Queen's University Pre-Budget Submission

to the House of Commons Standing Committee on Finance

July 2017

Executive Summary

Queen's University thanks the government for its important investments in research, innovation and skills development at post-secondary institutions and is pleased to be an active partner with the government as it delivers on its vision of building a more prosperous, competitive, and inclusive Canada.

Queen's supports the pre-budget recommendations of Universities Canada and the U15 Group of Canadian Research Universities and particularly recommends that the government use Budget 2018 to make new investments in three areas to further enhance inclusive economic growth and prosperity for Canadians:

1. Expand funding for fundamental research, as recommended in the final report of the expert panel of Canada's Fundamental Science Review, including funds targeted to early career researchers.
2. Provide funding for programs aimed at improving the representation of under-represented groups in undergraduate and graduate programs, as well as in the professorship, including women in STEM fields, Indigenous students, persons with disabilities, and racialized groups.
3. Building on the success of the Post-Secondary Institutions Strategic Investment Fund, provide further financial support for post-secondary research and innovation infrastructure renewal, to provide students and researchers with the state-of-the-art facilities necessary to conduct leading-edge research and to prepare the next generation of highly qualified personnel.

Introduction

Queen's University uniquely combines a transformative learning experience with a research-intensive environment. The result is a leading university that fosters discovery and innovation, while offering unparalleled opportunities for undergraduate and graduate students to gain the skills and knowledge that will help build a more prosperous Canada.

Research and Innovation

Queen's is Canada's fifth-most research-intensive university and home to nationally and internationally renowned researchers. The excellence of our faculty is demonstrated by Queen's standing as second in the country for the number of national awards won by faculty members on a per capita basis. In addition, discoveries by Queen's researchers have led to more than 500 patents, 50 spin-off companies and $1.4 billion in investments – contributing to an innovative and prosperous Canadian economy.

Over the past academic year, Queen's celebrated its 175th anniversary and saw a number of other significant achievements. The university received a $31-million investment from the Government of Canada's *Post-Secondary Institutions Strategic Investment Fund* (SIF) in support of two major capital projects – the creation of the Innovation and Wellness Centre and the revitalization of an important biomedical research laboratory. Both of these infrastructure projects will enhance research, innovation, entrepreneurship, and commercialization at Queen's.

The university also received $63.7 million from the Government of Canada's *Canada First Research Excellence Fund* to create the Canadian Particle Astrophysics Research Centre (CPARC). CPARC builds on the Nobel Prize-winning neutrino research of Dr. Arthur McDonald and SNOLAB, now aiming to become the first research group to detect dark matter – another potentially Nobel-worthy discovery. The government's investment in CPARC and its continued investment in SNOLAB will help attract leading researchers to Canada and help to prepare the next generation of highly qualified personnel.

Student innovation and entrepreneurship programming at Queen's received a major boost from distinguished alumni and successful entrepreneurs Andrew and Anne Dunin, and Gururaj and Jaishree Deshpande. Their significant philanthropic gift will expand programming of the newly-named Dunin-Deshpande Queen's Innovation Centre to support student innovation and entrepreneurship, including the creation of new products and services. In addition, Queen's and the City of Kingston signed a memorandum of understanding to form a strategic partnership aimed at driving innovation, economic growth, and workforce development.

Skills Development

For over 175 years, Queen's University has attracted some of the brightest students from across Canada and around the world, providing them with a challenging academic environment, while at the same time supporting their success through to graduation and beyond. The results of Queen's transformative student learning experience are significant. Queen's leads Canada's universities in terms of its undergraduate completion rate (90.2%), leads the U15 for its master's completion rate (91.7%) and is second in the U15 for its PhD completion rate (76.8%). In addition, Queen's graduates earn an average income of $79,000 five years after graduation from an undergraduate program, compared to an average of $71,000 nationally.

Through its programs and innovative approaches to teaching and learning, Queen's is helping to prepare the highly skilled workforce that Canada will need over the coming decades. For example, the Queen's Undergraduate Internship Program, which offers a 12 to 16-month internship to students, saw participation rates increase significantly in the 2015-16 academic year as it became available to all students in the faculties of Arts and Science and Engineering and Applied Science. By providing an internship of up to a year and a half in length, longer than traditional co-op programs, both students and employers benefit from a sustained work-integrated learning experience. At the graduate level, experiential learning opportunities are integrated into numerous programs, including the new Master of Entrepreneurship and Innovation. Thanks in part to the Government of Canada's continued investment in fundamental research through the tri-councils and the Canada Foundation for Innovation, graduate student participation in research projects across the university is helping to prepare the next generation of highly-skilled researchers.

Fostering an Inclusive and Welcoming Environment

Earlier this year, Queen's released the final report of its Truth and Reconciliation Commission Task Force (TRCTF). Formed in April 2016, the TRCTF explored ways the university could offer a meaningful response to the calls for action included in the Truth and Reconciliation Commission of Canada's final report on the history and legacy of Canada's residential school system for Aboriginal children.

Queen's has committed to take action on the recommendations in the TRCTF 's report, which include the creation of new bridging and pathway programs to increase access to post-secondary education for Indigenous youth, as well as expanded recruitment and outreach initiatives into Indigenous communities. Since 2012, Queen's has made concerted efforts to attract and retain Indigenous students, including through hiring dedicated Indigenous admissions and outreach staff. While there is more work to do, since 2012 Queen's has seen an increase of undergraduate applications from self-identified Indigenous students of 68%, and an increase of 168% in the number of acceptances.

In addition, Queen's applauds the government's commitment to increasing the representation of equity-seeking groups among university faculty and student populations, including the participation of women in STEM fields. Over the course of 2016-17, Queen's launched the Principal's Implementation Committee on Racism, Diversity, and Inclusion (PICRDI) to recommend changes that can be made to build a more inclusive campus community. In response to both TRCTF and PICRDI, Queen's has committed $3 million over the next three years to support existing and new initiatives related to equity and diversity on our campus.

Queen's University Recommendations

1) Support for fundamental science research

Queen's welcomed the release of Canada's Fundamental Science Review and is grateful to both Minister Kirsty Duncan for commissioning the report, as well as to the advisory panel for their hard work – including Queen's own Nobel laureate, Dr. Arthur McDonald. Included in the panel's report was the recommendation of a "major multi-year reinvestment in front-line research," to be phased in over four years. The panel proposed an increase in annual spending across the four major federal agencies and other key entities from approximately $3.5 billion today to $4.8 billion in 2022.

The increase in spending would be spread across grants for investigator-led research, personnel supports for researchers and trainees, infrastructure-related operating costs, and enhancement of the environment for science and scholarship through improved coverage of the institutional costs of research. The report also emphasized the need to provide dedicated funding and opportunities for early-career researchers to support the needs of the next generation of scientists. Queen's echoes the call from universities across Canada in support of the report and encourages the government to implement its recommendations. Renewed investment in fundamental research will support an innovative and globally competitive Canadian economy.

- **Queen's University recommends expanded funding for fundamental research, as recommended in the final report of the expert panel on Canada's Fundamental Science Review, including funds targeted to early career researchers.**

2) Improving access for underrepresented groups

Canada's Fundamental Science Review also made a number of recommendations to address shortfalls in equity and diversity outcomes, particularly with respect to funding opportunities and federally-funded chair programs. These recommendations follow the Government's important investments in Budget 2017 to improve access to post-secondary education and training for historically underrepresented groups – including Indigenous students, women, and persons with disabilities.

Efforts to improve diversity extend well beyond the admissions office. Earlier this year, Minister Duncan proposed a December 2017 deadline for post-secondary institutions to create an action plan on how to achieve more diversity among their candidates for the *Canada Research Chairs* and *Canada Excellence Research Chairs* programs.

Queen's strongly supports the call for additional support to increase diversity and the participation of women, particularly in STEM fields. The university shares Minister Duncan's interest in providing opportunities for women in STEM, from secondary and post-secondary education and into industry and academia. This is also an important cause for Queen's Professor Emeritus and Nobel laureate, Dr. Arthur McDonald, who donated a portion of the proceeds from the 2016 Breakthrough Prize in Fundamental Physics to a scholarship program at Queen's to attract women to study in STEM fields. Queen's has a number of other programs to encourage women to pursue studies in STEM, including Go ENG Girl which conducts early outreach to students in grades 7 to 10 to introduce them to engineering as a career.

Queen's University supports the government's commitment to improving diversity in post-secondary education and within the professorship and is currently developing a proposal for consideration by the government to leverage the university's, and Professor McDonald's, commitment to supporting women in STEM through targeted scholarships. We look forward to sharing that proposal in the coming weeks.

- **Queen's University recommends that the government provide funding for programs aimed at improving the representation of under-represented groups in undergraduate and graduate programs, as well as in the professorship, including women in STEM fields, Indigenous students, persons with disabilities, and racialized groups.**

3) Support for post-secondary infrastructure

In Budget 2016, the Government of Canada announced the creation of the *Post-Secondary Institutions Strategic Investment Fund* (SIF) in support of state-of-the-art infrastructure projects at post-secondary institutions to enhance and modernize research and innovation facilities. As detailed above, Queen's was fortunate to receive an investment from the fund in support of two capital projects – the creation of the Innovation and Wellness Centre and a revitalization of its biomedical research facilities.

Queen's would like to express its continued support for the SIF program, which has immediate benefits to Canada, including boosting local economies through infrastructure projects, and longer-term national benefits by enhancing the capacity for research and innovation. Building on the success of the SIF program, Queen's recommends:

- **That the Government of Canada provide further financial support for post-secondary research and innovation infrastructure renewal, to provide students and researchers with the state-of-the-art facilities necessary to conduct leading-edge research and to prepare the next generation of highly qualified personnel.**

Early stage planning is underway at Queen's for a proposed new physical sciences building, which would support the work of the CFREF-funded Canadian Particle Astrophysics Research Centre and other leading research in physics and other fields. Should the Government of Canada make available further funding for post-secondary infrastructure – through a second round of the SIF program, or a similar funding program – this project would represent a key strategic priority for the university. As planning progresses, Queen's looks forward to discussing plans for this proposed new building with the government.

Conclusion

Queen's fully supports the Government's plan to invest in measures that aim to improve Canada's productivity and long-term prosperity. We strongly believe that the investments proposed above will allow Queen's and universities across Canada to provide students with the necessary skills for success and to provide researchers with the resources needed to foster new discoveries and innovations. We thank the Standing Committee on Finance and the Government of Canada for the opportunity to provide input for Budget 2018.