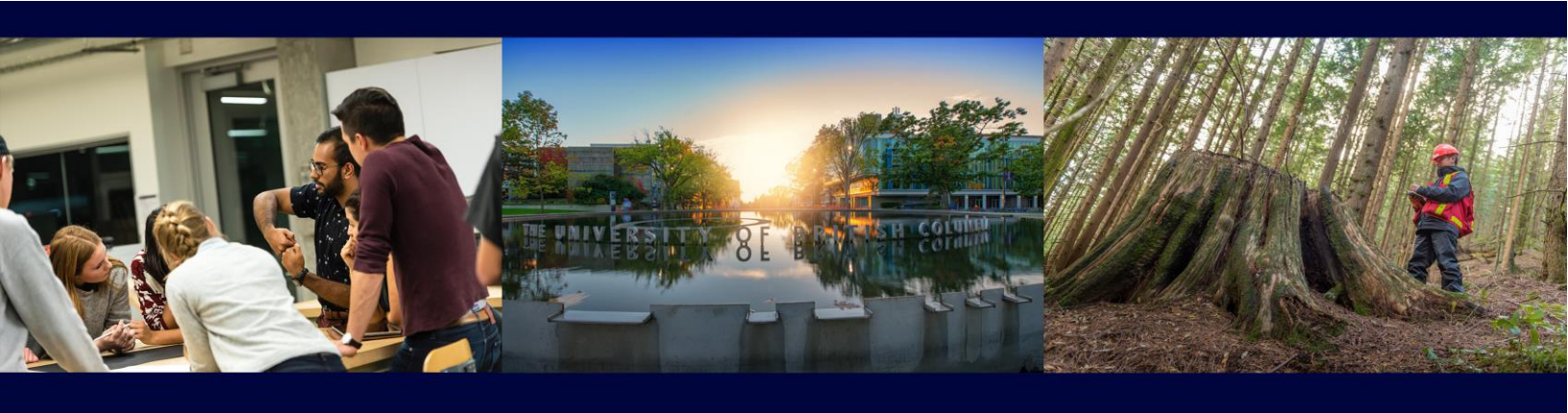




THE UNIVERSITY OF BRITISH COLUMBIA

Submission to the House of Commons Standing Committee on Finance Pre-Budget Consultations in Advance of the 2019 Budget



3 August 2018

Recommendations

1. **Continue investing in Canada's research ecosystem, as recommended in the Fundamental Science Review, focussing on three areas in Budget 2019:**
 - a. **Student Scholarships and Fellowships:** increase the number and value of supports for graduate students and post-doctoral fellows and harmonize programs across the Granting Councils (an additional \$140 million annually by 2022/23)
 - b. **Undergraduate Student Research Opportunities:** expand the Undergraduate Student Research Awards program across the research Granting Councils by creating additional awards within CIHR and SSHRC with \$22 million in new annual funding.
 - c. **Research Support and Knowledge Mobilization:** raise funding rates in the Research Support Fund towards the globally competitive levels identified in the Fundamental Science Review.
2. Support major partnerships between Indigenous Peoples and post-secondary institutions to **create advanced education opportunities related to Indigenous self-governance and economic development**. UBC's proposed **School of Indigenous Forestry** is one such investment.

Introduction

The University of British Columbia welcomes the opportunity to participate in the Standing Committee on Finance's pre-budget consultation. In line with the committee's continued focus on ensuring Canada's competitiveness, this submission makes recommendations relating to new investments in Canadian students, university research and Indigenous communities, all of which are critical for sustainable and inclusive economic growth.

UBC applauds the historic investments in Canada's research ecosystem made in Budget 2018. These investments are reinvigorating Canadian research and allowing our researchers and institutions to compete with the best in the world and make enduring contributions to Canada's prosperity and well-being. As part of the government's recognition of the importance of fundamental research, the new investments are also strengthening Indigenous research and promoting equity and diversity in the academy. These investments were largely guided by the 2017 Fundamental Science Review, which provides a roadmap for Canadian leadership in science and research. While the most critical recommendations have been addressed in policy changes and new initiatives since the release of the report, many important suggestions remain outstanding, including several that will help enable Canada to thrive in this era of continued international competition, technology-driven disruption and demographic changes.

Addressing these challenges and imperatives will require public policy that supports the development of an increasingly highly skilled and adaptable labour force that possesses a range of critical thinking, analysis and teamwork competencies. Similarly, life-long learning at all career stages will become ever more important as the pace of technological and economic change intensifies. As the Fundamental Science Review makes clear, research-intensive education develops these vital attributes in our students and our workforce.

The Government of Canada has recognized these challenges and imperatives. Budget 2018 committed the government to examining how to further build Canada's research and human capital strengths through enhanced student scholarships and fellowships, as part of the government's broader Innovation and Skills Plan.

UBC's recommendations for Budget 2019 provide concrete actions that the Government of Canada can take to further support the development of a highly educated and skilled populace and advance Canada's global leadership in research and innovation. These include increasing supports for more Canadians to pursue advanced degrees, improving access to research experience for Canada's undergraduate students, and supporting the operations and underlying infrastructure of Canada's research enterprise through globally competitive investments in the Research Support Fund.

With its partners, UBC is also advancing a number of initiatives that, with government's support, would further contribute to Canada's competitiveness and to inclusive, sustainable growth. These include:

- the School of Indigenous Forestry (which we elaborate upon in this submission);
- a 'Learning Factory' for industry-partnered advanced composites manufacturing research and production in BC's Okanagan region;
- a major western technology innovation and start-up accelerator hub to complement Canada's Digital Technologies Supercluster;
- initiatives to develop applications of Canada's leadership in quantum technologies; and
- a co-ordinated strategy that focuses the efforts of employers, educators and government to provide all post-secondary students opportunities to participate in work-integrated learning programs.

Recommendation 1

Continue investing in Canada's research ecosystem, as recommended in the Fundamental Science Review. For Budget 2019, UBC recommends focusing new investments on:

- a) **Student Scholarships and Fellowships:** increase the number and value of supports for graduate students and post-doctoral fellows and harmonize programs across the Granting Councils (an additional \$140 million annually by 2022/23)
- b) **Undergraduate Student Research Opportunities:** expand the Undergraduate Student Research Awards program across the research granting councils by creating additional awards for CIHR and SSHRC. This would require an investment of \$22 million per year.
- c) **Research Support and Knowledge Mobilization:** raise funding rates in the Research Support Fund towards the globally competitive levels identified in the Fundamental Science Review.

Budget 2018 heeded the recommendations of the Fundamental Science Review (FSR) and made historic investments in Canadian science and research. Budget 2018 included significant new funding for the core of Canada's university-based research enterprise, the Tri-Council granting agencies and the Canada Foundation for Innovation (CFI), as well as new programs and policy changes that promote equity and diversity in research and support early-career investigators. The FSR is the most thorough and comprehensive roadmap for Canadian research produced in decades, and UBC recommends that government follows the long-term plan for increased investment set out in the report, while also monitoring trends in research funding in other countries to ensure Canada's competitiveness.

A key acknowledgement of the FSR and Budget 2018 is that investments in research are fundamentally investments in people—funding for research not only leads to the creation of knowledge, which is the foundation of innovation and human advancement, but it also develops and attracts top faculty and educates and trains the next generation who will apply their knowledge within and beyond the academy. While direct project funding is the bedrock of Canadian research, one essential area of the FSR's recommendations yet to be addressed is to improve support for graduate students and post-doctoral fellows. Budget 2018 recognized this, stating that “[o]ver the next year, the Government will be doing further work to determine how to better support students, the next generation of researchers, through scholarships and fellowships.”

Graduate students and post-doctoral fellows are essential for Canada's research enterprise and its economic competitiveness. As the Conference Board of Canada points out about doctoral students, “[t]he knowledge, skills, and dispositions of PhDs—including their deep understanding of specific fields; advanced research, analysis, and communication skills; and creative, detail-oriented, and persistent personalities—make them well-suited to advancing innovation both inside and outside academia.”¹ Demand for these types of skills in the labour market is clear: surveys of employers consistently rank these competencies as among the most sought-after,² and advanced degree-holders consistently show the strongest labour market outcomes of any educational group.³

However, despite the demand, currently only 10 per cent of Canadians hold a graduate degree, placing us below the OECD average of 13 per cent.⁴ Increased support for Canadians to pursue advanced degrees is one way to prepare the workforce for a rapidly evolving economy and more complex world while helping narrow the

¹ The Conference Board of Canada (2015), *Inside and Outside the Academy. Valuing and Preparing PhDs for Careers*

² Business Council of Canada (2016), *Developing Canada's future workforce: a survey of large private-sector employers*

³ Statistics Canada, *Labour Force Survey*

⁴ OECD (2017), *Education at a Glance 2017: OECD Indicators*

attainment gap between Canada and some of our main international comparators and competitors such as the United States, the United Kingdom, Sweden, Denmark and Germany.

Immersion in research experiences under the mentorship of faculty members, and within a diverse and often interdisciplinary community of scholars, fosters and develops these competencies. Extending this type of experience to undergraduate students is also a common objective across Canada's post-secondary institutions and increasing federal support for undergraduate research experiences would help develop the talents of our university graduates even further.

To capitalize on the important contributions that research-intensive education and training provide to Canada's students, the national research enterprise, and the broader economy, we recommend that Budget 2019:

- Increases and harmonizes supports for graduate students and post-doctoral fellows (an additional \$140 million annually by 2022/23). As in the FSR, we recommend the government focuses on the core master's, doctoral and post-doctoral support programs, increasing both the number and value of awards, rather than focusing on elite recruitment streams such as the Vanier and Banting awards.
- Expands the Undergraduate Student Research Awards program to health disciplines, humanities and social sciences by creating additional awards for CIHR and SSHRC, requiring a minimum investment of \$22 million annually.

Investing in the Research Support Fund (RSF) is also essential if Canada is to maintain the competitiveness of its research system and continue to translate research outside the academy. The RSF helps Canadian research institutions cover expenses associated with research that are not paid by federal research grants, such as administrative, regulatory and operational requirements. The RSF also supports technology transfer and commercialization activity such as patenting and intellectual property protection, technology licensing, industrial research partnerships, and supports for venture creation through entrepreneurship programs.

Currently, the RSF funds less than 20 per cent of direct costs beyond tri-council research grants for large research-intensive institutions. Counter-intuitively, the universities that conduct the most research have the lowest reimbursement rates and therefore the largest funding shortfalls. By comparison the average rate of funding in the United States is nearly 53 per cent.⁵

Budget 2018 included much welcomed additional investments in the Research Support Fund in line with the increase in broader research funding, but further support is needed to ensure students and faculty at the country's top research institutions have the resources they need to compete on the global stage. We therefore recommend that Budget 2019:

- Provides significant and ongoing increases to the Research Support Fund (as recommended in the Fundamental Science Review), moving towards globally competitive funding levels.

⁵ Ledford, H. "Keeping the Lights On", *Nature*, Volume 515, 2014.

Recommendation 2

Support major partnerships between Indigenous Peoples and post-secondary institutions, such as UBC's proposed School of Indigenous Forestry, to create advanced education opportunities related to Indigenous self-governance and economic development.

The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) states that "control by indigenous peoples over developments affecting them and their lands, territories and resources will enable them to maintain and strengthen their institutions, cultures and traditions, and to promote their development in accordance with their aspirations and needs".

Across Canada and in many other parts of the world, the rights of Indigenous Peoples to their traditional territories are being increasingly recognized, and ownership and management of those lands and resources are being transferred back to their traditional owners. As this process unfolds in Canada, Indigenous Peoples are regaining control of large forested areas and forest resources. The sustainable use of this resource, following Indigenous management principles, will provide an important source of income for Indigenous communities and will also help existing forest product industries maintain fibre supply.

UBC's Faculty of Forestry, the largest and most prominent in North America, has begun discussions with the Westbank First Nation in BC's Okanagan region and the National Aboriginal Forestry Association about the creation of a School of Indigenous Forestry, which would feature an entire educational program focused on the needs of those working in and for Indigenous communities, companies and organizations. Such a program would:

- provide a means to train Indigenous foresters who will be able to manage the land that is being transferred through treaty or court cases to First Nations, in line with the recommendations of the Truth and Reconciliation Commission and the UNDRIP;
- help create economic opportunities and sustainable prosperity for Indigenous communities in rural areas, both directly through the program and through secondary manufacturing opportunities; and
- meet industry demand for forestry professionals in BC and across Canada.

In the coming year, UBC hopes to work with the Government of Canada, First Nations and provincial partners to explore appropriate mechanisms for supporting major partnerships such as this one, which advance education and research opportunities related to Indigenous self-governance and economic development.