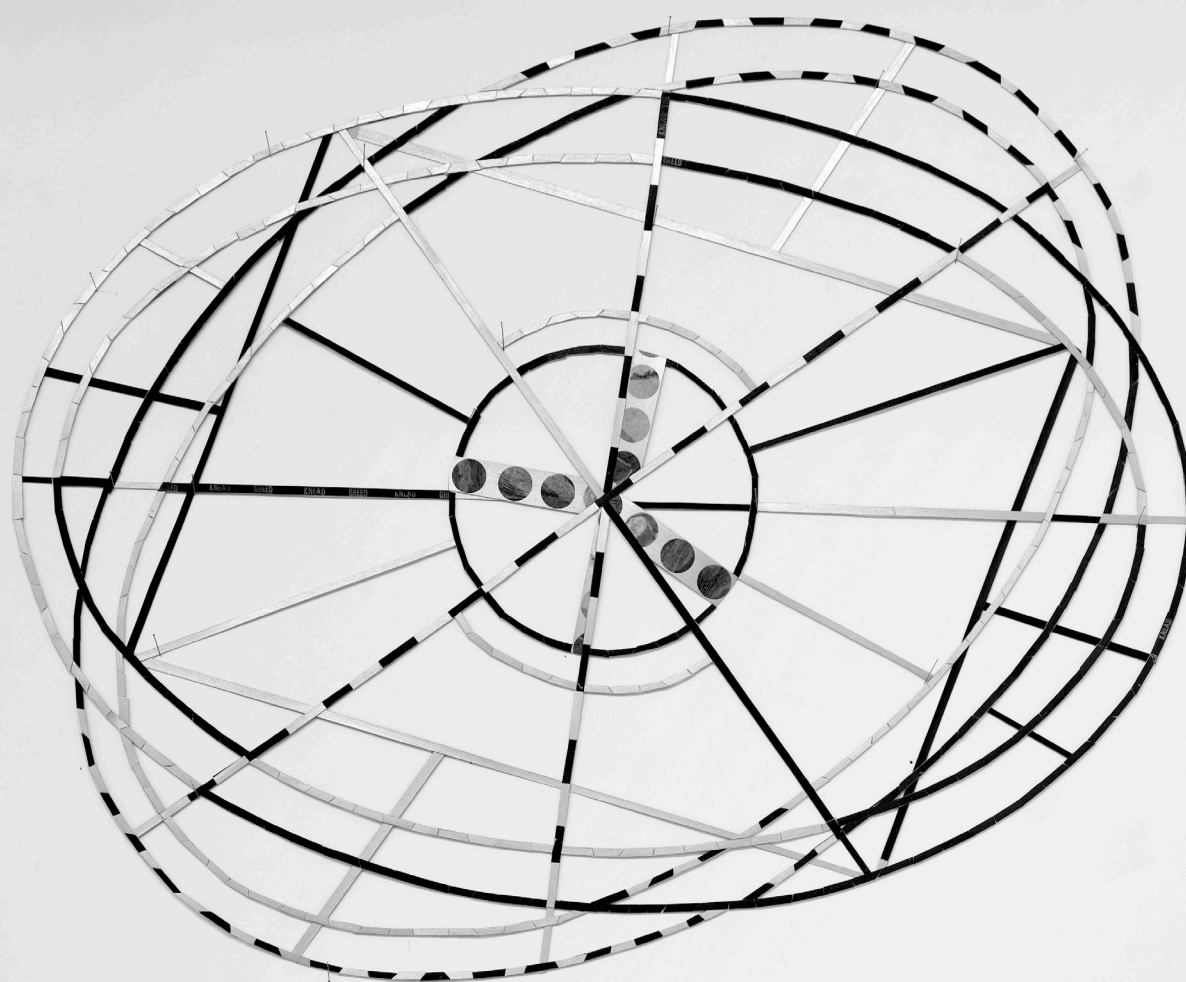


Renewing the Social Contract: Economic Recovery in Canada from COVID-19

December 2020



Renewing the Social Contract: Economic Recovery in Canada from COVID-19

An RSC Policy Briefing

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Cover Art

Patrick Mahon, FRSC, *Messengers' Series: Satellite II* (2018-19)

Painted wood veneer mounted on rice paper, pins

Patrick Mahon's series entitled *Messengers*, of which *Satellite II* is one element, is a set of approximately 15 handmade, wall-mounted constructions made of wood veneer strips, painted silver and grey. The graphic constructions range between shapes that are decorative and sometimes

geometric, to others that belie their actual flatness, some suggesting bodily forms. As an artist, Mahon is interested in the potential of these shaped works to refer to codes, glyphs and seemingly untranslatable emblems. In a world of electronic communication, where 'messaging' involves reaching across perceived divides and sometimes misperceptions—and where the languages of science and the arts may require translation with respect to each other—the works are meant to function as symbols that remind us of the necessity of innovative technologies as well as humble tools for contact and exchange.

Land Acknowledgement

The headquarters of the Royal Society of Canada is located in Ottawa, the traditional and unceded territory of the Algonquin Nation.

The opinions expressed in this report are those of the authors and do not necessarily represent those of the Royal Society of Canada.

Background on the Policy Briefing Report Process

Established by the President of the Royal Society of Canada in April 2020, the RSC Task Force on COVID-19 was mandated to provide evidence-informed perspectives on major societal challenges in response to and recovery from COVID-19.

The Task Force established a series of Working Groups to rapidly develop Policy Briefings, with the objective of supporting policy makers with evidence to inform their decisions.

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Note from the Authors

The Working Group gratefully acknowledges the contribution of the anonymous referees, whose comments on a previous draft of this report substantially improved the final document.

Professor McCabe is grateful for the support provided by the Institute of Health Economics, Alberta. He would like to acknowledge the work of his colleagues on the Working Group, especially those who are parents to young children who added contributing to this report to their already COVID-19 enhanced workloads.

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Executive Summary

COVID-19 has exposed the inadequacy of Canada's crisis response infrastructure and policies. But it has exposed much broader and deeper systemic problems that flow from how we have chosen to organize our society. We have discovered the scale and depth of the Canadian precariat—those individuals and households who live with combinations of insecure income with little or no savings to rely on, employment, housing and residency which make for a profoundly and relentlessly insecure life. COVID-19 has shown us how the unintended creation of the precariat, through decades-long pursuit of lower labour costs, has created a large pool of individuals who simply cannot afford to follow policies that are essential for the good of society. COVID-19 has exposed the reality that our society and economy are two sides of the same coin.

COVID-19 has also demonstrated that previously unthinkable policies can be implemented, both nationally and globally. Over the first six months of 2020, the global economy was essentially paused. Those who have argued that incrementalism is the only feasible strategy for addressing even society's most pressing issues, have been proved wrong. Massive investment will be required for Canada to recover from this crisis and with that massive investment comes the opportunity to think carefully and ambitiously about the Canada we want our children and grandchildren to inherit.

What policies and investments should we consider, as a country, to ensure we build a better Canada off the back of the COVID-19 crisis? Canada should be more resistant to future crises. Why was Canada the 13th country to enter into this crisis¹ and what might we do to reduce our exposure to global crises? Once the crisis struck, the impact was rapid, and the damage was large and inequitably distributed. What changes might we make to the structure and the policies of our society that would make Canada more resilient, so that we deal more effectively with future crises and return more rapidly to the pre-crisis social and economic norm. When crises strike, governments, communities, businesses and citizens must respond. What are the characteristics of an effective response and what physical, human and institutional capital must pre-exist for Canada to have confidence in its effective response?

Recommendations

With this ambition as our focus, we make the following recommendations to the federal and provincial governments.

Renewing the Social Contract

1. Establish a basic income guarantee (BIG) that is universally available to provide adequate income support to all persons and be responsive to economic shocks.
2. Reform provincial and federal labour codes to ensure paid sick leave, as this is an essential public-health policy to support a more resilient economy.
3. Work with provinces and territories to establish universal access to childcare that provides Early Childhood Education, to protect parents and especially mothers' opportunities for labour force participation.

4. Implement a comprehensive tax reform that enhances the fairness of taxes by broadening the tax base to treat all capital income on a par with earnings, and address intergenerational transmission of wealth inequality by re-instituting an inheritance tax.

Reinvigorating the Economy

1. Develop clean competitiveness roadmaps for each sector that target opportunities for Canada to succeed in a low-carbon global economy, and the policies, investments and actions to capture those opportunities. As a critical first step, develop long-term, low carbon infrastructure plans to support a decarbonized economy (energy, transport, buildings) and invest in building the foundational infrastructure identified in it.
2. Invest in a comprehensive and secure digital infrastructure to support the development of a strong domestic digital economy and enable equality of opportunity for all Canadians as consumers, innovators, employers and employees.
3. Invest in effective and efficient labour-force transition from carbon intensive industries through wage insurance and bridge-to-retirement mechanisms, supported by comprehensive high-quality retraining programmes.
4. Undertake a risk assessment of Canada's exposure to global supply chains to identify essential commodities which might merit the repatriation of manufacturing capacity.

Enabling Innovation

1. Develop and disseminate a clear vision for the objectives of innovation policy and specify general flexible metrics for assessing success.
2. Create flexible, arms-length institutions with stable, long-term funding to provide resources and programs to firms to spur innovation by sector and/or region.
3. Identify clear specific missions for innovation policy, such as decarbonizing the economy and accelerating the shift to and growth of the digital economy. These serve to align incentives and resources and provide a clear signal of the opportunities available to the private sector.
4. For truly global endeavours, such as the life sciences, government must support engagement in global research networks. Investments in building Canadian capacity must focus on leveraging Canadian research through sharing relationships, such as open science partnerships.

Improving Crisis Policy Responses

1. Establishing Standing Crisis Response Teams, made up of a broad range of experts with the necessary intellectual and physical infrastructure and secretariat services. Consideration should be given to enshrining the resourcing of these teams in law, to ensure that we make the necessary investments in public health to deal with future crises.
2. Develop systems for citizen engagement with a policymaking process that actively encourages and incorporates feedback from the Canadian public. This system must reach marginalized groups to understand their priorities and concerns relating to alternative options.
3. Fund and facilitate better data collection, including health, economic, education and environmental indicators, ensuring that these data includes demographic and socioeconomic indicators and is readily available to experts based within and outside of the public service. It

will be important to establish mechanisms to increase the frequency of data collection during crises.

4. Develop and disseminate an intersectional approach to policy development and analysis to provide decision makers with a more accurate and comprehensive picture of problems, the potential benefits and costs of solutions and how these are distributed across society, especially marginalized groups.

Renewing the Social Contract: Economic Recovery in Canada from COVID-19

Chapter 1: COVID-19 and the Canadian Economy: Harm and Opportunity

The first Canadian case of coronavirus disease (COVID-19) was detected on 25th January 2020. This was only eight weeks after the first case was diagnosed in China and meant Canada was the 13th out of 214 nations around the world to be affected. The first Canadian death from COVID-19 was announced on 9th March. On 19th March all non-essential travel between Canada and the United States was cancelled. Between 12th March and 22nd March every province and territory declared a state of emergency. By 24th March, community transmission within Canada accounted for more cases than travel-related infections. The next day the federal government announced a compulsory 14-day quarantine on all people entering Canada. The seven-day moving average of cases per day peaked on 4th May at 1,799. The following two months saw a steady decline. On the 28th June there were only 273 new cases. Unfortunately, this trend did not continue and the daily number of new cases has exceeded the peak of the first wave, with 6,299 cases on 4th December and a strong upward trend. Currently, we do not have the COVID-19 pandemic under control.²

It is clear that Canada was ill-prepared to deal with the challenges that a global pandemic brings. There have now been over 235,000 cases, and more than 10,000 deaths.³ At the peak of the first wave, GDP dropped by close to 12% and 5.5 million workers' employment was affected. The federal government has pledged CAN\$325 billion to support Canadians through the crisis and economic recovery from the crisis.⁴ This is approximately a magnitude larger than the 2009 economic stimulus response to the global financial crisis. This rapid commitment to sustained large-scale government intervention ensured that families did not starve, many businesses were not permanently shuttered and some employment opportunities, still existed when the emergency public health restrictions were lifted.

Canada's poor performance in managing the spread of a global infectious disease should not come as a surprise. In the 2003 SARS outbreak, Canada was the worst-affected country outside of Asia. The Naylor report, which was commissioned to learn the lessons from that crisis, highlighted infectious diseases as an emerging global risk for which Canada's public health capacity was ill prepared.⁵ The report noted that while public health was primarily a provincial responsibility, the federal government did have jurisdiction over matters that were particularly pertinent to the management of global infectious disease outbreaks, including the maintenance of peace, order and good governance, quarantine provisions, national borders, as well as inter-provincial and international commerce. Naylor described a decade of calls for major investment in a coordinated pan-Canadian public health infrastructure and strategy. The evidence of serial failure by federal and provincial governments to make the investments required to protect Canada from the threat of global infectious disease is damning.

Naylor recommended the creation of a Canadian Public Health Agency, led by a Chief Public Health Officer. The proposed agency should have an explicitly collaborative approach to creating a national public health strategy with Provincial and Territorial governments. This led to the creation of the Public Health Agency of Canada (PHAC) in 2004; confirmed in the 2006 Public Health Agency of Canada Act. PHAC is responsible for a number of government files including the National Emergency Strategic Stockpile, the Centre for Emergency Preparedness and Response, the National Antiviral Stockpile and the Global Public Health Intelligence Network.

PHAC did not develop a collaborative national public health response strategy for infectious disease outbreaks. A PHAC review after the 2009 H1N1 pandemic led to another call for the creation of a coordinated response plan.⁶ This federal, provincial and territorial response plan for biological events was published in 2017,⁷ and the mechanisms it created were triggered in January 2020 with the formation of the Pan-Canadian Public Health Network Special Advisory Committee on COVID-19.⁸ This body produced three policy statements between 7th April and 20th May 2020. Since then, provincial and territorial governments have pursued heterogeneous pandemic response strategies. The coordinated national response that Naylor called for remains absent.

Canadian federalism has served the country well in the past, allowing significant experimentation at the provincial level—public healthcare, Quebec’s childcare, etc.—that is later expanded to all provinces. But in times of crisis—this crisis in particular—federalism has failed us by impeding a national response. From reallocating federal COVID-19 dollars that were meant to be spent on the elderly or schools to other provincial priorities, to resisting the roll-out of a national COVID-19 reporting app, cooperation and coordination have been lacking. Given the nature of the crisis, it was not possible to know at the outset which policies would be most effective. However, rather than using inter-provincial variation to identify solutions that could be scaled up nationally, provincial diversity has led to misallocation, misalignment and inefficiency. Long standing tensions between provincial and federal governments on the limitations of federal government power, combined with the federal government’s minority status in Parliament—with strong provincial-centric parties in opposition—only exacerbated the problem. The happenstance of political fortunes has significantly hampered the country’s response to COVID-19.

COVID-19 is not like previous infectious disease emergencies such as SARS, H1N1, Zika and Ebola.⁹ There were only 438 probable or suspected SARS cases in Canada. There have been zero cases of Ebola and only 574 cases of Zika. H1N1 infections were estimated to be 3.5 million, but deaths, at 438 people, while tragic, were much lower than from COVID-19. Perhaps it is the relatively low burden of these infectious diseases that explains the failure to invest in ways that would have protected us from the harm that COVID-19 has wrought. COVID-19 has struck all parts of our society but some groups much more than others. As Canada comes to terms with the reality of the second wave of infections, and losses in health, lives and livelihoods, it is important to learn the lessons from this comprehensive crisis because other crises will come.

COVID-19 has exposed the inadequacy of Canada’s crisis response infrastructure and policies. But it has exposed much broader and deeper systemic problems that flow from how we have chosen to organize our society. We have discovered the scale and depth of the Canadian precariat—those individuals and households who live with combinations of insecure income with little or no savings to rely on, employment, housing and residency which make for a profoundly and relentlessly insecure life. COVID-19 has shown us how the unintended creation of the precariat, through decades-long pursuit of lower labour costs, has created a large pool of individuals who simply cannot afford to follow policies that are essential for the good of society. COVID-19 has exposed the reality that our society and economy are two sides of the same coin.

COVID-19 has also demonstrated that previously unthinkable policies can be implemented, both nationally and globally. Over the first six months of 2020, the global economy was essentially paused. Those who have argued that incrementalism is the only feasible strategy for addressing even society’s most pressing issues, have been proved wrong. Massive investment will be required

for Canada to recover from this crisis and with that massive investment comes the opportunity to think carefully and ambitiously about the Canada we want our children and grandchildren to inherit.

What policies and investments should we consider, as a country, to ensure we build a better Canada off the back of the COVID-19 crisis? Canada should be more resistant to future crises. Why was Canada the 13th country to enter into this crisis¹⁰ and what might we do to reduce our exposure to global crises? Once the crisis struck, the impact was rapid, and the damage was large and inequitably distributed. What changes might we make to the structure and the policies of our society that would make Canada more resilient, so that we deal more effectively with future crises and return more rapidly to the pre-crisis social and economic norm. When crises strike, governments, communities, businesses and citizens must respond. What are the characteristics of an effective response and what physical, human and institutional capital must pre-exist for Canada to have confidence in its effective response?

In this report, we consider how Canada might deliver on these three Rs (Resistance, Resilience and Responsiveness) through a revised social contract, a reinvigorated and truly innovative economy and a comprehensive national crisis response capacity.

Chapter 2: Recommitting to the Canadian Social Contract

Elements of the social contract

The social contract embodies the idea that we as a society have a responsibility to support each other. The government is a key institution through which that responsibility is realized. Central to the social contract in liberal democracies is recognition of the basic equality of all individuals in society and respect for the communities to which they belong. From this idea of basic equality, it follows that the social contract includes a) a commitment to equality of opportunity that empowers individuals to realize their potential and contribute to society, and b) a responsibility to accord all members of society equal worth, voice, and status, irrespective of their personal characteristics or socioeconomic status.

Rebuilding the economy provides an opportunity to renew the social contract between the rich and the poor, the young and the old, those persons with disabilities and those without, the securely employed and the precariat, white and racialized people, and Indigenous and settler communities. This calls for strengthening the social protection system and restoring the fairness of the tax-transfer system. Rebuilding the economy gives us an opportunity to recalibrate it through policies that foster innovation, productivity and environmental stewardship. Re-energization of the social contract enhances the resistance, resilience and responsiveness of the Canadian economy and broader society to future crises. It aims to achieve the three objectives of a) enhanced social protection, b) greater equality of access to essential public services, including health, education and environmental services (clean water, air, access to nature), and c) increased economic dynamism through policies that reward innovation and productivity, and that enable all members of society to share in the gains generated.

What weaknesses in the social contract has the pandemic exposed?

The pandemic demonstrated very clearly the differential vulnerability to shocks and the differential access to the tools of resilience by age, race, gender, health status, ability status, employment status, income, geography and community.^{11 12 13 14 15 16 17 18 19 20 21} Tools of resilience include both existing income supports and public goods and services, neither of which were sufficient to offset the unequal impact of the pandemic.

Income supports

Income supports include employment insurance (EI), social assistance to the long-term unemployed and persons with a disability, and support for low-income workers, entrepreneurs and those who contribute as caregivers or volunteers. The pandemic has exposed weaknesses in all three areas.

EI was inadequate to address the needs of workers displaced by the pandemic. Even before the pandemic, more than 40% of workers did not qualify for any support if they lost work.²² Self-employed, gig workers and part-time workers, who have less access to EI than standard workers, were disproportionately affected by COVID-19. Cotton et al (2020)²³ demonstrate that both women and young workers were heavily and negatively affected by the pandemic.²⁴ We suspect that racialized persons were also affected disproportionately, but lack of data prevents us from being categorical.²⁵ Many worked too few hours to qualify for EI, where the number of hours required depended on the region in which a worker lives. Coverage is time-limited and may last as few as 14 weeks, depending on region. Even those who collect EI support received only 55% of

insured earnings to a maximum of CAN\$577 a week. Most qualified for far less than the CAN\$500 paid by the Canadian Emergency Response Benefit (CERB). More generally, EI is, at best, an imperfect insurance regime for individual risk in regular situations. In exceptional circumstances, where incentives are of minimal concern, it is too conditional and not sufficiently responsive to the variety of workers in society. Insurance for collective risk necessarily differs from insurance for individual risk. Individual risk is at least to some extent insurable through risk-pooling, including through private insurers. Collective risk cannot be insured when it occurs, though governments can spread the costs across time using public debt.

As a consequence of the limitations of EI to address collective risk, the Canada Emergency Response Benefit (CERB) was introduced as a temporary benefit, and it worked admirably to ensure that displaced workers had income support during the closure. However, the design of the CERB was less consistent with re-opening the economy. When firms began to hire back labour, few were in a position to guarantee a minimum number of hours to contingent workers. This shifted all the risk of reopening onto workers who could earn up to CAN\$1,000 per month while collecting the CERB but who would lose the entire benefit as soon as they earned CAN\$1,001. This may have created a disincentive for returning to work, though the evidence is mixed.²⁶

The structure of the CERB echoes many provincial social assistance programs where high effective marginal tax rates apply to benefits as soon as earnings exceed a small allowance. For people on provincial disability assistance, the effective tax rates, and hence work disincentives, are substantially higher since, in most provinces, they may lose pharmacare and disability supports when they stop receiving income replacement. People who rely on provincial income assistance and disability support receive benefits well below the poverty line and often rely on services such as food banks and thrift shops to meet basic needs.²⁷ The demand for food banks increased during the pandemic, not least because children were no longer receiving school meals.²⁸ However, the pandemic disrupted food banks because of the withdrawal of volunteer labour and supply chain interruptions, but only minimal compensating benefits were offered to the poor, such as one-time top-ups to the GST credit, CCB and GIS. As well, although social assistance recipients qualified for CERB, most provinces clawed back social assistance payments for CERB recipients.²⁹

Many low-income workers, as well as those not participating in the paid workforce and those doing volunteer work, live below the poverty line and receive relatively little support from the government. They can obtain modest amounts from refundable tax credits, but none whatsoever from non-refundable ones, such as the basic personal amount. They are not eligible for important public supports, including pharmaceutical, public housing and transportation subsidies, for which eligibility is restricted to social assistance recipients in many provinces. The pandemic exposed many of the poor to losses of income and ongoing expenditure needs, such as basic food and shelter, which they had little if any savings to finance.³⁰

Public goods and services

The closure of schools, especially elementary schools, and most daycare services forced many parents out of the labour market and made visible the cost of having no social support for non-market labour. Although the pandemic exacerbated the problem and forced some daycare providers out of business, the absence of support for non-market labour pre-dated it. Women are disproportionately disadvantaged because they provide the majority of unpaid labour in society. The pandemic response and increased demand for unpaid labour generated deep anxieties that

women's labour participation rates, career paths and contribution to GDP may not recover in the post-pandemic period.^{31 32} Given the gender dimensions of non-market labour, economic policies will need to address the societal factors that limit women's economic participation.

When many employers asked staff to work from home and schools transitioned to online instruction, the inequality of access to high-speed internet and smart devices put people living in rural and remote communities, Indigenous communities, and low-income people in urban settings at a disadvantage. At the same time, many individuals were unable to work from home and continued to perform paid labour during the lockdown. These were disproportionately low-income people working front-line jobs for low pay, in less safe working conditions. Examples include public service workers (e.g. transit), food processing workers, and retail cashiers. Often, those roles provide insufficient worker protection to allow or even encourage individuals to stay home when sick. Temporary foreign workers were an extreme illustration of this dynamic, as they had minimal employment protection and limited ability to respond to employment grievances.

The pandemic caused stresses on the healthcare system, exposing both its strengths and weaknesses. In general, hospital and physician care services responded well, which might be expected given that provincial governments fund them relatively generously. They were also able to reduce non-essential services quickly. Moreover, a leading reason for the economic shut-down was to protect the ability of hospitals and physicians to respond to the pandemic. In stark contrast, long-term care and homecare systems struggled to protect older populations in communal living facilities. Many of the public healthcare systems proved to be less than well-prepared in terms of PPE supplies and laboratory testing capacity. Public health infrastructure was completely inadequate and population track, trace and isolate systems had to be built from scratch. The long-term mental health consequences of COVID-19 remain to be seen. Again, among the most affected by COVID-19 were the already disadvantaged groups: low-income individuals and communities, and those with pre-existing health conditions related to their age and/or their socio-economic status.

The pandemic also served to highlight the importance of ecosystem services such as access to clean water and natural environment. Access to clean water for handwashing as well as drinking is paramount,³³ yet a significant number of communities, often Indigenous ones, have been under long-term boil water advisories.³⁴ Lockdowns generated demands for access to greenspace that is increasingly recognized as a contributor to individuals' health.^{35 36} While Canada ranks highly in global environmental performance measures overall, a recent review by the OECD (2017)³⁷ outlines concerns in the area of water infrastructure, air quality (particulate matter), and biodiversity management, and describes specific regions where those concerns are most significant. A commitment to a social contract with Canadians should include standards around clean water, air and nature.³⁸

What policies would be required to recommit to the social contract?

Ideally, policies should be put in place that ensure that all Canadians have access to economic and social supports that give them security, and that enable them to participate meaningfully in society and achieve their potential. While such a policy framework should fulfill long-term objectives, it should also be designed to withstand future health or economic shocks, which our experience of this last 20 years, during which we have now had four infectious disease outbreaks, suggests are becoming increasingly frequent. As well, economic policies should encourage development and

innovation of the Canadian economy in a way that allows the benefits to be spread to all income groups.

Current income support programs leave many groups below the poverty line. These include workers earning at or just above the minimum wage, social assistance recipients, precarious and part-time workers, many self-employed, caregivers and volunteer workers. A basic income guarantee (BIG) that varies with income, is otherwise unconditional, and is universally available to those who qualify, would provide adequate income support to all persons and be responsive to economic shocks.³⁹

^{40 41 42 43 44} A properly designed and implemented BIG program can help to ensure that individual persons meet their basic needs. The details of a BIG program—such as the size of the guarantee, how it varies with income and personal circumstances, and how it is financed—can vary widely. However, it should have some broad design features. It should apply to working-age residents and would consist of guarantee level of income provision that is reduced as one's personal income increases. The guarantee level would correspond to the poverty level and the tax-back rate would be chosen to preserve work incentives. It would be administered by the Canada Revenue Agency in parallel with the income tax system, analogous to OAS/GIS and CCB. The guarantee level could incorporate personal characteristics like disability or family size. As studies have shown, it could be largely financed by redirecting provincial social assistance transfers as well as many of the existing refundable and non-refundable tax credits. For example, the Basic Personal Amount provides a tax credit of roughly \$2400 to most taxpayers able to claim it. If it were refundable and income-tested, it could provide the beginnings of a BIG. A BIG comparable to the market-basket measure of poverty could be virtually fully funded by eliminating most refundable and non-refundable tax credits, including the Basic Personal Amount, along with social assistance. If necessary, this could be accompanied by broadening the income tax base by eliminating tax expenditures, such as the capital gains exemption. Such a reform could be accomplished without an increase in marginal tax rates either for BIG recipients or for higher-income persons. There are no constitutional proscriptions to the federal government implementing these income support initiatives, although federal-provincial cooperation would enhance public acceptance and allow provinces to differentiate income supports for their residents, reflecting local needs and priorities. Ideally, the development and implementation of a BIG would be a collaborative effort of the federal government and the provinces and territories, with some discretion given to each level. A BIG would not replace social insurance systems, like EI or CPP/QPP, or other social programs.

International evidence indicates that such a program would also improve health and education outcomes and enhance the opportunity for individuals to undertake risky innovative activities or to engage in socially useful non-market activities. (The importance of individuals and companies initiating innovation for the economy is discussed in Chapter 4.)

Given the particular impact of COVID-19 on education, it is noteworthy that experiments with BIG demonstrably improve education outcomes. Forget (2011)⁴⁵ finds that the 1970s Mincome experiment in rural Manitoba increased men's high school completion rates; in the short-lived Ontario BIG experiment, survey evidence suggests an increase in registration for community college (Ferdosi et al 2020);⁴⁶ and in Malawi, more women enrolled in secondary school (Baird et al 2011).⁴⁷

The most consistent and well-documented beneficial effect of BIG is on physical and mental health.^{48 49 50 51 52} Better personal and community health improves quality of life, but it also reduces the demand on healthcare resources, and the underlying chronic health conditions that drive

up mortality from infectious disease. There is also some evidence that BIG is associated with a reduction in property and violent crime.^{53 54}

As we learned from the CERB, a benefit that responds relatively quickly to changing needs can be administered by the Canada Revenue Agency (CRA) through online accounts accompanied by special assistance for people without this access. This approach could be applied to BIG, along with a pro-active approach to encourage income tax filing so that all persons eligible for BIG actually receive it.⁵⁵ Incentive effects could be mitigated by choosing a tax-back rate that results in a marginal tax rate for basic income recipients that is less than that of existing provincial welfare systems while keeping the BIG affordable.⁵⁶ Evidence on incentive effects of a BIG is limited. Results from the Finnish basic income experiment and the Utrecht trust experiment suggested that the unemployed were *more* likely to transition towards a full-time job when they were freed from bureaucratic requirements associated with standard unemployment benefits, although this took time to happen.^{57 58} The tax-back rate affected mainly the number of hours worked in low-quality, precarious jobs. While the Finland and Utrecht experiments were limited to long-term unemployed persons, that selection bias should not have affected the conclusions drawn. Analysis of basic income-like programs in Canada showed no significant impact on hours worked overall, though different groups had different responses.⁵⁹

Special attention must be paid to ensuring that Indigenous peoples are eligible for a BIG, especially given that many do not currently file income tax returns. Canada's federal structure raises challenging problems for implementing effective national policies. This is particularly true for First Nations, Métis and Inuit whose autonomy must be respected. Inter-nation trust is essential for the cooperation required for resistance and resilience and that entails government-to-government dealings between Indigenous peoples and the federal government. We echo the call of the Truth and Reconciliation Commission for federal, provincial, territorial and municipal governments to adopt and implement the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) as the framework for reconciliation.⁶⁰ The repeated use of UNDRIP in all relations between Indigenous communities and nations, governments and corporations will ensure that it continues to develop as a living document to meet the diverse needs of Indigenous peoples. This requires ongoing collaboration, and a commitment to the co-development of all policies affecting Indigenous communities.

A BIG could be part of a broader tax reform that enhanced the fairness of taxes and reduced income and wealth inequality. This could include broadening the tax base to treat capital income on a par with earnings, and re-instituting a tax on inheritances to deal with the intergenerational transmission of wealth inequality. For example, the 50% exemption of capital gains and the dividend tax credit could be reduced or eliminated, and extraordinary capital gains on housing could be taxed. The sheltering of some savings in RRSPs, TFSAs and housing can be justified as a way of encouraging saving for retirement, but within limits and subject to common rules for the various types of sheltering. A comprehensive tax reform should also include corporate taxation that promotes investment and innovation and discourages the use of debt finance, thus contributing to economic resilience. A cash-flow system of corporate taxation could achieve these objectives and has been widely advocated in Australia, Canada, the UK and the US.⁶¹ Under such a system, businesses would be taxed on the difference between revenues and expenditures, including cash outlays for both tangible and intangible investment. With the expensing of investment, there

would be no need for either depreciation or interest deductions. Such a system would tax the rents generated by corporations without distorting investment decisions.

As mentioned, income support reforms would not need to replace either social insurance programs, such as EI and Canada Pension Plan/Quebec Pension Plan, or public services provided by the provinces. These other programs should, however, be reformed to reinforce the social contract. EI serves as insurance against individual employment shocks; it could be reformed to recognize the growing importance of part-time work, gig work and self-employment.⁶² EI could exist alongside a BIG, although some harmonization would be needed. Public services, such as low-income housing and disability supports, could also be enhanced. Currently, access to many public services targeting low-income households is sometimes conditional on eligibility for social assistance. This would no longer be appropriate and would need to be replaced, for example by income-testing.

The pandemic has shown the value of universal access to broadband internet access. Those with inadequate access, especially rural and poorer segments of the population, were unable to work at home and their children could not learn online.⁶³ Given the importance of the internet for shopping, banking, communications, and obtaining government services, broadband access is better viewed as a public good that needs to be available to all households to ensure equality of opportunity. Whether it needs to be provided in the home or via public access sites is an open question that will be influenced by cost.

Enhancement of job retraining would also improve responsiveness to economic shocks. A BIG would allow individuals to pursue their own retraining, but that in itself is not sufficient to ensure that opportunities exist. Public sector involvement in job retraining would encourage and assist displaced and underemployed workers to improve their skills and employability. At present, job training is largely provided to workers receiving EI, although Workforce Development Agreements apply to those not covered by EI. It should be more broadly available so that self-supporting workers can invest in training. Chapter 3 examines the importance of training and retraining to support the industries of the future: environmental and digital industries.

The pandemic highlights the longstanding public failure to provide fair and adequate access to childcare, and the negative effect of this failure on productivity, workforce participation and gender disparity.⁶⁴ Evidence suggests that the social payoff to childcare is substantial given the benefits of encouraging female labour force participation. There is support through the tax system for the costs of childcare through the Canada Child Benefit and the tax deduction for childcare. But the availability of childcare spaces remains inadequate and may have even been eroded by the pandemic. This could be mitigated by provincial investments. To achieve inclusive and hence resilient growth, parents of young children need access to childcare.

The return on investment in childcare, both in terms of maternal employment benefits and early childhood development of children, could be considerably enhanced by combining it with early childhood education (ECE). Ranked 33 out of 35 member states, Canada has among the lowest levels of ECE enrollment in the OECD. Only 53% of Canadian children aged 0-5 are enrolled in ECE. In the 2-4 age group, only 54% of Canadian children are enrolled in ECE, while the OECD average is 79%. The shortfall exists because ECE delivery is an uneven patchwork, with quite high fees for pre-school care in many provinces. Universal, accessible and inclusive ECE should be the norm in Canada for children aged 3-5. A federal-provincial strategy for the education, recruitment

and retention of ECE workers is a priority.⁶⁵ The federal government funds less than 15% of public expenditure on ECE, and could play a larger leadership and financing role, leaving delivery to the provinces. Improving ECE is essential for childhood development, social and gender equity, and the resilience of the Canadian economy.

During the pandemic, too many low-income workers had inadequate access to sick leave. The ability to obtain sick leave with pay is crucial. Workers who bear the full cost and risk of staying home while ill are unlikely to do so; rather, they will attend work, putting other workers and their families at risk. This has been apparent throughout the COVID-19 pandemic, but is equally true of other circulating contagious diseases. The problem is particularly acute for workers with limited bargaining power, such as temporary foreign workers.

In 2016, Statistics Canada found that only 44% of Canadian workers had access to paid sick leave. Most provinces do not guarantee unpaid sick leave beyond 3-5 days, and none mandates paid leave for a two-week isolation period. Many did however introduce pandemic-related job-protected leave for illness and caregiving.⁶⁶ Sick leave coverage can be improved through careful reforms to income support programs (BIG, EI) that can be restructured to ensure coverage for those least likely to have paid sick leave, such as part-time and precarious workers. Reforming provincial and federal labour codes to ensure paid sick leave is an essential public health policy to support a more resilient economy. Once the provision is in place, it is relatively simple to rapidly implement changes to meet the needs of a particular crisis. Recent measures such as the Canada Emergency Sickness Benefit and the federal-provincial-territorial agreement supporting two weeks of paid leave are encouraging policy innovations.

Inadequate provision of high-quality care for the elderly creates broadly the same economic problems identified with childcare, plus a range of health policy concerns. The pandemic exposed the fragility of long-term care institutions, especially those that were underfunded and provided little private space to residents. The shortage of affordable high-quality long-term care facilities leads to individuals withdrawing from the workforce to care for family members.⁶⁷ As in the case of childcare, this imposes a burden on society over and above that imposed on the caregiver. Government policy should ensure an adequate supply of suitable long-term care whether through institutions or through developing different levels of homecare.⁶⁸

Other relatively neglected areas of healthcare include pharmaceuticals, dental care and mental health. Coverage of the former two varies by provinces. Some provinces provide coverage to the elderly and those on social assistance, with most of the population relying on either private insurance or paying out of pocket. Failure to ensure that they are widely available leads to both inequities and possible increased public health costs arising from a failure to seek early and generally more efficient healthcare. Mental health is, in principle, covered by provincial health programs, but community services are highly inadequate and this failure leads to much more costly problems like homelessness, addictions and incarceration, not to mention foregone economic opportunities and increased pressures on family caregivers. The mental health effects of COVID-19 are likely to be substantial.⁶⁹

Finally, various regulatory policies could serve to enhance equality of opportunity in the Canadian economy. Deregulating access to occupations by reducing licensing and certification requirements, especially for those occupations with high incomes, could reduce barriers to entry into trades and professions while enhancing mobility without sacrificing quality. Establishing a

regulatory framework to protect non-standard workers and dependent contractors, and to create obligations for employer contributions to social insurance programs like EI and CPP/QPP, would be an important component of a renewed social contract. Continuing to promote a common economic market across provinces by reducing interprovincial barriers to qualification in both the professions and the trades would contribute to equal opportunity and foster a more efficient national economy.⁷⁰ Reducing the restrictions on temporary foreign workers, who are among the most disadvantaged workers in Canada, could improve their wellbeing and that of their families. (Chapter 3 addresses the broader need for rapid and effective immigration across all skill levels to meet the needs of pivoting to a low-carbon and digital economy.)

Encouraging competition could facilitate the provision of a) universal and affordable access to broadband and essential productivity apps; and b) safe, healthy and reasonably priced foods. At the same time, there are situations when a regulated monopoly provider or monopsony purchaser might be in the public interest, such as a single buyer of pharmaceuticals. The time is ripe for a broader review of the social value of regulation and market power across industries. Much of the regulatory apparatus in place has been inherited from the past. Given the changes in technology and industrial organization, an evaluation of the net benefits of regulation in different sectors would be timely and valuable.

Chapter 3: Reinvigorating the Canadian Economy for Innovation and Resilience

Background

The COVID-19 crisis has reinforced the need to be ready for major global disruptions that could affect Canada's health, economy and society. The pandemic has hit as Canada confronts several long-run social and economic trends that will affect the industrial structure of economies around the world.

Three of these structural changes are particularly important, imminent and unavoidable. First, the global transition to a decarbonized economy is gaining pace and will have profound implications for almost every sector of Canada's economy. Second, the digitization of the Canadian economy is already underway. It promises large benefits, but it also has, by its very nature, the potential to move large swathes of economic value overseas, absent necessary physical and human capital investments and appropriate regulatory environments. Third, the pandemic has also laid bare vulnerabilities of supply chains in essential goods and services to disruption by regional or global crises.

Canada's economic policies, and its public investments to stimulate post-COVID-19 economic recovery, should help build a resilient Canadian economy that is ready for major structural changes to the global economy. In particular, they should support Canada's transition to a decarbonized, digital future, and reduce its vulnerability to disruptions of its supply chains for essential commodities.

The global transition to a decarbonized economy

A structural transition to a lower carbon economy is underway around the world. This shift is driven by several factors: global climate agreements and associated national policies that commit governments to reduce and eventually eliminate Greenhouse Gas (GHG) emissions; the accelerating pace of clean technology innovation; rising effects from climate change including fires, floods, heatwaves and storms; a shift in public opinion and growing environmental activism; and a growing acceptance by global markets that decarbonization is an economic reality that is informing investment and business strategies.

The move to a decarbonized global economy causes economic disruption, which is already clearly evident in the energy and vehicle sectors. The transition to a decarbonized economy also creates significant economic opportunities across many sectors of the economy. Not just clean technology firms, but also established sectors, such as resources, agriculture and manufacturing, are competing for growing low-carbon markets estimated to reach US\$26 trillion by 2030.⁷¹

In the energy sector, the low carbon transition is already underway. Canada's clean energy sector grew 25% faster than the overall energy sector from 2007-2017, and employs over 300,000 people.⁷² Global demand for fossil fuels (coal, oil and gas) is projected to peak in the coming decade and gradually be replaced by renewable sources, like wind, solar and hydro).⁷³ The COVID pandemic is amplifying this trend, causing decreases in global fossil fuel consumption as renewable energy generation continues to grow.⁷⁴

The low-carbon transition poses a particular challenge for Canada's oil and gas sector, which is the country's largest source of GHG emissions (24%), as well as a major contributor to GDP (5.6%) and jobs (1%). These challenges are acute in Alberta, Saskatchewan and Newfoundland. Innovation

and improved environmental performance, through carbon capture and storage and other emission-reduction technologies, is critical for the industry to secure continued investment and market access. In the longer run, however, it would be unwise to ignore the significant upcoming drop in global oil demand as climate concerns grow. As a result, the industry will need either to diversify into cleaner fuels (such as hydrogen supported by efficient carbon capture technologies) and alternative products (such as carbon fibre) or face a potentially precipitous decline.

Canada's electricity sector, by contrast, is among the world leaders in decarbonizing, with over 80% of its power from emission-free sources, and a requirement to fully phase out coal power by 2030.⁷⁵ The continued transition to renewable power, paired with grid modernization and energy storage, will require investment and effort, but it is a critical priority. It will reduce emissions, contribute to a more diversified, reliable power system and build a competitive advantage for Canada. In a world with rising carbon prices and 'electrification' of economies—with electricity replacing fossil fuels as the preferred source of power and heat for cars, buildings and industries—being a leader in clean electricity will bring investment and wealth to Canada.

The transportation sector is also facing disruption. Automobile manufacturing generates over 300,000 jobs and CAN\$35 billion of economic activity, but also produce 22% of Canada's GHG emissions.⁷⁶ The worldwide shift to zero emission vehicles (ZEVs) poses existential questions for Canada's auto sector. Internal combustion engine vehicles reached peak sales in 2015, according to Bloomberg New Energy Finance, and will be overtaken by ZEV sales globally by 2035, with many countries banning the sale of gas-powered cars by then.^{77 78} Countries that fall behind in this transition, and do not attract new investment in ZEV manufacturing and component production, will lose manufacturing capacity and jobs. Canada saw this in 2019, when GM closed its Oshawa car plant as part of a company-wide shift toward ZEV manufacturing. Canadian governments appear to understand this change, as evidenced by recent agreements with Ford and Fiat Chrysler to build electric vehicles and components in Canada, supported by large federal and provincial co-investments.

The low-carbon transition goes beyond just energy and transport; it will affect almost every sector of Canada's economy. Heavy manufacturing industries, which generate 10% of our GHG emissions, are working to transform their manufacturing processes for a net zero future. For example, Rio Tinto, Alcoa and Apple came together in 2018 to open the world's first carbon-free aluminum smelting facility in Quebec, with CAN\$60 million in support from the federal and Quebec governments.⁷⁹ Similar challenges and opportunities are facing the cement, nickel and steel industries, which must find a replacement for fossil fuels as the source of intense heat needed for their operations. The countries at the forefront of innovations in these fields will secure the next generation of jobs and investment.

Decarbonization is also putting growing pressure on the agriculture and forestry sectors in several ways, including: developing land management practices that store more carbon in forests and soils; moving to more efficient production; reducing waste (food and wood); but it also offers opportunities for tapping into growing markets for bio-products (fuels, chemicals, etc.). Canada's forest industry has made significant strides in lowering its carbon footprint and rethinking its business model to prepare for a low-carbon economic future.⁸⁰

Smart public policies, institutions and investments are essential to help Canadian businesses, workers and communities to not only be ready for, but take advantage of, the structural change to

a low-carbon global economy. A range of different policies are required; addressing the needs of different sectors, investing in skills and infrastructure, and accelerating technology development across all stages of the innovation system. While a full assessment is beyond the scope of this report,^{81,82} some of the key policy priorities are

- Building the foundational **infrastructure** for a decarbonized economy (energy, transport, buildings). Developing long-term, low-carbon infrastructure plans to guide investment is a critical early step.
- As Canada's largest buyer, government **procurement** is a powerful tool to drive market demand for low-carbon products and provide a testbed for promising Canadian clean technologies.
- **Carbon pricing** is widely seen as a key policy to spur low-cost emission reduction and to drive clean innovation and investment. Carbon revenues can be used to offset costs (especially for vulnerable groups) and to support low-carbon investments by businesses and households.⁸³
- Research shows that well-designed **climate policies** can spur innovation and efficiency through (i) regulations that are stringent, flexible, and predictable,⁸⁴ and (ii) agile regulatory agencies that support experimentation and innovation, using tools like regulatory sandboxes.⁸⁵
- **Economic incentives**, such as targeted tax reductions and subsidies, can help households and businesses invest in cleaner, more efficient buildings, vehicles, appliances and other technologies to lower their carbon footprint and reduce costs. Such incentives are a particularly important tool in an economic downturn, when many households and businesses are financially stressed.
- Targeted **public co-investment** that leverages larger private investment, is an important way to attract capital to grow clean technologies and businesses in Canada (such as the recent investments in electric car manufacturing plants).
- Investing in **human capital**, such as training and education programs and strategies, to build the talent and skills needed to succeed in a low-carbon economy. These programs should promote **inclusive** growth to address inequities that have been exacerbated by the pandemic.^{86,87}
- Work to continue building strong **international agreements** that require effective action by all nations to address global climate change. If problems arise with some nations using weak climate standards to seek competitive advantage, work with major partners on appropriate **trade measures**, such as border carbon adjustments, if needed.
- Developing **clean competitiveness roadmaps and action plans** for each sector that target opportunities for Canada to succeed in a low-carbon global economy. This was the number-one recommendation of the Expert Panel on Sustainable Finance.

In recent years, governments across Canada have started to make important progress in building this low-carbon policy architecture,⁸⁸ but much remains to be done. As Canadian governments invest in economic stimulus to recover from COVID-19, there is an opportunity to prioritize investments that will help Canada prepare for the transition to a low-carbon global economy—to minimize risks, build resilience and capture economic opportunities. This will require open dialogue between federal and provincial governments to develop mutually acceptable pathways across diverse positions.

Data-driven economy

The second large structural transformation that Canada is facing is the transition to a digital economy. Similar to building an economy reliant on renewable energy sources, this transition entails both opportunities and challenges.

The last months have demonstrated the power of communication technologies and the digital economy to help individuals adapt to the changing requirements of the crisis through telework, schooling from home and the delivery of goods. These technologies also allow individuals to obtain and relay crucial information. This builds resilience to shocks subject to there being *universal access to digital infrastructure of sufficient speed and scale, enabling local firms to compete with larger firms*. The pandemic has laid bare gaps in access to digital networks that are incompatible with the social contract that all Canadians can fully participate in society. The digital infrastructure needs to be a long-term investment priority ensuring that sufficient infrastructure is available to safeguard access to everyone, particularly during a crisis. In the present context, this means that Canada needs to build rural broadband infrastructure and that it needs to ensure that families from all communities have access to information technologies, enabling them to participate in the economy during both normal and crisis times. Whilst the current Universal Broadband Fund represents a strong start, larger and longer term commitments are likely to be required.⁸⁹ As the COVID-19 crisis illustrates too well, those without access to the internet and computing technologies find themselves essentially cut off from the economy and society in fundamental ways.

The strong network effects and the interconnectivity of the digital economy also entail new vulnerabilities. Possible disruptions can arise through the inadvertent spread of a virus or power failures, but also from foreign countries controlling crucial data, software and hardware needed for the digital economy. This calls for

1. Secure storage, maybe fully parallel, of essential records (property, health, etc.) required for the functioning of the economy.
2. A plan for how to maintain effective communication and digital infrastructure in the event of a crisis. This plan should minimize dependencies on individual foreign nations, including the US. That is, in the event that international cooperation breaks down, systems need to be in place to maintain digital access across Canada.
3. Redundancy in digital infrastructure so as to increase resilience in the face of possible future shocks.
4. Assistance to Canadian firms, particularly smaller vendors, to both build online ordering systems and to coordinate, at the local level, inexpensive delivery services to serve consumers during a crisis.

These challenges require investments in infrastructure, but also investments in human capital and innovation to support advances in the digital economy and support Canada's strength within the sector. Similar to concerns arising in energy transition, efforts should be made to make the transition inclusive (e.g. regarding inequities in opportunities for training, employment and innovation) and to address distributional effects that arise in sectors adversely affected by the transition.

Resilient supply chains

Shortly after the first case of COVID-19 was diagnosed in Canada, Health Canada identified shortages in drugs deemed to be important for its treatment. On 30th March the federal Minister of Health signed an interim order providing for some regulations to be relaxed to allow importing supplies to address these shortages.⁹⁰ Six months later there were 23 drugs designated under this order.

It is not only pharmaceutical supply chains that have been disrupted by COVID-19. Within Canada, the agricultural industry was particularly affected by supply-chain failure in the early months of the pandemic as consumers changed their purchasing and storage behaviours.⁹¹ Lockdown and quarantine regulations also adversely and abruptly affected its labour supply.⁹² ⁹³ The multi-generational shift to global and lean supply chains across all industries that has successfully driven down the costs of goods, has impaired the resilience of those supply chains. Heavy restrictions or closures of ports and airports exacerbated the impact of lockdowns in key manufacturing countries, such as China. Initial research indicates that Canadian businesses were less well prepared and responded more slowly than did their global peers.⁹⁴ Federal government investment was required to support Canadian industries to re-tool to ensure access to critical supplies.⁹⁵ Government procurement and support for firms to retool stands out as one of the (unfortunately) few successes during the pandemic.

In light of COVID-19 challenges, Canadian businesses, and their global peers, are moving to develop new, more resilient supply chains⁹⁶ that take into account the possibility of low probability but high impact events such as regional and global health crises. While it is essential to recognise that effective international trade creates significant wealth for Canada, some degree of domestic production of essential commodities, especially in healthcare, is expected to be part of supply risk management in the post-COVID-19 economy.⁹⁷ During this crisis, Canadian firms demonstrated a capacity to shift production to novel and innovative products. To achieve resilience, Canada must ensure it has the funding to support future shifts in health product manufacture, when needed, in response to a system-wide shock. In preparation for such a contingency, Canada should put in place a regulatory emergency framework that ensures transparency and accountability for public investments even under emergency conditions.

At the same time, Canada should be under no illusions that it can make the same shift in the pharmaceutical and vaccine sector. The development of pharmaceuticals entails very large fixed costs that are best spread across many countries. Shortages of expertise and crucial resources will inevitably arise when health research has to shift to a new disease, even in the largest economies. And, during a pandemic, many different drugs and treatments need to be simultaneously pursued, most of which will turn out to have little or no therapeutic value.⁹⁸ No individual economy, even less so a relatively small one like Canada, can expect to rely on its domestic health-science industries to address the challenges of a pandemic.

Beyond the general challenges of innovating drugs during a pandemic lies the simple fact that Canada has not successfully built or sustained a global firm able to develop and market a drug or vaccine. This illustrates that Canada is not and is unlikely to be (in the medium-term at least) a major player in this field. Instead, Canada ought to focus on being an integral part of global drug and vaccine development efforts. Canadian science is strong and world-class. This knowledge can be leveraged to participate in global efforts and thereby secure access to innovative drugs

and vaccines.⁹⁹ During the COVID-19 crisis, the federal government invested significant efforts in obtaining access to multiple drugs and participating in international collaborations to ensure Canada's place at the table when a drug or vaccine became available.¹⁰⁰

Principles for the managed transition

The transitions to a decarbonized and digital economy are structurally similar in that both energy systems and the digital economy have elements with strong network characteristics. These make them vulnerable to shocks that can spread across large swaths of the economy. The same network characteristics, and the scale of investments that are implied, require the government to accompany and support these transitions by investing in infrastructure and public goods, both physical and institutional. The COVID-19 crisis shows how government infrastructure investment must be guided by considerations of resilience to external shocks in the post-COVID-19 economy.

Resilience also means having a pool of expertise in a variety of institutions that can provide solutions in times of crisis. This means investing in public human capital, located in universities, the civil service, and related institutions. It also means building mechanisms to enable the knowledge transfer between these experts and the federal and provincial governments, as well as other stakeholders.

Structural change of the type envisioned here involves both growing and shrinking industries. The transformation will therefore generate both winners and losers. Without any intervention, these processes will create pools of individuals and communities trapped in poverty and long-term unemployment.¹⁰¹ In turn, this would lead to dependence on provincial income assistance programs. Chapter 2 outline the vision for a Basic Income Guarantee (BIG) as the main pillar in an income support program. However, because of the specific disruptions that come with dramatic economic restructuring, there will still be a need for a targeted system to support the transition needs of workers leaving the contracting industries and entering into emerging and growing industries. This system should pay particular attention to older and long-tenured workers because health issues and lifecycle considerations make career changes and retraining both less attractive and less feasible for them. Healthier long-tenured workers are often highly skilled. The focus here should be on incentives to reallocate those skills to new and emerging industries.

There are two pillars to an efficient support system to help buffer disruption from structural shifts in the economy. First, is a wage insurance program. Wage insurance is a program that insures workers who have lost long-term stable jobs (e.g. five years of uninterrupted employment) against the risk of an earnings loss due to a significant labour-market disruption associated with a structural economic shock, such as the shift to a low carbon and data driven economy.* Wage insurance addresses any loss in earnings that workers might suffer because they transition to new industries in which they do not have many years of work experience or where, compared to their previous industry, they are not paid as high a wage premium. The problem is not unemployment, but rather that prior earnings are high relative to offer wages in new employment, raising the reservation

* Wage insurance differs from the Basic Income Guarantee (BIG) detailed in Chapter 2 in that its intend is to insure against shocks to earnings experienced by workers that find themselves in industries that are undergoing rapid structural change. BIG is intended to provide a minimum income guarantee independent of any prior income earned. As such it is not targeted to offset income fluctuations. The advantage of wage insurance over traditional Employment Insurance is that it aims to provide insurance for both employment risk and wage risk associated with structural transformation. The aim is to provide this in a way that encourages workers to transition to other industries and other work where wages may be lower.

wage and thus leading to extended unemployment. The longer the period of unemployment, the greater the risk that an individual worker will not make the shift to the new sector.

Wage insurance acknowledges that skilled, long-tenured workers that have experienced a job loss due to a structural shock are likely to be able to find new employment but that they may not be able to find employment at the same level of remuneration as they had previously earned. This is especially true for workers in industries with above-average wages, such as oil and gas. The gap between remuneration levels may result in such workers remaining unemployed for longer, and the longer they remain unemployed the greater the likelihood that they do not make the shift into a new sector. Wage insurance helps ameliorate the remuneration gap by topping up earnings in the new job with an income benefit that bridges the gap between their new earnings and some measure of past earnings for a set period. Properly designed, wage insurance helps reduce labour market scarring, prevents the erosion of job skills in a skilled work force, and supports the mental health of workers in the face of a substantial shock. Wage insurance schemes are a strong financial complement to re-training programmes to support labour force transitions after structural shocks.

Important practical and political economy considerations in the design of such wage insurance programs arise. Two major problems are that the event that requires insurance, a structural shock, needs to be distinguished from gradual transformations that require slower transitions of the labour force and might be impeded by insurance programs. And, any wage insurance program entails significant transfers and might well engender rent seeking by special interest groups. These twin challenges need to be addressed when designing wage insurance programs.

The second pillar is support for older workers affected by a structural economic shock. Older workers that are near, but not quite at, retirement age may face difficult re-employment prospects due to age discrimination, deteriorating health and outdated skills. For some, the return on investment from upskilling or reskilling will be negative given their retirement plans. For these workers, 'Bridge to Retirement' programs provide a benefit that replaces a percentage of their past weekly earnings until retirement benefits commence. This protects against long-term financial and other harms resulting from short-term income losses following a structural shock. Both Canadian and U.S. governments have implemented such policies.^{102 103 104}

Worker support programs, like the two noted above, ease transition uncertainties, as they lessen the political cost to governments of modernizing the economy, rather than continuing to subsidize economic activity that is no longer viable. These programs should, however, be designed with the goal of sustaining work incentives and avoid creating obstacles to affected groups fully participating in the Canadian economy.

Chapter 4: Enabling Innovation

Innovation contributes to the wealth of a country in three ways. First, firms in the country provide high-paying jobs and pay taxes in the country. Second, innovations introduced in the country reduce the costs of domestic firms in providing their own goods or services and/or increases the quality of those goods or services, rendering them more competitive. Third, organizational innovations leads to better or less expensive service provision by firms and governments, whether inventory management or the provision of health care through a public health care system.

While in capitalist economies firms and individuals are the key agents of technological innovation, governments have a key role in setting goals and ensuring that firms (public and private) and individuals have the resources and incentives to innovate, adopt and customize innovation to their needs. Nevertheless, there are some cases, whether because of market failures, network failures, or daunting levels of uncertainty and risk, in which governments and civil society are better placed to lead innovation than are firms.^{105 106 107 108 109}

Despite providing research tax credits, and recent improvements in investment programs and procurement, Canada has taken a largely piecemeal approach to innovation in the private sector, with little strategy or priority for its support or efforts. Competitor countries, even supposedly strongly free-market ones such as the USA have, by contrast, intervened heavily in innovation markets through a variety of policies, ranging from procurement, grants and regulation, to the use of government-funded laboratories to advance technologies.^{110 111 112 113 114 115} While recent federal and provincial governments have increased funding and program development around innovation, they are inadequate to create the vibrant innovation eco-system needed to meet the challenges that we set out in this report. Pointedly, none has developed and implemented a cohesive strategy about how to create and maintain such an ecosystem. Instead, firms and organizations have been left to develop *ad hoc* strategies, often in contradiction to one another. For example, Montreal's success in artificial intelligence stems from its open source origins¹¹⁶ while Toronto has adopted a proprietary approach to innovation, with most of that property transferred outside the country.¹¹⁷ Other countries, such as France, have developed national policies to coordinate and support artificial intelligence efforts.¹¹⁸

The consequences of a lack of a comprehensive national or provincial innovation strategy are evident in data and studies over decades showing Canada's low performance in innovation. One of the most significant failings is the lack of business sector investment in R&D.¹¹⁹ This is true not only in respect of breakthrough innovation, but also in terms of simple tinkering to adapt and improve existing technologies to suit business and social needs. The result is stagnant productivity growth, leading directly to slower economic growth and reduced prosperity for Canadians. Policy and organizational innovation suffer from the gutting of policy research capacity in governments as part of past cost saving exercises, and a lack of effective institutions to foster debate, develop world-class policies and support innovation.¹²⁰ In this chapter, we focus on policy developments required to foster technological innovation while recognizing that 'social' innovation is as important and, in some sectors—such as healthcare delivery and prevention of infection—more significant.¹²¹

Earlier in this report, we documented the need to advance innovation that has as its mission the following: 1) decarbonizing Canada's energy supply and broader economy; 2) supporting digitally-oriented firms to compete and scale-up to global markets; 3) developing a digital infrastructure that both supports those firms and through which Canadians in all regions can access government,

health and educational services; and 4) engaging Canadian researchers to merge into global networks to bring new drugs to market, to maintain regulatory competency in the country, and to manufacture and deliver drugs, vaccines and other health supplies to Canadians from cities to remote regions. As discussed in Chapter 3, achieving each of these priorities requires not only capital expenditures, but investment in people and in innovation. Canada's inadequate approach to innovation has created shortages in financial, physical and human capital that threatens Canada's ability to resist future threats and to be resilient in the face of them.¹²²

Some commentators and politicians have promoted a cultural explanation for Canada's lack of innovation, attributing the lack of private sector investments in R&D to a 'Canadian' laziness and lack of entrepreneurial spirit.¹²³ However, industry's reaction to the COVID-19 crisis, where many firms quickly adapted novel product lines, belies this claim. While the situation and funding with respect to COVID-19 was unique, the crisis helps to illustrate that when governments identify priority 'missions' and make available the resources and appropriate incentives to address them, Canadian industry will invest to innovate.¹²⁴ There is thus an opportunity to formulate packages of incentives and resources that will encourage firms to do the same in respect of other priorities.

The COVID-19 crisis demonstrated Canada's need to not only actively innovate but ensure that the benefits of that innovation spread throughout the economy, across all regions and all sectors. We need to draw on the diversity of peoples in Canada as well as to develop a diverse and flexible set of approaches to increase Canada's innovation capacity. That is, Canada needs to move away from a blind focus on perceived 'hot' areas or specific technological and organizational fads, and rather address the challenges of decarbonization, a digital economy, and building networks and capacity in health innovation. Thus, while artificial intelligence has much to offer, by the time it became a hot policy object in Canada, it was already eight to ten years too late to achieve a global leadership position. Similarly, focusing on innovation intermediaries, such as accelerators, cannot replace placing the real agents of innovation—companies and individuals—at the centre of policymaking. Innovation is a collective endeavour, with a complex set of actors, interests and resources that combine in often unpredictable ways. No single solution will work in all places, for all problems, in all times, and for all sectors.^{125 126 127 128 129}

Innovation occurs when there is competition, not only of ideas, but of institutions and approaches, private and public. Since at least the 1990s, government policy has tended to focus on universities as the source of innovation and imposed a mandate on those universities to patent and transfer technology to firms.¹³⁰ This has failed. Firms have not been interested in most of those patents, and university spinoffs have yet to make significant contributions to the Canadian economy. Increasing the scope of proprietary approaches to university, college and government laboratory research has cost Canada a public domain that feeds ideas, takes on high-risk projects, and reduces barriers to exchange, which is vital to firms' capacity to innovate.¹³¹ Canada needs to renew its commitment to an equilibrium between proprietary and open models of innovation, particularly in respect of university and college-based research outputs, to seed greater innovation from individuals and firms.¹³²

In both the clean technology and digital sectors, Canada needs to encourage private sector investment in innovation and to support firm scale-up. Sustainable Development Technology Canada has been a rare ray of light and professionalism. Partly due to its effort, Canada ranked 4th globally on the 2017 Global Cleantech Innovation Index¹³³ and has 12 firms among the 100 leading global clean tech firms.¹³⁴ However, alone it cannot change the whole landscape, not even

with regards to decarbonization. While Canada's intellectual property regime is at world standards, more attention needs to be brought to other incentives, such as procurement, regulations that drive adoption of clean technologies, tax rules, and strategic advice on intellectual property management.¹³⁵ It is not enough to focus on obtaining patents on everything a firm can identify; instead, a winning strategy is to focus on getting the right patents at the right time for the right business strategy, and couple that with business and financial support to ensure scaling-up to global markets. A Canadian example for such efforts are investments in private-public partnerships, such as the ELYSIS Research and Development Center, which seeks to develop breakthrough technologies that will eliminate greenhouse gas emissions from aluminium smelting.¹³⁶ Successful countries rely on a plethora of instruments to bolster and maintain a dynamic innovation ecosystem.

In the health sector, the goals are somewhat different: 1) to embed Canadian researchers into global research consortia to ensure ready access to developments; 2) to increase Canadian capacity to carefully yet quickly make regulatory decisions in light of technological developments; and 3) to develop Canadian manufacturing capacity for strategically important technologies, including through adaptation of innovations developed elsewhere. Intellectual property plays a secondary role and, in the case of university research, a potentially negative role, in achieving these goals. It is highly unlikely that Canada will develop the next global pharmaceutical firm. Such a strategy has been tried and failed for decades. Structuring future supports around this elusive goal comes at the opportunity cost of aligning incentives and support that will enable Canada to handle future health crises.

As this report highlights, Canada needs to resist future crises, be resilient in the face of those crises, and have institutions and actors respond quickly to them. Innovation policy can contribute to these goals in three ways. First, it can create wealth and can distribute that wealth equitably by ensuring that our interventions in the innovation ecosystem aim at the great diversity of our population, rather than a subset. Through what is termed Distribution-Sensitive Innovation Policies (DSIP), Canada can create conditions that lessen the occurrence of crises that specifically target the poor and minority communities, in the way that COVID-19 has.¹³⁷ Such efforts extend beyond technological innovation to innovation in the health, food delivery and social sectors. Second, supporting a diverse set of innovators—private as well as public—within a strong ecosystem positions the country well to address the causes of a future crisis. Third, creating institutions that are flexible, stable and have long-term support will render Canada more responsive so as to quickly address crises.

Innovation policy is an act of constant experimentation, weeding the failures and scaling-up the successes. Canada needs institutions that have the flexibility, stable funding, and mandate to experiment. The country needs to not only embrace failure as a key component of innovation and innovation policy, but also recognize that not failing enough means that we are not trying hard enough. To develop these institutions—at the federal, provincial and even local levels—the following approach is needed:¹³⁸

- Governments need to develop a clear vision of what they hope to achieve through innovation and then develop clear but general metrics of what they want to increase, be it private investment, jobs, foreign investment or risk-taking. Flexibility entails that these metrics be general and apply across sectors and regions; accountability means that the metrics need to be specific in terms of the overall outcomes one hopes to attain; embracing failure calls for failure targets that represent the desired amount of risk.

- Governments should create institutions with simple and flexible sets of resources (depending on sector and region) that target companies at all levels of the production network, aimed at supporting a diverse set of firms in the innovation ecosystem.
- Earlier, we set out overall goals, or missions, for government to pursue through innovation. These need to be clear and realistic. These missions ought not to be large—such as moonshots or establishing Canada as a world centre for pharmaceutical innovation—but more targeted goals addressing the decarbonization of key sectors (e.g. energy, transport, buildings, agriculture), the establishment of a digital infrastructure for Canada and the development of networks and competency in health innovation.
- These missions serve to align incentives and resources so that the private sector knows what needs to be developed and knows the resources available to do the work. This includes supporting intellectual property acquisition by Canadian energy and digital firms—although not universities—and management support and strategy for scaling-up firms to compete effectively in global markets.
- Given that the priority for the health sector is to engage in global research networks and to build Canadian capacity, the focus should be on leveraging Canadian research through sharing relationships, such as open science partnerships, an area in which Canada has some leadership.
- Governments need to proactively intervene to educate and train people and to provide resources to firms, even—or especially—when those firms do not realize that they need to invest in R&D. This includes providing strategic advice on intellectual property management and new, adapted to Canada, business models for SMEs.
- Governments need to develop and enact policies (regulations, taxes, linkages to global firms, and funding rules, among many others) that provide incentives to stimulate individuals with the requisite skills, and firms, to innovate in Canada.
- Governments need to ensure that regulators have the skills, capacity, agility and mandate to support experimentation and innovation.
- Governments should lead by example by, for example, using procurement to support and nurture innovation, and building advanced infrastructure that provide the foundation and networks that underlie innovation.
- Governments must invest in and, in some cases, carry on directly work that opens up fields, working in conjunction with firms. Government has the unique ability to hire researchers to take on challenges, such as vaccines, that other actors cannot because of risk or long-time horizon.
- Governments need to always remember that the only two agents of innovation in the market are firms and individuals, and hence, each policy or program needs to have a clear articulation of how its action leads to an increase in those agents and improves their success potential. The past two decades have seen a major focus on supporting the intermediaries of innovation, be they accelerators, venture capitalists, or ‘ecosystem’ builders. This focus has taken governments’ eyes off the ultimate focus of innovation policy: the primary agents of innovation.

The above set of recommendations are hardly groundbreaking: they represent not only the consensus of Canadian experts, but are based on the best learning from other countries, such as Israel, Taiwan and Germany. Governments play a critical role in first creating and then sustaining innovation ecosystems by trying—and many times failing—to provide targeted assistance to firms and their private and public sector partners and collaborators. Canada should engage in novel collaborative structures, such as open science partnerships, make better use of regulation, infrastructure, incentives and procurement policies, and should support strategic intellectual property and management advice to SMEs.

Chapter 5: Improving Crisis Policy Responses

The optimal crisis policy response by our governments and institutions will depend on the specific scenarios in which we find ourselves, and it is all but impossible to plan for every contingency. We can, however, take steps to be better prepared for the next crisis than we were for the current one. We can work to make Canada both more resistant, reducing the likelihood of a crisis, and more resilient and responsive when we do face a crisis. In this chapter, we consider the policy responses during the early stages of the COVID-19 pandemic to provide actionable recommendations for governments and institutions so that they can better prepare Canada for future crises.

At the start of the pandemic, there was variation in the readiness of experts from different fields to identify and communicate the effects of policy options to decision makers. There was also considerable variation in the performance of governments and institutions in how well they appeared to balance trade-offs inherent in their decisions. Governments' performance varied in how they took account of available information, the timeliness of policy implementation and flexibility in amending their policies in response to evidence as it became available. These challenges were further exacerbated by variations in the transparency and communication of decision-making processes. The rapidly evolving nature of our understanding of the COVID-19 pandemic makes the criticism of specific decisions of little value. However, identifying weaknesses in decision-making and planning processes may allow the development and implementation of better policies during the continuing crisis, and in response to future shocks.

Policy in the time of crisis

Our discussion of the crisis policy response distinguishes between three broad categories of actors that should be involved in a policymaking process.

In an effective decision-making environment, leaders need to be able to understand the challenges and trade-offs inherent in any policy. For the purposes of government crisis response, leaders are internal to government. They then make timely decisions that balance those trade-offs to choose the policies that are best for society as a whole, as they understand it. Experts need to be prepared to guide leaders through the provision of information and advice about the effects of the crisis and alternative policies on different objectives and population groups. Experts may be internal or external to government. Stakeholders more broadly, including those from at-risk and marginalized populations, need to have a voice in the process, ensuring that experts and leaders are aware of their concerns and experiences. Some experts may also be stakeholders but stakeholders are by definition of their role, external to government. The decision-making process should be responsive to a current crisis, but also forward-thinking, ensuring that institutions are prepared to better respond to future events, regardless of their specific nature.

Leaders

The decision makers around public policy and institutional strategy in the time of crisis. This includes elected officials, institutional leadership and anyone directly deciding on public recommendations on behalf of government.

Experts

Technical experts who can help leaders understand the impact of events and policies, including those who understand how viruses spread or the type of policies that are most effective at containing an outbreak, as well as experts in other fields such as education, the economy, mental health, and the environment, and experts about the effects of policies and events have on specific marginalized populations.

Stakeholders

The different individuals and groups that are affected by the crisis and the policies implemented in response to it. They are able to provide insights into their worries, challenges, and experiences.

During the early months of the COVID-19 crisis, it was clear that the policy-making process was under severe strain. This provides an opportunity to learn. We present some of the concerns that arose in order to motivate our recommendations.^{139 140 141 142 143 144}

Institutional capability & responsiveness

Many public institutions, from schools to elder care facilities to prisons to preventative care and mental health programs, were unprepared to deal with either the disease or the shutdown policies that limited in-person interactions. The quality of service provision in these areas fell sharply and remained low for indefinite periods, causing potentially severe and irreversible harm for those who relied on them. This strongly suggests that there is potential to better prepare institutions to deal with crises. Governments need to invest to increase the capacity of their education, health and other service-providing institutions to ensure that they can continue to provide high-quality services during future crises. This may require investment in infrastructure improvements, such as improved ventilation systems, engaging in more-extensive contingency planning and increasing capacity to provide high-quality services remotely. Furthermore, governments should conduct an

institutional review of the education, care and health systems to identify areas where inadequate oversight, insufficient investment, inappropriate regulation or other factors may have led to a less effective institutional response during a crisis.[†]

Additionally, a crisis requires a coordinated response across all levels of government, with federal, provincial and local governments all working towards the same goals. This seemed not to have occurred to the degree required to maintain control over the virus and the economy,¹⁴⁵ with Canada's national response in a time of crisis complicated by a federal system that affords provinces a relatively high degree of autonomy. There are many benefits to such a system, but there are also limitations when a coordinated national approach is necessary for dealing with a country-wide crisis. At the onset of a crisis, there should not be uncertainty about which level of government or which agency within a government is responsible for different actions or decisions, or about how these decision makers will work together to coordinate their response.¹⁴⁶

During this crisis, the federal government has declined to declare a Public Welfare Emergency under the federal Emergencies Act.[‡] While the government stated that such a declaration was unnecessary given the cooperation with the provinces, facts on the ground cast doubt on this assertion. Canadians faced a bewilderingly complex set of messages and policies that, at first, scared them and then seemed, prematurely, to suggest the crisis was over; with significant variation in the nature and timing of the implementation and removal of restrictions between provinces.¹⁴⁷ Provinces insisted that the federal government attach no conditions on spending and then used funds received for other purposes.¹⁴⁸ Opposition parties argued against federal incursion in provincial power, even though the federal government seems to have power over national crises such as COVID-19. Further, a minority government was ill-positioned to provide COVID-related support under a fragile and high-partisan Parliament. As Canadians contend with a second wave that is bigger than the first, and a death count in excess of 12,000, it is difficult to conclude that the federal government's strategy, and provinces' insistence on pursuing independent strategies has served all of Canada well.

Three decades of post-crisis reviews have failed to equip Canada with a fit-for-purpose crisis response system. The Supreme Court of Canada has the opportunity to clarify federal power in the case of pan-national or global crises when it rules on Alberta's, Saskatchewan's and Ontario's litigation aimed at limiting federal power in these circumstances.¹⁴⁹ While the Court may avoid providing a general approach for the federal government to national crises, this would be regrettable. By clearly affirming federal power in these circumstances, the Supreme Court would provide the opportunity for the federal government to proactively develop policies in advance of the next crisis and to implement these policies quickly and early to avoid delay. Immediate political consequences, such as the government falling, need to be postponed to allow a cohesive, coherent and clear federal response.

† In education, for example, attention should be paid to the relationship between ministries of education and school districts, and other stakeholders, in allowing the system to respond to the crisis while avoiding unnecessary harm to students, and including those within marginalized groups. In the context of LTC, specific focus should be given to solving the LTC workforce crisis which may be necessary for sustained change in this sector. Solving the workforce crisis will improve the quality of care for some of our most vulnerable and improve the effectiveness of the LTC interface with home and community care. This strategy is closely linked to securing stable funding and strong governance in LTC. In addition, the governance of LTC needs closer integration with other sectors, especially public health. For example, in the future LTC needs coordinated prevention measures targeted to LTC facilities at the same time as stay-at-home orders and closure of public places.

‡ R.S.C., 1985, c. 22.

Expert preparedness

In the early stages of the crisis, experts were neither prepared nor equipped to provide rigorous estimates around the effects of either COVID-19 or the proposed shutdown policies on the economy, mental health, education outcomes, and the wellbeing of marginalized populations. Most research is inherently retrospective, analysing events and crises that are already underway or that have come to pass.^{150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173} In most fields, there is less emphasis on planning for future contingencies. Furthermore, the cutting-edge research in any field, whether health, economics, education or environmental science, is more likely to be siloed rather than multidisciplinary, and there has been too little research focused on understanding the impact of policies on marginalized groups. Recognizing these concerns, governments and research institutions should promote and fund research that is multi-disciplinary and forward-looking, seeking to identify, understand and avoid or ameliorate future crises. In so doing, they should seek research that considers interactions between a diverse set of outcomes, and the impact of policies and economic activity on at-risk and marginalized population groups (e.g. women, children, Indigenous peoples, racialized groups, poor). It should also bring together experts from different fields and seek to develop models flexible enough to compare alternative policies quickly using data available at the onset of a crisis.

Additionally, the data required to monitor impact, inform expert analysis, and determine the costs of different policies across different groups has not always been collected by governments or other institutions. One important concern is that Statistics Canada, at the outset of the crisis, collected relatively little demographic data. This prevented researchers from assessing the economic or health impact of COVID-19, for example, on different racialized or marginalized population groups. It is important to recognise the important steps Statistics Canada has taken to address the gaps in their data capture to meet decision makers' needs. Moving forward these developments must be generalised throughout Statistics Canada's operations and become standard practice for both cross-sectional and longitudinal data collection activities. Without this type of information experts are not able to fully quantify the costs and distributional effects of alternative policies. In addition to the scope of data collection, the rapidly changing nature of the COVID-19 pandemic has shown the importance of the frequency of data capture to support policy development and evaluation. The government should fund and facilitate better and more frequent data collection, including health, economic, education, and environmental indicators, ensuring that these data includes demographic and socioeconomic indicators. It should also facilitate the reporting and sharing of data across organizations and reduce costs of accessing these data by researchers to facilitate prompt input from experts when a crisis hits. Governments may wish to establish mechanisms to increase the frequency of data collection during crises when situations are rapidly evolving.

Responsive and inclusive policymaking

At the outset of the pandemic, elected leaders spoke of deferring to the public health recommendations in determining policies, including decisions around the reopening of schools and the relaxation of shutdown restrictions. At that time, however, it was not clear that public health recommendations looked beyond minimizing the spread of and mortality from the disease. It appeared that leaders responsible for balancing the various trade-offs in policy decisions across multiple dimensions of wellbeing had effectively delegated the decision making to experts who were focused on only one dimension of wellbeing. Such delegation may have been completely

justified at the onset of the crisis in March, given the degree of risk and uncertainty around COVID-19 and the credible threat that, left unchecked, it could result in severe and irreversible harm for large portions of the population. However, by mid-April it was clear that there were significant harms from the lockdown policies, especially to at risk populations and marginalized groups including women and children. Once this became clear, an effective policymaking process needed to engage with the relevant experts to understand these broader effects and develop a portfolio of strategies that could maintain control of the infection whilst ameliorating these harms.[§] Whilst there are concerns that decision makers have been setting aside the evidence and recommendations they have received from experts,[¶] the need for them to be provided with a full account of the costs and benefits associated with their choices remains.

To the extent that policy is made by our institutions (e.g., governments, public health authorities, central banks, military) in times of crisis, it must be perceived by both the public and experts in other fields that the decision makers are accounting for the potential impact of their policies across many dimensions and a broad set of wellbeing measures. This is one area where economic institutions perform relatively well, as the field of economics has grown to encompass experts in health, education, environment and inequality, many of whom produce research on the potential impact of economic policy on these other fields, the dynamic (including short- and long-run effects of policy), and unintended consequences. However, more interdisciplinary research is needed, and there are legitimate concerns that economic policy decisions fail to balance the entire range of potential costs and benefits, instead focusing on short-run economic gains.

There are several steps that governments and institutions can take to improve policymaking along these dimensions. First, leaders must ensure that policy decisions account for both the benefits and costs of their policies across multiple dimensions and are not focused on one outcome. If policy leaders defer to a single group of experts (e.g., public health) to make decisions then they must ensure that the officials are accounting for the broader consequences of their decisions on society and the economy. Governments should consider establishing a standing crisis-response teams made up of experts in public health, the economy, education, environment, poverty, law and history among other fields. Such teams could prioritize the most pressing objectives (e.g., minimizing disease spread and mortality in the case of COVID-19), while ensuring that other objectives (e.g., avoiding severe and irreversible harm to the wellbeing of poor children, avoiding a long-run recession) are accounted for.[¶] Ensuring that such a group is visible to the public will provide assurances to them (and experts) that decision makers are accounting for the full range of concerns. Consistent with this, public officials making decisions during crises should explicitly address issues around the broader social impacts of a crisis and the policy responses, and how

§ For example, in late April, Dr. Theresa Tam, Canada's chief public health officer, explained why the federal government could not support the relaxation of lockdown restrictions on the grounds that even a well-designed reopening couldn't protect everyone: "Even a young person might get severely sick or get into the ICU, so it's not a concept that should be supported." Dr. Tam's comments suggest that the federal policies were prioritizing any policy that could lower the spread of the disease regardless of the costs of the policies on other dimensions. To the extent that these comments reflect the realities of the behind-closed-doors decision making process, they reflect a one-dimensional approach to policymaking that stands in sharp contrast to our view that optimal policy must balance trade-offs across multiple dimensions.

¶ Gunderson (2020) refers to such groups as "first-responder policy teams." We recognize that in many situations, policymakers did consult a wide range of expert opinions in determining policy decisions under COVID-19, whilst needing to act under extreme time pressures. Yet, it is not clear, even with the benefit of hindsight, the extent to which individual decisions regarding shutdown and reopening strategies were driven by anything other than a desire to reduce the spread of the disease at the early stages of the crisis.

these interact with the social determinants of health, in addition to the technical solutions to a crisis (eg. vaccination, quarantines, modeling).**

Second, as well as including experts from a range of disciplines in policy development processes, it is essential that the policymaking process give voice to a wide array of perspectives from the public, especially those from marginalized groups. Daniel and Sabin's *Accountability for Reasonableness* addresses the problem that no policy decision will satisfy all people affected by it. They propose that a just process is the appropriate objective; and identify processes that consider the views and values of all affected by the decision (relevance) as a key condition for a just decision-making process. This requires systems that actively encourage and incorporate feedback from the Canadian public, including marginalized groups, on their concerns around proposed and implemented policies, and alternative options. There is substantial evidence that the public can make coherent and sophisticated recommendations concerning values and trade-offs in health and social policy, and provide substantive knowledge to decision-makers. Public engagement enhances accountability, especially in government policymaking, and improves the legitimacy of decisions taken.^{176 177 178 179}

Third, leaders should consider established frameworks such as the 'precautionary principle' to guide policymaking in times of crisis. The precautionary principle argues that policymakers should take action to address credible threats of severe or irreversible harm, even if there remains scientific uncertainty about the likelihood or magnitude of this harm.¹⁸⁰ This can justify quick, decisive action to implement protective policies such as the lockdowns implemented across Canada during the first wave of the pandemic. However, the precautionary principle recognizes the need to consider all harms and costs, be they social, economic or ethical.¹⁸¹ It is important that precautionary government actions are cost-effective, in that there are no alternative policies that can similarly manage risk at lower costs, and that the actions themselves do not cause greater serious or irreversible harm on other dimensions.

Fourth, leaders need to recognize that a policy to prevent severe or irreversible harm on one dimension or among one population group could cause severe or irreversible harm on another group. Policy responses should not simply shift the severe and irreversible impact of the crisis from one group to another. When a crisis-response policy is undertaken that may cause severe and irreversible damage to another group, that policy must be coordinated with other efforts to minimize the long-run harm it causes. For example, the COVID-19 lockdown policies reduced health costs of the outbreak on vulnerable populations such as the elderly and those with chronic pre-existing conditions, but imposed economic and health costs on some groups of workers and business owners, mothers, fathers and school children. When governments closed schools to control the spread of the virus, harm to children's educational prospects was foreseeable. As the disruption of children's schooling has continued, this harm and its unequal distribution, has become increasingly manifest.¹⁸² Governments should have provided the resources and support for schools and families to engage in *quality* online learning to minimize the harm of the policy to the children's education and the parents' economic participation.¹⁸³ Similarly, small and local retailers would have benefited from subsidized or otherwise reduced shipping to compete with larger organizations in online sales.

** The public-health response to COVID-19 has been largely focused upon tertiary solutions: scientific and technical responses rooted in biological models. However, pandemics and other crises should be viewed through a much broader lens, to incorporate social analysis of disease and health, and an understanding of the broader aspects of preventive care, societal wellbeing, mental health and the connections between economy and health.

The application of intersectionality theory during the policy development and implementation can help leaders identify and address the distribution of the burden from both the crisis and policy response across different population groups.^{184 185 186 187} An intersectional approach to policy analysis will develop a more accurate and comprehensive picture of problems and the potential benefits and costs of solutions. For example, an intersectional approach would help decision makers understand the differential burden of closing schools on women with children under the age of 11, women from racialized groups with children under the age of 11, and women from racialized groups with children under the age of 11 living in high density housing. It will also bring to light less obvious and oft-observed effects of policy decisions, which frequently correspond with ‘gaps’ or ‘cracks’ in the system. In summary, it will better expose the impact of policy alternatives on specific groups, highlighting those who stand to gain or lose the most under different scenarios. These understandings are integral to an informed consideration of competing policy options.^{††}

Fifth, the policy response should be flexible and able to quickly adjust to changing information, and to not insist on a one-size-fits-all approach for all locations. Greater flexibility may have reduced the likelihood of experiencing severe or irreversible harm on some during the pandemic by allowing communities with low case counts to consider reopening in-person schooling or some low-contact non-essential businesses, for example.¹⁸⁸

In summary, building on the previous recommendations, the decision-making process within crisis response teams or policymaking framework should be structured to systematically consider the costs and benefits of policies on multiple dimensions and across different population groups, to clearly define their policy objectives, and to adjust course as the situation evolves and more information becomes available. We also need to provide support for those who face disproportionate costs whether from the crisis itself or the policy response to it.

Trust & credibility

During the COVID-19 response, it was not always clear what information led to the adopted public policies. Uncertainty around this information, and how policy evolved as new information emerged, was opaque. Initially, politicians and public health officials appeared reluctant to acknowledge the uncertainty and trade-offs inherent to their decisions. Unfortunately, failure to acknowledge uncertainty and trade-offs can undermine the credibility of the policymaking process, especially when changes in evidence lead to different recommendations. For example, some public messaging around mask use internationally conflated a lack of evidence around the effectiveness of masks as evidence of ineffectiveness. This undermined public trust in expert recommendations even as the evidence for the effectiveness of masks in reducing the viral spread emerged. A lack of transparency in the process of policymaking may lead individuals and groups to question whether the policymakers are aware of and/or considering their interests or concerns, which undermines support for policy implementation.

†† The ongoing COVID-19 pandemic is a case study in how intersectional analysis can be applied to better understand the implications of society-wide issues, how economic and social effects are compounded at the intersections of identity, and what policy tools are necessary to address disparate impacts. For example, it is widely reported that women—and particularly racialized women—have borne a disproportionate impact under COVID-19, whether as a result of over-representation in front-line and service positions, primary responsibility for care work, or higher likelihood of experiencing domestic violence. Had lockdown measures that were implemented to limit the spread of the virus considered these implications, the need for companion measures such as job protected paid leave, access to emergency childcare, and increased domestic violence support, would have been obvious.

It is essential that policymakers and public institutions maintain credibility and the trust of the citizens. Establishing a public-facing crisis response team with a diverse range of expertise, incorporating deliberative public engagement into policy development; and using an intersectionality lens to identify disproportionate effects across groups, will contribute to maintaining credibility. However, these will not be sufficient. Transparency and clear communication regarding the decision-making process, as well as the uncertainty, risks and trade-offs inherent in any decision, are important for minimizing the threat of misinformation. Systems should be developed to increase transparency in the decision-making process at all levels of government. Such transparency is important for maintaining credibility and public support, particularly given the diversity of opinions available online and the prominence of misinformation. It will reassure groups within the population that their concerns are being heard. Explaining how policy is likely to evolve over time will also allow families, businesses and organizations to better plan during times of crisis.

Chapter 6: Priority Recommendations^{‡‡}

The COVID-19 pandemic has challenged Canada like no crisis since the Second World War. It has done great harm to individuals, families, the economy and society at large. It has shown the fault lines in our social contract, the fragility of our economy and the inadequacy of our crisis response capacity. However, it has also shown the best of Canada. The frontline workers who have stepped up to care for the vulnerable and keep essential supplies flowing. The businesses of all shapes and sizes that changed what they do and how they do it so that we got the goods and services that we needed, when we needed them. The public health leaders who have spun gold from the straw of decades of underinvestment to help us protect ourselves and our loved ones and researchers who dedicated their teams to providing those leaders with the evidence they needed. Against the background of sacrifice and loss, it is essential that we take the opportunity to build a better Canada that is more resistant, resilient and responds more effectively to future crises. One that is committed to the revised social contract that we are equal and have equal opportunities to fulfil our potential in a sustainable and truly innovative economy; and where we have a well-resourced and comprehensive national crisis response capacity.

With this ambition as our focus, we make the following recommendations to the federal and provincial governments.

Renewing the Social Contract

1. Establish a basic income guarantee (BIG) that is universally available to provide adequate income support to all persons and be responsive to economic shocks.
2. Reform provincial and federal labour codes to ensure paid sick leave, as this is an essential public-health policy to support a more resilient economy.
3. Work with provinces and territories to establish universal access to childcare that provides Early Childhood Education, to protect parents and especially mothers' opportunities for labour force participation.
4. Implement a comprehensive tax reform that enhances the fairness of taxes by broadening the tax base to treat all capital income on a par with earnings, and address intergenerational transmission of wealth inequality by re-instituting an inheritance tax.

Reinvigorating the Economy

1. Develop clean competitiveness roadmaps for each sector that target opportunities for Canada to succeed in a low-carbon global economy, and the policies, investments and actions to capture those opportunities. As a critical first step, develop long-term, low carbon infrastructure plans to support a decarbonized economy (energy, transport, buildings) and invest in building the foundational infrastructure identified in it.
2. Invest in a comprehensive and secure digital infrastructure to support the development of a strong domestic digital economy and enable equality of opportunity for all Canadians as consumers, innovators, employers and employees.

^{‡‡} These recommendations are the consensus of the working group. This should not be interpreted as a meaning that all individuals personally endorse all the recommendations.

3. Invest in effective and efficient labour-force transition from carbon intensive industries through wage insurance and bridge-to-retirement mechanisms, supported by comprehensive high-quality retraining programmes.
4. Undertake a risk assessment of Canada's exposure to global supply chains to identify essential commodities which might merit the repatriation of manufacturing capacity.

Enabling Innovation

1. Develop and disseminate a clear vision for the objectives of innovation policy and specify general flexible metrics for assessing success.
2. Create flexible, arms-length institutions with stable, long-term funding to provide resources and programs to firms to spur innovation by sector and/or region.
3. Identify clear specific missions for innovation policy, such as decarbonizing the economy and accelerating the shift to and growth of the digital economy. These serve to align incentives and resources and provide a clear signal of the opportunities available to the private sector.
4. For truly global endeavours, such as the life sciences, government must support engagement in global research networks. Investments in building Canadian capacity must focus on leveraging Canadian research through sharing relationships, such as open science partnerships.

Improving Crisis Policy Responses

1. Establishing Standing Crisis Response Teams, made up of a broad range of experts with the necessary intellectual and physical infrastructure and secretariat services. Consideration should be given to enshrining the resourcing of these teams in law, to ensure that we make the necessary investments in public health to deal with future crises.
2. Develop systems for citizen engagement with a policymaking process that actively encourages and incorporates feedback from the Canadian public. This system must reach marginalized groups to understand their priorities and concerns relating to alternative options.
3. Fund and facilitate better data collection, including health, economic, education and environmental indicators, ensuring that these data includes demographic and socioeconomic indicators and is readily available to experts based within and outside of the public service. It will be important to establish mechanisms to increase the frequency of data collection during crises.
4. Develop and disseminate an intersectional approach to policy development and analysis to provide decision makers with a more accurate and comprehensive picture of problems, the potential benefits and costs of solutions and how these are distributed across society, especially marginalized groups.

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