

Investing in Academic-Business Research Collaboration



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As fallout from the global recession continues to settle on Canada's economic landscape, we are faced with the question of how best to lay a new foundation for sustainable economic prosperity.

Canada's innovation system has a role to play in getting the country moving in the right direction. However, we are simply not investing enough in research and development. Currently, R&D expenditures account for 1.9 per cent of Canada's GDP, which is below the Organization for Economic Co-operation and Development's average of 2.2 per cent.

Venture capital, which is so vital to the innovation process, is becoming scarce in this country. Canada's Venture Capital & Private Equity Association reports that venture capital investments are down 42 per cent from last year.

Most worryingly, Canada's business R&D intensity is also in decline. The Council of Canadian Academies reports that business R&D as a percentage of GDP has fallen by 20 per cent between 2001 and 2007. This slide in intensity was well under way before the current economic crisis.

On the bright side, Higher Education Research and Development (HERD) spending is on the rise in Canada, with \$10.6 billion spent on research in 2007-2008, a six per cent

increase over the previous year. However, as universities and the federal government have increased their share of HERD spending, the business sector's contribution to university research has flatlined over the last decade.

This stagnation of business investment in university R&D is unfortunate, especially when we consider that collaboration among government, academia and industry is essential to improving Canada's economic prospects.

There is a solution to this problem. We believe that the federal government should reduce its direct involvement in research and development and focus its resources on increasing the amount of private sector and university research collaboration. Its primary role should be as an enabler and connector, bringing together businesses and university researchers to foster innovation.

Evidence suggests that this collaborative approach could reap considerable dividends. Sociologists Fred Block and Matthew Keller conducted a review of award-winning innovations in the United States between 1971 and 2006 and concluded that groundbreaking innovations have increasingly resulted from partnerships among government, business and academia, rather than from companies acting on their own. In 1971, 86 per cent of the top innovations were developed privately, but by 2006, that number had fallen to 31 per cent. Clearly, collaboration counts.

With that in mind, the government should invest its resources where they will do the most good – funding research and teaching activities that will not only develop new technologies for a new economy, but train talented people to make the most of those innovations. By supporting research, and educating people around that research, the government would get a double bang for its buck.

Key government research laboratories should be fully integrated within the university system in Canada, along the models of U.S.

national laboratories such as the National Nanotechnology Initiative, to achieve increased synergies.

To create a culture of innovation and entrepreneurship among Canada's future leaders, the federal government should consider the creation of 1,000 "young innovator" and "young entrepreneur" prizes, worth \$50,000 each and awarded annually to support the creation of new ideas and enterprises.

To remove the barriers to innovation caused by a lack of venture capital, the government should administer a venture capital seed fund to support university-based innovation through the Business Development Bank of Canada.

Greater co-ordination on the national level is required in order to strengthen this country's innovation system. We believe the answer will be found in the establishment of a federal Learning and Innovation Act – a "Smart Nation Act" – that will secure Canada's future based on investments in people and their ideas.

Such an act would recognize the overriding social and economic significance of investment in knowledge and in skilled people by establishing goals for investment. It would systematically build Canada's capacity for research and development and to generate knowledge. This must include measures of investment at levels comparable to the best in the world.

Canadian universities have made substantial commitments to the innovation economy: post-secondary institutions perform more than a third of all R&D in Canada. They are positioned at the centre of the drive for economic recovery, thanks to collaborations with government, NGOs and the private sector. We must all seize the opportunity to reinforce and expand upon those commitments.

Developing the skills, talent and innovation capacity of Canadians is the best way to promote long-term economic activity and sustainable economic growth. The time to lay that ever-important foundation is now upon us.