



# International scholarships: a two-way opportunity

According to a joint study conducted by ETH Zurich and the University of Zurich, the circulation of intellectual capital is not a so-called brain drain, but rather a networking opportunity that benefits everyone involved. Moreover, if countries, institutions, research communities and industry want to excel globally, it is essential that they find ways to tap into this flowing resource of knowledge and skill.

## In circulation

When skilled labour emigrates from a country, it is often regarded as a loss of intellectual capital and resource to the nation. A continuous outflow of highly skilled professionals such as engineers, scientists or doctors, can especially pose a problem to a nation, as these are the very mavens who help to deliver many essential services to the community of a country. This effluence of skilled labour is known as the “brain drain” effect. The concept of “brain gain” then denotes the exact opposite, pointing to an influx of intellectual capital to host nations. But is the story so black and white? Must it be either drain or gain? A third scenario suggests that the social contacts and international experience expatriates gain when working or studying in a foreign country are valuable resources for the country of origin, provided it is able to tap into them. Such brain circulation debates have been gaining momentum since the 1990s as researchers and policy makers came to

understand that emigration does not necessarily mean a disconnection from one’s country of origin, but rather a fruitful connection between home and host countries.

## Opportunity knocks elsewhere

In a world where globalisation is ever increasing, the new generation of students, researchers and professionals is simply required to be more mobile and internationally adept. Competition for talent is fierce and takes place on a global level. This means that international mobility within higher education at an institutional, national and international level is of great importance to students and researchers alike.

Needless to say, countries and institutions offering favourable conditions and opportunities for high quality education and research are attracting knowledgeable and skilled students and researchers from all corners of the world. Switzerland, for example, holds the highest percentage of immigrant scientists worldwide and ETH Zurich and the University of Zurich are among the most attractive research and education institutions in the nation.

One instrument for bringing foreign students to Switzerland are scholarships. Through educating talented students and researchers from less privileged regions the University of Zurich and ETH Zurich contribute to intellectual and academic capacity building worldwide.

## A commitment to boosting knowledge

ETH Zurich and the University of Zurich have a long tradition of hosting foreign students and providing them with financial means, the focus being particularly on supporting those from developing countries and emerging economies. In offering several well-established scholarship programmes, both institutions understand that the benefits of studying and researching abroad are manifold.

They also acknowledge that mobility supports personal advancement in terms of skills and know-how and is crucial for the development of knowledge-based economies in the countries where students go to as well as where they come from. Moreover, countries of origin can gain from remittances, investments, and international networks, not to mention technology and skill transfer.

Through the Swiss Government Scholarship (Bundesstipendium) alone, almost two thousand students from developing countries and emerging economies have been hosted between the two Swiss universities since the programme was initiated in 1961. However, the benefits of such scholarships and other funding opportunities have never been systematically assessed until now.

## Insights on mobility patterns

From what part of the world do the scholarship recipients come from? Where do they end up? Do most stay abroad or return to their home countries? What do their career paths look like? To what extent do they contribute to the economy or to academia in their own countries?

ETH Global in collaboration with the UZH International Relations Office attempted to answer these types of questions in an official study, surveying 375 scholarship recipients from both ETH Zurich and the University of Zurich. All participants had received

a scholarship from one of five different Swiss programmes within the period of 1996 to 2012 and came from least developed countries to upper-middle-income countries.

The study tracked alumni from 57 different countries through a quantitative online survey as well as qualitative in-depth interviews. The high response rate of 80% to the quantitative survey not only provided a sound data basis, but also indicated how greatly the respondents appreciated being able to participate in the scholarship programmes.

The results shed light on the recipients' current employment situations, their mobility patterns and professional networks. It also confirms the numerous advantages of such scholarships to all parties involved, including the host universities and the societies and communities in the countries from which the students originate.

## Comings and goings

Among the surveyed alumni, China (46), India (39), Ukraine (13), Colombia (12), Serbia (11), and Argentina (10) were the most common countries of origin. The Human Development Index (HDI) was applied to categorise the countries into groups. HDI is a composite indicator of life expectancy, education, and income indices used to rank the development of countries. Introduced by the United Nations Development Programme (UNDP) in 1990, this ranking system divides the countries into the following categories: Very High, High, Medium and Low Human Development (UNDP, 2013).

Most countries included in this study fall into the categories of High or Medium HDI. The map below (Figure 1) shows the regional distribution of the scholarship recipients, as summarised by the World Bank Geographic Regions, and indicates the number of respondents per World Bank region.

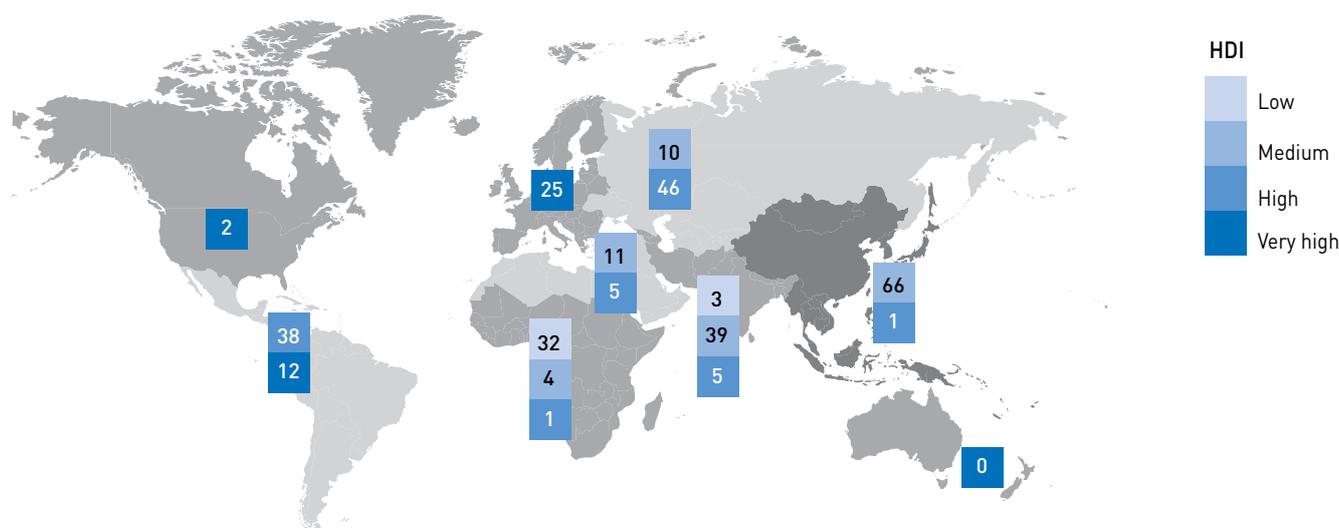


Figure 1: Number of respondents by geographical region (according to the World Bank classification) and HDI rank of their countries of birth (N=301)



**Figure 2: Migration pattern of respondents currently outside their countries of origin (N= 96, all nationalities except Swiss and Chinese)**



In terms of migration, approximately half of the scholarship recipients returned to their country of origin, while the other half remained abroad. Taking a deeper look at this rather high out-migration rate, it was found that those from a Very High HDI country are most likely residing outside their countries of origin, while those from Low to Medium HDI countries have returned to their homeland. (See Figure 2)

Other factors such as age and parent education levels were also considered in determining what influences mobility or out-migration. Younger scholarship recipients, for example, have found new residency out of their home country. Moreover, higher parental education in Low/ Medium HDI countries corresponds with higher rates of out-migration, whereas levels of parental education in High/Very High HDI countries do not appear to be a consistent determinant of out-migration.

Of the respondents who did not return to their countries of origin, almost 85% chose to either stay in Switzerland or migrate to another Very High HDI country, for example to Western Europe, the United States or Canada. It is interesting to note, however, that 98% of this group maintain personal contact with their home countries, and more than half of the group have active professional contact.

Reasons to not return to the country of origin vary but the survey revealed that better access to interesting jobs or research opportunities was predominately a deciding factor. By contrast, respondents who returned to their homeland expressed a desire to be close to their family and friends and to make a professional contribution to their societies. An additional motive was gaining a higher social status, which they could easily obtain through their new acquired educational and professional qualifications without having to compete as a foreigner.

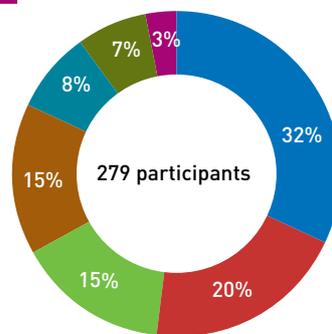
In any case, these findings speak for the phenomenon of brain circulation and suggest an inflow and even a possible exchange of knowledge and skills between countries regardless of the respondents' end location.

### Academic and professional fields

Reviewing the academic backgrounds and current professions of the scholarship recipients revealed that most studied or did research in the field of environmental sciences (33%)

and engineering sciences (20%, mainly at ETH Zurich). Other common fields of study included health sciences (15%, mainly medicine at University of Zurich) and natural sciences (15%). (See Figure 3)

Among the respondents active in academia, 33% held a Master's degree at the time of the survey and a handful of them had begun working on their PhD. 54% of the respondents had already completed a PhD, representing a group of highly qualified individuals.

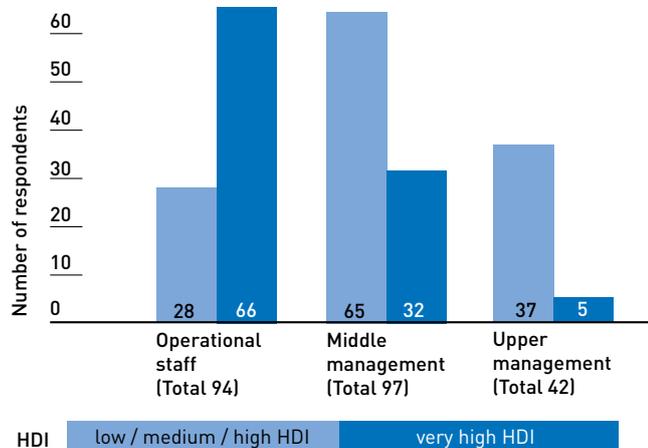


**Figure 3: Field of study (N = 279)**

The most common employment sectors of scholarship recipients were research and higher education at 57%, followed by the private sector at 20%. Analysing the range of positions by sector demonstrated that the highest proportion of respondents working in upper management prevails in the area of research and higher education. Around 20% of the scholarship recipients in this sector currently hold professorships or director positions.

Observing the fields of study, it was found that graduates of Environmental Systems Science, Health Sciences, and Social Sciences mainly hold upper to middle management positions,

whereas graduates in Engineering Sciences tend to have lower positions. However, this could be explained by the fact that most of them are still in PhD-positions. (See Figure 4)



**Figure 4: Employment position by HDI category of current country of residence (N = 233)**

### Keeping knowledge in circulation

To continue the debate on the concept of brain circulation, 90% of the scholarship recipients included in this study showed a very high interest in joining an alumni association of their host university, and some would be willing to contribute up to CHF 100 per year to be a member. Interested alumni come from all fields and position levels as well as from all countries of origin; however most of them currently reside in a Very High HDI country.

Membership in the alumni association would provide access to an official platform for scientific collaboration, promoting the

host universities abroad and for networking on professional issues. Nearly all respondents see the benefits of maintaining contact, and most already stay in touch with at least one to five fellow students. Essentially, there is great potential for knowledge exchange not only among the alumni, but also continued interaction of the alumni with their host research groups at ETH Zurich and the University of Zurich.

### Embracing globalisation

In response to the question of whether Swiss scholarship programmes have a “brain drain” effect, it must be noted that most recipients were already educationally mobile, having lived in several places, both before and after their stay in Switzerland. The scholarship opportunity was rather a determining factor in deciding *where* to go than *if* to go at all. To this end, *specific scholarship programmes are in fact a well-proven and necessary instrument to continue attracting talented students from abroad to Switzerland.*

This insightful study points to the conclusion that concepts such as “brain drain” or “brain gain” lose their significance in part for a more “globalised” generation, operating in a dynamic international education and research environment. Accepting this as fact, *all home and host institutions, academic supporters and policy makers, research communities and industry leaders should build on the networks and qualifications that emerge through such international exchange, especially by providing appropriate conditions.*

Monitoring the mobility patterns of today’s generation is certainly relevant to recognising trends and estimating benefits as well as challenges on an individual, institutional and national level. From these observations *host countries as well as countries of origin must create enabling environments for these young academics during their scholarship stay and beyond so that they may develop to their full professional potential.*

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