



McMASTER UNIVERSITY PRE-BUDGET SUBMISSION TO THE HOUSE OF COMMONS STANDING COMMITTEE ON FINANCE

Introduction

McMaster University is pleased to participate in the Standing Committee on Finance's pre-budget consultation process. We have chosen to focus our response on the following three themes identified by the Committee:

- Increasing the competitiveness of Canadian business through research, development, innovation and commercialization;
- Ensuring prosperous and secure communities; and
- Maximizing the number and types of jobs for Canadians.

McMaster University supports strategic government spending targeted to areas that enable innovation and promote creativity. We believe that focused spending in these areas will help build and strengthen Canada's competitiveness.

The knowledge and new discoveries derived from university research provide a platform for innovation and a stable foundation for a strong economy. We appreciate the government's support to these areas and in particular the development of the Canada First Research Excellence Fund. With this tremendous investment in the next generation of researchers, Canada's universities will be better positioned to advance the country's economic prosperity for all Canadians.

Increasing Canadian Competitiveness and Creating Jobs

At McMaster, we appreciate the immense challenges that lie ahead for the government relating to increasing competitiveness and job creation. In order to ensure that the country is in a position to compete in the increasingly globalized, knowledge-based economy, the government must continue to support the programs and institutions that will contribute to its future prosperity. Universities have the experience and capacity to work with government and industry partners to ensure that knowledge is used effectively and that Canada capitalizes on the creativity and talent of our students and future leaders.

In order to support this, it is imperative that there is continued and enhanced investment in the federal granting councils (CIHR, NSERC, SSHRC) as well as a similar commitment to the future funding of the Canada Foundation for Innovation (CFI) program and that the indirect costs of research are fully supported. Sustained funding to research will yield benefits on a local, national and international scale. These funding agencies play a crucial role in supporting university research that promotes creativity and critical thinking, spurs innovation and ultimately improves the lives of Canadians.

There is a tremendous opportunity with the reorganization of the funding model for the Canadian Institutes of Health Research (CIHR), in particular. The CIHR's new model will primarily support two types of researchers: those promising researchers who are early in their careers, and our star researchers. This support is very important to these researchers. However, we would encourage the government to consider additional funding for those well-established mid-career researchers who continue to make important contributions to discovery, but who may fall between the groupings targeted by CIHR in their reorganization.

These researchers desperately require funding in order to realize their research goals. They form the backbone of most research operations across the country. The majority of them are single grant holders

who, due to time and funding constraints, as well as regular course work, may only be able to take on one grant a time. These researchers make substantial contributions to cutting-edge research here at McMaster. The result of their efforts amounts to a 'pipeline' for graduate and doctoral students to follow and, in turn, realize their own innovations and research breakthroughs in health research.

We are suggesting that the envelope for CIHR be expanded with the specific goal of recognizing and assisting the majority of researchers who undertake projects that otherwise may not be funded once the changes to the funding mechanisms at CIHR take full effect.

The CFI is another area where a renewed commitment would both support innovation and leverage previous investments. University researchers are at the leading edge of innovation, a key factor in economic development, job creation and improved productivity. CFI's investments in research infrastructure, in particular, require ongoing support to ensure sustainability and optimize the return on these investments. We would accordingly encourage a renewed commitment to CFI.

McMaster researchers have developed strong partnerships with industry. Through these partnerships, businesses (including SME's) are able to access the intellectual resources and state-of-the-art R&D facilities available to the University as a result of CFI support, at a fraction of the cost. These partnerships help to maximize the impact of innovative research by ensuring that knowledge and technology is closely linked with commercial needs. It is critical that Canada tap into its intellectual resources to ensure that we are the generators and developers of the knowledge behind emerging technologies and not just the users of research generated by other countries.

Ensuring Prosperous and Secure Communities

The engaged university is an international trend. It is becoming the focus of strategic planning at higher education institutions across North America. Community engagement is not new to McMaster and has always been a distinguishing feature of the University. McMaster takes its role in the community seriously and would offer two recommendations for the Committee's consideration, which we believe will help ensure prosperous and secure communities. First, there must be targeted investment to research in areas of importance to all Canadians. This would include in the areas of antibiotic resistance, advanced manufacturing and aging. Second, we would recommend support for the development of stronger pathways to post-secondary education for at-risk youth, especially Aboriginal youth. With support in these two areas we believe Canada will be better positioned to address its changing demographic and skills landscape.

Targeted Investment in Canadian Priorities:

McMaster recommends targeted investment in research on government priorities such as infectious diseases, antibiotic resistance, advanced/additive manufacturing and supporting our aging population.

- Infectious diseases are the world's most common killers of children and the elderly. The crisis in antibiotic resistance is an urgent, growing threat to the health of Canadians as resistance continues to erode our control over once-effective medicines.

At McMaster, the Michael G. DeGroot Institute for Infectious Disease Research is making a substantial impact. Its work in fundamental scientific exploration with teams from around the world has led to numerous breakthroughs urgently needed by an increasingly at-risk public.

Using state-of-the-art infrastructure in drug discovery, genomics, and bioinformatics, McMaster University is at the forefront of antibiotic resistance research and innovation. With strategic government investment, innovative approaches will be developed to accelerate the discovery of new antibiotic medicines to overcome drug resistance.

- At McMaster, we continue to make strategic investments in additive manufacturing to develop both our research and training capacities. We urge the federal government to invest strategically in this area to ensure Canada's ability to compete in the global economy.

Targeted support to additive manufacturing will strengthen our economy through innovation and job creation and position us at the leading-edge of this novel technology.

- Aging is another area that will impact all Canadians, as seniors 65 years and older will represent 18% of Canada's population by 2021, and 23% by 2041. Helping older Canadians live a better quality of life, and enabling them to make positive, healthy choices to enhance their independence are important goals which the government has set.

Established initiatives such as the TAPESTRY project, the Canadian Longitudinal Study on Aging, the Labarge Optimal Aging Initiative and the Gilbrea Centre for Studies in Aging have all contributed to enhancing McMaster's expertise in optimal aging. This expertise spans a spectrum of activities, from clinical education and practice, to research and knowledge translation. Thanks to these initiatives, McMaster is now poised to move to the next level of research in this area with the McMaster Optimal Aging Portal, which will be launched this Fall. The portal will ensure that all Canadians have access to relevant and trusted information available about optimal aging worldwide.

Pathways to Post-Secondary Education:

Canada's Aboriginal population continues to face challenges, which have been exacerbated by the global downturn. Post-secondary education (PSE) is critical to the economic and social success of all Canadians, including Aboriginal peoples. In Ontario, participation rates in PSE for Aboriginal peoples is lower than in other provinces, especially at the university level.

McMaster has a particular interest in building pathways for at-risk youth, with an emphasis on Aboriginal students. The University's geographic location places it within close proximity to two distinct Aboriginal populations - the more than 11,000 people at Six Nations Grand River Reserve, located about 25 km from Hamilton, and the estimated 15,000 Aboriginal people living within the City of Hamilton. Although the Aboriginal population in close proximity to McMaster is significant, there are many barriers to PSE participation and success.

We would recommend increasing opportunities and pathways for higher education.

Conclusion

As the government develops its next Budget, McMaster University intends to continue working as an active partner in both Ontario's and Canada's economic development. A major hub of research and

innovation, McMaster generates ground-breaking discoveries that will have a positive impact in Canada and beyond. The University also participates in numerous public-private partnerships, merging ideas, resources and facilities to improve overall competitiveness and productivity. In addition to offering a high-quality educational experience and providing the crucial skills needed for the workforce of tomorrow, McMaster is a significant source of employment in the Hamilton area. With roughly 7,500 full-time faculty and staff, the University is one of the largest employers in the greater Hamilton area.

We appreciate the opportunity to make this submission. Should you have any questions or would like more information, please contact:

Patrick Deane
President & Vice-Chancellor
McMaster University