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**CANADIAN CONSORTIUM FOR RESEARCH (CCR) SUBMISSION:
HOUSE OF COMMONS STANDING COMMITTEE ON FINANCE
2017 PRE-BUDGET CONSULTATION**

EXECUTIVE SUMMARY

With 20 member organizations, the CCR represents more than 50,000 researchers and 500,000 students across disciplines. It is the largest advocacy coalition in Canada focusing on research funding in all disciplines and support for post-secondary education.

Science – social, natural and health – is a fundamental part of Canada, having relevance to societal well-being, human functioning, health, technology, innovation, productivity and the economy; its relevance can be measured at the individual, business, and community levels.

According to the Council of Canadian Academies, “a society has a strong science culture when it embraces discovery and supports the use of scientific knowledge and methodology. Such a culture encourages the education and training of a highly skilled workforce and the development of an innovative knowledge-based economy.” Investments in a science culture will contribute to more and better-paying jobs, new inventions and patents, increased productivity, increased government revenues over the medium- to long-term and an increased standard of living for Canadians – all of which will contribute to helping Canada’s people, businesses, and communities. Such investments will also help to secure Canada’s place as an international destination that supports a science culture for the public, evidence-based policy, and current and future researchers.

The CCR commends the government’s investment in fundamental research for 2016/17 to the three funding agencies – particularly to SSHRC which has seen the largest reduction in funds over the last two decades – in students, and in research infrastructure. These investments were necessary to help the research community – and Canada as a whole – rebound from years of austerity which had only recently begun to see investments in research infrastructure, internships, and targeted research funding. Should the government continue with yearly 3% funding increases for the next three years, by 2020 the granting council funding would be restored to their 2007 level. While this is a positive step that helps improve Canada’s HERD intensity ranking, which has fallen from 3rd to 8th, to keep pace with competitor countries, a larger increase is needed. We therefore recommend:

- Increasing, in an equitable manner, the base budgets for the granting councils by 5% per year for each of the next 3 years. **Cost ~ \$150 million/year.**
- Providing stabilized operating funds in support of research infrastructure and various building blocks of Canada's national research structure within and outside of academia.
- Continuing investments in graduate scholarships and internships across the natural, health and social sciences, particularly amongst indigenous and disadvantaged youth and youth living in rural and remote communities. **Cost: \$25 million/year** to fund an additional 1,250 students; **\$10 million/year** to fund an additional 250 internships.

ASSISTING CANADIANS, COMMUNITIES AND BUSINESSES

It is critical to develop, promote and support a culture that values discovery and innovation in all sciences – including but not limited to natural science, technology, engineering, social science and humanities, health, and mathematics – to foster an interest in Canada’s youth and underrepresented segments of society, and to achieve and benefit from the vast impacts of scientific inquiry. Achieving this requires continued and sustained investments in funding for research and infrastructure and for students.

FUNDING FOR RESEARCHERS AND INFRASTRUCTURE

Canada’s capacity to innovate and compete internationally, and thrive economically, is dependent on numerous factors, including:

- Canada’s investment in research and development (R&D);
- the ways in which research is funded, reviewed, and awarded; and
- the availability of stable funding to support both research infrastructure and a broad spectrum of research carried out in various environments.

R&D: High-quality knowledge, which is gained primarily through R&D, is key to global competitiveness within the science, technology and innovation fields. R&D includes fundamental research undertaken in academia and industry; applied research directed towards specific objectives; and experimental development to produce new, or improve existing, products and processes.

OECD data show that Canada’s gross domestic expenditure in R&D is at its lowest since 2000. Canada’s investment, as a percentage of GDP, was 1.61% in 2014, less than half the OECD average (2.37%), and significantly lower than our competitor countries such as the U.S. (2.7%), Korea (4.2%), Germany (2.8%), Sweden (3.1%) and Denmark (3.0%). Furthermore, with other countries strategically increasing their Higher Education Research and Development (HERD) spending, Canada fell from 3rd position in 2006 to 8th in 2013 in HERD intensity.

Funding Improvements: Canada's granting councils are widely admired internationally and form the bedrock of support for research in Canada; this bedrock, however, has not been as solid as of late. The decreased funding for discovery research has led to the recent instability of the granting councils in terms of how research is funded, reviewed and awarded. Recent years have seen:

- An inequity in the distribution of funds the granting councils received – SSHRC has seen the largest reduction in funds since 2007 and received the least amount of funding increases, despite the fact that social scientists represent over half of Canada’s researchers.
- A tendency to direct funding towards specific research programs – While targeted research can address specific issues, there is a place for fundamental research with both short and long timelines that defines, validates, challenges, and resolves important questions; leads to significant advances; and attracts and develops world-leading research teams whose activities will produce top scientists, professionals, students, and post-docs.
- A steady fall in the success rates and/or grant levels for the granting councils – Decreased funding levels and, in some cases, flawed review systems have resulted in many researchers rated highly by international standards of excellence being turned down for grants each year for lack of funding. For example:
 - In 2014, less than 1 in 4 SSHRC researchers received funding despite another 40% of researchers being deemed eligible by peer-review. Social sciences and humanities research provides essential information on social, cultural, psychological, economic, technological and health-related issues.

- Fewer than 1 in 5 CIHR researchers are now typically funded while selection committees deem about two-thirds worthy. Investments in health-outcomes research will improve our ability to understand and treat illness, and develop effective preventive efforts.
- Over the past decade, NSERC has managed the funding deficiency by reducing or holding the value of the research grants flat in nominal dollars. The ability of NSERC-funded researchers to conduct research and, most importantly, to support graduate students, has been seriously affected, particularly when we factor in the effects of inflation.

The CCR commends the government's Budget 2016/17 investment in fundamental research to the tri-councils, and particularly to SSHRC. Should the government continue with yearly 3% funding increases for the next three years, by 2020 the granting councils' funding levels should be restored to 2007 levels; however, to keep pace with competitor countries, an investment of at least 5% is needed.

RESEARCH INFRASTRUCTURE AND SUSTAINED RESEARCH SUPPORT

Stabilized operating funds for universities, government departments, and various data collection agencies is also needed to maintain research infrastructure, support data management, and continue to conduct research used to: enhance the well-being of Canadians, ensure the success of the businesses in which they work and communities in which they live, and support a strong science culture upon which the development of good policy and programming is based.

The CCR recognizes the investments made in world-class research infrastructure to cover the indirect costs associated with conducting research, as evidenced by funds allotted to the Canada Foundation for Innovation (CFI) by the previous government and to universities doing federally-supported research by this government. However, more stable and predictable funds beyond these are necessary. It is critical to support the short and long-term operational and maintenance requirements of existing regional, national and international research labs. Further, each tri-council needs to ensure the availability of funds for the timely funding of smaller-scale equipment and equipment needed to pursue rapidly emerging research directions in individual laboratories.

The quality and breadth of the research that is pursued in academic settings is one of the most important determinants of effective academic/private sector knowledge transfer; our capacity for data management must be improved such that Canada's universities and their libraries can work collaboratively to steward the intellectual output of universities for long-term access and re-use of data.

It is also important to provide sustained support for the continuation of research in non-academic based settings such as Library Archives Canada, which has the capacity to collect, preserve and make available data specific to Canada's cultural heritage used by researchers, students, policy makers, historians, genealogists, indigenous communities, journalists, and the general public, and Statistics Canada, which provides a mechanism for reliable regular data collection on a national scale. Data and research that are collected and conducted over a long term in a standardized manner from a representative sample can be meaningfully used by researchers, government, industry, business, not-for-profits, municipalities, and communities to inform policy, direct innovation, influence economic and social prosperity, and examine socio-economic issues. The discontinuation of surveys such as the University and College Academic Staff System, Survey of Earned Doctorates, Youth in Transition Survey and the National Longitudinal Survey of Children and Youth have left significant gaps in our ability to track labour market information, and child and youth development. Both the public and policy-makers would benefit from establishing a Scientific Office that would oversee the use of scientific evidence in policy-making, as well as ensure proper consultation on the future introduction and cancellation of Statistics Canada surveys.

SUPPORT FOR STUDENTS

Canada's continuing high youth unemployment rate necessitates a more robust active labour market policy. Students represent the next generation of researchers who will contribute to Canada's science culture by making ground-breaking discoveries and tackling the many economic, social, and cultural challenges facing Canadians, thereby helping Canada's people, businesses and communities.

The CCR recognizes this government's support for students in the form of additional grant funding, loan repayment, and tax credits. It also recognizes previous investments for industrial-based post-doctoral research partnerships and internships for not-for-profit organizations. Continued investments in graduate scholarships and internships across the natural, health and social sciences, particularly amongst indigenous and disadvantaged youth and youth living in rural and remote communities, are needed.

Supporting graduate-level teaching, research, and experience will encourage Canadians to pursue graduate-level education and build a foundation for economic and social development. Real-world experience gained through internships will help graduates find meaningful research jobs or other high-quality employment. This would in turn boost economic growth and drive innovation; the broad impacts of which are better jobs and higher productivity.

Continued support for internship and fellowship initiatives across diverse disciplines and settings, particularly those with not-for-profit organizations, in the social sciences and humanities, and high-demand fields, would have positive impacts on students and employers, within Canada and internationally (e.g. closing the gap in graduation rates vis-à-vis those in peer countries; positioning Canada internationally as a solid training ground and Canadian students as highly qualified personnel).

RECOMMENDATIONS

Effective funding pathways are needed to support innovative research, within and across disciplines. If the above remain unaddressed, other countries will be the beneficiaries of Canadian researchers who will look to them for more stable funding and jobs.

- Continue to increase, in a more equitable manner, the base budgets for the granting councils to a competitive level [**COST: 5% increase/year for each of the next 3 years to the base budgets of the three granting councils (total cost ~ \$150 million/year)**].
- Provide stabilized operating funds for infrastructure support and for various building blocks of Canada's national structure to support research within and outside of academia.
- Expand the Canada Graduate Scholarships by **\$25 million/year** to fund an additional 1,250 students (\$20,000 scholarship value) and invest **\$10 million/year** to fund an additional 250 internships per year across disciplines and settings (\$40,000 internship/fellowship value).

*The CCR thanks the House of Commons Standing Committee on Finance
for welcoming input as part of its pre-budget consultation.
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