



Aiming for Global Excellence

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UNIVERSITY OF
ALBERTA

Introduction

As Canada approaches the midpoint of the second decade of the 21st century, our citizens have cause for optimism. Canada's economic resilience was clearly demonstrated during the 2008-9 financial crisis and the ensuing recession, which continues to afflict countries around the globe. In contrast, Canada continues to experience modest economic growth and to earn plaudits from analysts and commentators worldwide as an attractive and competitive destination for investment.

However, Canadian policymakers are also acutely aware that rapidly changing structural conditions are affecting the dynamics of the global economy. These long-term forces include globalization, shifts in economic power to the Asia-Pacific region, accelerating technological change, demographic aging and an increased sensitivity to the sustainability of economic growth, particularly related to the use of natural resources to meet the world's energy needs. A powerful related trend, of course, is the increasing importance of knowledge and innovation to fuel sustainable economic growth and long-term prosperity.

As one of Canada's premiere research-intensive universities, the University of Alberta offers three recommendations for potential inclusion in Budget 2015 that will allow the Government of Canada to build on previous enhancements of the science, technology and innovation ecosystem made in successive federal budgets. The thread woven throughout these recommendations is to consolidate, solidify and strengthen previous federal investments in research and innovation by focusing the system on the overriding goal of global excellence.

Canada's Evolving Science & Technology Landscape

Canada's science, technology and innovation stakeholders are fortunate that the federal government has long appreciated the integral role for science, technology and innovation in stimulating economic growth and long-term prosperity. Over its tenure, the federal government has crafted several important new initiatives that have bolstered Canada's reputation as a global knowledge leader, such as the Banting Post-doctoral Fellowships, the

Canada Vanier Scholarships and the Canada Excellence Research Chairs. These investments were guided by the government's overarching science and technology strategy, entitled *Mobilizing Science and Technology to Canada's Advantage* and released in 2007.

As global competition intensifies, however, the federal government has also been continuously evolving its approach. Some of the highlights of this evolution include:

- Recognizing the importance of private sector research and development (R&D) to productivity growth by tasking an Expert Panel led by OpenText CEO Tom Jenkins with a review of federal policies and programs in this area;
- Positioning Canada for success in the competition for international students by adopting an ambitious target of doubling our complement to 450,000 such students by 2022; and
- Designating innovation as an eligible category for applications to the new Building Canada Fund for major provincial and territorial infrastructure projects.

With a balanced budget in sight and the government approaching the conclusion of its majority mandate, how can Budget 2015 best reinforce the momentum and progress Canada has experienced on science, technology and innovation?

To answer this question, it is important to recognize that Canada's transformation into a truly world-class innovation leader remains incomplete. Numerous independent studies confirm a gradual erosion of Canada's competitive position on the global stage—caused less by declining domestic support and more by a failure to keep pace with the world's best. The latest report of the Science, Technology and Innovation Council found that, when ranked according to total R&D intensity, Canada fell from 16th to 23rd among 41 OECD nations between 2006 and 2011.ⁱ The most recent assessment of global competitiveness by the World Economic Forum found Canada remaining in 14th position, down five spots from 2009.ⁱⁱ

The Canada First Research Excellence Fund (CFREF), perhaps the most transformational federal initiative in S&T policy in recent history, offers a possible shape for the way forward. According to Budget 2014, the CFREF is intended to “help Canadian post-secondary research institutions leverage their key strengths into world-leading capabilities that will generate benefits for Canadians” (p. 115).ⁱⁱⁱ

As the University of Alberta indicated in its institutional submissions for the 2014 federal budget and for the renewed Science, Technology & Innovation Strategy, a focus on global excellence cannot be limited to CFREF but must be pervasive throughout the entirety of the research and innovation ecosystem. Budget 2015 provides the Government of Canada with an excellent opportunity to consolidate its impressive innovation record while bolstering global competitiveness at a crucial juncture.

The Way Forward: Aiming for Global Excellence

One of the inescapable features of the emerging knowledge economy is an increasingly heightened premium placed on *talent*. The development, retention and attraction of talent will be the coin of the realm not only for nation-states but also for sub-national jurisdictions, cities, communities and firms. However, Kevin Lynch, former Clerk of the Privy Council and current Vice-Chair of BMO Financial Group, devoted a recent speech to Canada’s lacklustre performance in “the global hunt for talent.” He argues that “talent will be one of the great differentiators among nations in the coming decades, and we have to ask ourselves whether we are playing to win or just to stay in the game.”^{iv}

For major research-intensive universities in Canada, the ability to attract the best and brightest students, faculty and researchers is the surest path to global competitiveness. In a remark that could easily be applied beyond the specific case of graduate students to leading faculty members and researchers, Dr. Gilles G. Patry, president and CEO of the Canada Foundation for Innovation, suggested in a recent op-ed that “[w]hen it comes to high-quality graduate students especially, having a great product to sell is often more crucial than the sales pitch. Canada’s number one product is,

without a doubt, the world-class research environment we have to offer [...]”^v

To position Canada’s research environment to compete in the global talent marketplace, the University of Alberta offers three recommendations for the Government of Canada to incorporate into Budget 2015:

- 1. Provide stable, multi-year funding for the Granting Councils and the Canada Foundation for Innovation that is benchmarked against the most competitive jurisdictions in the world.***

With talent becoming increasingly mobile, successful jurisdictions must continuously monitor, strengthen and communicate the incentives they can offer to the world’s most innovative and dynamic minds. In Canada’s case, core federal agencies such as the Granting Councils and the Canada Foundation for Innovation (CFI) have been at the forefront of our national talent agenda.

These agencies, however, have not been immune to the difficult funding climate in effect since the 2008-09 financial crisis. The Granting Councils have seen the elimination and consolidation of some programs, as well as a redistribution of funding towards academic-industry partnerships in Budget 2013. As noted in a commentary on the 2014 federal budget released by Higher Education Strategy Associates, all three agencies have experienced declining support in real dollars since 2009.^{vi} In the case of CFI, continued instability and uncertainty surrounding future funding competitions inhibits advance planning by institutions, which heightens the potential for lost opportunities to use the acquisition of advanced infrastructure as a talent attraction tool.

In its pre-budget submission in advance of Budget 2014, the University of Alberta noted that Canada’s S&T capacity would be best served by a comprehensive, balanced approach. This approach is characterized by both investments in foundational or core agencies that support a broad range of discovery-based research, while also establishing a research excellence fund to capitalize on strategic, transformational opportunities. With the federal deficit on the road to elimination and the formal launch of the first round of CFREF funding next year, there is a tremendous opportunity to use

Budget 2015 to send an unmistakable signal that Canada is ramping up its support for science, technology and innovation at all levels.

2. *Continue to enable Canada’s major research-intensive universities to compete globally by realigning the Indirect Costs of Research Program to focus on world-class excellence.*

Since its inception in 2003, the Indirect Cost of Research Program has been an invaluable component of the overall funding landscape for advanced research in Canada. However, with the costs of research—such as research integrity and ethics requirements, stringent health and safety standards, increased accountability requirements, and others—rising worldwide, it is important the resources provided to the Indirect Costs Program keep pace. Otherwise, these costs will increasingly be subsidized from other elements of institutional budgets, such as learning and teaching.

Budget 2013 indicated that a review would be conducted of the Indirect Costs of Research Program “to ensure that the program is meeting its objectives of reinforcing excellence in post-secondary research.” With a total allocation of more than \$332 million to the post-secondary sector in 2014-15—and \$16.5 million provided to the University of Alberta alone in that year—the Indirect Costs of Research Program is of vital importance to institutional budgets.^{vii}

In particular, leading research-intensive universities, which perform the vast majority of advanced research in Canada, are disadvantaged under the ICP’s current allocation formulas, which should be revised to support and enable world-class excellence. The federal government’s review of the Indirect Costs of Research Program is an ideal opportunity to make timely adjustments that will align the program with the CFREF’s focus on global competitiveness.

3. *Ensure the allocation mechanisms for the new Canada First Research Excellence Fund are designed to concentrate on opportunities for Canadian post-secondary institutions to truly emerge as global leaders.*

Finally, in aligning federal science and technology investments around the theme of global excellence, it is critical that the implementation of the CFREF itself reflects this overarching priority. Nations as distinct as France, Germany, China, Australia and others have recognized the value of identifying and delivering enhanced resources to a select group of research institutions that have the potential to compete on the global stage. This is also critical to success in the area of talent attraction. In a recent comprehensive analysis of Canada’s role in the world, the Canadian International Council bluntly concludes that “[i]f we want to attract and retain top researchers, we need top universities.”^{viii}

For the CFREF to fulfill its potential within the research and innovation landscape, however, the distribution of the available resources must be carefully designed. The impact of the CFREF would be undermined by fragmenting either the resources available to institutions or by imposing mandates on the Fund beyond enabling global excellence. Flexibility was also an essential element of the original proposal for a global excellence research fund for Canada. Given the diversity of strengths and opportunities seen in Canada’s research-intensive post-secondary sector, the use of individual memoranda of understanding on an institution-by-institution basis was recommended as a mechanism for balancing a need for accountability without sacrificing nimbleness.

The establishment of the CFREF is a watershed moment for Canadian science, technology and innovation policy. Budget 2015, as well as the renewal of the federal government’s science, technology and innovation strategy, provide additional opportunities to reaffirm the purpose of the Fund as a means of ensuring that the highly limited and shrinking set of globally competitive research institutions includes Canadian representation.

Summary & Conclusion

With the federal government approaching the conclusion of the majority mandate awarded by the electorate in 2011, it is appropriate to recognize the tremendous progress Canada has made in restoring economic growth following the global financial crisis. It is also important to recall that bold and strategic investments in science and technology were critical dimensions of the federal government's stimulus plans in 2009 and 2010. Now, however, the challenge is to continue to create the conditions for long-term, sustainable prosperity—and investments in research and innovation once again have a critical role to play.

As outlined above, the University of Alberta recommends that Budget 2015 provide stable, competitive investments in the existing elements of the Canadian S&T ecosystem—such as the Granting Councils, CFI and the Indirect Costs of Research Program—alongside the launch of the Canada First Excellence Research Fund.

By aiming for global excellence across the spectrum of national science, technology and innovation programs, Budget 2015 will represent a milestone within an already impressive record of investing in Canadian ingenuity.

References

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