

**Association of Universities
and Colleges of Canada**



**Association des universités
et collèges du Canada**

Federal Government Roles and Responsibilities in Higher Education and University Research

AUCC Submission to the Government of Canada

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Established in 1911, the Association of Universities and Colleges of Canada represents 89 Canadian public and private not-for-profit universities and university-degree level colleges. Our mandate is to foster and promote the interest of higher education, both within Canada and abroad.

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Introduction

In Canada, as in most other well-established federal systems, including the United States, Australia, Switzerland and Germany, constitutional jurisdiction for education rests with the regional, provincial or state governments. However, in all of these federations, the central governments have come to play major roles in support of higher education. They have done so in large part because of the strategic importance of these institutions in educating people for the knowledge economy and in performing research. In Australia, for example, the federal government is now the primary source of funds, not only for university research but also for the operating budgets of the universities. In the United States, by contrast, the state governments remain the primary source of operating funding for public universities and four-year colleges, but the federal government is the most important source of university research funding and effectively reduces some of the pressure on university operating budgets by paying for faculty time devoted to federally-funded research.

Despite the Constitution's exclusive grant of powers to the provincial legislatures to "make Laws in relation to Education" and "in and for each Province", the federal government in Canada has supported higher education since the early years of Confederation and especially since the First World War. The overriding goal of federal investments in higher education since the Second World War has been to maximize universities' contributions to economic growth, to productivity and competitiveness and to social development in Canada as a whole.

To these ends, the investments have sought:

- To support growth in institutional capacity to provide access to growing numbers of students;
- To promote accessibility for students through student assistance measures;
- To develop university research and graduate education, and especially in recent years, to build internationally competitive research capacity in the universities; and
- To promote Canada's interests internationally in relation to, and through, higher education.

In April 2006, the Speech from the Throne indicated that the government, over the course of its mandate, "will promote a more competitive, more productive Canadian economy" and "seek to improve opportunities for all Canadians, including Aboriginal peoples and new immigrants".

The Institute for Competitiveness and Prosperity defines productivity as "a measure of how much value the average Canadian worker creates hourly, daily or annually" (*2006 Report on Canada*). This value is created by the interaction of human and physical capital to create goods and services. Productivity matters because, in the words of the institute: "Higher productivity leads to higher wages and higher standards of living."

In the budget, the government stressed an important reason why improving productivity is a crucial issue for Canadians: Canada's aging workforce. The baby boom generation will leave the work force in ever greater numbers over the next decade and, as a result, labour market participation by the population cohort that drives the labour market – those between the ages of 25 and 60 – will likely begin to contract slightly over a decade from now.

There are two options to offset the negative impacts that such a contraction in the labour force could have on the prospects for economic growth: increasing the aggregate labour force participation rate and increasing the value of the work produced per person of those already in the labour market. As labour force participation rates are higher for those who have completed postsecondary education, there is room to grow the labour market by increasing the education levels of all Canadians, particularly among groups such as Aboriginal peoples who have traditionally had lower educational attainment levels. As well, expanding opportunities for more youth to enrol in universities would help to improve Canada's university participation rate, which is currently in the middle of the OECD, and help to meet the continued growth in labour market demand for university graduates.

However, Canada will also need to increase the value of the work produced per person in the labour market in order to remain competitive. One important way to do this is to enhance the research skills that university graduates develop which will lead to a more innovative, creative and adaptive workforce in the labour market – the very skills that will promote productivity growth in the economy.

Canadians see changes happening in the labour market on a daily basis. The vast majority of the job growth in the last 15 years has occurred in occupations requiring individuals who have completed postsecondary education and the fastest growing occupations also required the highest levels of education. It is these highly educated workers who can generate and implement the new ideas and knowledge that Canada needs to compete, collaborate and excel in today's global knowledge-based economy.

Many of Canada's traditional competitors in the OECD as well as emerging competitors like China and India clearly recognize the strategic importance of higher education and university-based research and are investing accordingly to expand capacity in their university systems.

In the May 2006 Budget Speech, Finance Minister Flaherty pointed to the challenges posed to Canadians' long-term prosperity by Canada's aging workforce and increasing international competition. Meeting these challenges, he noted, will require Canada to increase productivity and competitiveness. He stressed that for the government, this means several things including investing in education and in research and development.

Pursuant to the budget, the federal government is moving forward with a number of processes, including the development of a science and technology strategy for the

country, consultations with the provinces and territories regarding objectives, roles and responsibilities, and accountability for postsecondary education funding, and consultations on the issue of fiscal balance.

As a contribution to the government's deliberations on these important issues, AUCC has prepared the following submission which comments on six key areas in which the federal government has long played an important role and in which a continued role is both appropriate and necessary to Canada's future economic growth and social development. It has played this role in order to ensure the continued development of a highly-skilled workforce that can compete in the global knowledge-based economy and to enable innovation and new discoveries through university research that will help fuel Canada's future economic growth and competitiveness.

1. University research

Federal involvement with university research started with the creation of the National Research Council in 1916 to coordinate wartime research and later, to fund scientific scholarships, to provide grants to universities for research equipment and to provide support for graduate study and research. Its investments in university research considerably strengthened with the creation of the specific research granting councils in the 1960s and 1970s. The federal government remains the largest external investor in university R&D, providing an estimated \$2.6 billion or one-quarter of the total university research budget in 2005-06. Federal funding supports the direct costs of university research, the indirect costs, research infrastructure and the development, attraction and retention of research talent. Taken together, these four pillars of federal investment in university research are essential to ensure the continued competitiveness of the Canadian university research enterprise.

Currently more than one-third of the research conducted in this country is performed at Canadian universities. All sectors, including governments and the private sector, have increased their investments in university research. These total investments grew by an average of more than 100 percent between 1994 and 2004. In those 10 years, the private sector invested more than \$5 billion in research performed by the universities, more than doubling their annual investments. It is worth emphasizing that the share of private sector R&D investment attracted by universities in Canada is the highest of the G7 countries. It is clear that, given the structure of the Canadian economy, universities play a uniquely important role in Canada's overall research effort. Having a thriving university research enterprise provides Canadians with a platform from which to launch other research efforts and a vitally important place at the table internationally.

Growing demand for university research places significant pressure on universities' operating budgets. In 2005, universities cross-subsidized an estimated \$4.3 billion of their internal funds to research, an increase of more than 80 percent over a decade earlier.

a) The direct costs of university research

The direct costs of research include salaries and stipends for research assistants (but not professors' salaries); research equipment and supplies; secretarial and clerical services related to travel and subsistence related to the project; and costs related to communicating the data and the findings from the research. Most direct costs on federally-sponsored university research are paid through grants from the three research granting agencies – the Natural Sciences and Engineering Research Council (NSERC), the Social Sciences and Humanities Research Council (SSHRC) and the Canadian Institutes of Health Research (CIHR). The federal government funds the direct costs of university research primarily through these three research granting agencies. In fiscal year 2005-06, the combined base budgets of the three agencies was in excess of \$1.6 billion.

In the global knowledge economy, federal funding of the direct costs of university research is essential to Canadian competitiveness and productivity as well as to quality of life in this country. Federal investments in university research since 1997 have made Canada more competitive in the race to attract top researchers who have the option to locate anywhere in the world. These researchers play a key role in providing Canada with the capacity and opportunity to participate in international research partnerships. However, in the face of growing international competition, Canada's progress in this area remains fragile. For Canada to remain competitive in this race and to make it possible for university faculty to maximize their research contributions, the federal government must ensure that university-based research is funded at internationally competitive levels through the federal research granting agencies.

b) The indirect costs of university research

The indirect costs of research are general costs associated with operating and maintaining facilities and resources (e.g., laboratories and computer networks); managing the research process (e.g., research coordination and the management of intellectual property); and ensuring adherence to regulations and safety requirements (e.g., human ethics issues, biohazards). Before 2001, indirect costs were not reimbursed by the federal government. This reduced Canada's competitiveness since indirect costs were reimbursed in various competitor countries, including the United States, Britain and Australia.

The situation has now been partially remedied through the federal Indirect Costs program which pays a portion of the indirect costs of federally-sponsored research. Subject to Parliamentary approval, the Indirect Costs program will stand at \$300 million for 2006-07 and will fund indirect costs at an average rate of 26.2 percent. However, to the extent that indirect costs are not fully reimbursed, universities must cover the shortfall from operating budgets that are already stretched by the growing demands for research and access to a high quality university education. It is vitally important that the federally funded Indirect Costs program reimburse indirect costs of federally sponsored research at a minimum rate of 40 percent of the direct costs so that universities can provide the conditions for research excellence without having to cover indirect costs from their general operating budgets.

c) Research infrastructure

An important component of federal research investment is in research infrastructure. The Canada Foundation for Innovation is an independent arms-length organization established by the federal government in 1997 and mandated to fund research-related infrastructure needed by universities, research hospitals, colleges and non-profit organizations. Infrastructure includes laboratory equipment, facilities, databases, and other “tools of the trade” needed for leading-edge research, including research with international partners. Between 1997-98 and 2004-05, the federal government invested \$3.65 billion in the CFI. As of June 2006, the CFI had committed \$2.6 billion of this funding to more than 4,700 research infrastructure projects. This has triggered a further investment of \$4 billion in matching funding from the provinces, the private and non-profit sectors, and the universities. An additional \$393 million has also been provided in infrastructure operating support. To ensure accountability for the funds invested, CFI operates in a transparent manner and communicates its activities and results publicly.

In addition, with funding from Industry Canada, the organization known as CANARIE operates CA*net 4 -- Canada’s bandwidth network for research and education -- which allows Canada’s university researchers to participate fully in major collaborative scientific research projects in Canada and abroad. The federal government committed \$110 million for this project.

To attract and retain top researchers in an internationally competitive environment, and to ensure that they will be fully productive, it is essential that the federal government continue to invest in the acquisition, operation and maintenance of cutting-edge university research infrastructure.

d) Development, attraction and retention of research talent

In the knowledge economy, the demand for advanced degree holders is escalating since research and analytical skills are highly valued. The combination of this growing demand, increasing replacement demand and insufficient production of new advanced degree-holders pose a particularly pressing challenge for Canada.

To meet its key responsibility to promote economic growth for Canada, the federal government has long played a critical role in relation to the development of human capital. In relation to university research, this role currently takes the form of the Canada Research Chairs program, the Canada Graduate Scholarships and individual graduate support research chair programs administered by the three federal research granting agencies to attract, retain and develop highly qualified researchers.

The Canada Research Chairs program was created with the goal of establishing 2,000 research professorships—Canada Research Chairs—in universities across the country by 2008. It receives \$300 million annually in funding. The purpose of the Canada Graduate

Scholarships program is to support 2,000 Master's and 2,000 doctoral scholarships annually.

Federal investments in the form of chairs and support for graduate students play a very important role in helping universities to compete in the race for top quality research talent.

2. Operating funding

Since 1945, the federal government has provided funds in support of the operating costs of postsecondary education institutions. These initially took the form of per-student grants directly to universities (except in Quebec) to help fund the growth of institutional capacity, initially to educate returning veterans and later to meet a growing need for highly educated people in the extended period of economic growth in the 1950s and 1960s. In 1967, these direct grants were replaced by a cost shared program which involved the federal government transferring cash and tax points to the provinces to assist with the operating costs of postsecondary education. For the most part, the intent of these transfers has been to contribute to ensuring that institutions have the capacity to provide quality postsecondary education to Canadian students.

The mechanisms for the federal transfers have changed over time. In 1977, the cost shared program was replaced by the Established Programs Financing arrangements, a portion of which was designated for postsecondary education with no conditions attached. In 1995, the EPF transfers for both postsecondary education and health care and the Canada Assistance Plan for social assistance were rolled together in the Canada Health and Social Transfer, an unconditional and undifferentiated transfer in support of health care, postsecondary education and social assistance. At the same time, the combined transfer was reduced dramatically as part of the federal effort to eliminate the deficit. In 2004, the CHST was split into the Canada Health Transfer and the Canada Social Transfer. The latter is nominally in support of postsecondary education as well as social programs, but there is no amount specifically designated for PSE. The amount of the CST for fiscal 2005-2006 was \$15.5 billion (\$8.4 billion of which is cash). The cash value of the CST is set to rise to \$8.8 billion in 2007-2008, when the current five-year agreement expires.

Over the past twenty-five years, a large gap has developed between Canada and the United States in per student funding to public universities from governments. In 1980, Canadian governments provided \$2,000 CDN more per student to universities than did U.S. governments, but by 2004, U.S. governments were providing \$5,000 CDN more in per student funding for teaching and research than were Canadian governments, raising serious concerns about the competitiveness of Canadian institutions.

In the last five years, governments have made significant investments to enable universities to respond to the growing demand for a university education. However, provincial governments across the country are looking to the federal government to help

them to make further investments to expand the capacity in their postsecondary education systems and/or to enhance the quality of the learning environment.

The federal government has promised to address the fiscal balance issue in the 2007 budget. Given the significance of human capital development to the competitiveness and productivity of the Canadian economy, the provision of a dedicated cash transfer for postsecondary education will be an important dimension of resolving this issue. It will be important that federal and provincial governments agree on the range of purposes for which the transfer will be used and on the means to ensure public accountability and transparency.

3. Campus infrastructure

Universities are facing mounting costs for repairs to physical infrastructure on their campuses including, among other things, classrooms, residences and other buildings. In 2000, a study by the Canadian Association of University Business Officers on accumulated deferred maintenance estimated that Canadian universities had a combined ADM bill of \$3.6 billion – a legacy from the years of public funding cutbacks in the 1990s. That number is likely considerably higher today. At the same time that many campuses face mounting repair and renewal bills and student enrolment pressures, universities are expected to invest heavily in new learning technologies in order to enhance the student experience and ensure that today's students receive training in much-needed technology skills.

Deteriorating campus infrastructure leads to greater health and safety concerns for students, faculty and staff living and working on campus. Deferred maintenance means classroom and laboratory space may not be fully utilized. Run-down student residences can disrupt the day-to-day living of students; specialized research equipment can become easily damaged and can hamper students' ability to learn on specialized equipment; and students with special needs may be unable to fully take part in the university experience.

The *Restoring Fiscal Balance in Canada* document, released with the 2006 federal budget, signaled the federal government's concern that there has been a major decline in public infrastructure since the 1960s, and while there has been recent growth in federal investments in infrastructure, this funding needs to be "put on a long-term track to allow for long-term planning" and there is a need for "greater transparency and accountability".

The 2006 federal budget announced the creation of a \$1 billion Postsecondary Education Infrastructure Trust Fund that the provinces can draw down on a per capita basis over the next two years. At the same time, the government announced that it will bring forward proposals by fall 2006 for a new framework for long-term funding support for infrastructure programs, though the government did not specify that this framework would include postsecondary education infrastructure.

There is a history of jointly funded infrastructure programs between the provinces and the federal government, often involving other stakeholders including municipal governments.

Given that postsecondary infrastructure is of national as well as provincial and local significance, AUCC recommends that the new framework for long-term funding of infrastructure of national significance include postsecondary education.

4. Student assistance

The federal government has been involved in student assistance since the creation of Canada's first student aid program in conjunction with the provinces in 1939. This was followed by a variety of student assistance measures including most notably the Canada Student Loans Program in 1964. The longstanding federal involvement in this area reflects the economic and social importance of higher education to Canada as a whole and the need to encourage accessibility to higher education and the opportunities that it opens up for Canadians in all regions.

Student assistance is important to ensure that no academically qualified individuals are unable to pursue postsecondary education opportunities because they lack the necessary financial resources. Access to higher education is clearly limited if academically qualified individuals are unable to pursue a postsecondary education because they lack the financial resources necessary to cover educational and living costs. Financial aid, if effectively targeted and structured, provides an incentive to many students to complete their studies and ensures the affordability of, and equitable access to, a university education.

The federal and provincial governments provide various types of student assistance in a system that includes subsidized loans (often including provisions for interest relief and debt forgiveness), non-repayable direct grants, scholarships and bursaries, tax credits, and incentives for educational savings. The federal government gave out \$1.8 billion dollars in loans, grants and scholarships to students in 2003-04. In 2003-04, students and individuals saving for their children's education, via the tax system, cost the federal treasury some \$1.4 billion in tax relief.

In addition, the Canada Millennium Scholarship Foundation, which was created by federal legislation and funded with a \$2.5 billion endowment by the federal government in the late 1990s, distributes over \$350 million annually in student grants and is scheduled to wind down in the 2008-09 academic year. The foundation plays an important role in the distribution of needs-based and merit-based scholarships to students, and also performs valuable research on student financial assistance issues.

In recent years, following numerous changes to federal and provincial student assistance, the overall system has become more and more complex. It is essential now that the federal government conduct a review of the complex web of existing student assistance programs, to assess their impact, to ensure effective targeting to individuals most in need, and to ensure that the amount of assistance available is sufficient to meet the need.

5. International dimension of higher education and research

International education refers to initiatives undertaken by Canadian universities to provide valuable global skills and perspectives to undergraduate and graduate students, including exchange and study abroad programs, international work or co-op placements, and field research, to recruit international students to campus and to provide an international dimension to the curriculum. A Conference Board of Canada report recognized that involvement in international education has a positive impact on innovation, international trade and foreign direct investment growth in Canada.

International education and research, including initiatives to enhance academic exchanges and networks, has developed as an area of shared jurisdiction between the federal government and the provinces. The federal government currently has some measures in place in support of international education and research, through Human Resources and Social Development Canada, Foreign Affairs and International Trade Canada, the Canadian International Development Agency, and targeted programs supported by the federal research granting agencies. Although there has been a historical federal role in investing in international education, knowledge exports and international research collaboration, Canada spends about 70 cents per capita – much less than other OECD countries – to provide international experiences for our university and college students. Canada has no federally funded or coordinated education marketing vehicle. Other countries around the world are making substantial investments in measures to support study abroad, attract international students and enhance international research partnerships.

The provinces are devoting increasing attention to international education and knowledge exports including the development of comprehensive strategies in anticipation of making significant new investments in Canadian student mobility, attracting international students and in some cases, promoting provincial education programs and services abroad. AUCC welcomes the increased provincial participation in this important area. However, federal initiatives are needed to leverage and build on provincial efforts to achieve national-level impact. Moreover, the federal government has a pivotal role to play through its own programs for two-way student mobility, as well as through developing and implementing a knowledge exports strategy for Canada to ensure the success of Canadian educational services and products in international markets.

With respect to student mobility, Canada's international competitiveness depends on its ability to support the development of highly-qualified and globally-aware talent to fuel labour market demands and the growing knowledge economy. In this regard, Canada would benefit from a needs-based, study abroad grants program to increase the number of Canadian university students who have an international education opportunity every year. Such a program should be based on a decentralized approach, working through universities, although institutions would be open to working with the federal government and provinces in a matching or leveraging arrangement.

A federally-supported knowledge exports strategy is required to ensure Canada is recognized internationally for the excellence of our knowledge and know-how in order to be a magnet for foreign talent and investment that is required to sustain economic prosperity, a partner of choice for international business and a serious player in the growing education services market. The federal government could help to create a “brand” to promote the excellence of Canadian higher education and research abroad, while providing the necessary support to help PSE institutions to gain access to relevant market intelligence, to develop their educational and training products abroad, and to foster the necessary strategic alliances to position themselves effectively in international markets. It could also showcase Canadian local/regional/national knowledge capabilities to attract investment and talent, invest in prestigious scholarships to attract top-flight international students, and improve immigration policies and practices regarding foreign students.

Finally, the federal government should build on domestic research investments through federal research funding agencies to enable growth in international research collaboration programs, and give explicit recognition within new international science and technology agreements, and within country-specific programs with China, India and Brazil, of the importance of engaging Canadian universities as key platforms to leverage Canada’s breadth of research expertise and innovation.

6. Aboriginal education

Under the Constitution, “Indians, and Lands reserved for the Indians” are a federal responsibility, while education is a provincial responsibility. The federal government provides \$270 million annually in student aid to band councils through the Post-Secondary Student Support Program (PSSSP). Band councils distribute this funding to students in universities, colleges and trade schools, as well as some support to institutions with predominantly Aboriginal student populations. In 2001, the federal government made a one time endowment of \$12 million for a new scholarship to be administered by the National Aboriginal Achievement Foundation. Aboriginal students who are not eligible for PSSSP funding or whose band did not provide them with funding may be eligible for the Canada Student Loans Program. The federal government also provides approximately \$20 million annually to postsecondary institutions through Indian Studies Support Program (ISSP). The vast majority of this funding is to institutions that are operated and/or owned by Aboriginal organizations.

Currently Aboriginal Canadians are participating in university studies at levels well below the average level for non-Aboriginal Canadians. On April 4, 2006 the Speech from the Throne committed the government to “seek to improve opportunity for all Canadians, including Aboriginal people and new immigrants”. In this regard, AUCC supports increased financial support for Aboriginal students.

At the same time, there is a growing amount of literature on the barriers faced by Aboriginal students in postsecondary education both here in Canada and elsewhere in the world. This literature suggests that the barriers faced by potential Aboriginal students are

not just economic barriers but also cultural, geographical and educational barriers. It is therefore essential to ensure that postsecondary educational institutions have the capacity to reach out to Aboriginal peoples and to provide Aboriginal students with the necessary supports to see them through to successful completion. AUCC has recently made public a report of a national survey of university outreach and support programs for Aboriginal students. Much more could be done in this area with additional resources.

Conclusion

The federal government has long been a major partner with provinces and postsecondary education institutions in the development of Canada's postsecondary education systems and university research effort. It has played this role in order to maximize universities' contributions to economic growth, to productivity and competitiveness and to social development in Canada as a whole.

There is an ongoing need for a strong federal role in support of higher education and university research to ensure the continued development of a highly-skilled workforce that can compete in the global knowledge-based economy and to enable innovation and new discoveries through university research that will help fuel Canada's future economic growth and competitiveness. It is essential that in continuing to play an important role, the federal government, provinces and the postsecondary education community identify and implement appropriate mechanisms to ensure accountability to Canadians.

This document has summarized six key areas in which the federal government has long played an important role and in which a continued role is both appropriate and necessary to Canada's future economic growth and social development.