



August 3, 2017

Office of the President

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The Hon. Wayne Easter, P.C., M.P.
Chair, House of Commons
Standing Committee on Finance
House of Commons
Ottawa, Ontario
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By Email: Finapbc-cpb@parl.gc.ca

Dear Mr. Easter,

Thank you for the opportunity to participate in the House Standing Committee on Finance's consultations on the Government of Canada's 2018 Budget. I am pleased to provide the Standing Committee with the attached submission on behalf of York University.

The Government of Canada's 2018 Budget presents an important opportunity to build on significant gains made by Canada's post-secondary education institutions and reinforce the vital contributions they make to Canada's continued success in the global knowledge-based economy. The Government of Canada, through its support for university-based research and strategic research infrastructure, enables Canada's universities to build on their strengths and leverage their research expertise to maximize their knowledge production, mobilization and commercialization potential, while also enabling them to bring Canadian expertise to the global table in support of solutions to the world's most challenging problems. For this reason, it is vitally important for the Government of Canada to continue to build on its investments and affirm its partnership with Canada's universities in propelling Canada's continued success and prosperity in the global knowledge-based economy.

York University recommends that the 2018 federal budget protect critical investments in Canada's postsecondary education system while ensuring that public resources build on proven strengths, providing the greatest return on investments for Canadians.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "Rhonda L. Lenton".

Rhonda L. Lenton, PhD
President & Vice-Chancellor

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Encl: York University's 2018 Pre-Budget Submission

York University
Pre-Budget Submission to the House Standing Committee on Finance
August 2017

The Government of Canada's 2018 Budget presents an important opportunity to build on significant gains made by Canada's post-secondary education institutions and reinforce the vital contributions they make to Canada's continued success in the global knowledge-based economy.

York University is Canada's 3rd largest university with 52,000 students including nearly 6000 graduate students, one of the largest graduate student cohorts in the country. York is ranked among Canada's top 10 Canadian research universities for Sciences, Engineering, Social Sciences and Humanities when measured by impact. York shares the view that Canada's prosperity is supported by prudent use of resources in a manner that best leverages Canada's many strengths. By combining excellence in research and teaching with careful stewardship of public funds, York is equipping the next generation for success in an increasingly globalized and knowledge-based economy while also delivering world-class research with real-world applications and impacts. York University's successes include its Centre for Research in Earth and Space Science, a key NASA and Canadian Space Agency partner and major scientific contributor to recent Mars Exploration missions and related discoveries; and its Canada First Research Excellence Fund supported Centre for Vision Research, Canada's pre-eminent vision research centre, ranked among the Top 5 in the world, merging techniques in human psychophysics, visual neuroscience, computational theory and augmented reality with applications from health care to robotics to the entertainment industry.

York University believes that investments in basic scientific research, as described in the government's recent Fundamental Science Review, are critical to ensuring the long-term productivity of Canadians and Canadian businesses. In our view, the key to Canada's productivity and competitiveness as well as current and future economic success, is the central role played by fundamental science within Canada's innovation engine. Quite simply, if there isn't great fundamental science at the front end, you're not going to have all of the downstream benefits in entrepreneurship and innovation.

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Continue to increase support for investigator-led discovery research.

Canadian universities are addressing complex issues facing our unique communities, partnering with businesses, communities and governments, and fostering life-changing research. The cornerstone of research excellence is fundamental discovery research. Fundamental research creates new paradigms for technology and business driving economic and social innovation – advances that create good middle-class jobs, and improve standards of living. In the current knowledge economy, Canada's ability to innovate is a primary factor in our competitiveness and productivity.

The support for research delivered by the Government of Canada through the three federal granting councils (SSHRC, NSERC, CIHR) is vital to the success of Canada's researchers. With stable funding and effective processes, tri-council support is an essential resource for helping Canada's universities fully realize their world-leading research potential. Importantly, this can only be achieved with an appropriate balance of curiosity-driven and targeted support.

The Advisory Panel on Federal Support for Fundamental Science report has proposed an agenda for Canada that offers a blueprint for sustained excellence in investigator-led discovery research across disciplines. Among the Report's recommendations, is a call for increased allocation of funds supporting discovery research across the three granting councils, with some attention paid to the structures of the councils and the adjustment needed to realign funding opportunities for scholars in the social science and humanities.

York is highly supportive of the Advisory Panel's recommendation to provide considerable increases to support all discovery research, as well as the needed focus on social science and humanities research, and the need for a rebalancing of the current allocation of funding for its large constituency of scholars.

Recommendation:

Provide significant increases in direct support for discovery research, which will have system-wide benefits across the research ecosystem, particularly for the next generation of talented young researchers. This would include bringing support for social science and humanities research in line with funding for NSERC and CIHR.

Continue to support the international competitiveness of Canada's universities through support for the development of world-class strategic research infrastructure

By supporting leading-edge research infrastructure at Canada's universities, the federal government puts Canada forward as a marquee destination for global research leaders, deepening Canada's participation in international research networks and scientific partnerships. Through the Canada Foundation for Innovation (CFI) and programs like the Strategic Infrastructure Fund (SIF) and the Canada First Research Excellence Fund, the Government of Canada enables universities to further their mission to produce and mobilize high-impact research, attract the best and brightest researchers from around the world, train the next generation of discoverers at leading-edge facilities, and translate knowledge into opportunity and social value for Canadians. Ongoing federal support for university research infrastructure, building upon investments to date, is crucial for the continued success of Canada's research-intensive universities on the global stage.

With the positive impact of SIF, many important infrastructure projects have received support in providing their researchers and students modernized learning and training facilities. York encourages the federal government to consider opening up future SIF funding to support essential infrastructure needs of growing post-secondary institutions. For example, with a rapidly growing research profile and upwards trajectory of York's Science and Engineering research, new infrastructure funds would be used to support a new Engineering building to aid the expansion of chemical and bio-engineering research and applications. Further, investments would be earmarked towards a re-visioned Library that is equipped with kinds of digital collaboration, visualization and innovation space that will prepare the next generation for the global knowledge-based economy.

Additionally, York recommends sustained funding to support state-of-the-art infrastructure through the CFI, funding projects that fuel research by investing in research-specific facilities and equipment. These funds will help realize the development of strategic research facilities at Canadian universities, enabling universities to leverage matching funds from provincial governments, private sector partners and other supporting contributions from non-profit sector organizations and private donors in the development of world-class research facilities and centres. In short, infrastructure improvement is a key facet of institutional strategic research initiatives.

Recommendation:

Invest in stable and predictable funding to support long-term strategic research infrastructure planning, development and operations at Canadian universities.

Fueling International Partnerships in Discovery and Innovation

International collaboration is vital to excellence in research. Canada is poised for global leadership on some of the most pressing challenges of our time – issues like climate change, food security, refugee resettlement, cybersecurity and the increasing automation of labour. Reinvestment in research and discovery will boost universities' capacity to impact lives and address the world's most urgent needs, both across the globe and at home. Support for international research collaborations will bring Canadian expertise and technologies to the global stage.

Canada is much sought after as an international research partner. Canadian universities have a strong foundation upon which to build, with Canadian faculty members among the most collaborative in the world. At York University, the international character and global leadership of our research is reflected through collaboration in publication. With over 54% of co-authored York publications including an international co-author in 2015, York has one of the highest of international collaboration proportions amongst Canadian universities. Partnership is also essential to growing the impact of research. Over the past three years, external research partnerships at York have grown substantially with 1,962 collaborating international institutions, and 4,405 co-authored international publications (2014-2017). A recently renewed internationalization strategy with a strong focus on research partnership development promises to further enhance York's already impressive international engagement.

It is through leveraging our international partnerships and embracing diverse ideas that York enriches our research and student experiences. As recommended in the Advisory Panel's report, greater funding flexibility to meet partners halfway is needed through dedicated funding for international research collaboration for universities and our researchers. This is how Canada will lead the world in creating new knowledge- and Canada's universities are well positioned to do more.

Recommendation:

Invest in a dedicated support fund for international research collaboration to capitalize on Canada's global moment and increasingly strong position as a partner of choice.

Maximizing the impacts of research on Canadians

After citing examples of impacts research has made on society, health and the economy, Chapter 2 of the Report from the Advisory Panel on Federal Support for Fundamental Science concluded that “research is essential to the health, prosperity, and security of Canadians and to our efforts to foster a creative, inclusive, and vibrant society.” This echoes the discussion paper from Simon Fraser University and J.W. McConnell Family Foundation titled, Maximizing the capacities of advanced education institutions to build social infrastructure for Canadian communities, that was presented to a group of Canadian university presidents in May 2017. It stated “Advanced education institutions are uniquely positioned to invent and scale the solutions needed to enable a better quality of life for all of society within planetary thresholds. Many of these solutions can be found in their existing assets and capacities, which, when directed at building social infrastructure, can reveal the pathway for citizens and their institutions to thrive.”

While traditional notions of commercialization and technology transfer are being complemented by institutional investments in entrepreneurship, a broader practice of research impact supporting broader notions of inclusive innovation is emerging at Canadian institutions. Although universities are actively promoting impact on their own campuses and in their local communities, Canada lacks a strategy and a cohesive network to support the scaling of social, health, environmental and economic innovations across the country.

Since 2006 York University has led Research Impact Canada which includes 15 members, both national and international, and is making these important connections across a truly pan-Canadian network--from St. John's to Victoria. The Conference Board of Canada wrote "Through ResearchImpact, universities are using knowledge mobilization to generate socially useful research and to provide it to decision-makers, policy-makers, and practitioners, in collaboration with community, industry, and government partners."¹ Examples of these impacts from the Research Impact Canada (www.researchimpact.ca) network include:

- Research at U. Saskatchewan, in collaboration with Agriculture Canada and local farmers developed Pulse Crops (lentils, peas for crop rotation during Canada's wheat glut). This research resulted in a 6-fold increase in the value of crop yields and made Saskatchewan the world's leading exporter of chickpeas and lentils with an export market of \$4.2B
- Researchers from PREVNet Network of Centres of Excellence collaborated with Red Cross, Scouts Canada and Big Brothers Big Sisters to create the Healthy Relationships Training Module that reaches 400,000 children and youth each year. Junior Achievement has shown that every dollar spent on keeping a child in school has a \$45 social return on investment. Big Brothers Big Sisters has calculated an 18:1 social return on investment on their training programs.
- Alison Blay-Palmer (Wilfrid Laurier University) with colleagues from University of Guelph and Carleton University are working with many local food agencies in Ontario. They produced a report "Models and Best Practices for Building Sustainable Food Systems in Ontario and Beyond". They used the report for policy innovation and stakeholder engagement which informed Ontario Bill 36, the Local Food Act. Since 2003, the province has invested more than \$116 million in food security initiatives and projects.

Canada needs more examples such as these and those cited in Chapter 2 of the Report from the Advisory Panel on Federal Support for Fundamental Science to create a more sustainable environment, a more equitable economy and a more inclusive society.

Recommendation:

Partner with Canadian research institutions to invest in a pan-Canadian strategy, modelled on Research Impact Canada, which will maximize the impacts of university research.

¹ Beyond Citations, Conference Board of Canada (2016) <http://www.conferenceboard.ca/e-library/abstract.aspx?did=8314>