



**THE CANADIAN CONSORTIUM FOR RESEARCH
LE CONSORTIUM CANADIEN POUR LA RECHERCHE**

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**Canadian Consortium for Research Submission:
House of Commons Standing Committee on Finance
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SUMMARY

With 20 member organizations, the Canadian Consortium for Research (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. 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.”

The CCR recognizes the investments made in recent years by the federal government in research infrastructures, internships, and in targeted funding for Canada’s granting councils. While these investments are welcomed, the research community – and by extension, Canada as a whole – continues to rebound from many years of austerity. Increased investments in core funding for research, students and infrastructure are required to position Canada as a country that cultivates a strong science culture, domestically and internationally.

Such investments 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. They 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. 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 arts, health, and mathematics – to foster an interest in Canada’s youth and underrepresented segments of Canadian society, to achieve and benefit from the vast impacts of scientific inquiry.

For these reasons, the CCR submits the following recommendations, specific to the themes of productivity, jobs, and infrastructure and communities, for investments as part of the 2016 Budget:

- Increase, in a more equitable manner, the base budgets for the granting councils at levels that compensate for the effects of inflation, while also allowing more researchers deemed eligible by peer review committees to be funded. **Cost: 5% increase/year for each of the next 3 years (total cost ~ \$150 million/year).**
- Increase support for students through graduate scholarships, full-time internships and post-graduate training, across a diversity of disciplines and settings, particularly high-demand fields. **Cost: \$35 million/year.**
- Invest in various building blocks of Canada's national research capacity and public science that support research conducted both within and outside of academic settings.

PRODUCTIVITY

Canada's capacity to innovate and compete internationally, and in turn thrive economically, is dependent on sustained support of a broad spectrum of research carried out in various environments (academic, industrial, research institutions, government laboratories, not-for-profit settings). However, out of 35 OECD countries, Canada is 1 of only 6 countries whose gross domestic expenditure in R&D has decreased since 2000. OECD data show that Canada's gross domestic expenditure on R&D, as a percentage of GDP, at just 1.6% in 2013 is lower than the OECD average of 2.4%, and significantly lower than other countries such as the U.S. (2.7%), Korea (4.2%), Germany (2.9%), Sweden (3.3%) and Finland (3.3%). Improving Canada's rate of productivity requires an expansion of its investment in research and development.

Canada's granting councils are widely admired internationally and form the bedrock of support for research in Canada. However, there is little parity in the amount of funds the granting councils receive – for example, SSHRC gets the least amount of funding amongst all of the councils, despite the fact that social scientists represent over half of Canada's researchers.

Further, success rates for the granting councils continue to fall as a result of decreased funding levels when adjusted for inflation. While investments have been and continue to be made in programs of excellence across the country, many researchers rated highly by international standards of excellence are turned down each year for lack of funding.

- In 2014, less than 1 in 4 SSHRC researchers received a grant despite another 40% of researchers being deemed eligible by peer-review committees. Social sciences and humanities research provides essential information on key social, cultural, psychological, economic, technological and health-related issues and in doing so provides critical evidence to support sound policy-making.
- Fewer than 1 in 5 CIHR researchers are now typically funded while selection committees deem about two-thirds worthy of funding. Investments in health-outcomes research will improve explorations of illness and prevention, which is crucial as Canada's population ages.
- Without adjustments for inflation, NSERC's Discovery grant program has been unable to support research programs at appropriate levels in recent years. Younger generations and underrepresented segments of Canadian society must be encouraged to pursue careers in the natural sciences.

Lastly, while targeted research can address specific issues, it is investigator-driven basic research, characterized by varying timelines (both short and long) that defines, validates, challenges, and resolves important questions and leads to significant technological advances that ultimately underpin Canada's economic growth. Consistent support for curiosity-driven, untargeted research attracts and develops world-leading research teams whose activities will produce top scientists, professionals, highly-trained students and post-docs, and can even lead to entirely new fields of research and development (e.g. Green Chemistry).

Effective funding pathways are needed to support innovative research, within and across disciplines. If the above remain unaddressed, many other countries will be the economic beneficiaries of Canada's talented investigators and trainees who will look to them for more stable funding.

RECOMMENDATIONS:

- Increase the base budgets for the granting councils (particularly NSERC Discovery grants, CIHR Open Operating grants, SSHRC Insight grants) and the Indirect Cost of Research program at levels that compensate both for the erosion of funds available to researchers who are eligible for funding based on peer review criteria, and the effects of inflation.
- Establish a more equitable funding formula amongst SSHRC, NSERC and CIHR.

COST: 5% increase/year for each of the next 3 years to the base budgets of the three granting councils and the indirect cost of research program (total cost ~ \$150 million/year)

JOBS

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

The CCR recognizes the investments that were allocated to industrial-based postdoctoral research partnerships through Mitacs and the allowances that were made to include not-for-profit organizations in Mitacs' Accelerate program. However, continued investments in graduate scholarships and internships across the natural, health and social sciences, are needed.

- Supporting graduate-level teaching, research, and experience builds a foundation for economic and social development, while fostering highly skilled and trained workers drives innovation.
- Continued support for internship and fellowship initiatives across a diversity of disciplines and settings, particularly those with not-for-profit organizations that don't have an economic focus, in the social sciences and humanities, and in high-demand fields, would help both students and employers across Canada.

Investments in graduate scholarships will encourage Canadians to pursue graduate-level education, while real-world experience gained through internships will help them find meaningful research jobs or other high-quality employment. This would in turn boost economic growth; the broad impacts of which are better jobs and higher productivity.

Investing in post-graduate training through increased support for post-graduate scholarships and post-doctoral fellowships would also have significant international impacts, including but not limited to:

- helping to close the gap in graduation rates vis-à-vis those in peer countries;
- positioning Canada internationally as a solid training ground;
- allowing Canadian researchers to accept excellent foreign students who presently can't be accepted due to insufficient funding; and
- positioning Canadian students as highly qualified personnel.

RECOMMENDATIONS:

- Expand the Canada Graduate Scholarships by \$25 million to fund an additional 1,250 students (\$20,000 scholarship value).
- Invest \$10 million/year to fund an additional 250 internships per year across disciplines and settings (\$40,000 internship/fellowship value).

COST: \$35 million/year

INFRASTRUCTURE AND COMMUNITIES

One of the key aspects needed to support people and businesses, including government, is support for Canada's building blocks such as Statistics Canada, Library Archives Canada, universities, and government departments engaged in research, so they can in turn support the public interest and policy-making.

The CCR recognizes that the government has invested in world-class research infrastructure and facilities to cover the indirect costs associated with conducting research, as evidenced by its continued support for the Canada Foundation for Innovation. However, it is also critical to support, through funding mechanisms other than CFI, the long-term operational and maintenance requirements of existing regional, national and international labs where research is happening. NSERC's Research Tools and Instruments (RTI) funding has been used effectively for the timely funding of smaller-scale equipment and equipment needed to pursue rapidly emerging research directions in individual laboratories. Recent reductions in funding of the RTI program and changes in program priorities have made it increasingly difficult for established researchers to maintain critical infrastructure of laboratories.

One of the most important determinants of effective academic/private sector knowledge transfer is the quality and breadth of the research that is pursued in academic settings. As such, there is a pressing need for improved data management capacity through Canada's universities and their libraries to work collaboratively to steward the intellectual output of universities for long-term access and re-use of data.

Key research is also conducted in non-academic based settings which themselves require continued investments. For example:

- Researchers, graduate students, policy makers, historians, genealogists, Aboriginal communities, journalists, and the general public benefit from the important artistic, historical, and cultural heritage collected and made available by LAC given its capacity to collect and preserve the country's rich documentary heritage.
- Historically, Statistics Canada has provided a mechanism for reliable regular data collection on a national scale, which is then used by researchers across Canada. Statistics Canada's surveys are crucial, not only to the research community, but government, industry, business, not-for-profits, municipalities and communities depend on these surveys to develop reliable, informed decisions and policies that can improve productivity, economy and health. Having national statistics available ensures that researchers are working from a common set of data points when considering issues of common concern. The discontinuation of surveys such as the University and College Academic Staff System, Survey of Earned Doctorates, mandatory long-form census, Youth in Transition Survey, and National Longitudinal Survey of Children and Youth, have left significant gaps in our ability to track labour market information, child and youth development data, and statistics on natural capital. A response rate of 68.6% to the National Household Survey compared to 95% for the last census is of great concern.

Reliable data and research that is both collected and conducted in a standardized manner from a representative sample can be critically and meaningfully used to inform public policy, direct innovation, influence economic and social prosperity, and examine complex socio-economic issues. To this end, both the public and policy-makers would benefit from making Statistics Canada fully independent, and establishing a Scientific Office to oversee the use of scientific evidence in policy-making so that decisions can be well-informed through public research and building a science culture in Canada that is interdisciplinary in nature, and supports inquiry and results.

RECOMMENDATIONS:

- Invest in various building blocks of Canada's national research capacity and public science that support research conducted both within and outside of academic settings, including but not limited to CFI, LAC, universities, government science departments, and Canada's national data collection agencies.

- Allocate funds to the granting councils to maintain equipment and laboratory infrastructure.
- Reinststate the mandatory long-form Census and other surveys which have traditionally underpinned Canadian research programs.

*The CCR thanks the Government for welcoming input as part of its pre-budget consultation.
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