

Nova Scotia Legislature Law Amendments Committee
Re: Bill 100, *Universities Accountability and Sustainability Act*
Province House, 1726 Hollis St., Halifax, NS
April 30, 2015

Matthew Herder, JSM LLM
Assistant Professor, Faculties of Medicine and Law
Health Law Institute, Dalhousie University
Email: Matthew.Herder@dal.ca
Tel: (902) 494-2567

I'm an Assistant Professor in the Faculties of Medicine and Law at Dalhousie University. I share many of the concerns others have raised with Bill 100. For the sake of time I will focus my remarks exclusively on the sections of the Bill that require university-industry collaboration as part of a "university's revitalization plan" or require universities to align funding decisions with the government's social and economic priorities in the form of an "outcome agreement". I am referring specifically to sections 12(1)(g), 12(1)(h), and 20(2) of the Bill.

University-industry relationships fall squarely within my research expertise. I am the Principal Investigator on a multi-year grant from the Canadian Institutes of Health Research studying the impact of university-industry relationships. I have been commissioned to write reports for the federal government as well as key international institutions like the OECD, the Organization for Economic Co-operation and Development, on this topic. And I completed my graduate studies at Stanford University, the pinnacle of university-industry collaboration.

Based on all my work to date, I implore you to delete sections sections 12(1)(g), 12(1)(h), and 20(2) from the Bill. Requiring universities to

evaluate the research they do in terms of the business opportunities it affords fundamentally underestimates the value of university research. And, it won't work to achieve the underlying goal of generating innovation or improving the economy, much less the welfare of Nova Scotians and others.

Let me explain those two overlapping points.

Point one: Section 12(1)(g) requires universities to set out their goals and objectives, in part, by "turning research into business opportunities". Asking universities to evaluate and prioritize the research they do in terms of the business opportunities they foresee will be immensely damaging. It will mean that a lot of research that stands to have a major benefit will not be pursued.

Here's a simple but powerful example. More than a decade ago, a physician researcher at Johns Hopkins University named Peter Pronovost came up with a simple checklist for health care providers to use in the operating room in order to prevent surgical infections. The idea was simple but Dr. Pronovost didn't know if checklists would actually reduce infections. It cost about a \$1 million to do the research to figure out if the checklist actually helped reduce infections across hospital settings.

Do you think industry was interested in funding that research? No, because industry couldn't see a way to "monetize" checklists.

Pronovost's research was government funded and its ultimate value far exceeded its cost. In the US, use of the checklist is now estimated to save about 15,000 lives and over \$1 billion in treatment costs per year.

This is one example but there are many others. The point is this: If you require universities to prioritize research through the lens of what research will lead to business opportunities, then you risk losing a lot of academic research that may or may not be of interest to industry, but nevertheless has huge social and economic value.

The value of university research is in asking the hard questions, the radical questions, the questions that others won't, or can't, ask. As the famed UK economist Marianna Mazzucato has shown in sector after sector—from pharmaceuticals to green technology, even Apple's iPod and iPad technology—the idea that the private sector is the source of most innovation is a myth. Government funded university research is more often the origin of breakthrough, society-changing innovation. You need industry to pick things up, refine and develop them, but you can't let industry drive the car. Bill 100 gives industry the keys and I urge you not to go any further down that road.

My second point: The available evidence shows that forcing greater university-industry collaboration from the top down, by passing this Bill, won't achieve the underlying goal of generating more innovation.

Take Silicon Valley, which I've studied closely. Many regions and cities have tried to emulate Silicon Valley by adopting policies that demand university-industry interaction. But those who've studied Silicon Valley in

depth generally conclude that Silicon Valley's success stems from a) massive injections of government funding for research in the post World War 2 period, and b) the presence and free flow of a critical mass of individual labour. Some of the research funding was targeted toward certain areas, such as military research. But even in those areas university researchers retained a great degree of autonomy. The research they did, did not have to fit into a company's plans or market projections. Rather, new companies and fields of commercial activity emerged in response to insights and discoveries from academic researchers free to work away on their interests. That's how the entire biotechnology sector was born.

Studies have also shown that having the workforce to contribute to all kinds of research and innovation, in both public and private sectors, is essential. But using industry's current needs to determine how the workforce of tomorrow is trained is misguided. We've been hearing for years that industry wants more individuals with training in the so-called "STEM" fields (science, technology, engineering and mathematics). But major reports published last week in the US and just today by the Council of Canadian Academies show that there actually isn't a shortage of graduates from the STEM fields. Rather, these reports say that what's needed to succeed in the workforce today is nimbleness, openness to change, to having multiple careers, not one. I'd suggest that one of the best ways to foster that—as a government—is to create the conditions whereby students can pursue a postsecondary education without fear of crippling debt so that they have the freedom to pursue multiple career trajectories, continue to learn, and stick around Nova Scotia.

There's nothing in Bill 100 that does that kind of work.

For all these reasons, I implore the members of this Committee to remove sections 12(1)(g), 12(1)(h), and, to the extent that an outcome agreement could be used for the same purpose, section 20(2) from Bill 100.

Thank you.