

Investing in creativity is way to achieve economic success



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OPINION

Public spending on long-term basic research is necessary for industrial innovation

IT HAS been observed that one can tax one's way into a recession but not out of it. Our problem is that an economic base built on property development and consumer consumption has collapsed, taking tax revenues along with it.

Worse still, given the credit crunch and high levels of indebtedness, that base is not coming back any time soon.

The crisis means that we need to seriously rethink how we put the economy back on the path to prosperity. The old reliable investments in property and banking stocks are tarnished.

Global warming and peak oil may necessitate a complete rethink of our approach to investment in transport infrastructure. Rising unemployment means risking a repeat of the 1980s diaspora and the brain drain that went with it.

The policy and investment choices we make now will have repercussions for generations to come. On a positive note, the correction in wage levels which is taking place in both the private and public sectors, along with falling prices for some services, will help erase a major black mark on our competitiveness score sheet: the fact that our costs had become seriously out of line with our competitors.

We still have some distance to travel on costs. However, cost competitiveness alone will not be enough to escape the gravitational pull of the economic black hole we have created. We can only generate the necessary momentum through radically increasing innovation-based jobs and services.

Government is to be commended for its efforts in this area. The regular reassertion of its commitment to retaining the low rate of corporation tax is vital in generating the confidence required to make what are often risky investments in innovation. The fiscal framework for innovation has also been greatly strengthened by the introduction and progressive strengthening of the research and development (R&D) tax credit which rewards firms for increasing their R&D investment.

These are vital incentives, but innovation itself can only happen if there are the people



Muiris and Oisín Fitzgerald at the annual Science and Technology Fair in the Institute of Technology, Sligo. Investment by Government and industry in research has boosted innovation in universities but we cannot rest on our laurels. Photograph: James Connolly

with the creativity and skills to generate innovative ideas in the first place. Over the past decade, government has been progressively investing in those people and ideas.

In the process, our universities have been transformed. A tradition heavily based on passing on existing knowledge has been greatly enhanced by scaling up the discovery and generation of new knowledge. A system that was mainly concentrated on third-level education now offers opportunities for more and more of our young people to take their skills and knowledge to a new, fourth, level.

On foot of these policies, there is now an unprecedented level of interaction between universities and businesses, ranging from start-ups to our largest multinational corporations.

The combination of a supportive fiscal environment and investment in people, skills and ideas is delivering results. Business spend on research and development more than doubled, from €800 million in 2001 to over €1.6 billion in 2008. Increased investment by firms in R&D has led to the number of researchers employed in industry growing by 20 per cent during this period. More significantly, the numbers of industry researchers holding a PhD has trebled. This increase in highly-qualified researchers is an encouraging sign. It shows that research is increasing in sophistication as well as in pure volume terms.

The combined force of university and industry research is leading to improved healthcare, communication, food quality, and much more. The work of our researchers is

increasingly recognised on the global stage. This can be seen in our research output and its scientific impact. For example, the number of papers produced in the EU increased by 25 per cent since the 1990s, whereas Irish research output grew by 200 per cent. In citations per paper, Ireland has moved from 36th in the world in 2003 to 19th in 2008. These advances are reflected in the growing standing of our universities in the international rankings.

These developments have repercussions far beyond the higher education system. The quality of the research and advanced skills ecosystem is an increasingly important differentiating factor influencing multinational company investment decisions. It is also the reason why we see the emergence of high-tech indigenous businesses employing significant numbers of PhDs.

Despite the increase in business spend on R&D, and growth in doctoral employment and scientific output, some people remain

sceptical about the priority given to investment in research. Some say it is too risky, or too long term. But is this really the case?

The era of speculative property-based growth is over and must be replaced by one where innovative businesses, delivering real value added, will drive the economy forward. Against that backdrop, can investing in the skills, intellect and creativity of our people really be seen as an unattractive or more risky proposition?

It is notable that president Barack Obama has committed the US to a new era of public investment in research and science based on the conviction that without public investment in long-term basic research the well of industrial innovation will dry up. Notably, Obama also highlighted the importance of the R&D tax credit to industrial innovation.

Obama's plan is a clear signpost. But it also represents a challenge to Ireland, raising the stakes in the global competition for talent and investment. If we are to meet that competition, we need to maintain the momentum by continuing to fund research and doctoral education, and by leveraging that research and the fiscal environment to our commercial advantage. In previous recessions we exported our talent to the profit of our competitors. This time we must work to retain the best and the brightest and to export the fruits of their creativity instead. Failure to do so is to mortgage our children's futures.

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