April 25, 2023

REMARKS BY JIM BALSILLIE TO THE STANDING COMMITTEE ON INDUSTRY, SCIENCE AND TECHNOLOGY

Chair,

Honourable Members,

Thank you for the opportunity to present today. I am Jim Balsillie, chair of the Council of Canadian Innovators.

In the modern, knowledge-based and data-driven economy, the sources of prosperity and the vectors of risk have changed. Updating the Investment Canada Act (ICA) is a critical strategic step that can advance Canada's prosperity and security. Unfortunately, the proposed amendments are not sufficient to make ICA fit for those objectives.

The understanding of foreign direct investment (FDI) that informs the updated document is based on the tangible production economy. Today's economy is knowledge-based and data-driven. In such an economy, FDI is extractive where technology, knowledge and data assets, senior executive personnel, tax base and wealth effects can easily flow *out* of countries that receive foreign investments. Prosperity and security risks do not scale with size and type of buyer but with the nature of economic and security spillovers.

Specifically,

1) Economic and security risks should **not** be analyzed separately. Intellectual property (IP) and data have multi-sided features that interrelate giving rise to so-called "dual use" technology that has both economic and national security value. Any assessment of risk and net-benefit needs to include the economic and security value of assets as an integrated whole alongside the changed nature of spillovers for the economy of intangibles.
2) The list of strategic technologies and a set of risk factors is incomplete and needs to mirror those of our allies, particularly the US[1].

ICA needs to be regularly updated to properly guide an informed assessment of a given investment into Canada. IP and data have strong public good characteristics, so decisions made by businesses do not price the associated spillovers into contractual agreements. Data, in particular, has pervasive "dual use" characteristics with implications not just on the security of our nation's infrastructure (i.e. transportation, telecommunications, energy and finance) but also across all economic sectors and areas of human interaction – including democracy.

Recommendations:

1) Broaden the focus of any review to a more appropriate lens of *critical, strategic technologies* which would allow for the assessment of university partnerships, licenses

[1] White House Office of Science and Technology Policy. (2022, February 2). Critical and Emerging Technologies List Update. Retrieved from https://www.whitehouse.gov/wp-content/uploads/2022/02/02-2022-Critical-and-Emerging-Technologies-List-Update.pdf

and transactions of valuable IP and data. If assets are deemed critical to Canada's prosperity and security, then the ICA needs to ensure they remain in our control regardless of the type of foreign counterparty or nature of commercial relationship.

2) Give legislative powers to the Federal Government, similar to those legislated in Australia, to unwind any prior investment, research partnership[2], joint venture or merger & acquisition[3].

3) Build capacity inside the Federal Government for governance of today's economy. Recent FDI initiatives such as the Sidewalk Toronto project, continued university partnerships with Huawei, and Invest in Canada agency marketing strategies demonstrate that Canada's policymaking apparatus is not just rooted in the traditional, production economy of yesterday but is decades behind the realities of the contemporary economy.

4) Create a transparent, expert entity, akin to CFIUS, to implement and oversee all FDI regulations and strategies for the Federal Government.

The strategic nature of IP and data have restructured the composition of markets by reconfiguring how an economy extracts benefits from technology and introduces new risks. This is why advanced economies and our allies have made significant steps to develop modern investment screening systems and continue to make dynamic updates, expanding the powers of foreign investment review necessary to defend valuable national assets. Canada must do the same if it wants to defend critical infrastructure and assets vital to our prosperity, security, and sovereignty.

Thank you.

[2] Rana, S. (2020, December 12). What is the effect of Australia's new foreign relations law? East Asia Forum. https://www.eastasiaforum.org/2020/12/12/what-is-the-effect-of-australias-new-foreign-relations-law/

[3] Australian Parliament. (2021). Foreign Relations (State and Territory Arrangements) Bill 2020. Retrieved from https://www.aph.gov.au/Parliamentary_Business/Bills_Legislation/Bills_Search_Results/Result?bId=r6596

APPENDIX A

Figure 1. Economic Spillovers

Effects of investment type on tangible and intangible stock assets

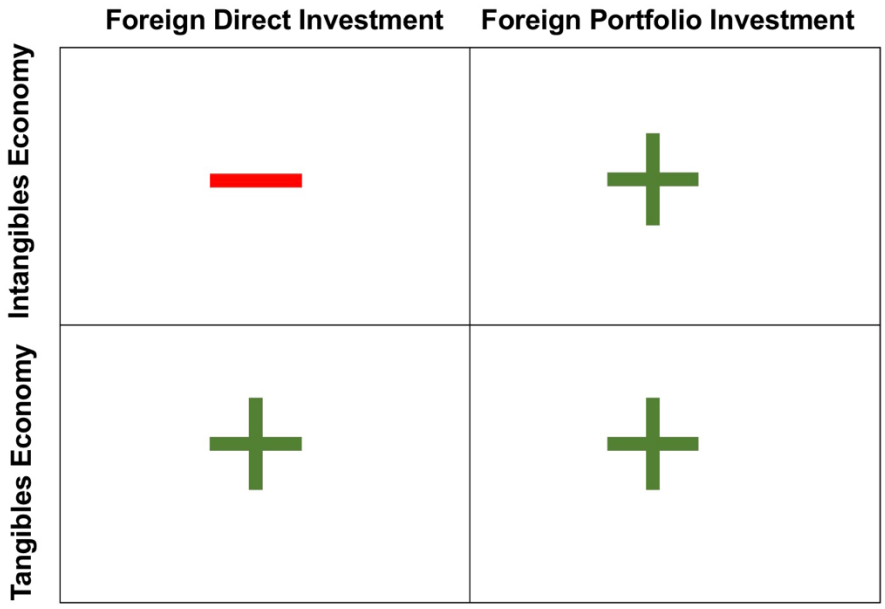


Figure 2. An Analytical Framework for Foreign Transactions Involving Canadian Intangible Stock Assets

Considerations for the Investment Canada Act

A. ECONOMIC PROSPERITY

1. Jobs Created (key skills such as computer engineering and data science have negative unemployment)
2. Wealth Effects (future benefits go to foreign owners)
3. Management Development
    a. Remote Direction/Supervision vs. Autonomous Branch Operation
    b. Expansiveness of Employee Non-Disclosure Agreements
    c. Comprehensiveness of Non-Competition Agreements
4. Top Talent Exfiltration
5. Data Exfiltration
6. Ecosystem Dynamism Effects
7. Erosion of Tax Base
8. Value Chain effects (particularly for high potential emerging firms)

B. NATIONAL SECURITY

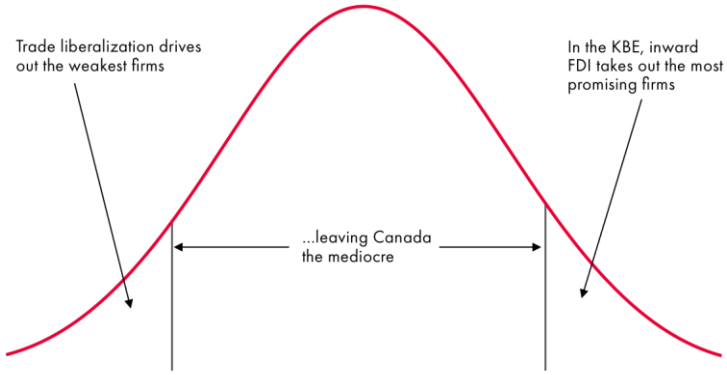
1. Cyber Security Impacts
2. Critical Infrastructure Impacts
3. Public Health Impacts
4. Military/Defence Impacts
5. Social Good Impacts (democracy, values, cohesion, autonomy)
6. Geopolitical Considerations

Figure 3. Trade liberalization vs. FDI inward impact

Trade Liberalization vs. Inward FDI Impact on the Population of Firms

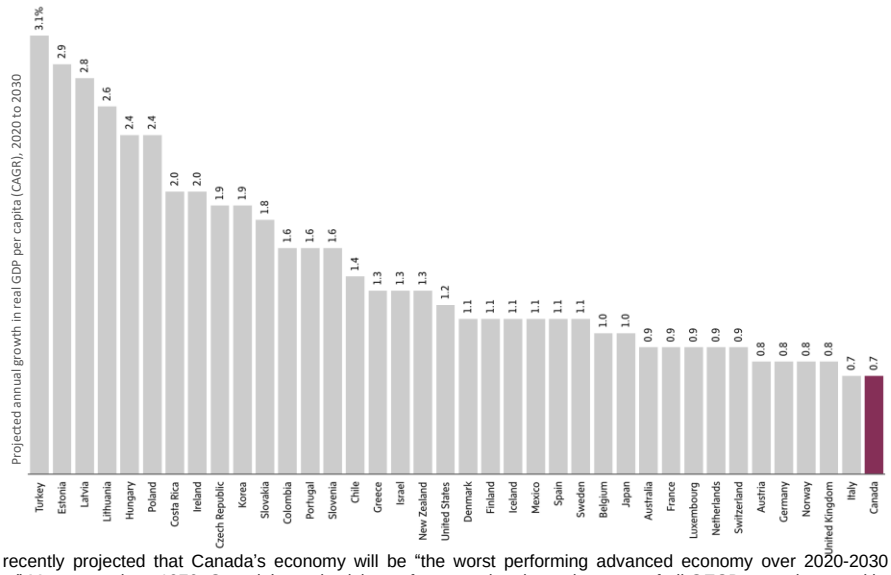
"In the KBE, FDI of the M&A type tends to target the most promising, fastest growing firms with the potential to become "gazelles". If the dominant effect of such FDI is to repatriate the R&D activities, such FDI would reduce Canada's stock of knowledge capital and leave Canada with the "mediocre middle". This creates the need for a new public policy filter abroad for screening inward FDI to determine whether there is a net benefit for Canada. Accordingly, Canada's FDI policy needs to be revised for the DDE, with the principal criterion of reviewability being the implications for the dynamism of Canada's innovation system."

Dan Ciuriak



A New Name for Modern Trade Deals: Asset Value Protection Agreements by Dan Ciuriak – (2017) CIGI "New Thinking On Innovation"
Modern Free Trade Agreements Are Not About Free Trade by Blayne Haggart– (2017) CIGI "New Thinking On Innovation"

Figure 4. Canada to trail OECD in per-capita real GDP growth



The OECD recently projected that Canada's economy will be "the worst performing advanced economy over 2020-2030 and the three decades after." Moreover, since 1976, Canada's productivity performance has been the worst of all OECD countries, resulting in real wages remaining stagnant ever since.

Source: https://www.oecd.org/economy/growth/scenarios-for-the-world-economy-to-2060.htm

APPENDIX B

Canada : "Sensitive Technology Areas"	US: "Critical and Emerging Technologies List"
1. **Advanced Materials and Manufacturing** 2. **Advanced Ocean Technologies** 3. **Advanced Sensing and Surveillance** 4. **Advanced Weapons** 5. **Aerospace** 6. **Artificial Intelligence** 7. **Biotechnology** 8. **Energy Generation, Storage and Transmission** 9. **Medical Technology** 10. **Neurotechnology and Human-Machine Integration** 11. **Next Generation Computing and Digital Infrastructure** 12. **Positioning, Navigation and Timing** 13. **Quantum Science** 14. **Robotics and Autonomous Systems** 15. **Space Technology** 16. **Critical Minerals** 17. **Critical Infrastructure**	1. **Advanced Computing** • Supercomputing • Edge computing • Cloud computing • Data storage • Computing architectures • Data processing and analysis techniques 2. **Advanced Engineering Materials** • Materials by design and material genomics • Materials with new properties • Materials with substantial improvements to existing properties • Material property characterization and lifecycle assessment 3. **Advanced Gas Turbine Engine Technologies** • Aerospace, maritime, and industrial development and production technologies • Full-authority digital engine control, hot-section manufacturing, and associated technologies 4. **Advanced Manufacturing** • Additive manufacturing • Clean, sustainable manufacturing • Smart manufacturing • Nanomanufacturing 5. **Advanced and Networked Sensing and Signature Management** • Payloads, sensors, and instruments • Sensor processing and data fusion • Adaptive optics • Remote sensing of the Earth • Signature management • Nuclear materials detection and characterization • Chemical weapons detection and characterization • Biological weapons detection and characterization • Emerging pathogens detection and characterization

	• Transportation-sector sensing • Security-sector sensing • Health-sector sensing • Energy-sector sensing • Building-sector sensing • Environmental-sector sensing **6. Advanced Nuclear Energy Technologies** • Nuclear energy systems • Fusion energy • Space nuclear power and propulsion systems **7. Artificial Intelligence** • Machine learning • Deep learning • Reinforcement learning • Sensory perception and recognition • Next-generation AI • Planning, reasoning, and decision making • Safe and/or secure AI **8. Autonomous Systems and Robotics** • Surface • Air • Maritime • Space **9. Biotechnologies** • Nucleic acid and protein synthesis • Genome and protein engineering including design tools • Multi-omics and other biometrology, bioinformatics, predictive modeling, and analytical tools for functional phenotypes • Engineering of multicellular systems • Engineering of viral and viral delivery systems • Biomanufacturing and bioprocessing technologies **10. Communication and Networking Technologies** • Radio-frequency (RF) and mixed-signal circuits, antennas, filters, and components • Spectrum management technologies • Next-generation wireless networks, including 5G and 6G • Optical links and fiber technologies • Terrestrial/undersea cables • Satellite-based communications • Hardware, firmware, and software • Communications and network security

- Mesh networks/infrastructure independent communication technologies

11. **Directed Energy**
    - Lasers
    - High-power microwaves
    - Particle beams
12. **Financial Technologies**
    - Distributed ledger technologies
    - Digital assets
    - Digital payment technologies
    - Digital identity infrastructure
13. **Human-Machine Interfaces**
    - Augmented reality
    - Virtual reality
    - Brain-computer interfaces
    - Human-machine teaming
14. **Hypersonics**
    - Propulsion
    - Aerodynamics and control
    - Materials
    - Detection, tracking, and characterization
    - Defense
15. **Networked Sensors and Sensing**
16. **Quantum Information Technologies**
    - Quantum computing
    - Materials, isotopes, and fabrication techniques for quantum devices
    - Post-quantum cryptography
    - Quantum sensing
    - Quantum networking
17. **Renewable Energy Generation and Storage**
    - Renewable generation
    - Renewable and sustainable fuels
    - Energy storage
    - Electric and hybrid engines
    - Batteries
    - Grid integration technologies
    - Energy-efficiency technologies
18. **Semiconductors and Microelectronics**
    - Design and electronic design automation tools
    - Manufacturing process technologies and manufacturing equipment
    - Beyond complementary metal-oxide-semiconductor (CMOS) technology
    - Heterogeneous integration and advanced packaging

	• Specialized/tailored hardware components for artificial intelligence, natural and hostile radiation environments, RF and optical components, high-power devices, and other critical applications • Novel materials for advanced microelectronics • Wide-bandgap and ultra-wide-bandgap technologies for power management, distribution, and transmission **19. Space Technologies and Systems** • On-orbit servicing, assembly, and manufacturing • Commoditized satellite buses • Low-cost launch vehicles • Sensors for local and wide-field imaging • Space propulsion • Resilient positioning, navigation, and timing (PNT) • Cryogenic fluid management • Entry, descent, and landing