



NATIONAL ARTS CENTRE, OTTAWA
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SUMMARY REPORT

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A. Summit Background

Canada faces major disruptive forces—4th industrial revolution, Net Zero imperatives, geopolitical tensions and global economic instability, just to name a few. Moreover, when these forces began to intensify, Canada’s long-term growth was already projected to decline. Against this backdrop, our nation confronts a fundamental challenge: how can governments, businesses and other key stakeholders work cooperatively and collaboratively towards building resilience in our economy, that also generates sustained growth and ensures the future prosperity for our citizens? With this overarching challenge in mind, the Lawrence National Centre (LNC) convened thought leaders representing key stakeholders from across Canada to engage in a dialogue on two important policy areas: innovation and human capital, which, are fundamental to economic resilience, growth and prosperity.

The one-day Summit consisted of opening remarks, a keynote address, five panel discussions, a lunch fireside chat and Q&A sessions. About 100 participants attended the in-person event and contributed to the robust discussions and the identification of a number of thoughtful policy ideas. This report summarizes the collective insights, wisdom and recommendations shared by the participants at the Summit. LNC is most grateful for their passion, commitment and thoughtful ideas to make Canada a more globally competitive and resilient economy in these turbulent times.

B. Highlights from the Keynote Address, “Capitalizing on a Volatile Future”

The keynote address was delivered by the Chair of LNC’s Advisory Council and former Governor of the Bank of Canada, Stephen Poloz. This address set the context for the panel discussions and dialogue throughout the day.

Economic Outlook

Just prior to COVID-19, Canada’s economic conditions were remarkably strong, with unemployment at a 40-year low, and inflation right on target at 2%. It is the resilience of this economy that largely contributed to its quick recovery from the devastating fallouts from the pandemic. Early on there were signs that the economy could slip into a deep recession – even a depression—and monetary and fiscal stimuluses also played their part in averting such a crisis.

It is evident now the rise of global inflation over time was driven in part by external factors such as prolonged supply chain bottlenecks, and in part by growth in domestic demand supported by continued stimulus programs, but importantly exacerbated by the brutal invasion of Ukraine.

Looking forward, three factors are working in concert to bring inflation down:

- Shocks to initial commodity prices, costs of shipping, supply-chain bottlenecks have dissipated substantially—these are transitory in the sense that they will go away by themselves within the next year.

- Loss in purchasing power due to higher prices of energy and food is pushing major retailers like Walmart to compete harder for consumer money on purchases, putting pressures on suppliers to keep prices from rising, leading to disinflationary effects.
- The above two factors can potentially bring inflation down to 4% by next year. Reducing inflation further down to 3-1% would not be a very heroic task, considering that the economy appears to be more sensitive to higher interest rates now than before, and central banks are also undertaking quantitative tightening, which works in the same direction of high interest rates. Consequently, excess demand is expected to be reined in, allowing supply to catch up. There are of course geopolitical tensions; e.g. The war in Ukraine could further trigger rippling shocks.

The dominant investment theme going forward is “disinflation relief” and through that process we are likely to enter a period of stagflation.

- In the 70’s stagflation, both unemployment and inflation were rising—a phenomenon that could not be explained by economic models of the time. Initially, central banks kept interest rates low to boost the economy and reduce unemployment, which exacerbated inflation. But a contributing factor for high unemployment was the substantial increase in labour force due to entry by baby-boomers.
- In the current environment, the baby-boomers are exiting the labour force in droves. Policymakers are reading tight labour markets as harbingers of higher inflation down the road. But the signal from labour markets today could be as misleading as it was in the 70’s [in the reverse direction], which could potentially lead to policy error.
- Our new normal is likely to be one where we have fewer workers than we had in the last 50 years. The sustainable path of the economy then could be one where wages are higher, profits are lower, and to make that a triangle, more investment in labour saving equipment and higher productivity take place. All this will also depend on immigration efficiency. If policymakers misread such a situation, they can disrupt such normalization. Aging population, one of the “tectonic forces” working beneath the surface of the economy, is affecting standard economic analysis.
- Four other “tectonic forces”—growing indebtedness, technological progress (4th industrial revolution), rising inequality and climate change are all likely to intensify and interact in the next 10 to 20 years, creating substantial economic volatility, with more frequent recessions and bouts of inflation and deflation.

Policy Ideas

In this era of global volatility, we should invest in resilience so that we can better manage risk; “in fact, when we are prepared for risk, we will find ways to capitalize on risk.” Some policy recommendations include:

1. Create maximum clarity—there are many policy areas where there is substantial ambiguity, which can be converted to clarity. “Clarity is the obvious antidote for uncertainty.”
 - Even with the USMCA trade agreement in effect, achieved after several years of Trump administration induced turmoil, we should not remain content today. Canada should make clarifying amendments to USMCA, building more cross-border commitments with the United States now, before dealing with potentially another hostile [US] administration in the future. Canada should seek more trade agreements with other partners using our existing agreements as template to avoid time consuming negotiations.
 - There is more than one way to get to NetZero (i.e. we should consider alternatives to getting fossil fuels down to zero). We need policy clarity in the path to NetZero where carbon reduction is achieved also through new technologies, paving the way for investments in carbon capture and sequestration, as well as production in oil and gas, and associated export infrastructure [e.g. LNG pipelines]. All this will boost global energy security and enhance Canada’s growth potential, while addressing climate concerns.
2. Invest in federal-provincial relations to remove interprovincial trade barriers. The risk of entering into a period of zero-productivity growth is real so generating economic growth through effective removal of such barriers is a low hanging fruit, offering substantial productivity and economic boost of up to 4% of GDP.
3. Create tax and benefit incentives for older employees to stay in the workforce longer, and to assist with knowledge and skills transfer to the next generation of workers.
 - The above initiatives would have little-to-no fiscal cost. In fact, they have the potential of delivering a fiscal dividend because they are expected to raise Canada’s trend growth and therefore government revenues.
4. In this volatile future characterized by frequent, pronounced shocks, it will be important to build fiscal buffer and prepare for new pandemic-sized fiscal responses every few years. With the normalization of interest rates, fiscal sustainability has a higher hurdle rate. The country’s strong fiscal position prior to the pandemic enabled it to provide substantial fiscal stimulus during the pandemic. To build fiscal resilience and be ready for the next shock, bringing federal debt to GDP ratio back to 30 percent would be most prudent.

C. Highlights from the Innovation Panels

- To set the context for the two panel discussions on innovation, a series of data was presented to demonstrate that Canada’s low ranking in innovation relatively to its peers was largely due to the challenge it faced in bringing new inventions to market, and scale up. Data showed that Canada performs well in public R&D investments, has outstanding university-led scientific outputs and substantial tech start-up communities. While Canada produces new scientific and entrepreneurial ideas, the dominate theme is a low efficiency rate of converting ideas to impact in the marketplace, limiting socio-economic development. As Canada struggles to scale new technologies, there is

limited private investment in further research and product development, and Canada ranks at the bottom in Business Expenditure in R&D (BERD) among OECD countries.

Sectoral Perspectives in Innovation

- Perspectives from four important, technology driven sectors were presented in the panel discussions: Life sciences, Agrifoods, Electric Vehicles (EVs) and Artificial Intelligence (AI).

Life sciences: During COVID-19, there was product innovation (the development of the vaccine), process innovation (Lipid Nano-particle technology that enabled mRNA vaccines to be administered in human body), and *also policy innovation* (fast-tracked approval process without sacrificing safety or efficacy, backed by robust procurement strategy and vaccine mandate), which all helped drive rapid inoculation. This was a great example of all three types of innovations occurring, with governments, scientists and companies working in lockstep to achieve the desired goals. There is a revolution in the life sciences sector—from mRNA to cell & gene therapy, AI powered healthcare, and health data, which will be foundation for future medicine. And Canada has the potential to lead in all fronts, but it will require coordinated efforts in product, process and policy innovations, similar to those that were behind the success of mRNA vaccine for COVID-19.

Agrifoods: Not only is the Canadian agri-foods sector experiencing a technological boom, but it also has substantial market opportunity. Canada is the 8th largest exporter of agribusiness products; in contrast the Netherlands—roughly the size of the Banff National Park—is the second largest exporter in the world. With the war in the Ukraine, Canada has an opportunity to fill the gap and become a global leader.

EVs: Countries around the world are setting targets to get to zero emission vehicles [EVs]; every car manufacturer is producing EVs. Canada has the talent, the parts and critical minerals—but Canada lacks homegrown EV companies. During the pandemic we were able to repurpose our manufacturing production lines to make critical health products, which was feasible because of the change in our national posture and coordination. We need similar posture and coordination if we want to have our own homegrown EVs and be a significant player in the global EV market.

AI: Canada has become one of the top places for AI innovation. In 2017, the pan-Canadian AI strategy was put forward, which focused on a few priority areas: 1) increasing investment in research in AI through organizations like CiFAR to push the scientific frontiers of the field. 2) establishing some research institutes, such as the Vector Institute in Toronto, Mila in Montreal, AMII in Edmonton, which worked with academic partners to build talent, advance research in AI, and also help researchers to translate into commercial applications. 3) mobilizing immigration to tap into global talent in AI, by taking advantage of the Global Talent Stream visa program. The talent and expertise developed is now attracting foreign investments and generating local start-ups. All these factors have created a strong foundation for a robust AI innovation ecosystem in Canada.

Innovation Ecosystems

Innovation policy should recognize three key pillars that help conceptualize an innovation ecosystem:

1. The first pillar comprises ecosystem structures that help support the innovators—entrepreneurs who are building the next generation companies, driven by science and technologies. Key objectives of this pillar are to connect young companies to customers, capital and talent so that they can ultimately grow to become major employers and unlock new value and expand industries. Within this pillar are structures that contribute to creating a culture of creativity and risk, as well as provide translational capabilities, such as incubators and accelerators, where first time entrepreneurs can test their products, as well as learn about IP, commercializing products and managing growth.
2. The second pillar concerns building ecosystem structures around the adoption of new technologies and ideas. How can major innovations be catalysts for solving some of the pressing problems we face as a nation—from challenges in healthcare to education, climate and affordable housing? We need to uncover systemic barriers that hinder adoption and learn to overcome them (more on this below). Complementary structures that support innovation adoption may be necessary. For example, in life sciences it is imperative to have clinical trial capabilities and healthcare centres for testing and ramping up production.
3. The third pillar concerns policy, regulatory and standard setting that will govern the use of breakthrough technologies. Countries around the world are coming together to set policy and standards for powerful technologies such as AI and Canada needs to be at this table. How do we set appropriate guardrails and at the same time be creative in allowing experimentation to facilitate wide adoption? In this regard, one recommendation suggested involved creating sandboxes to allow policy and technology experimentations. Regulations should not be just about creating guardrails, they could also be *enabling* adoption. And we need to develop them quickly and effectively.
 - Each potential innovation hub is idiosyncratic in terms of its resource endowment, history and institutional set up. Importing the template of Silicon Valley is unlikely to be the right strategy; instead, stakeholders have to build from the initial idiosyncratic features of such hubs to grow them into robust innovation ecosystems.

Challenges & Priorities

Lacking robust Industry-specific strategy: As new technology becomes prime for commercialization and shapes an industry, there is a need to develop associated industry-specific strategy that will bring stakeholders together to address emerging issues, e.g. regulatory framework, procurement and adoption, investment in complementary infrastructure, and so on. Government and industry stakeholders in other countries are taking a major role in shaping industries of the future. Consider, for example, EVs; Canada is competing with both established as well as emerging countries (China, Vietnam, Turkey), who have robust EV policy in place. An important win for Canada was its renegotiation with the US to allow Canadian manufactured EVs to be competitively exported to the US, but there was still a view that our strategy was not nearly as robust as those in other jurisdictions. Washington is investing \$180 billion in the US auto sector; within the *Inflation Reduction Act* there is a provision for tax credit for battery manufacturing worth about \$1 to 1.5 billion (USD) a year for each battery manufacturer. BloombergNEF ranked Canada 2nd as a source for EV supply chain, however, it was observed that Canada was 36-72 months away from making cell batteries. While a number of large and important EV investments have been announced in Canada recently, a more robust strategy for this sector is needed.

- While an industry-specific strategy is emerging in Life Sciences, it was observed that there is still significant mis-alignment between government, business and key stakeholders. There is a substantial opportunity to leverage health data which will be a foundation for future medicine, however, to realize this opportunity we must develop the federal health data framework. Often, economic and health policy do not work in tandem; concerns were raised that the Patented Medicine Pricing Review Board is holding back from unlocking innovations, delaying new drugs to come to markets.

Policy paralysis: The Federal Government’s Economics Strategy Tables as well as the Industry Strategy Council had identified the need to address regulatory barriers and create a more agile regulatory framework. Unfortunately, little progress has been made since their recommendations and there appears to be no timetable for action or tracking process. While much dialogue takes place, tangible policy action is limited or often absent.

- Concerns were also raised around having many disparate government-led innovation programs that are not aligned due to a lack of an innovation vision/policy. It was noted whereas these programs were supposed to build value chains, they often ended in becoming transactional funding programs, mired in minutia in program management, and this outcome was in part a function of short political cycles.
- There is a need to better communicate the importance of innovation in improving the quality of life for every Canadian. Growth and prosperity will come from a strong, sustainable, innovative economy—and we need buy-in from voters. Then, however short the political cycles, innovation policy will remain a priority.
- COVID-19 exposed some of our gaps in the critical industries—and governments and other stakeholders had to respond. But “we can’t let the last symptom of COVID-19 be amnesia.” There is a need for making sustainable investments, especially in critical sectors, and drive policy action; we do not know when or what the next crisis will be and what technologies will be part of the solutions.

Better access to private capital at reasonable cost: Access to a spectrum of capital for different stages of scaling is needed. Seed funding in terms of grants may be important in early discoveries, but government grants are unlikely to be efficient or sufficient for funding all the stages of scaling. There appears to be a higher risk averse culture in Canada; so many entrepreneurs take their ventures to other jurisdictions (e.g. Silicon Valley) to raise funds. In this regard some actionable solutions were identified:

- Attracting foreign and local private capital by creating incentives for these capital sources to be deployed in Canada, e.g. providing tax credit. We have about 15% of our wealth in pension funds, but these funds largely invest abroad to build the infrastructure elsewhere. If we want to keep Canadian companies and talent here, both of which are movable, it will not be sufficient to just attract foreign capital; we must attract *Canadian private* capital.
- Expanding tax credit on Business Expenditure on R&D to be par with other jurisdictions.

Intellectual property: It will be imperative to retain workers producing IPs, strengthen IP protection and capitalize on the IPs Canada is producing. Flow-through shares financing that is available to natural

resources sector could be considered in knowledge-based industries; tech entrepreneurs could then use such a mechanism to monetize early-stage IPs on their balance sheets. Canada does not have the largest market for commercialization, but if we protect our IP and monetize it and take advantage of global markets, we can be a country of intellectual properties.

Risk averse in adoption and procuring innovative products: There is substantial frustration among the innovation community around the slow or lack of adoption of new innovations by Canadian corporations, SMEs and governments. Start-up innovators often get their first customers abroad, shift their business there and never come back.

- In other jurisdictions, it was observed that intense competitive market dynamics incentivize firms to be quick adopters of innovations and maintain their competitive edge. Adoption urgency is also created through regulatory compliance, but in Canada, participants noted that such initiatives were largely missing. In addition, interprovincial barriers often created challenges for innovators to market their products across Canada. Finally, there are no large government agencies, such as BARDA and DARPA in the US, that provide substantial funding for research and development projects, which are then linked to procurement by various government departments.

Entrepreneurial learning: Innovation experts noted that first-time entrepreneurs looking to commercialize ideas would benefit from case studies and mentorships on scaling innovations. While organizations such as Creative Destruction Lab, MaRS, and Communitech have played an important role in this area, more such programs are needed and supported through government innovation programs.

D. Highlights from Human Capital Panels

Sectoral Perspectives on Labour Market Needs: Labour Demand Factors

- **Data was presented to set the context for the discussion:** According to World Economic Forum, 40% of workers' core skills will change and more than 50% of workers will need reskilling in 5 years. Hiring and retaining new technology talents remain top priorities for businesses, which also expect to increase automation in part due to labour shortages. In Canada, jobs that are in high demand include those related to ICT and STEM, as well as traditional sector jobs, like electricians, nurses and welders. The substantial talent shortage and high job vacancies comes at a time when Canada's labour productivity continues to trail its peers.
- Perspectives on skills demand and labour shortages in three critical sectors of the economy were discussed—ICT, Healthcare and Infrastructure. The pandemic has had a profound impact on these sectors. It accelerated the use of ICT technology leading to the unprecedented demand for technological skills. Within the health care sector, the rapid transmission of the COVID-19 virus placed enormous pressure on hospitals and other health care providers which were already dealing with the demands of an aging population. For the infrastructure sector, the growing importance of social infrastructure became even more apparent and with an ambitious agenda of large and diverse projects, the challenge of project staging became even more complex.

ICT: During the pandemic there was a significant demand for ICT products and services, leading some

organizations to hire many ICT workers. Now some of those firms are rightsizing, but the fundamental demand for ICT skills remains strong, as technology continues to transform every sector. The longer-term prediction is an absolute explosion of demand for ICT skills. Already Canada is facing a substantial labour shortage in certain ICT areas. Additionally, it was observed that for several technology areas we are unable to train people fast enough because the technology is advancing so quickly. Sometimes the skills are changing before we can even catch up to them. Put all this in a broader context, Canada is slipping behind major rankings. In terms of ICT adoption, we are down to 35th (by the world economic forum), and in e-governance we are down to 33rd (in the United Nation's e-governance ranking). If Canada does not address our ICT gaps, its competitiveness, prosperity and national security will be at risk.

- In Canada the number of job positions vacant in cybersecurity is about 25,000, which represents a big gap in our cyber defense system. On average the cost of a cyber breach for a company is about \$7 million, and it takes an average of 280 days to detect that there has been a cyber breach.
- It is imperative to not only train more people in ICT but also speed up the training process. Canada should be open to exploring various pathways to do this, including providing online lessons and certifications. Such online accreditations have to meet certain standards so that employers are willing to accept them. The demand for skills in technology adjacent areas is increasing, and there is a need for programs on such areas, e.g. training on HR practices that enable workers to make smoother transitions and on organizational designs to adopt new technologies.

Healthcare: Canada spent roughly 50 cents of every tax dollar on healthcare during the pandemic, up from 40-45 cents prior to the pandemic. Ours is mostly an illness care system, and over time with an aging population, healthcare costs are expected to only go up, potentially crowding out other important services, including public investments in education, and food and water security. With COVID-19 there has been an acceleration of retirement, particularly by nurses. It was also observed that when professionals cannot deliver their services to the level of standard they were trained, moral distress grows and drives them away, particularly from caring for the sickest and the complex work of intensive care. If Canada does not have a robust healthcare system, the health of our citizens will suffer, turning them increasingly to services provided in other countries.

- There is a concern of licensing professionals not meeting the Canadian standards. One actionable policy idea could be that university hospitals are allowed to enroll foreign trained nurses for paid training and services for a couple of years, who within such academically intensive hospitals are evaluated to receive licenses to practice anywhere in the country. Relatedly, a number of retired nurses could be brought back to mentoring younger colleagues, instead of doing direct line nursing care from which they are already burnt out.
- There are interprovincial barriers that are in the way of optimizing capacity and providing critical service. For example, a physician based in Toronto, who is qualified to care for a patient requiring heart transplant in Nova Scotia may not be covered to provide care as the physician is not licensed in Nova Scotia, where, incidentally, there is no heart transplant program available. National licensure in health profession is an opportunity here.
- It was observed that the growing demand for healthcare is unlikely to be met entirely through immigration and training. Innovations in models of practice should be considered, and technology

can be an important part of the solution (e.g. digital health). There are ways of delivering services that do not require patients to visit hospitals but can provide much better care at home. For the two most common reasons Canadians were admitted to emergency services—chronic obstructive pulmonary disease [emphysema] and congestive heart failure—it was noted that there are Canadian solutions that can be scaled and dramatically reduce the number of patients in hospital. Important considerations here are who in a shorter, smaller, more contained scope of practice under the oversight of a regulated provider can offer such services, and how we can make those attractive and well-paying jobs.

Infrastructure: Canada faces substantial infrastructure gap and has an ambitious infrastructure agenda, as well. Infrastructure Ontario alone has projects under construction with a total value of \$41 billion for the next few years. These include electrification; expansion of a commuter rail system and subway network; the next generation healthcare system; and closing about 3000 rural broadband gaps that still exist. Ontario's recent announcements on infrastructure projects identify the resources that will be needed, as well as reflect the constraints faced, especially labour shortages.

- Other jurisdictions, like the US, are making substantial investment in infrastructure, relying on the international markets for labour, that is making it harder for Canadian firms to attract talent.
- Within Canada, there is a shortage of skilled trades workers. There are apprenticeship programs, but a fundamental challenge is inculcating a new generation of Canadians an appreciation of the kind of advancement and personal wealth that can be attained through careers in these trades. Another challenge is meeting the growing demand for professionals, including technical advisors, engineers and lawyers that modern infrastructure projects need to bring to bear. Infrastructure is no longer just bricks and mortar. New technologies are increasingly embedded in infrastructure projects.
- Investment in infrastructure assets that will last for many years was underscored. The Ontario subway line is expected to abate 5% of emissions of the city of Toronto on an annual basis. It was observed that if we did not invest in this type of infrastructure, we would not invest in resilience to adverse climate impacts. We must fund sustainable projects and address the labour shortages to develop them, even if those projects are costly, because the long-run socio-economic dividends will be substantial.

Leveraging the Potential of Our Labour Sources: Drivers of Labor Supply

- **Data presented to stimulate discussion:** The birthrate in Canada fell substantially after the 1960s, and immigration became the main source of population growth in the country, but there is considerable mismatch between immigrants' qualifications and the type of jobs they end up working in Canada [72% of recent immigrants with university degrees work in jobs that do not require a university degree]. Within Canada, indigenous populations have the fastest growth, but they are under-represented in high schools, college and STEM fields. A greater fraction of visible minorities tends to be in STEM fields than Whites.

Indigenous populations: Between 2016 and 2026, about 350,000 indigenous youth are expected to reach the age of 15. But currently, education for indigenous populations, especially reserve lands, is

critically underfunded. If we can close this gap, indigenous youth could represent a substantial portion of the Canadian workforce.

- But Canada has been deliberating about closing this education gap since the Royal Commission of Aboriginal Peoples. In the last 2019 and 2020 budgets funds have been allocated to that effect; remains to be seen whether the education gap is being closed.
- It is more competitive today to enter into higher education programs. Imagine the challenges of entering in an engineering program faced by an indigenous student on reserve who goes to a high school that is underfunded, who has no access to broadband, fresh drinking water and other basic necessities. About 35% of homes in First Nations did not have access to broadband and during COVID-19 and students from those residences were unable to engage in remote learning—so they are even more behind than other indigenous students.
- More and more companies recognize the potential of indigenous populations in their workforce. However, it is imperative to not only draw them in, but also create inclusive work environments. A study by Canadian Chamber of Aboriginal Business mapped supports available to indigenous youth for skill development and employment training. Social healthcare turned out to be an area where there was most support for indigenous youth, but there was much support in other areas. Indigenous youths will benefit from mentorships that provide guidance on employment opportunities and assistance at the job site. More broadly, we need to create suitable pathways for indigenous youths to higher education and workplaces.

Educational pathways for underrepresented minorities: Spurred by Black Lives Matter, there has been substantial interest among recruiters to hire underrepresented minorities from universities. But higher educational institutions lack a healthy “pipeline” of such students, as many youths from minority groups do not apply to universities.

- *An Inspiring Example in the Works:* Ivey Business School reached out to two other institutions, Queens Business School and Schulich Business School, and together they started working with Toronto District School Board (TDSB), which is the largest school district in the country. The program, launched about a year back, aims to develop mentorships to guide high school students on what a business education entails, what follow-on career opportunities are available, what academic preparations are needed, what financial aid packages are obtainable, and so on. Additionally, mentorship and support structure are provided to those students when they enter the universities. The program, called UP, began with a focus on attracting black students, but given the excitement around the program, it has the potential to be scaled up and used as a model for creating educational pathways for youths from other underrepresented populations, provided additional funding can be secured.

Immigration: It was observed that the government’s initiative to increase the intake of immigrants was a step in the right direction, but in relying on immigration to boost our labour force, attention must be paid to address the challenges that hold back from integrating them effectively in our labour markets.

- Our accreditation process for evaluating qualifications of new immigrants needs to be re-examined. It was observed that many foreign trained professionals do not find gainful employment even when there is a shortage of such professionals in the labour market (the canonical example being some

foreign trained doctors end up driving taxicabs). It turns out that during COVID-19, regional governments realized that there were thousands of foreign trained nurses who remained underemployed, and they worked to find a way to give those nurses an opportunity to mentorship and transition them into the field. But crisis or no crisis, if Canada wants to purport itself as an immigrant friendly nation, initiatives for bridging skills gap and expeditious process of recognition of foreign credentials will be warranted.

- Ontario's bridge training program has had some successes. The program evaluates the qualifications of new immigrants and additional training programs are designed to bridge any gap. The bridge program substantially increased the pass rate of licensure in pharmacy and in optometrists. We need to expand such programs.
- When considering immigrants' applications, we need to weigh skills and experiences appropriately. One would expect that applicants who have 10-15 years of experience, would score highly, but in fact under the express entry system they are penalized for not being young.

International students: With the exception of the 2020 pandemic year, the number of international students in Canada has grown over the last 20 years. But Canada attracts only about a small portion— 7%— of the 5 million international foreign student market. Not only is this international market large, but also it is expected to grow by 50% by 2030. So, there is tremendous opportunity for Canada to grow into this market. Canada's multicultural environment, strong quality of education and immigration friendly outlook are key strengths in attracting international students. But challenges abound.

- We do not have coordinated, government-led efforts to market Canada to international students, similar to those taken by the US, UK and Australia. In Canada initiatives to recruit international students is university by university, but each university does not have the scale to do this effectively on its own. We need national level initiatives [e.g. by Canadian embassies in focus countries], where Canadian universities are invited to participate to draw in international students.
- Even before COVID-19, processing visa applications took an average of 60 days; in contrast, in other countries such processing times are about three weeks. A student who has been accepted from two schools from two different countries will more often than not commit to going to the country that expeditiously processes visa. Some students are denied visas on the basis that they have "limited connectedness" to their home countries and therefore have a high risk of not returning. But these students tend to choose STEM, business and other fields where there is significant demand and we should encourage them to come, study and work in our economy, and not push them away.
- We are subsidizing our domestic students in part with international student fees; scholarships for international students are almost nonexistent. Other countries are much more aggressive in making those types of investments.
- Students considering coming to Canada also want to know if there is a pathway for them to receive PR and receive gainful employment. But they face delays and hurdles in processing PR. Only 20% of international students have their PR status in five years; only 30% have their PR status in 10 years.

Reskilling & upskilling: With rapid shifts in skills demand there is now a need for reskilling and upskilling the existing workforce every now and then. In some industries, for example autos, the stakeholders

have long recognized that life-long training is required to keep up with the pace of technological changes, and every year the industry reinvests millions of dollars to upskill its workforce. But not every industry is able to do so.

- Policy priorities around climate change may require a substantial number of workers employed in traditional energy sectors to reskill substantially to find gainful employment. A key priority should be making this transition effectively and quickly; without any transitional plan in place, we risk spurring regional tensions among our own people.
- Canada needs think about rewarding people to seek out new training and certifications. Substantial funds are allocated to the EI system, which can be tailored to support and incentivize workers, including those who are in between jobs. The issue is less about workers not prioritizing the need for improving their skills—employees recognize that skills demand is changing rapidly—but more about how we incentivize employers and employees for the latter’s life-long learning.

E. Some Takeaways from the Final Summation Panel

The final panel focussed on summation and synthesis of issues and ideas that emerged from the previous panels and focused on providing directions to advancing policymaking.

Stakeholder partnerships: Given that most of today’s policy challenges are inherently complex with many dimensions that impact a wide range of stakeholders, they cannot be solved by governments alone and certainly not by one level of government.

- As a practical example, consider immigration. The federal government decides how many or who may enter this country, but the provincial governments have more information on skills demand in their regions. Accreditation programs and skills bridging programs are also under their purview, although they rely on funding from the federal government and they will have to rely on industry and educational institutions to effectively implement those programs. So national-level policy conversations are needed to bring greater efficiency in immigration, followed by actions.
- Stakeholders from outside the government should not only be invited for consultation but also be part of the strategy and collaborate jointly to drive action.

Implementation of sector tables: Using the example of the Economic Strategy Tables, bring together different leaders from governments, industry and other stakeholders across the country to establish Sector/Industry Tables and empower them to provide guidance and oversight on the execution of the sector- or industry- specific strategies.

- The Pan-Canadian AI strategy is turning out to bear success, attracting top talent and investments. What lessons are there from this experience, and can this strategy become a “play book” for other sectors where Canada has strong potential?

Economic vision: Our various national policies and strategies should be aligned to a national economic vision. The federal government needs to shepherd this process, engaging other levels of government,

business, labour, community organizations and other key stakeholders to develop an ambitious and strong longer-term economic vision for the country rooted in practical policy initiatives, as well as set sector priorities and clear objectives that can be measured over a period of time. Arguably Canada has become a little too complacent in dealing with issues related to our global competitiveness, and we need to build on our strengths and swiftly address our weaknesses, especially considering the ambitious national visions and policies pursued by many peer nations.

F. Video Links

The key Summit sessions were recorded, and the links to the recorded videos are provided below:

1. Stephen Poloz, keynote address: **Capitalizing on a Volatile Future**
<https://www.youtube.com/watch?v=pS4CoaM--Rw>
2. Innovation Panel 1: **Unpacking Opportunities and Obstacles in Scaling Innovations through Sectoral Perspectives**
<https://www.youtube.com/watch?v=NmxMFJCBGSM>
3. Innovation Panel 2: **How to Build an Effective Innovation Ecosystem?**
<https://www.youtube.com/watch?v=aYkd7mvKh40>
4. Human Capital Panel 1: **Understanding Canada's Labour Market Needs**
<https://www.youtube.com/watch?v=GjAvqSsJ8AY>
5. Human Capital Panel 2: **Realizing the Potential of Every Canadian Community**
https://www.youtube.com/watch?v=BQ2vJCfB_TU
6. Summation Panel: **Towards an Action Plan for Growth & Prosperity**
<https://www.youtube.com/watch?v=Ykxy7F4co0A>

Note: The views expressed by the panelists were their own and do not necessarily represent the views of their organizations.

<p>2022 POLICY SUMMIT REALIZING CANADA'S POTENTIAL IN AN ERA OF GLOBAL VOLATILITY November 24, 2022 National Arts Centre, Ottawa, Ontario AGENDA</p>
<p>08:00 Continental Breakfast and Registration Canada Room</p>
<p>08:30 Welcome Remarks Romel Mostafa, Professor and Director of Lawrence National Centre (LNC)</p>
<p>Dean's Remarks Sharon Hodgson, Dean of Ivey Business School</p>
<p>09:00 Capitalizing on a Volatile Future Keynote Speech Stephen Poloz Former Governor of the Bank of Canada & Chair of the LNC Advisory Council reveals why, in an era of global volatility, harnessing innovation and investing in people are important now more than ever.</p>
<p>09:50-12:00 Two Panels on Harnessing Innovation Why is Canada so good at creating inventions... and yet so far behind in bringing new inventions to market and scaling up?</p>
<p>Panel 1 Unpacking Opportunities and Obstacles in Scaling Innovations through Sectoral Perspectives Jason Field, President & CEO, Life Sciences Ontario Alison Sunstrum, Founder & CEO, CNSRV-Inc; Founding Partner CDL-Rockies Flavio Volpe, President, Automotive Parts Manufacturers Association Heather Scoffield, Ottawa Bureau Chief and Economics Columnist, The Toronto Star (Moderator) Perspectives from industry leaders provide insights into the process of scaling innovations. What opportunities are there, what key obstacles are impeding progress, and more importantly, how can those obstacles be overcome to scale innovations, drive adoption and bring substantial socio-economic impact?</p>
<p>10:45 Coffee Break</p>
<p>11:00 Panel 2 How to Build an Effective Innovation Ecosystem? Karimah Es Sabar, CEO & General Partner, Quark Venture LP Iain Klugman, Partner NorthGuide, Former CEO of Communitech Salim Teja, Partner, Radical Ventures, Former President of Ventures, MaRS Discovery District Paul Wells, Journalist and LNC Policy Fellow (Moderator) What are the key ingredients of an innovation ecosystem that enable the scaling of new inventions in the marketplace? What lessons are there from global experiences and our own past initiatives on supporting innovation ecosystems? What is required now to move forward, and what will it take to achieve this? Three policy experts offer their perspectives on these pressing questions.</p>

<p>12:00</p> <p><i>The Centre that Jack Lawrence Inspired: Celebrating Jack's Legacy</i> Fireside Chat</p> <p>Thomas d'Aquino, Chairman & CEO, Intercounsel Ltd, Founding Chair of LNC Advisory Council Mahmood Nanji, Power Corporation of Canada Fellow, LNC (Moderator)</p>
<p>12:30 Lunch</p>
<p>13:30-15:45</p> <p>Two Panels on Investing in People</p> <p>How can Canada enhance its human capital development in an era marked by rapid changes in the future of work?</p>
<p>Panel 3</p> <p><i>Understanding Canada's Labour Market Needs for Tomorrow's Economy</i></p> <p>Angela Mondou, President & CEO of TECHNATION Michael Lindsay, President and CEO, Infrastructure Ontario Dr. Kevin Smith, President & CEO, University Health Network</p> <p>Mahmood Nanji, Power Corporation of Canada Fellow, LNC (Moderator)</p> <p>Distinguished panelists shed light on the major shifts in skills demand and changing nature of work, delineating the labour force that is needed for the future. They tackle the role of policy for training, attracting and retaining a highly skilled workforce to meet tomorrow's workplace needs.</p>
<p>Panel 4</p> <p><i>The Upskill Climb: Realizing the Potential of Every Canadian Community</i></p> <p>Tabatha Bull, President and CEO, Canadian Council for Aboriginal Business Chisanga Puta-Chekwe, Former Ontario Deputy Minister, Citizenship and Immigration Sharon Hodgson, Dean, Ivey Business School The Honourable Hassan Yussuff, Senator, Senate of Canada</p> <p>Paul Wells, Journalist and LNC Policy Fellow (Moderator)</p> <p>How do we build a resilient workforce that increases opportunity for everyone? Perspectives from academia, business and the labour movement describe the particular needs of Indigenous communities, new Canadians and racialized Canadians and the opportunity of including them — and everyone — in a new dynamic labour market.</p>
<p>15:45 Coffee Break</p>
<p>16:00</p> <p>Panel 5</p> <p><i>Towards an Action Plan for Growth & Prosperity</i></p> <p>Perrin Beatty, President & CEO, Canadian Chamber of Commerce; LNC Advisory Council Member The Honourable Peter Harder, Senator, Senate of Canada Tabatha Bull, President and CEO, Canadian Council for Aboriginal Business Salim Teja, Partner, Radical Ventures, Former President of Ventures, MaRS Discovery District</p> <p>Where do we go from here? What top policy priorities emerge from today's summit? What actionable policy ideas should our key stakeholders work on cooperatively and collaboratively to enhance Canada's economic growth and prosperity?</p>
<p>17:15</p> <p>Networking Reception Rossy Pavilion (Canapé & Drinks)</p>

About Lawrence National Centre

The only leading policy centre housed within a top Canadian business school, the Lawrence National Centre (LNC) engages governments, businesses, academia and communities to advocate for sound policy to ensure a powerful future for Canada. Its evidence-based policy research, education and outreach programs focus on critical issues on innovation, human capital and trade, that are fundamental to unlocking Canada's competitive advantage on the global stage.

<https://www.ivey.uwo.ca/lawrencecentre/>

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