Networking Lessons from Taiwan and South Korea

By Hah-Zoong Song

Summary

The landscape of international highly skilled migration has shifted significantly over the past few decades, giving rise to the notion of brain 'circulation' rather than brain 'drain'. This is certainly the situation for Taiwan and South Korea, both of which have been at least partly successful in reversing the flow. Networking – both personal and institutional – has played a crucial role in the way that these countries have managed their brain circulation.

A new perspective: brain 'circulation'

'Brain drain' became a media and political buzzword in many countries during the 1960s and 1970s. These days, though, the patterns of movement by scientists and engineers to and from their home countries have become much more complex, giving rise to a new perspective on talent migration.

A few developing, or recently industrialised, countries are now seeing the return of some scientists and engineers, but others continue to leave on a wave of high-tech migration. While European countries are losing some brains – most often to the United States – these are replaced by arrivals from developing countries. Educated people are leaving from all over Asia, Latin America and Africa, with China and India being the largest sources of skilled migrants. Because of its ability to attract, develop and support foreign-born scientists and engineers, the United States has been the largest beneficiary of these intellectual migrations.

The cost of both transport and communications has been steadily dropping, making national borders less of an obstacle between employers and potential employees. When the right person finds the right job, or employers find the applicant who will meet their specific need, immigration policies are only modestly constraining factors. Because of these changes, the number of scientists and engineers crossing national borders has risen sharply during the past decade. This increased mobility is especially noticeable in a few fields where research and development (R&D) activities and related industries have expanded rapidly, primarily the information technology (IT) sector, but also in biotechnology and nanotechnology.

Finally, scientific and engineering professionals no longer make one irrevocable decision when they move. Policy makers are now being asked to think in terms of 'brain circulation' rather than 'brain drain'.
Factors behind brain circulation: Korea and Taiwan

The cases of South Korea and Taiwan illustrate the forces driving brain circulation. Once regarded as typical brain-drain countries, they no longer fit into the traditional pattern. [1] They have succeeded in at least partially reversing the flow, attracting previously 'drained' brains back to assist their countries' high-tech expansion. A review of their experiences reveals that, though the economics of supply and demand still play a major role in the decisions scientists and engineers make about emigration, policy makers also need to consider personal and non-material factors.

During a period of rapid economic development in the 1980s, many professionals returned to Korea and Taiwan having emigrated, initially to study. Their home governments tried various policies to induce scientists and engineers to come home, in a bid to improve science and technology infrastructure. Financial incentives were most common and though some of these – such as reimbursement of moving and settlement costs – worked in a limited sense, most turned out to be ineffective in achieving policy goals.

But because the social conditions and national science and technology infrastructure are still below what students-turned-migrants are used to in Europe and the United States, money alone may not be sufficient to lure them home. Instead, the prospect of better career opportunities and the challenge of participating in their countries' further development have been major motivating factors. In addition, family matters, cultural identity and feelings of obligation have been identified as major factors in the decision to return. [2,3]

Currently, Korea and Taiwan are facing another development in the mobility of their highly skilled citizens. Scientists and engineers who returned home after a foreign education are moving away again, most often back to the countries where they received their education. For example, the rapidly increasing demand for high-quality manpower in the IT industry has caused experienced Korean and Taiwanese engineers to relocate to the United States. Although the actual number of recent IT emigrants from those countries has not been significant, their departure has raised an outcry, particularly in the media, for fear of talent shortages in critical fields.

Understanding and managing brain circulation

Korea and Taiwan have seen three prominent 'brain migration' phases typical of international brain mobility: (i) losing talent to the United States and elsewhere in the form of students-turned-migrants; (ii) repatriation of scientists and engineers during a period of economic growth; and (iii) renewed out-flow of experienced people during a subsequent slower economic cycle. Future changes in the Korean and Taiwanese economies (and thus in career opportunities for returning scientists and engineers) could lead to a further reversal of the flow.
Most countries similarly face a dynamic and sometimes overlapping set of migrations. Because each flow of talent has its own primary motivating factors, a single policy or measure is unable to cope with the whole circulation. Each country will need to analyse its current mix of talent migrations and their motivating factors, and develop policies accordingly. It is almost impossible to prevent brain circulation in a free society – the best that nations can hope for is to manage the circulation to their advantage.

Financial and material incentives can help in some cases. But individual decisions are more often based on intangibles, such as perceived prospects for professional development, national loyalty and family concerns. Governments will need to address these areas if they are to manage brain circulation. Importantly, they need to find ways to keep high-tech emigrants feeling close to their home country and believing that they have a role to play in its development.

**Networking: a new area for policy development**

As indicated above, policy measures to achieve repatriation need to be designed very carefully. Not only should individual policy actions be evaluated periodically to check their effectiveness, but they must also be balanced and harmonised both with national R&D and technology policies and with tax, emigration, education and other policies that affect expatriates. Since individual choice lies at the heart of brain circulation, policies need to address both personal and professional factors that influence scientists' and engineers' decisions about where to live.

A key element in managing brain circulation is the ability to call upon the help of expatriate scientists and engineers whenever necessary. Another important factor is to encourage these emigrants to spend at least part of their careers in their home country. In order to do either, the home country needs to know where its scientists and engineers are and what fields they work in. The expatriates also need to feel a continuing personal attachment to their homeland, even if they have become citizens of another country.

Personal and institutional networking can be a powerful tool for achieving these goals. Recent studies indicate that most expatriate scientists and engineers are willing to maintain contacts with their home countries. [4,5,6] A well-designed and properly maintained network may provide them with a forum and help to foster a sense of belonging that reinforces loyalty to their homeland. This is one of the reasons why universities, and even many high schools, work so hard to maintain good alumni networks: the sense of identity that they foster pays dividends in the form of donations to the institution and assistance to other (often junior) members.

At a national level, a good network encourages expatriates to feel that they have a role to play in their home country's progress, and provide a mechanism to do so. A really
good opportunity might even bring some expatriates home, either temporarily or permanently. Such networks can also facilitate consulting arrangements and R&D or business partnerships between the home country's businesses and universities and the expatriates and their current employers.

Scientists and engineers may be deterred from joining such networks if they are seen purely as an attempt to track their movements. For this reason, networks would be better administered by a science agency or national academy rather than agencies responsible for emigration laws and policies. For example, the Korean network "Kosen21" is managed by the Korea Institute of Science and Technology Information.

The networking potential of China

China would appear to be an ideal candidate for this kind of networking policy. China has more expatriate scientists and engineers than any other country. Of more than 2,000 Chinese scientists and engineers earning their PhDs in the United States annually, almost 90 per cent of them express an intention to stay in the United States. [7,8]

The Chinese government has recently taken drastic measures to encourage repatriation of its top-class scientists. It is offering a package that includes salaries equivalent to those in the United States, housing at nominal cost, and educational privileges for their children. This is clearly an expensive policy option. But in addition to the financial burden, these incentives may cause discontent among scientists, engineers and other skilled workers who have not left the country. And even with such incentives, China is likely to only repatriate a few 'stars' who are unlikely to make a major difference in the context of what is now mostly a one-way brain drain.

A more useful path might be for China to focus on indirect ways to recruit expatriates, such as the development of a network as described above, which could provide greater benefit to the country in the long run. With up to 1,000 new postgraduates taking jobs in United States companies and universities each year, a network that facilitates open discussion about China's own research needs would be likely to encourage partnerships, joint ventures and research collaboration. Combined with progress on social factors and modest material incentives, a one-way brain drain could be transformed into a more advantageous brain circulation.

(The author is professor at KyungHee University, Seoul, Korea, and visiting scholar at the National Science Foundation, United States e-mail hahzoong@khu.ac.kr or hsong@nsf.gov)
References


Source: http://www.scidev.net/ 05/23/2003