

Submission to the House of Commons Standing Committee on Industry, Science and Technology

April 18, 2008

Investing in Research for the Public Good and a Competitive Economy

Commercialisation

Commercialisation constitutes a massive public subsidy to the private sector, a subsidy that has not paid dividends to the Canadian taxpayer. Since 2000, the corporate tax rate has plummeted 9%, shrinking corporate Canada's contribution to maintaining and enhancing university research infrastructure. In spite of this, the government's recent Science and Technology Strategy calls for further unbridled commercialisation of publicly funded research.

If the government and post-secondary institutions continue to pursue commercialisation of research in the same profit-driven manner as in recent years, it will threaten Canada's reputation in the international academic community for delivering objective and sound research.

The problems associated with commercialisation are well documented in media and research. In Canada, threats to academic freedom and the integrity of research for the public good have become a major concern. Such threats include the possible compromise of research objectivity as researchers attempt to court industry sponsors by avoiding particular research questions or choosing not to publish unfavourable results. Commercialisation also leads to an increasingly closed research environment and slows the release of research results and publications due to intellectual property concerns of private companies.

Two well-publicised examples of these problems are the research misconduct case involving drinking water brought forward by University of Toronto graduate student Christopher Radzinski, and the academic integrity case of University of Manitoba graduate student Ian Mauro. Mr. Radzinski's research was altered, plagiarised, and published without his permission and nearly led to the acceptance of an unsafe alternative chemical (chlorine-dioxide) being used as a substitute for chlorine to disinfect drinking water. The research was funded by private sources trying to find a way to use their excess chlorine-dioxide. Mr. Mauro's research and graduation were delayed for years because he reported negative results that affected a company affiliated with the university.

In spite of growing scepticism of commercialisation among university researchers, many institutions now have entire offices established to maintain ties and funding arrangements with industry. In addition, paying

licensing costs and entering into contracts with private investors increases administrative and legal costs at an institutional level.

An increase in research funding through the granting councils—without obligating universities to find industry partners or produce research with direct commercial potential—will protect academic freedom and the integrity of the research community. These protections will lead to a productive world-class research environment and innovative solutions for the Canadian economy.

Recommendation: Place a moratorium on federal funding for the commercialisation of university research.

Asymmetrical federal funding for research

The recent push toward the commercialisation of publicly funded research has reinforced an already imbalanced national research agenda. The 2007 federal budget continued this trend by only providing targeted research funding, allocating \$85 million per year to the federal granting councils for a narrow band of research in the areas of health sciences, energy, the environment, information and communications technologies and management, and business. The 2008 federal budget had similar myopic spending in the fields of natural resources and energy, health, and information and communication technologies.

Since its inception, the Social Sciences and Humanities Research Council (SSHRC) has been funded asymmetrically in comparison to the other two federal granting councils, the Natural Sciences and Engineering Research Council (NSERC) and the Canadian Institutes for Health Research (CIHR). The social sciences and humanities enhance understanding of complex human interactions, informing policy and development decisions used throughout the world, allowing Canadians to better understand themselves and each other. Without proper funding, Canada is losing ground to other countries in training professionals to explain and approach the constantly shifting social and political global landscape.

Recommendation: Increase the budgets of the federal granting agencies to support basic research with an additional increase to the Social Sciences and Humanities Research Council to bring its funding levels on par with NSERC and CIHR.

Copyright within the academic system

There is a complex relationship between the creator, the public, and the distributor of works within the academic system. In public education, the money to create original works comes from the tax-paying public and is provided to creators of art and research in the form of salaries, grants, and infrastructure. Given this, there is no reason for the public to essentially pay a second time through user fees to access these works. The distribution of the content should be done in such a way as to maximise access and minimise cost. Most documents produced by academics are in digital form; in other words, there is little cost associated with ensuring the information that academics produce is available to everyone.

Copyright in academic journal publishing

Currently, public university libraries have to pay increasing fees so that the academic community can have access to each other's (publicly funded) work. This comes at a significant cost to the public and slows the distribution of, and hinders access to, information within the academic community that, in turn, slows the rate of innovation.

The public is all but excluded from this equation and does not have access to the information generated from university research. For-profit distributors and publishers also limit the “developing world’s” access to this material through charging user fees associated with copyrights. Thus, restrictive copyright puts researchers at poorer universities (even in the developed world) at a disadvantage by increasing the time that these researchers have to wait to gain access to new information.

Open access

Less restrictive copyright (such as Creative Commons) and Open Access repositories are particularly useful in the efficient distribution of free material to researchers and the publicly. Open Access journals have to provide the information they distribute freely to the end-user. This is usually done through a website where articles or other works are stored in a searchable database so users can download the article or other original works from the site.

Open Access journal funding is usually derived from a portion of the grant funding awarded to researchers being published. Many funding organisations that provide research grants are starting to provide specific funding for publishing of articles in these Open Access journals. Some major examples include the Wellcome Trust (UK), the National Institute of Health (US), and the Canadian Institutes of Health Research (Canada). There are over 3,000 peer reviewed Open Access journals available in the Directory of Open Access Journals (<http://www.doaj.org>) including high-impact journals like those of the Public Library of Science (<http://www.plos.org>).

Recommendation: Provide earmarked funding to all granting councils to support researchers publishing in Open Access journals.

Conclusion

The federal government has all but ignored the perils of unbridled commercialisation at university campuses. In doing so, it has warped the research agenda and threatened academic freedom and research integrity. Alternative approaches must be explored in order to restore a broad and balanced public research agenda in Canada.