant scientific workers. First, networks may serve as a possibility to stimulate productive processes such as joint research, publications and products. Second, transmigrants are persons who, having migrated from Mexico to another country, live their lives across borders, participating simultaneously in social relations that embed them in more than one nation-state, such as for instance, economic entrepreneurs or political activists.

Compared to other types of migration like immigrants who leave home to settle somewhere else or travelers, for whom displacement is temporary and hence never put down roots, transmigrants are transnational and have the capacity to generate an important flow of information and goods. Even when they are not representative of the population of Latin American origin living in the U.S., an increase in their number could benefit several countries at once.

Mexico's skilled work force should be allowed this type of transnational arrangement that benefits their home and host countries and opens up doors for new cooperation levels in scientific institutions and companies. Brain drain policies —if they are to be called this, or to use a better term, talent management— must also start to move toward the international sphere, along with the individuals they deal with. First, because brain drain is not a national problem for Mexico, but it is an issue to be dealt with starting at least at a bilateral level and opening up to multinational spheres of action. And second because "talents" or "brains" —whatever you call them— are both concepts that refer to individuals with the freedom to choose from multiple options the one that best suits them. In this sense, policies may have only a limited impact. VM

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Further Reading

Tejada Guerrero, Gabriela, and Jean-Claude Bolay, "Impulsar el desarrollo a través del conocimiento: una mirada distinta a las migraciones de los mexicanos altamente calificados," *Global Migration Perspectives* 51, available on line at www.gcim.org.

Notes

[1] Michael Fix, et al., "Migration and the Global Recession," report commissioned by the BBC World Service and the Migration Policy Institute, September, 2009. Available on line at http://www.migrationpolicy.org/pubs/MPI-BBCreport-Sept09.pdf.

[2] William J. Carrington and Enrica Detragiache, "How extensive is the brain drain?" *Finance & Development*, 1999, p. 49.

[3] Sami Mahroum, "The international policies of brain drain: A review," *Technology Analysis & Strategic Management* 17:2, 2005, pp. 219-230.

[4] Frédéric Docquier and Elisabetta Lodigiani, "Skilled Migration and Business Networks," part of the research projects *People and Firms* and *Sustainable Development in a Diverse World* (Milan: Centro Studi Luca d´Agliano, University of Milan/Springer), 2008.

[5] Judith Licea et al., "Absent Mexican scientists. Mexican scientific brain drain: causes and impact," *Research Evaluation* 10:2 (Surrey, Great Britain), 2001, pp. 115-119.

[6] Fernando Lozano and Luciana Gandini, "La emigración de recursos humanos calificados desde países de América Latina y el Caribe. Tendencias contemporáneas y perspectivas," report by the International Organization for Migration, Latin American and Caribbean Economic System, 2009.

[7] R. H. Adams, Jr., *International Migration, Remittances and the Brain Drain: A Study of 24 Labor-Exporting Countries*, Policy Research Working Paper no. 3069 (Washington, D.C.: Grupo para la Reducción de la Pobreza, Banco Mundial, 2003), p. 3.

[8] Roger Waldinger, "Between 'Here' and 'There': Immigrant Cross-Border Activities and Loyalties," *IMR*, vol. 42, no. 1, p. 25.