

Lack of EU investment in research is fuelling drift of skills to America

BY PETE SWEENEY

THERE has been much lamenting Europe's failure to exploit the talent it cultivates. In 2000, there were 2.14 million science and technology students graduating from European Union-based universities, compared with 2.07m in the US.

But the ratio of researchers is lower in the EU (6 in 1,000) than in the US (8 in 1,000).

Debates over the gravity of a 'brain drain' are difficult to resolve because of the hazy quality of statistical data (see Page 20). Definitions of what constitutes a 'researcher' vary between countries and statistical departments, as does the extent to which governments track the movement of researchers across borders.

The European Commission's research department (DG Research) estimates that there are currently around 120,000 European researchers working in the US, equivalent to roughly one-tenth of the total European research community.

Yet the effects of brain drain are not automatically adverse.

"Researchers' mobility is not necessarily a loss," states a recent Commission memorandum, unless they do not contribute to European research efforts. The challenge is for Europe to take advantage of its own scientists wherever they happen to be working, and perhaps to persuade them to return to EU territory over time.

On the other hand, the Union is also less competitive than the US in attracting 'brain gain' from abroad. America has traditionally been more effective than the EU at attracting international students and translating their work into publications and patents. These students also inject an estimated \$13 billion (€10bn) into the US economy each year.

But this competitive disadvantage could be lessening.

According to a 10 November report from the Institute for International Education (IIE) in New York, overseas student applications to the United States have declined abruptly largely because of the

increased difficulties in obtaining visas. Some DG Research figures suggest that the EU might already be benefiting. The Union is creating a 'scientific visa' for non-EU researchers to ease their access to working in member states.

Yet the Union has not achieved the objective set out in the Lisbon Agenda to invest 3% of gross domestic product in research and development.

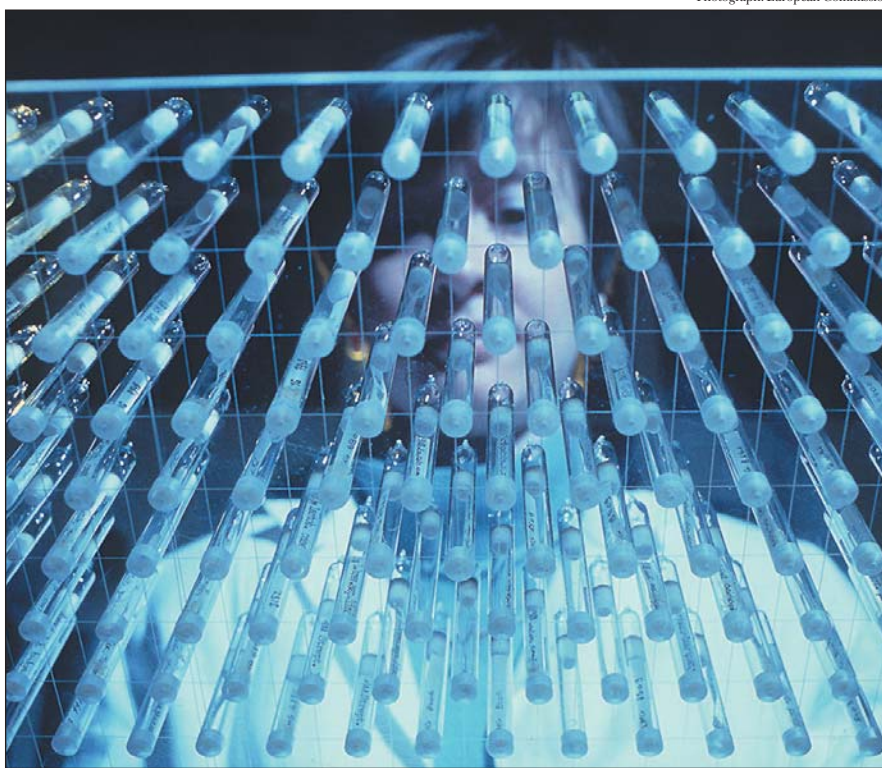
Japan currently invests more than 3%, the US invests 2.8% whereas the EU invested a feeble 1.9% in 2003.

Less than half of the "very high standard" research proposals submitted to the Commission could be funded.

Jimmy Jamar, a spokesman for DG Research, sees a bright side. "The EU is producing a lot of high quality research," he says, and adds that this over-subscription creates "political momentum" to increase funding, even if it is "somewhat frustrating" for scientists.

According to Jamar, one of the problems that EU researchers face is job hunting in Europe after a stint abroad. European universities rarely preserve academic jobs for those who take temporary research postings.

The EU's €1.8bn 'Marie Curie' mobility scheme is designed to enhance 'brain circulation' in the EU by facilitating the movements of researchers, both



Photograph: European Commission

Brain gains: the US is traditionally more effective than the EU at attracting students

within the EU and between the Union and other countries.

Marie Curie schemes include an extra year of adjustment salary after two years abroad which provides a financial cushion for European researchers while they reacquire employment in the EU.

But the Marie Curie programme is so over-subscribed that only one-in-ten researchers is likely to receive funding.

The Union faces difficulties when competing to attract non-EU researchers for short-term visits. European income tax rates are generally higher than American income tax. The revenue is spent on programmes such as pension and tuition support that primarily benefit

long-term residents.

Moreover, foreign researchers cannot benefit from education or pension benefit schemes unless they remain in Europe.

They still have to save for education and retirement expenses in

their home country, yet they earn less cash to allow them to do so.

On the other hand, foreign researchers who visit the US for a short time generally get good temporary health care benefits through their employer, retain their social benefits on return and earn more cash while in the US.

When transatlantic pharmaceutical companies have merged, US-based researchers have not been keen to take up offers to relocate to Europe.

The productivity and profitability of researchers in the EU appears to be a significant problem. According to DG Research, the US submits far more patent applications and scientific publications than the Union, despite the estimation that the US has approximately the same number of researchers.

The Commission's proposal for a 7th Framework research programme for science and technology research (FP7) claims that "European companies apply for 170 patents each year per million inhabitants compared with 400 for American companies."

In terms of profitability, European businesses which invest in research tend to prefer US research entities to European ones. The Commission

estimates that the US attracts one-third more research expenditure from the 'old' EU-15 companies than the US invests in European research and that this deficit is increasing in favour of America.

Part of the explanation may be that European universities have historically been much less inclined to associate with the private sector than have American institutions, despite their strategic position at the junction between the public and

private sectors. In its response to the proposed 7th Framework, the European University Association (EUA) argues that the European Research Area (ERA) needs to encourage greater interaction between universities and businesses, and that universities should be considered 'eligible partners' in ERA network schemes that help businesses.

However, the EUA also decries the lack of a level playing field between universities and research firms in some research areas.

The proposal for a European patent has become an embarrassment to the EU's aspirations to create a research-led entrepreneurial economy.

The European Commission's single market chief, Frits Bolkestein, made a pointed remark after another failure by national governments to reach agreement.

He said: "With regrettable regularity a small number of member states have blocked this proposal by giving precedence to narrow, vested interests."

Yet the patent is not the only pan-European scheme fighting its way through a politicized approval process.

According to Jamar, European researchers also need the flexibility to move "from academia into industry and from industry back into academia", as in the US.

The current separation of academia and industry, he says, is founded on poor social recognition of researchers and a "very stereotyped view" of what researchers do.

"We need a system that is more transparent and less local," adds Jamar.



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