

Snapshots 'Brain drain study'

1. Emigration Flows for Qualified Scientists: Past, Present and Future

The likely shortage of highly qualified S&T personnel in the R&D activities anticipated for the next ten to fifteen years represents, undoubtedly, one of the biggest threats to Europe's long term innovative strength, and productivity growth. Europe produces a large number of university graduates, doctorate recipients and postdoctoral students. But a significant share of them finds work in an occupation outside of European R&D. It may be one of Europe's biggest obstacles in its attempt to become the world's most competitive knowledge-based economy.

The drain of highly skilled Europeans to countries like the US, Canada and Australia is a part of Europe's social and political past and present, and more than likely future. International mobility is driven by political events such as the end of World War II when, apart from European exiles who chose to stay in the US, an estimated figure of more than 372,000 professionals, scientists and technicians emigrated to the US between 1946 and 1965. The 1970s and 1980s saw the flow of mature researchers from Europe to the US expand beyond reliance on countries like the UK, France, Germany and Italy to include less wealthy European nations. The change in the political landscape in Eastern Europe in the 1980s and 1990s brought about significant East-West migration.

Social, cultural and political environments influence the career choices made by highly skilled European scientists and engineers, both in terms of their choice of occupation and of where they work. Today's migration patterns have an expanded rationale, influenced by R&D related circumstances, such as global scientific networking, higher qualifications, additional specialisations and endowments increasingly designed to beat the competition in filling domestic R&D posts. At the same time, flows of highly skilled scientists and engineers are enhanced through improved social, political and technical framework conditions.

International mobility depends on conditions such as the commitment to R&D funding, the reputation of the host organization/employer, research facilities available, the presence of other research institutes, salary/job benefits, and the physical environment. The findings of the surveys carried out for the study, suggest weights for some of the known factors and bring out new messages:

- Women are underrepresented in international mobility and tend to participate less in an international career path than men, with regard both to the number of opportunities taken up and to the duration of the stay overseas.
- **The most important reasons** keeping EU-born scientists and engineers abroad **relate to work quality. Broader scope in position and activities and better access to leading technologies** were most often cited as reasons behind plans to work abroad. Among those surveyed who said they had plans to go abroad to work, three in five were going for broader scope in activities and more than half cited the access to leading edge technologies as a very important factor.
- Salary is an important consideration, but most often it is not identified as the key or deciding factor in the decision to go abroad. Better earnings and wages were cited as very important by 31% of EU-born working abroad as a factor in their decision to not return and by 26% of those working at home as a factor in their decision to go abroad.

- Paperwork barriers in Europe continue to be problematic for foreign researchers and their employers. Among the foreign researchers surveyed in Italy, 29% reported high difficulties with visa, work permits and other administrative paperwork.
- Networking and informal contact(s) sources are key sources of information for persons finding working abroad. 'Informal marketing' of Europe may have far more impact on its ability to draw foreign researchers than previously considered.