PILOT puts R&D in true perspective

Comment
Paul Robertson

Australian research and development data consistently shows low levels of private sector involvement, but the nation's growth record over many years has been impressive. Which pictures, then, is correct? If international standards, is Australia doing poorly or well at innovation?

As standards of living are high (in purchasing power parity terms at or above the average of the older European Union members) and have been growing respectively, it is hard to argue that the largely unreported Australian economy is not keeping up with the world's productivity leaders. From this it follows that differences or inferences on innovative based on standard R&D indicators are misleading.

The limitations of current indicators, and of policies based on these indicators, have been clearly illustrated by the findings of PILOT: a project on the use of technology in non-high-tech sectors that has received $1.3 million in financing from the European Commission over the past three years. After conducting detailed company-level case studies in Germany, Italy, Poland, Ireland, Austria, Spain, Norway, Sweden and Finland, my colleagues and I found that the accepted wisdom on innovation has little to do with reality. mist

Research of the more than 50 companies studied engaged in construction, transport, retail, and mining were highly innovative and showed important and continuing improvements in product and process technology as well as improvements in administrative efficiency. They did this by adopting advanced approaches in all industries, sometimes at a rate that had been brought to their attention by suppliers, customers, collaboration and technical education.

This does not mean that innovations originating in high-tech sectors are not vital, but high-tech industries generate less than 10 per cent of total output even in the most advanced economies. Of greater importance is the diffusion of other new techniques to the other 90 per cent of the economy where their implementation seeds the most substantial improvements in economic performance.

Low-tech industries are by far the biggest generators of output. (Photo: The Australian)

"Government policies are often seen as irrelevant by those who have to implement them." dynamics. Instead of concentrating on improving rates of diffusion, policymakers concentration on promoting increases in high-tech R&D despite the fact that, as a fast moving and increasingly well-integrated international economy, almost all of Australia's innovations will necessarily originate overseas.

It is not surprising that little is known about how Australian firms actually obtain and use innovative knowledge. Nor is it surprising that, despite the Federal Government's plans are often seen as irrelevant by these who are supposed to implement them. What is the impact of these policies? Government policies will succeed only if they are perceived by corporate decision-makers to be relevant to the forces that really drive change. Attempts at wise guidance from business are more likely to succeed if they are based on an appreciation of how innovation is undertaken in practice.

A major redirection in Australian innovation policy is needed. There should be a shift from encouragement of R&D expenditure to policies that reflect how innovation is actually accomplished in most companies. This means that analysts must work to understand the innovation practices that businesses use rather than attempting to impose abstract notions of what businesses think they ought to be doing.

One accurate systems for improving the diffusion of innovation are significant, but they need to be presented in ways that companies find acceptable. If policymakers had a better understanding of the needs and practices of companies, they would be able to offer new ideas more convincingly.

Furthermore, governments would be more likely to find ways of building on the strengths of Australian innovation practices rather than repeatedly telling managers that they do not understand their own businesses. The Federal Government should realise its position of undermining the viability of education. Australia's good growth performance in recent years has been largely based on the high quality of technical education that has been available at universities and TAFE colleges.

As a sort of meaningful innovation depends on an ability to assimilate knowledge quickly and from a wide range of sources, Australia can expect only to maintain its record if the workforce is well trained and alert to change.

A commitment to lifelong learning is particularly necessary. At times, government ministers give the impression of believing that each citizen is entitled only to a fixed amount of knowledge and that this should be accumulated early in life. This is clearly not the case in an environment in which productive knowledge is increasing so rapidly as it has in recent years.

Technical and business education needs to be redirected to serving the needs of Australian residents and the national economy.

If we continue to improvise our educational system to make it more attractive to students from abroad but fail to present educational relevance for local needs, we are bound to lose whatever innovative skills we now possess and to fall behind in innovation.

Paul Robertson recently retired as a professor in the Graduate School of Management at Griffith University. Further information on PILOT can be found at www.piilot-research.org.