

Research: An investment, not an expenditure

Submission from the Association francophone pour le savoir (ACFAS) to the House of Commons Standing Committee on Finance in the context of the Pre-Budget Consultations in Advance of the 2018 Budget

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In the context of the 2018 pre-budget consultations, the Association francophone pour le savoir (ACFAS) is reiterating most of the requests made during the consultations initiated by the Minister of Innovation, Science and Economic Development and the Minister of Science in the fall of 2016, some of which were included in the report tabled by the Naylor Panel in the spring of 2017.

In its reaction to the last federal budget, ACFAS welcomed the announcements regarding innovation and labour force skills, but remained concerned that the major reinvestment in research suggested by those consultations and announced during the election campaign has still not materialized. ACFAS, which represents more than 5,000 Canadian researchers, hopes that the 2018–2019 budget will reflect this major reinvestment, particularly in fundamental research, as advocated by the Naylor report.

ACFAS maintains that to develop the full potential of the research community, a **substantial reinvestment is required in the three granting councils (Natural Sciences and Engineering Research Council – NSERC, Canadian Institutes of Health Research – CIHR, and Social Sciences and Humanities Research Council – SSHRC), in infrastructure through the Canada Foundation for Innovation – CFI, and in other research agencies. ACFAS supports the recommendation in the Naylor report for a minimum reinvestment of \$485 million over four years.**

The 2017–2018 budget did not address the glaring needs of the research community, and did not provide strong measures to develop the entire research system, because no money was allocated to the core funding of the granting agencies. We have never been more in need of our researchers and their discoveries to respond to our societal challenges. Furthermore, there have been alarming signs since March 2017: the Naylor report,¹ which was warmly welcomed by the research community, seems to be receiving a lukewarm reception, particularly with regard to its recommendations on the reinvestment that researchers have been waiting on for more than a decade.

Some countries have established aggressive innovation policies that attract creative minds by offering them very competitive professional conditions. Canada has very limited means, but governments should nevertheless align their structuring actions if they want to position Canada as a leader among the world's innovative societies and enable it to join the group of OECD countries approaching 3% of GDP invested in research and development. Canada currently invests only 1.6% of its GDP, and ranks 17th out of 18 in the OECD.

We must not forget that for a number of years, Canada was subjected to a reductionist view of science that favoured targeted research over fundamental research. The latter is what generates and fuels what is known as applied research.

Granting councils and agencies

Any investments in innovation programs **should be associated with a major reinvestment of \$485 million over four years in the three research granting councils (NSERC, CIHR, SSHRC), as well as in infrastructure funding through the Canada Foundation for Innovation (CFI).**

The Government of Canada should make a substantial investment in the research granting councils and agencies by increasing their base budgets in equal amounts. The granting councils guarantee the excellence of funded research by means of a rigorous peer-review process that meets international standards. Only this process provides for guaranteeing the relevance of the government's investments in fundamental research. Therefore, in allocating equitable budget increases to each granting council, the Government of Canada will be ensuring the long-term viability and diversity of the research and innovation system. This will preserve the balance between the different fields and forms of research, beyond economic, social and political considerations. In addition to enhancing existing programs, a general increase in the budgets of agencies and councils will augment their capacity to adapt to new research practices and take advantage of international opportunities. This flexibility is essential for

¹ Investing in Canada's Future – Strengthening the Foundations of Canadian Research, 277 p.

enabling Canada to position itself as a global leader in niches of excellence. Part of this increase will also provide for reinforcing the gateways between existing programs in order to ensure adequate funding for intersectoral research projects.

Universities and colleges

Colleges and universities must receive the necessary investments to train the next generation in an internationally recognized, state-of-the-art environment. To that end, **the Government of Canada should ensure that higher learning institutions can take advantage of general infrastructure investment programs.**

Universities and colleges remain the crucible from which the research of tomorrow arises. It is in these rich research environments that young researchers acquire a true culture of innovation and creation. These are places where students can benefit from internationally recognized, state-of-the-art infrastructure. Based on this unique experience, they can aspire to international research careers or transfer their knowledge for the benefit of society by joining public or private organizations. However, this infrastructure must be maintained and renewed if it is to remain state-of-the-art and internationally recognized. **For that reason, the Government of Canada should integrate higher learning institutions into general infrastructure investment programs, notably through the CFI.**

Improve programs that provide indirect support for research

Investments in infrastructure systematically require budgets for operating expenses and indirect costs. When an organization purchases a photocopier, it must anticipate spending on ink cartridges and the salary of the technician who will operate it, as well as location rental fees, or risk seeing the investment buried under a layer of dust. Similarly, massive CFI investments in research infrastructure generate operating expenses, which are incorporated into research subsidies, and indirect expenses, which are paid directly to the establishments through the Research Support Fund (RSF) and the Infrastructure Operating Fund (IOF).

In recent years, the Government of Canada has enabled universities to massively invest in new leading-edge infrastructure through the CFI and the three granting councils. To maintain the value of those research investments, particular attention must now be paid to the maintenance, use, management and upgrading costs associated with them. When the RSF was established in 2003, the government anticipated that the program would cover 40% of the direct funding of research, an objective that should have placed Canada at a reasonable average compared with other industrialized countries. However, the budget allocated to funds for indirect research support do not provide for reaching that level: it was about 21.5% for 2013–2014. The consequences of this gap are significant, as for several years now, Canadian universities and the college network have been required to draw from their own operating budgets to compensate for the lack of investment in these different funds.

Programs that provide indirect support for research should be enhanced as soon as possible, following the example of investments in the granting councils and agencies, and with respect for the diversity of the environments where the research takes place (in universities, regardless of their size, and in colleges). In the medium term, these programs should gradually be reviewed to ensure that they can cover 40% of the research funding granted. Furthermore, the various sources of indirect support for research (CFI, RSF, IOF and research subsidies) should be aligned so as to maximize the relevance of the initial investment and facilitate the financing of research projects.

Funding technological platforms: maintain diversity

Government of Canada investments through CFI programs have provided for an ambitious updating of technological research platforms. These platforms offer world-class researchers the best research conditions, thereby maintaining Canada's attractiveness in a largely globalized environment. However, ACFAS recommends **tightening the parameters of these programs to ensure there is**

adequate funding for the more modest projects, as well as the very large. Moreover, the Government of Canada could **consider establishing incentives to encourage more sharing of technological platforms.**

Together, research and innovation constitute the main mobilizing agent of Canadian society and the economy. They form a virtuous circle of the production and dissemination of knowledge, with research feeding innovation, and vice versa. The more dynamic and fruitful this relationship, the more Canadian society gains the agility to position itself in an ever-shifting environment. The Government of Canada has the capacity to stimulate this virtual circle through a “policy of great intellectual works,” with a view to positioning Canada as a leader of global knowledge societies. It can do so by massively reinvesting in research in its 2018–2019 budget, at least to the level recommended by the Naylor report. This policy should be based on two fundamental investments: in the research granting councils and agencies, and in universities and colleges.

Establishing a true research and innovation system means building a system that benefits from technological and social innovations. Establishing a true research and innovation system for a knowledge society, based on a solid culture of science and innovation, means massively reinvesting in the production of knowledge, notably in fundamental research.