Building prosperity through university research

Universities Canada.

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University research drives innovation, builds economic prosperity and improves quality of life for all Canadians. We can be proud of our globally competitive research infrastructure, the excellence and capacity of our faculty, and the international scope of Canada's research initiatives.

Canada has the necessary building blocks to become a world leader in innovation, and universities are at the heart of this work. Investing in university research is integral to a nation's long-term economic growth and productivity. Universities, industry and governments need to work together to encourage creativity and risk-taking and support students, researchers and entrepreneurs to cultivate a robust innovation system.

What Canada's government should do

To further Canada's position as a global leader in research and innovation, Canada must build on current investments in people, facilities, discoveries and partnerships. Universities Canada recommends that the federal government commit to sustained research funding for the base budgets of the federal research granting councils.

We also recommend that the government invest in early-career researchers and enhance support for international research collaboration in order to increase Canada's global standing as a valued research partner.

Building prosperity

Investments in university research are investments in Canada's future. Universities collaborate extensively with small and medium-sized enterprises, industry, communities, governments and colleges to generate marketplace innovations and fresh solutions to societal challenges. A thriving university research enterprise is a platform for other sectors, including the private sector, to launch research efforts.

The facts

$12 billion in R&D

Universities performed over $12 billion in research and development in 2014, accounting for 40 percent of total Canadian research and development.[1]

$1.2 billion for non-profits

Canadian universities conduct $1.2 billion in research annually for the not-for-profit sector, addressing pressing health and social issues that affect communities across Canada. This amount has nearly tripled since 2000.[2]

$1 billion in research for business

Every year Canada's universities conduct nearly $1 billion in research for businesses, which helps build their competitive advantage. The amount of university research performed in collaboration with business has nearly doubled since the year 2000.[3]

1,500 companies

Nearly 1,500 companies and government labs are located in 26 university research and technology parks. They employ about 65,000 people and generate $4.3 billion in GDP.[4]

$2.3 billion in funding

The federal research granting agencies – the Canadian Institutes of Health Research, the Natural Sciences and Engineering Research Council and the Social Sciences and Humanities Research Council – provided more than $2.3 billion in 2014-15 to support Canadian research.[5]

6% decrease in funding

Taking inflation into account, funding for the research councils has decreased by six percent since 2007.[6]

"Breakthroughs happen when brilliant minds are given the freedom to probe the nooks and crannies of reality – when exceptional people ask fundamental questions about the deepest problems and make extraordinary discoveries that benefit us all."

Bill Downe, chief executive officer of BMO Financial Group, in *The Globe and Mail*, June 30, 2015

Investing in the next generation of researchers

Canada's prosperity in the decades to come will depend on the ingenuity and achievements of today's early-career researchers. Investment in these researchers as they begin to build and lead research teams will enable them to make ground-breaking discoveries early in their careers, build Canada's capacity for discovery research, and strengthen international partnerships.

The facts

50%+ of faculty are new hires
More than half of Canada's university-based researchers were hired between 2000 and 2010, creating a new generation of researchers with ambition, talent and global networks.[7]

40% are internationally trained
Forty percent of faculty at Canadian universities have at least one international degree. These global connections enrich their research activities and strengthen Canada's capacity for international research collaboration.[8]

Partnering globally for success at home

Successful innovation requires collaboration across disciplines and national borders. International research collaboration helps researchers generate marketplace innovations and address societal and global challenges by sharing risks and accessing new knowledge, skills and technology. Innovation nations like Germany and Israel want to boost university research ties with Canada.

The facts

Punching above our weight
With less than 0.5 percent of the world's population, Canada produces 4.1 percent of the world's scientific papers and nearly five percent of the world's most frequently cited papers.[9]

High overall impact
Canada ranks sixth in the world in terms of average levels of citation across all fields among the top-producing scientific countries.[10]

180 countries
Canadian researchers collaborate with thousands of institutions in more than 180 countries or territories around the world, illustrating the breadth of research ties established by Canada's universities.[11]

4th in the world
Canada is highly regarded as a desirable research partner ranking fourth in the world (behind only the U.S., the U.K. and Germany) in science and technology reputation by the world's top-cited researchers.[12]

Sources

1,2,3 Statistics Canada, Gross Domestic Expenditures on Research and Development in Canada, 2014
4 Association of University Research Parks Canada, National Economic Impact Study, 2013
5,6 Statistics Canada, Federal extramural expenditures on science and technology, 2015
7,8 Statistics Canada, University and College Academic Staff System, 2010-2011
9,10 Council of Canadian Academies, The State of Science and Technology in Canada, 2012
11 University of Toronto analysis of data from the Thomson Reuters Web of Science, 2014
12 Council of Canadian Academies, The State of Science and Technology in Canada, 2012

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