

Breaking the Innovation Funding Deadlock

In his recent article (*Research Fortnight* 2 February) [<http://bit.ly/gknADS>], William Cullerne Bown raised the spectre of a deadlock in innovation funding, particularly that for the Technology Strategy Board (TSB). So you might expect a policy the previous Government described as a key innovation policy—costing nearly four times the direct TSB budget and more than six times the Department of Health's translational health research fund, would be subject to rigorous evaluation.

Such a policy is currently under review—the consultation on R&D tax credits (RTCs). Better use of the costs of this scheme could provide a substantial boost to UK innovation and break the innovation funding deadlock. Sadly, it looks as if the consultation will result in a narrowly redefined outcome. The consultation begins with a statement that the Government is committed, "to retain and build on the existing RTC scheme."

The RTC is no longer fit for purpose, demonstrably poor value for public money, and needs a radical rethink in relation to other innovation policy initiatives. The UK scheme, introduced nearly 10 years ago, costs just under £1 billion a year. Its aims were to encourage higher R&D expenditure and address a perceived market failure where companies under-invest in R&D. But our understanding of how innovation happens has changed significantly since the credit came in.

Services, which offer the UK economy the greatest growth potential, are more likely to use technology than develop it. Much innovation is about combining existing ideas in novel ways and may come from exploitation of new business models, organisation and people development, design and branding.

The OECD recognises this. Its Innovation Strategy (May 2010) insists that effective innovation policies must reflect how innovation takes place today. Invention becomes innovation through a range of complementary activities in a highly interactive and multidisciplinary process which involves collaboration by a growing and diverse network of stakeholders, institutions and users: "Policy will need to move beyond supply-side policies focused on R&D and specific technologies to a more systemic approach that takes account of the many factors and actors that affect innovation performance."

Clearly, the RTC system should take account of this new environment for innovation. Incremental modifications will not address the scheme's severe limitations.

So what are these? First, the activity which qualifies under the Frascati definition of "R&D" for tax-credit purposes is limited to the "R" end of the R&D spectrum—perhaps only 10 per cent of the intangible investments UK businesses make. Widening the definition would create confusing complexity and be difficult to manage. However, we do need to rebalance the expenditure on RTCs with support for a wider range of innovation activities.

Second, the RTC is a supply-side policy. To contribute to growth, R&D has to deliver products and services people want to buy, that add value. There is no guarantee that investment in Business Enterprise R&D (BERD) leads to successful exploitation. In fact, even companies with similar R&D intensity in a sector can perform very differently.

Third, in theory the RTC increases business expenditure on R&D. But economic studies show huge variation in the benefits of RTC systems. Most indicate that the benefits take 10 years or more to emerge. In the UK, despite a cost of several billion pounds to the Treasury since introduction, the statistics show that real manufacturing sector BERD spending in 2001 and 2008 was identical, at £11.7 billion. That alone should cause us to challenge whether the RTC is now fit for purpose.

Note that there are two RTC schemes. The small-company scheme has excellent benefits for start-up technology companies, notably the refund of R&D spending for companies not yet in profit. But it is cumbersome to access. By contrast the large-company scheme has grown substantially without delivering any obvious growth in R&D spending. Does this suggest that large companies have simply got better at claiming the credit than doing more R&D? In addition, about 10 per cent of the claims account for over 80 per cent of the cost of the scheme. That's how narrowly targeted it is.

I conclude that, first, the small-company scheme should be kept but made easier to use. Two examples would be a 'pre-approval' system that the proposed R&D qualifies for the credit and inclusion of full subcontracting costs

The large-company scheme should become an 'incremental' scheme making credit available only for increases in R&D spending above a threshold. This would substantially cut the cost of the large-company scheme and actually increase real R&D activity. And that might allow more money for wider innovation support funded through the Technology Strategy Board.

Is there any chance I could cause a rethink ahead of next week's Budget?

David Hughes, responsible for creating the TSB, is a former DTI director general and chief scientific advisor, now managing director of the Business Innovation Group.