



A Techno-Economic Agenda for Canada's Next Federal Government

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Innovation, productivity, and competitiveness must be top priorities for Canada's next federal government, not sidenotes or vague aspirations to be addressed with little more than lip service.

INTRODUCTION

Canada has reached an inflection point. For the last 150 years, its growth has largely matched that of the world leaders, including European nations, the United Kingdom, and the United States. And so, it became rich. But absent serious policy changes, Canada now faces a future of becoming a stagnant, middle-income country that specializes in natural resource extraction. While that would not be the end of the world, it would mark the end of an era.

Unless Canadian policymakers wake up to this threat to Canada's future, the politics of incrementalism will prevail, and Canada will slowly sink down into the middle ranks of the world's economies. Canada's aging population makes things even more difficult. As such, making innovation, productivity, and competitiveness top priorities for government rather than sidenotes or vague aspirations to be addressed with lip service will be critical if Canada is to remain a strong industrialized economy.¹

In March, the Bank of Canada's senior deputy governor, Carolyn Rogers, proclaimed that now is Canada's "break glass" moment for productivity. It's also a "break glass" moment for international competitiveness in manufacturing, innovation, and growth.

The good news is that while it is in the late innings of the game, it is not yet the bottom of the 9th. With concerted action, Canada could achieve a significant turnaround within a decade. The bad news is that incrementalism, partisanship, and short-termism seem to be the dominant features in Canadian politics. The parties are at odds. Businesses speak with many voices, not one. Labour still seeks its own deal. And virtually no civil society groups show any interest in solving Canada's techno-economic challenges.

To the extent political leaders want to escape this path of relative decline, the Centre for Canadian Innovation and Competitiveness at the Information Technology and Innovation Foundation (ITIF) offers the following techno-economic policy agenda with 10 key recommendations for the next federal government:

1. Establish a productivity commissioner.

2. Improve tax incentives for innovation.
3. Introduce a time-limited tax credit for capital investment.
4. Make Canadian colleges and universities engines of R&D commercialization.
5. Create three or four “Manufacturing Canada” institutes.
6. Develop an innovation-friendly regulatory system.
7. Pursue regulatory interoperability with Canadian trade partners.
8. Set robust artificial intelligence (AI) adoption milestones for the federal government.
9. Build an independent Canada Innovation Agency.
10. Pilot a federal IT procurement innovation testbed.

If implemented as described below, these policies will help provide fuel to turbocharge the Canadian economy by making it more innovative, productive, and globally competitive.

RECOMMENDATIONS

Establish a Productivity Commissioner

Stagnant productivity won't be solved without a deep, sectoral, and technology-focused whole-of-government productivity strategy. A few tweaks to the tax code or a few more skilled workers will not do the trick. The next government should appoint a productivity commissioner to formulate and implement such a strategy. The commissioner should employ a small staff of “productionists”—individuals who have a deep understanding of firm, industry, and technology dynamics—not the kind of neoclassical economists employed by productivity commissions such as those in Australia and New Zealand, which focus principally on economy-wide factors.²

It should be clear that economy-wide measures are not enough to address Canada's productivity problem, given the extreme divergence in productivity performance between different sectors of the economy. The solutions clearly lie at the industry and technology level. Furthermore, a Canadian productivity commission should have a \$200 million annual productivity grant program. It should competitively allocate 8 to 10 grants a year to organizations in a wide range of public, private, and not-for-profit industry sectors that agree to adopt bold and radical productivity-boosting technologies and systems. The grantees would match the federal funds, and should be required to allow business school academics to study their efforts to provide a road map for other Canadian organizations in similar industries to follow.

Improve Tax Incentives for Innovation

After years of deliberation, studies, and tinkering along the margins, it is past time for the federal government to overhaul the Scientific Research and Experimental Development (SR&ED) tax credit. As it is currently structured, it is less than fully effective. The new credit should be modeled after the U.K. and U.S. credits: It should be structured quasi-incrementally (as a credit not on all expenditures, but only a share); it should be firm-size neutral; and it should function as an actual tax credit rather than a government grant disguised as a tax credit.³

The federal government should also introduce a “patent box” that lowers tax rates on businesses that innovate and produce in Canada.⁴

Introduce a Time-Limited Tax Credit for Capital Investment

It has long been recognized that Canadian firms chronically underinvest in machinery, equipment and software.⁵ Because more and better “tools” matter most in productivity, underinvestment is a recipe for decline. Small scale and bureaucracy-heavy interventions like capital adoption grants for small companies will not do the trick. Introducing a capital investment tax credit will lower the after-tax cost of investing in new machinery, equipment, and software, and spur faster adoption of existing and emerging technologies. Making this tax credit time-limited (for example, 5 years) will encourage more immediate uptake by businesses while minimizing the long-term fiscal impact of the tax credit on government revenues.

Make Canadian Colleges and Universities Engines of R&D Commercialization

Canada is among the highest spenders on post-secondary sector R&D in the OECD as a percentage of GDP, but it performs poorly in converting those investments into results that benefit Canada.⁶ The reason is simple: Policymakers continue to embrace a linear model of innovation, assuming that funding basic research and simply imploring universities to focus on commercialization will automatically lead to tangible outcomes for Canada. In a hyper-competitive global economy, that model no longer works.

It is time for the federal government to challenge this longstanding model and incorporate funding bonuses for successful commercialization and technology transfers into the 10 percent of revenue that colleges and universities derive from federal funding.⁷ In other words, colleges and universities that do a better job of commercializing new innovations (such as spinning off start-ups, establishing industry partnerships, licencing patents to Canadian firms, etc.) will receive more federal money, and those that do a worse job will receive less.

Universities, like all organizations, respond to incentives. As long as the incentives are to conduct research and publish journal articles on whatever topics interest faculty, they will keep doing that. But if even modest incentives are put in place to align faculty and university efforts to the interests of Canada’s innovation economy, most colleges and universities will respond.

Create Three or Four “Manufacturing Canada” Institutes

Canadian manufacturing, especially in sectors outside of agriculture and other natural resources, has been hollowed out.⁸ One solution is to establish “Manufacturing Canada” institutes as public-private partnership that support advanced manufacturing capabilities in specific technology areas, allowing for early-stage research to be used by a group of companies in the same or similar industries. These should be industry-led, and at least one-third funded by industry. The U.S. Manufacturing USA institute network should serve as a model.⁹

To ensure they are maximally effective, Innovation, Science and Economic Development Canada (ISED) should create institutes that the United States does not currently have. Then both governments should sign a reciprocity agreement wherein Canadian firms can participate in U.S. institutes (such as Manufacturing USA’s institutes for robotics, 3D manufacturing, or biopharmaceuticals), while U.S. firms can participate in Canadian institutes. This way, Canadian manufacturers would have access to the technology and capabilities being developed in the United States as well as Canada. These would be additive, but different, from the existing

Supercluster program, as they would focus on specialized technology areas and industries rather than broad topics or regions.

Develop an Innovation-Friendly Regulatory System

Canada needs to ensure that laws and regulations covering technologies and industries are crafted to prioritize innovation. Canada can no longer afford to make the EU-style precautionary principle its guiding star for technology regulation; that is the path to reduced Canadian innovation strength. Indeed, beyond a minimum baseline of consumer protection, stronger regulations do not increase consumer trust or adoption of new technologies.¹⁰ It is time for policymakers to shift their focus toward promoting new technologies and innovations instead of controlling them. To that end, the federal government should establish an Office of Innovation Policy Review to assess all new legislative and regulatory proposals to assess how they affect innovation and competitiveness.

Pursue Regulatory Interoperability With Canadian Trade Partners

As the risk of global trade fragmentation increases, the federal government should work to minimize regulatory difficulties between Canada and its major trading partners to maximize Canadian firms' opportunities to succeed abroad. Given the relative size of the Canadian economy compared to larger markets, Canadian firms that need to develop separate compliance strategies for different regulatory regimes will be at a disadvantage relative to foreign firms that will opt not to do business in Canada based on its regulatory regime. Canada must work with its partners, starting with the United States, to ensure that regulations in key areas such as AI, telecommunications, and intellectual property are interoperable.

Set Robust AI Adoption Milestones for the Federal Government

The federal government should leverage AI tools to improve public services and increase productivity. Areas such as benefits delivery, environmental protection, transportation, and veterans' affairs all have pertinent AI applications that could create a more effective and responsive government. Furthermore, since Canada's private sector lags behind other developed economies in its adoption of AI and other new technologies, widescale federal adoption of AI would leverage the government's purchasing power to provide a market that drives innovation and growth for AI firms in Canada, and have further spillover effects that spur Canadian business adoption.¹¹

Build an Independent Canada Innovation Agency

The next federal government should follow through on the government's commitment in previous years to establish an independent Canada Innovation Agency with a mandate and funding to spur Canadian private-sector innovation and productivity. The agency should be led by individuals with deep private-sector expertise on innovation and scaling businesses. By bringing that mix of funding and expertise to bear in reinvigorating business R&D and increasing innovation capacity across Canada, this agency could play a significant role in building innovative and world-leading Canadian firms. Creating this agency would also provide the opportunity to move federal support for innovation activities under one easily accessible umbrella, outside the reach of the short-term whims and potential conflicts of interest in government. It should also be allowed to take equity stakes and earn financial returns from other investments in Canadian firms to help ensure that it has a steady flow of capital to reinvest in more firms.

Pilot a Federal IT Procurement Innovation Testbed

Federal procurement and adoption of new software and technology could boost public sector productivity and improve citizens' customer experience with government. However, IT procurement has long been an area where the federal government has struggled to find success, primarily due to misaligned incentives and internal processes.¹² To begin to address this problem, federal government should give one small department or agency a one-time capital grant to replace legacy hardware and software, and in doing so exempt it from virtually all procurement rules, thereby allowing it to become a testbed for best practices and digital transformation. The pilot program should be evaluated after three years. Ideally, successes could then be replicated across the federal government and even provincial governments.

CONCLUSION

Beyond these 10 recommendations, elevating innovation, productivity, and competitiveness to the top of the federal government's agenda also requires a sea change in economic thinking. This starts with recognizing that Canadian firms and industries need to be globally competitive—and to that end, they must be able to operate efficiently at scale. Yet, across all political parties, small businesses have long been seen as beneficial and inherently good, whereas their large counterparts are often vilified. This is an economically destructive way of thinking, because large businesses in Canada, on average, pay their workers more, have higher exports, and higher productivity.¹³

As such, it's time for the Canadian government to embrace size neutrality in its policies, while at the same time ensuring that its policies incentivize firms to grow as big as they need to be efficient. As a relatively small economy, Canada simply cannot afford low levels of industry concentration, because that prevents firms from achieving the economies of scale they need. So, among other things, the next federal government should review all business programs and regulations to ensure they are size-neutral. The new government also should abandon the current focus on antitrust to try to reduce the size of Canadian firms. That is a path to lower productivity and higher prices.¹⁴

About the Authors

Dr. Robert D. Atkinson (@RobAtkinsonITIF) is the founder and president of ITIF. His books include *Technology Fears and Scapegoats: 40 Myths About Privacy, Jobs, AI and Today's Innovation Economy* (Palgrave MacMillan, 2024), *Big Is Beautiful: Debunking the Myth of Small Business* (MIT, 2018), *Innovation Economics: The Race for Global Advantage* (Yale, 2012), *Supply-Side Follies: Why Conservative Economics Fails, Liberal Economics Falts, and Innovation Economics Is the Answer* (Rowman Littlefield, 2007), and *The Past and Future of America's Economy: Long Waves of Innovation That Power Cycles of Growth* (Edward Elgar, 2005). He holds a Ph.D. in city and regional planning from the University of North Carolina, Chapel Hill.

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About the Centre for Canadian Innovation and Competitiveness

The Centre for Canadian Innovation and Competitiveness is an Ottawa-based affiliate of the Information Technology and Innovation Foundation (ITIF), the world's leading think tank for science and technology policy. As a separately incorporated and registered charity under the Canada Not-for-profit Corporations Act and Income Tax Act, the Centre's mission is to help policymakers and the Canadian public better understand the nature of the innovation economy and the types of public policies that are necessary to drive Canadian innovation, productivity, and global competitiveness. For more information, visit innovationpolicy.ca.

ENDNOTES

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