



INSTITUT **C.D. HOWE** INSTITUTE

**COMMENTARY**

NO. 624

# Lives Put on Hold: The Impact of the COVID-19 Pandemic on Canada's Youth

*At its peak, the pandemic hit youth particularly hard in terms of evaporating jobs and school disruptions. What are the potential longer term effects?*

Parisa Mahboubi and Amira Higazy

# THE C.D. HOWE INSTITUTE'S COMMITMENT TO QUALITY, INDEPENDENCE AND NONPARTISANSHIP

## ABOUT THE AUTHORS

### PARISA MAHBOUBI

is Senior Policy Analyst at the C.D. Howe Institute.

### AMIRA HIGAZY

was an IMCO intern at the C.D. Howe Institute.

The C.D. Howe Institute's reputation for quality, integrity and nonpartisanship is its chief asset.

Its books, Commentaries and E-Briefs undergo a rigorous two-stage review by internal staff, and by outside academics and independent experts. The Institute publishes only studies that meet its standards for analytical soundness, factual accuracy and policy relevance. It subjects its review and publication process to an annual audit by external experts.

As a registered Canadian charity, the C.D. Howe Institute accepts donations to further its mission from individuals, private and public organizations, and charitable foundations. It accepts no donation that stipulates a predetermined result or otherwise inhibits the independence of its staff and authors. The Institute requires that its authors disclose any actual or potential conflicts of interest of which they are aware. Institute staff members are subject to a strict conflict of interest policy.

C.D. Howe Institute staff and authors provide policy research and commentary on a non-exclusive basis. No Institute publication or statement will endorse any political party, elected official or candidate for elected office. The views expressed are those of the authors. The Institute does not take corporate positions on policy matters.

COMMENTARY No. 624  
July 2022

\$12.00

ISBN 978-1-989483-88-6

ISSN 0824-8001 (print);

ISSN 1703-0765 (online)



*Daniel Schwanen*

*Vice President, Research*

## THE STUDY IN BRIEF

Canadian youth were disproportionately affected by COVID-19 mainly due to their overrepresentation in industries that were hardest hit. COVID-related education and work disruptions led to income losses, high unemployment and likely learning losses among youth.

The pandemic led to educational disruptions that affected learning, including school closures, inconsistent learning settings (repetitively switching between online and in-person learning), low attendance rates and classroom engagements, lack of preparedness and inequitable access to educational technologies and resources.

The learning losses are expected to be particularly significant for low-income and disadvantaged students and those students who experienced more frequent and more prolonged school closures. If they are not addressed, learning losses can have major and life-long effects on individuals' employment, productivity and earning outcomes.

In the labour market, the pandemic pushed the unemployment rates to a record high for youth, although they have since recovered. However, the recovery has been uneven. A major concern is the potential for serious and long-lasting negative impacts on labour-market outcomes. According to the "scar theory," past unemployment can lead to long-term poor labour-market outcomes in terms of an increased incidence of unemployment in the future, and employment in lower quality and lower paying jobs.

To support youth during the recovery and alleviate potential negative long-term effects, Canadian governments (at all levels) need to ensure that young Canadians are equipped with relevant skills, support them to make up for learning losses and consider targeted labour market programs and policies that help encourage greater participation and ease the transition into employment and better jobs for young Canadians who still face difficulties finding employment.

Canada has already taken actions and started moving in that direction. For example, the 2021 federal budget introduced a recovery plan to support creation of 215,000 new work-integrated training opportunities and short-term, subsidized, high-quality jobs for youth. But more action is required.

We recommend:

- Expanding employment services (counselling and job search assistance) to reduce unemployment duration and recurrence;
- Enhancing labour market flexibility and labour mobility (occupational and geographical mobility) to reduce mismatches and improve the skills match with the first job;
- Encouraging participation in and support for opportunities in education, learning and training, and addressing barriers to participation for non-student youth; and
- Increasing support and funding to expand summer school and offering tutoring during and after school for K-12 students, while ensuring students, particularly those from disadvantaged backgrounds, receive the supports they need to make up for learning losses.

Given that the impacts of and recovery from the pandemic are uneven among youth, it is also important to ensure that services and programs to support youth are available to individuals who are low educated, low income and/or not in education and employment.

Policy Area: Education, Skills and Labour Market.

Related Topics: Labour Force and Employment.

To cite this document: Mahboubi, Parisa, and Amira Higazy. 2022. *Lives Put on Hold: The Impact of the COVID-19 Pandemic on Canada's Youth*. Commentary 624. Toronto: C.D. Howe Institute.

---

*C.D. Howe Institute Commentary*© is a periodic analysis of, and commentary on, current public policy issues. James Fleming edited the manuscript; Yang Zhao prepared it for publication. As with all Institute publications, the views expressed here are those of the authors and do not necessarily reflect the opinions of the Institute's members or Board of Directors. Quotation with appropriate credit is permissible.

To order this publication please contact: the C.D. Howe Institute, 67 Yonge St., Suite 300, Toronto, Ontario M5E 1J8. The full text of this publication is also available on the Institute's website at [www.cdhowe.org](http://www.cdhowe.org).

---

---

## During the COVID-19 pandemic, the education system and labour market in Canada, like those in the rest of the world, were significantly disrupted.

The consequences were learning and earning losses and a record-high spike in unemployment among youth that can have potential long-term implications and consequences for individuals and the economy. These effects have also been stronger for certain groups and in some industries, causing an uneven recovery and some shifts in the labour market that require targeted support and policy interventions.

This *Commentary* summarizes the potential educational impacts and labour-market effects related to COVID-19 for Canadian youth (ages 15-24), and examines how their experience, within the labour market, varies provincially and internationally and across population groups, highlighting both strengths and areas that need improvement. International comparisons allow us to evaluate how youth in Canada fared in the labour market prior to and during the pandemic, and to identify best practices during the pandemic to support youth and to mitigate long-term impacts.

We find that there is an absence of timely and accessible educational data in Canada that makes it difficult to assess the direct educational impacts of the pandemic on young Canadians. We know more about the labour-market impacts of COVID on youth in Canada than the educational impacts and more time is needed to measure and track student learning and performance. However, we

can look to existing literature and some recent local and international evidence, which suggest that the pandemic has had major educational impacts on students and resulted in learning losses (Gallagher-Mackay et al. 2021; Aurini and Davies 2021; Halloran et al. 2021). The reason: the pandemic led to educational disruptions that affected learning, including school closures, inconsistent learning settings (repetitively switching between online and in-person learning), low attendance rates and classroom engagements, lack of preparedness and inequitable access to educational technologies and resources.

The learning losses are expected to be particularly significant for low-income and disadvantaged students (Whitley, Beauchamp and Brown 2021) and those students who experienced more frequent and more prolonged school closures. If they are not addressed, learning losses can have major and life-long effects on individuals' employment, productivity and earning outcomes (Mahboubi 2017 and 2021).

In the labour market, the pandemic pushed the unemployment rates to a record high for youth. A major concern is the potential for serious and long-lasting negative impacts on labour-market outcomes. According to the "scar theory," past unemployment can lead to long-term poor labour-market outcomes in terms of an increased incidence



## Key Concept Explainer

### Career “Scarring”:

“Scarring” is defined as the negative long-term effects of unemployment on future labour-market outcomes. Evidence shows that new labour market entrants (e.g., recent graduates) and early career workers during adverse economic conditions, in particular, face persistent scarring effects on earnings, wages, and employment prospects.\*

There are several possible reasons for the scarring effects of unemployment and entering the labour market during recessions. First, work interruptions, prolonged periods of unemployment and underemployment can lead to the erosion of skills, which pushes unemployed people into further detachment from the labour market and results in lower re-employment wages over time. Second, cyclical skill mismatch, which is defined as the discrepancy between skills supplied by workers and skills demanded by firms, is an important mechanism driving the persistent unemployment caused by entering the labour market in an economic downturn. Adverse macroeconomic conditions can also drive labour-market entrants into initial lower-scored occupations – defined as employment at smaller, lower-paying and lower quality firms – and this can contribute to some post-graduation earning losses. The increase in firm-worker mismatch is only reversed by workers moving to better jobs, which takes time, causing long-term negative labour market outcomes. Job mobility to higher-quality occupations would increase firm-worker matching and ameliorate the negative effect on earnings, but it can take a long period of time, causing long-term negative labour-market outcomes.

\* See Rodríguez, Colston, Wu and Chen (2020) for a literature review of the consequences of graduating and starting a career in a recession.

of unemployment in the future, and employment in lower quality and lower paying jobs (Heckman and Borjas 1980; Arulampalam, Gregg, and Gregory 2001). In previous recessions, these scarring effects were more pronounced for youth and those graduating from school. In better times, the early stages of a worker’s career are typically characterized by high job mobility, and rapid and considerable wage growth (Topel and Ward 1992).<sup>1</sup> From a

macro perspective, concerns over scarring effects among youth in Canada might seem unwarranted since the record high youth unemployment rates have been replaced by a rapid recovery with record low employment rates and high job vacancies. However, certain groups such as some visible minorities and low-educated, non-student youth still face high unemployment rates in this tight labour market. Also, learning losses if they are not

1 Topel and Ward (1992) find that the first decade accounts for about 66 percent of lifetime wage growth and job changes for male high-school graduates.

addressed, can have long-term macroeconomic effects through their impacts on future wages and lifetime income of current students due to lower productivity (Hanushek and Woessmann 2020).<sup>2</sup>

To support youth during the pandemic and recovery and mitigate the scarring effects, Canada, like many other countries, took several actions and introduced various targeted measures such as providing income support, increasing investment in work-integrated opportunities and, more recently, expanding hiring subsidies. Young workers could have also benefited from Canada's wage subsidy program, which was available to any age group. Given that both the incidence and duration of unemployment can affect future labour-market outcomes, wage and hiring subsidies are important to preserve jobs and create new opportunities during recessions. However, the designs of programs matter in terms of their effectiveness. The Canada Emergency Wage Subsidy program was not as attractive as the Canada Emergency Response Benefit to many workers.<sup>3</sup> The federal government also introduced a new Canada Hiring Program and expanded existing work placements and work-integrated opportunities and support for youth in Budget 2021 – one year into the pandemic – to help youth and students connect with employers.

Canada can do more to support youth who remain unable to find employment and address learning losses to mitigate long-term negative effects by taking the following steps.

- Expand employment services (counselling and job search assistance) to reduce unemployment duration and recurrence;
- Enhance labour-market flexibility and labour mobility (occupational and geographical mobility) to reduce skills mismatches and improve skills matches between students and their first jobs.

- Encourage participation in, and support opportunities for, education, learning and training, and address barriers to participation for non-student youth; and
- Increase support and funding to expand summer school and offer tutoring during and after school for K-12 students and ensure students, particularly those from disadvantaged backgrounds, receive the supports they need to make up for learning losses.

Given that the impacts of, and recovery from, the pandemic are uneven among youth, it is also important to ensure that services and programs are available to vulnerable youth, such as low-educated, low-income youth and those not in employment, education or training (NEET). Finally, provincial governments should work with the Council of Ministers of Education, Canada and, potentially, Statistics Canada to collect more accessible and frequent data on key educational indicators on a regular and timely basis.

## EDUCATIONAL IMPACT OF COVID-19

The private and social economic benefits of education are well-established. Higher levels of education are linked to a wide range of positive outcomes including higher earnings and better labour-market status (Card 1999). Education is a leading determinant of economic growth through three key mechanisms: increasing labour productivity by improving the human capital inherent in the labour force; enhancing innovative capacity; and dispersing knowledge to facilitate the successful adoption of technological advancements (Hanushek and Woessmann 2020). Schooling also has important nonpecuniary benefits, both

2 <https://budgetmodel.wharton.upenn.edu/issues/2021/5/17/covid-school-closures-long-run-effects>

3 <https://www.cdhowe.org/intelligence-memos/mahboubi-laurin-robson-%E2%80%93-how-best-curb-cerb-once-its-safe-return-work>

inside and outside the labour market, such as higher job satisfaction and better health outcomes (Oreopoulos and Salvanes 2011).

The COVID-19 pandemic prompted an unprecedented education disruption in both scale and scope. The abrupt disruption involved mass closures of schools and post-secondary education institutions, a pivot from in-person, classroom-based instruction to other virtual modalities, and cancellation of extracurricular activities and specialized supports. There is a general consensus that the amount and quality of learning since the pandemic-induced disruption have been substandard but the extent the impact is still undetermined.

### **COVID-19 and Primary and Secondary Education**

In March 2020, due to the pandemic, all provinces in Canada imposed mass school closures, and virtual methods of instruction were implemented to maintain educational continuity. In all provinces apart from British Columbia, online-only instruction continued for secondary school students through to June 2020. For the 2020/21 academic year, schools reopened for in-person instruction but there were occasions of province-wide school closures and switching to online learning for all students amid further waves of the pandemic.

From March 14, 2020, to May 15, 2021, Ontario schools were closed for in-person learning for the longest period (19 weeks), followed by Alberta and Prince Edward Island. For their part, British Columbia and Québec were closed for the shortest period (9 to 10 weeks) (Figure 1). While public schools in some provinces and territories were closed for an additional one week (Alberta) or two

weeks (Nova Scotia) after May 15, 2021, there were an additional five weeks of province-wide public school closures to in-person learning in Ontario until the end of the 2020/2021 school year. From September to December 2021, there were no province-wide school closures in any of the provinces but several localized school closures. With a surge in cases of the Omicron variant, there were more school closures across Canada after the holiday break in January 2022.

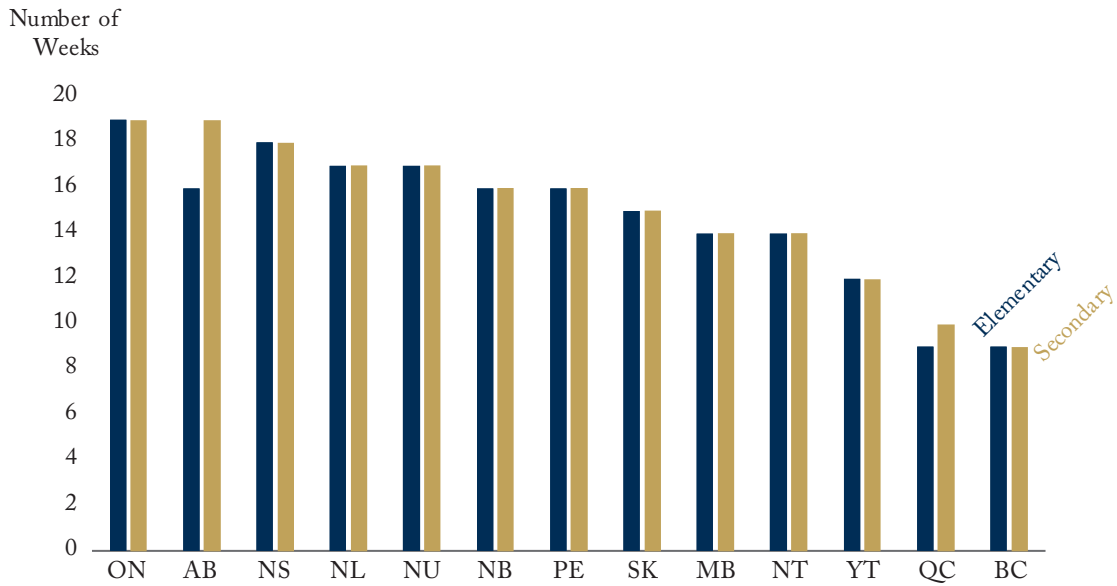
While there is a scarcity of comprehensive, publicly available and timely education data in Canada, we are able to infer some potential implications of the coronavirus-induced education disruption from past studies on the effects of abrupt school closures and other disruptions. These include teachers' strikes and inclement weather, the so-called "summer slide,"<sup>4</sup> when students are out of school, chronic absenteeism, as well as the use of online instruction instead of in-person instruction. Early international studies also shed light on potential negative impacts of the pandemic-induced education disruption. Although students were able to switch to remote learning during in-person school closures, existing evidence shows that, overall, the experience of unprepared parents and students resorting to distance learning and homeschooling is negative and emergency remote digital learning can only help mitigate between 15 percent to 60 percent of learning losses (Science et al. 2021). Early international evidence also points to negative impacts of the pandemic and online learning on students' skills and abilities (Blanden, Doepke, and Stuhler 2022).

Studies on Ontario teacher strikes find that those lasting at least 10 days in grades 5 or 6 led to a significant decrease in reading and math test score growth (Baker 2013).<sup>5</sup> Evidence from

4 Summer slide is a decline in academic skills such as reading and math ability over summer breaks.

5 The analyses are based on the results of annual provincial testing of grades 3 and 6 students in math, reading and writing (measured in May and June of each school year) from the academic years 1998/99 through 2005/06.

**Figure 1: Number of Weeks of In-person School Closures at the Provincial and Territorial level, from March 14, 2020 – May 15, 2021**



Note: The number of weeks only represents province- and territory-wide public school closures.

Source: Figures 2 and 3 in Gallagher-Mackay et al. (2021).

unscheduled school closures as a result of inclement weather shows a hindrance to student performance (Marcotte and Hemelt 2007); evidence from education disruption caused by the 1916 Polio epidemic (Meyers and Thomasson 2017; Haeck and Lefebvre 2020) or Hurricane Katrina in the United States shows that students had lower educational attainment and lower engagement compared to pre-crisis, with students of lower socioeconomic status experiencing more severe and longer-term effects (Ward et al. 2008).

Evidence from studies of the summer slide, when students are off school, can also shed light on the potential effects on skills development

of the pandemic-induced school closures for extended periods of time. While recent studies on the summer slide find mixed results, most of the literature suggests that long summer holiday breaks (2-3 months), for example in the US, result in a loss equivalent to one month of schooling, with the impact greater in mathematics than in reading, and larger for higher grades and students with lower socioeconomic status (Cooper et al. 1996). Assuming the existence of the summer slide, estimates by CREDO (2020) forecast that the average pandemic-related learning losses of a 2019-2020 student in the United States are equivalent to about 4 to 12 months in reading achievement and



9 to more than 15 months in math achievement.<sup>6</sup> Therefore, recovery of learning losses during the pandemic may take several years.

Many studies also point to the association between chronic school absenteeism – missing 10 percent (or 16-19 consecutive days) of the school year – and negative educational and social outcomes (Gallagher-Mackay et al. 2021; Jacob and Lovett 2017). Early evidence from Canada suggested a significant rise in chronic schooling absenteeism during the pandemic. High-school attendance declined by 2-3 percentage points in 2020/21 compared to the 2019/20 academic year (Wall 2021). In the Thunder Bay Catholic District School Board, attendance counsellors, who liaise between the school board and absentees, saw their caseloads double from the 2019/20 to 2020/21 academic years. In Newfoundland and Labrador, the pandemic-induced disruptions exacerbated the absenteeism rate from 6.2 percent in 2019 to 9 percent in 2020. Hamilton-Wentworth District School Board also faced similar issues, which prompted outreach measures such as increasing the number of social workers and making substantially more referrals to absentee students. These findings are consistent with the data from the United States, where Zearn – an online instructional software provider – saw a 16.6 percent decrease in student participation in online math coursework from January 2020 to January 2021, according to the Opportunity Insights Economic Tracker. A parent survey by McKinsey & Company (2021) also indicated that absenteeism for grade 8-12 students in the US increased by 12 percentage points compared to non-pandemic years.

It is too early to ascertain whether pandemic-induced absenteeism led to negative academic

outcomes; however, 56 community organizations in Québec have observed early signs of an accelerating dropout rate, especially among disadvantaged students.<sup>7</sup> This is concerning and needs special attention since prior to the pandemic, high-school dropout rates were already high and could be more than double the national average in low-income communities across Canada, according to the 2016 Census.<sup>8</sup>

Dropping out of high school and not attending postsecondary education have staggering economic and social costs. On an individual level, dropouts face higher probability of unemployment, lower lifetime earnings, and poorer employment and health outcomes (Millenky 2016; Campolieti, Fang, and Gunderson 2010). On a societal level, increased dropout rates are linked to a larger budget deficit due to higher crime rates and healthcare costs, fewer taxes collected and increased government expenditure on social assistance and other welfare programs (Rumberger 2020; Oreopoulos 2005). Dropping out of high school not only halts the accumulation of new knowledge but leads to a deterioration of skills, thereby contributing to a less skilled labour force and impeding the innovation ecosystem that enables technological advancements and, as a result, thus severely hindering economic growth and overall standards of living (Hanushek and Woessmann 2020).

Driving factors behind school dropouts can be summarized as “push factors” (pernicious school environment and/or policies), “pull factors” (out-of-school influences such as out-of-school employment, family obligations, illness, and financial difficulties) and “falling out factors” (lack of personal and/or education support causing stagnant academic progress and apathy in learning)

6 The study estimated that one year of learning is approximately 0.31 standard deviations.

7 <https://montreal.ctvnews.ca/disadvantaged-students-impacted-more-heavily-by-covid-19-pandemic-accelerating-dropouts-1.5116729>

8 <https://www.narcity.com/canadas-high-school-dropout-rates-are-staggeringly-high-according-to-studies>

according to Doll, Eslami, and Walters (2013). Alarmingly, all three factors have been exacerbated by COVID-19 as reported in surveys by students and educators. In a survey conducted in February 2021 by Toronto District School Board (TDSB) – the largest school board in Canada – 66 percent of student participants (grades 6 to 12)<sup>9</sup> reported the push factor of worrying they will fall behind in school because of COVID-19; 42 percent of the student participants reported pull factors of having to help with household responsibilities; 66 percent of student participants reported the falling out factor of not feeling motivated for school and learning; and 35 percent reported finding it hard to adjust to school routine. A CBC questionnaire of education workers also reported push factors, with 70 percent of 6,300 respondents agreeing that some students will not catch up academically, and 55 percent of respondents agreeing that fewer students are meeting learning objectives this academic year compared to a non-pandemic year (Research and Development Toronto District School Board 2021).<sup>10</sup>

Further effects of the COVID-19 education disruption on students will depend on the quality of instruction received, particularly, the effectiveness of online-only instruction. The effects of potential poor education quality may exacerbate the already dire long-term socioeconomic impacts of learning losses. There is a paucity of research on the effectiveness of online-only instruction (as well as asynchronous versus synchronous online instruction); some studies preceding the COVID-19 pandemic suggest an association between online-only courses and negative learning outcomes and equal or slightly better learning outcomes with hybrid instruction methods, when compared with in-person, classroom-based instruction (Escueta, Quan, Joshua and Oreopoulos 2017). Preliminary

findings on the impact to learning due to the pandemic in Toronto shows that an overwhelming majority (84 percent) of the 36,000 student participants in the TDSB survey in early 2021 indicated that they learn better in person than online. A comprehensive review of promises and concerns of online education by Batdı, Doğan and Talan (2021) reveals that remote learning appears to be effective but the transition process makes it problematic due to lack of proper planning, design and development of online instructional programs (Adedoyin and Soykan 2020). Although Germany, for example, has increased funding to boost both the demand for and supply of online learning since 2016, many educators and learners, at the beginning of the pandemic, had difficulty transitioning to online learning due to a lack of experienced and sufficiently qualified educators and necessary technical equipment.

It is currently difficult to assess the potential effects of an inferior quality of education during COVID-19 in Canada due to variations in standardized assessment strategies across provinces and school boards as well as cancellations of, and delays in, standardized testing. For example, Ontario cancelled assessments administered by the Education Quality and Accountability Office in 2020 and 2021 and switched some standardized tests to online versions, while British Columbia postponed the annual Foundation Skills Assessments from the fall 2020 to winter 2021 academic year (Sansone et al. 2021). Comparing pre- and post-pandemic provincial assessments (e.g., EQAAQ 2019 and 2022) would provide valuable insights into education quality during the pandemic for provincial policymakers and educators.

9 The total number of students participated in the survey was 36,000.

10 <https://www.cbc.ca/news/canada/teacher-questionnaire-pandemic-yearend-1.6025149>

We can also learn about any learning losses by comparing students' achievements in the OECD Program for International Student Assessment (PISA) 2022 with PISA 2018 at both provincial and national level. However, the results would not fully reflect the years of intense online learning during the pandemic.

### COVID-19 and Post-Secondary Education

Emerging literature on the potential effects of the COVID-19-induced education disruption has largely focused on K-12 students, with minimal attention to any potential effects on postsecondary students.<sup>11</sup>

Cellini (2021) finds evidence of lower course completion rates for online courses relative to in-person courses and explains that the negative learning impacts, lower course completion, and lack of ability to connect to other students and faculty in a virtual setting could contribute to lower college completion rates.

In March 2020, Canadian postsecondary institutions shifted to online instruction and halted most in-person activities until the end of the academic year. In the 2020/21 academic year, 4 percent of postsecondary institutions delivered in-person courses, 40 percent offered hybrid instruction, and 53 percent delivered online-only courses. In fall 2021, 51.6 percent of postsecondary institutions delivered in-person courses,

41.2 percent offered hybrid instruction, and only 4.6 percent delivered online courses.<sup>12</sup>

From April 19 to May 1, 2020, Statistics Canada conducted a crowdsourcing initiative with over 100,000 participants to explore the immediate impact of the pandemic on postsecondary students. Among postsecondary student participants aged 15-24 who expected to graduate in 2020, the majority (56.25 percent) reported a disruption to their academic activities as a result of COVID-19; 36.21 percent indicated that their planned work placement had been delayed or cancelled, 23.83 percent reported some courses postponed or cancelled; 14.25 percent were unable to complete their degree/diploma certificate; and 7.81 percent were unable to complete some or all courses (Figure 2).

The delay or cancellation of a planned work placement in particular could have implications for post-secondary graduates since a plethora of evidence show that participation in work-integrated learning can lead to better labour-market outcomes after graduation.<sup>13</sup>

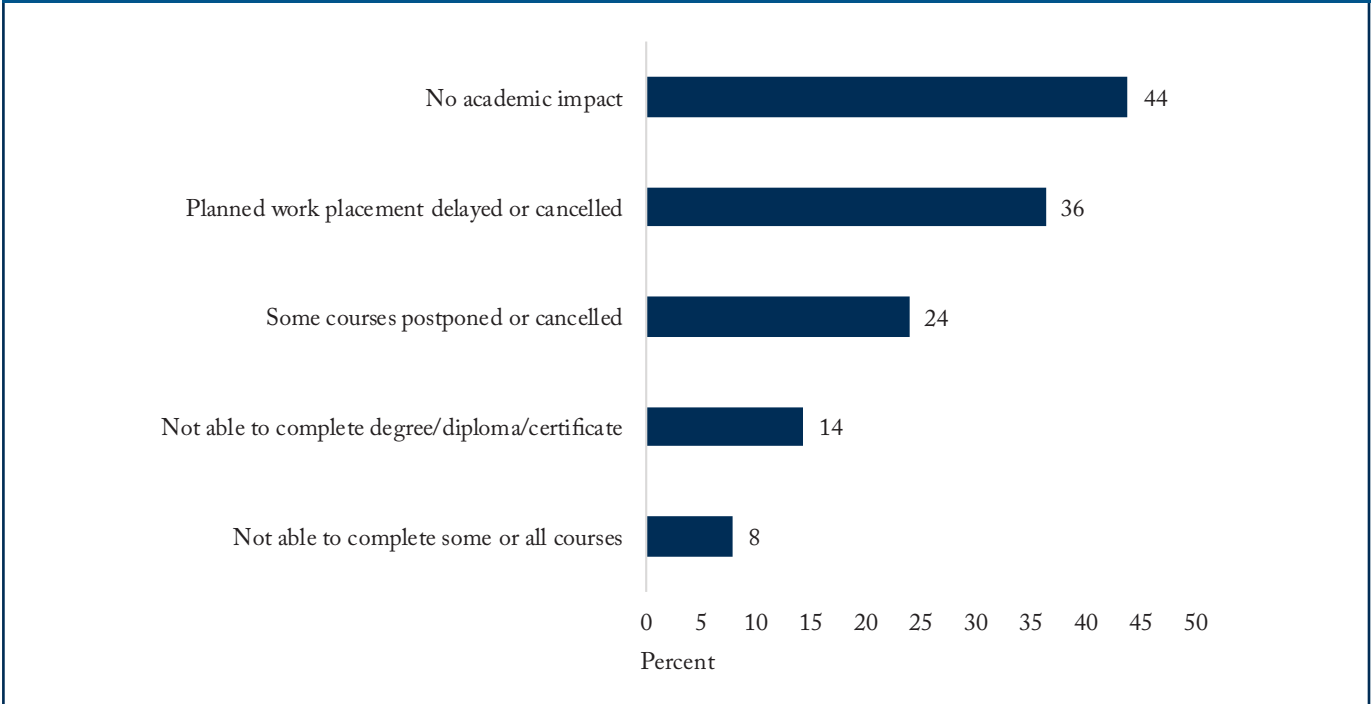
However, as we show in the next section, post-secondary students and recent graduates in Canada now face much improved labour-market conditions with growing labour shortages. Population aging is also putting pressure on the labour market as aging workers are leaving the labour force and recent graduates are a major source of new labour.

11 Post-secondary education has more independent learners, and socialization is not part of the learning objectives. Also many post-secondary education teachers did have prior knowledge of remote instruction technology, so switching to remote was less of a struggle

12 <https://www.coursecompare.ca/covid-19-canadas-colleges-and-universities-roll-out-fall-pandemic-plans/>

13 Participation in work-integrated learning creates an opportunity for young people to apply their knowledge to the workplace and obtain valuable work-related skills. As a result, it has been associated with a lower probability of precarious employment or being overqualified for a job held three years after, higher likeliness of gaining employment related to their field of study, and higher employment earnings compared to graduates who did not participate in work-integrated learning (Wyonch 2020; Galarneau, Kinack and Marshall 2020). Therefore, cancellation or delay of a work placement could affect a graduate's level of preparedness and readiness for labour-market integration and future career prospects, especially for those entering a slack labour market.

**Figure 2: Proportion of Participants Aged 15-24 Years Who Expected to Graduate in 2020, by Type of Academic Impact**



Sources: Impacts of the COVID-19 pandemic on postsecondary students: Public Use Microdata File. CPSS Series. <https://www150.statcan.gc.ca/n1/en/catalogue/37250001> and authors' calculations.

## IMPACT OF COVID-19 ON CANADA'S YOUTH LABOUR MARKET

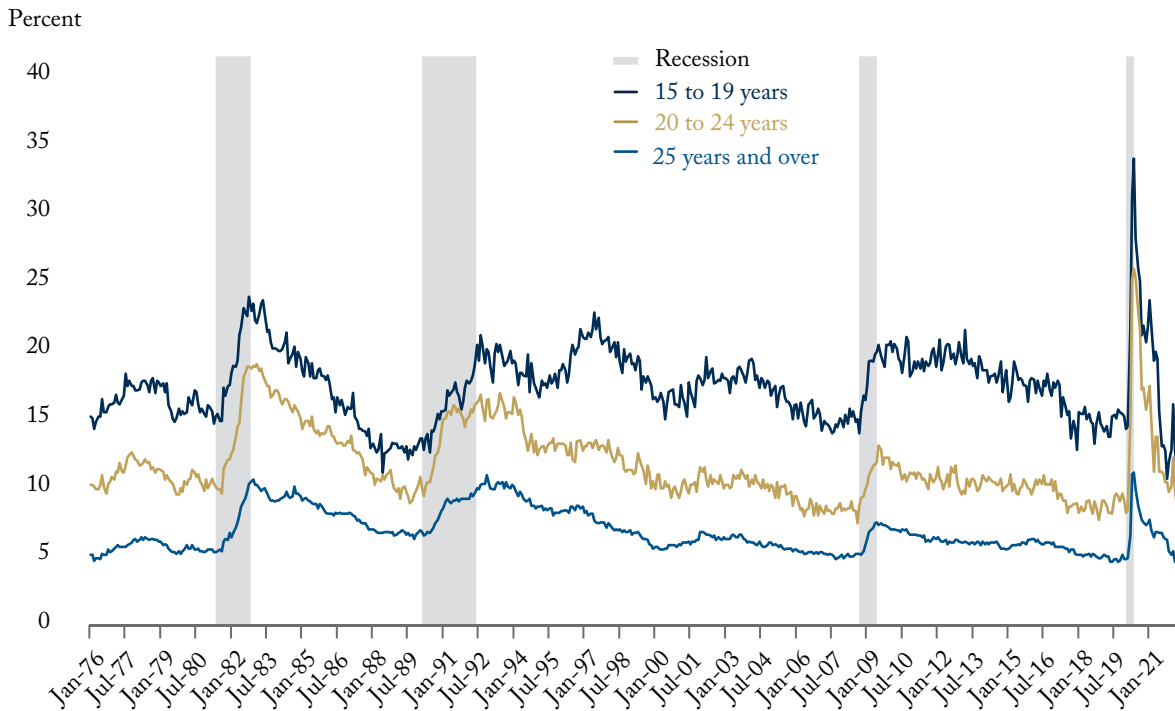
The labour market is where working-age Canadians feel most directly the impact of economic changes since they affect both their job and income opportunities. Although the youth unemployment rate is generally higher than that of adults, and economic downturns hit them hard (Tanveer et al. 2012; Messacar, Handler and Frenette 2020)<sup>14</sup> they significantly experienced more job losses during the pandemic due to their overrepresentation in

industries providing in-person services, which were heavily impacted by public health restrictions.

Prior to the pandemic's onset in February 2020, the unemployment rate of youth was relatively low at 10.6 percent – 5.7 percentage points above the adult rate (25 years old and over). During the pandemic-induced recession (February-May 2020), the youth unemployment rate, especially for those aged 15-19 years, rose faster and higher than that of adults (Figure 3).

14 This is because youth are often the least experienced candidates or workers and often do not have enough, if any, job-specific skills. When the economy is weak, employers generally try to reduce labour costs by laying off the least-skilled workers and reducing hours for the more skilled. Therefore, young people, particularly those with low educational attainment, are more likely to be negatively impacted.

Figure 3: Unemployment Rate by Age Group, January 1976–May 2022



Note: The unemployment rate shows the number of unemployed as a percentage of the total labour force, which includes people employed as well as those unemployed but looking for work.

Source: Statistics Canada, Table 14-10-0287-01.

With a record high youth unemployment rate of 28.8 percent for 15–24 year-olds in May 2020, the gap between youth and adult unemployment rates reached its maximum of 17.7 percentage points. Since then, the youth unemployment rate has quickly trended downward and fallen to a record low level of 9.8 percent in May 2022, albeit with some fluctuations coinciding with public health measures. The youth–adult gap in unemployment rates also declined to 5.5 percentage points in May 2022. Therefore, COVID-19 has been different from past recessions in terms of both the impact and recovery for the youth population.

The overall rapid recovery in unemployment among youth is promising because high unemployment, especially if prolonged, could have long-lasting negative effects on later labour market outcomes, especially for young people. These negative effects could include reduced wage rates, lower labour force participation (Mroz and Savage 2003) and higher risk of future unemployment (Hammarström and Janlert 2000). Furthermore, evidence from past recessions shows that new labour-market entrants (e.g., recent graduates) and early career workers face persistent scarring effects on earnings, wages, and employment prospects



(Oreopoulos, Von Wachter, and Heisz 2012).<sup>15</sup> Some evidence shows that the losses are larger for certain groups, such as visible minorities, high-school dropouts (Schwandt and von Wachter 2019) and low-skilled post-secondary graduates (Oreopoulos, Von Wachter, and Heisz 2012).

An increase in youth unemployment also has macroeconomic and tax implications due to income losses. We estimated that the total earning loss due to job loss among youth in 2020 was on average \$13.2 billion – an increase of 140 percent from 2019.<sup>16</sup>

Despite the record-low youth unemployment figures in the spring of 2022, there remain challenges facing specific groups of youth, even in today's tight labour market.

For example, non-student youth with no high-school diploma faced a substantially large unemployment rate, compared to other youth. Also, although the unemployment rates of non-student youth in May 2019 and 2022 were somehow similar and slightly above 11 percent (non-seasonally adjusted), their unemployment outcomes relative to student youth has changed: while the unemployment rate for non-student youth was lower (by one percentage point) than student youth in May 2019, it was 2 percentage points higher than the unemployment rate of student youth in May 2022. Despite a tighter labour market in May 2022, the unemployment gap between non-students (ages 15-24) and adults (25 years and older) remained unchanged at 7 percentage points, compared to the gap in May 2019, according to our estimates using Statistics Canada's public-use file of the Labour Force Survey (LFS).

There are also variations in labour-market experiences of youth across visible minority groups (Figure 4). While the unemployment rate in May 2022 was slightly higher for visible minority than for non-visible minority youth, the rate ranged from 8 percent for Filipinos to 19 percent for Koreans. Understanding the socioeconomic factors that contribute to differences in labour market experiences and recovery is important to support youth who struggle to enter the labour market after the pandemic.

### **Uneven Recovery from the Pandemic**

The COVID-19 crisis in Canada was the deepest, but also the shortest, recession, lasting only two months from March 2020 to the end of April (C.D. Howe Institute Business Cycle Council 2021).<sup>17</sup> Total employment in April 2020 was 15.7 percent (or nearly three million) below the pre-pandemic level in February 2020 but it returned to its pre-pandemic level by November 2021. Since the fifth wave of the COVID-19 pandemic in January 2022, total employment has been growing. However, the labour market impacts of, and recovery from, the pandemic have been uneven and heterogeneous based on various factors such as industry, age, gender, and province.

#### *Industry*

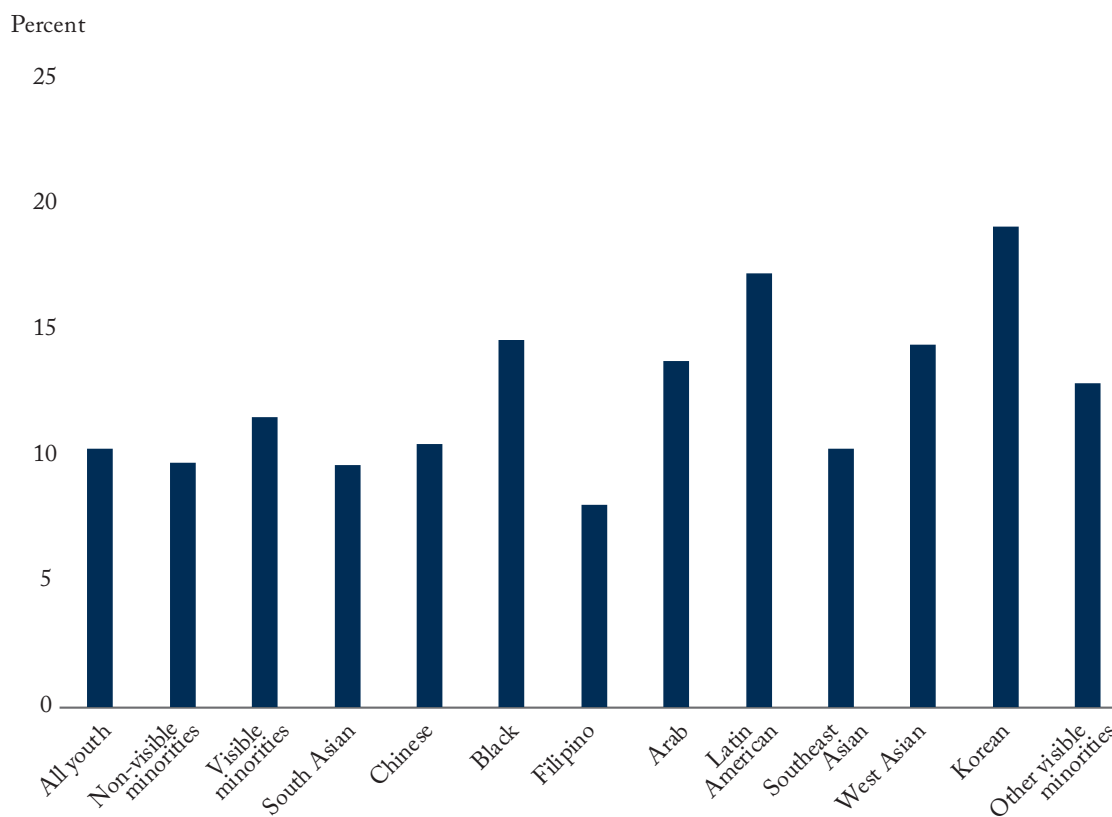
Between April 2019 and April 2020, employment losses were highest generally for youth (a 36 percent decline) and specifically in accommodation and food services (a 59 percent decline) – the hardest hit

15 Also see Rodríguez, Colston, Wu and Chen (2020) for a literature review of the consequences of graduating and starting a career in a recession.

16 To obtain total annual earning losses for youth (ages 15-24), we multiplied the following variables: 52 weeks in year; average hourly wage rate; average actual hours; and employment income per year by the number of youth job losses (permanent layoffs and temporary layoffs combined) in the same year.

17 <https://www.cdhowe.org/council-reports/cd-howe-institute-business-cycle-council-declares-end-covid-19-recession>

Figure 4: Youth Unemployment Rate by Visible Minority Status and Group, May 2022



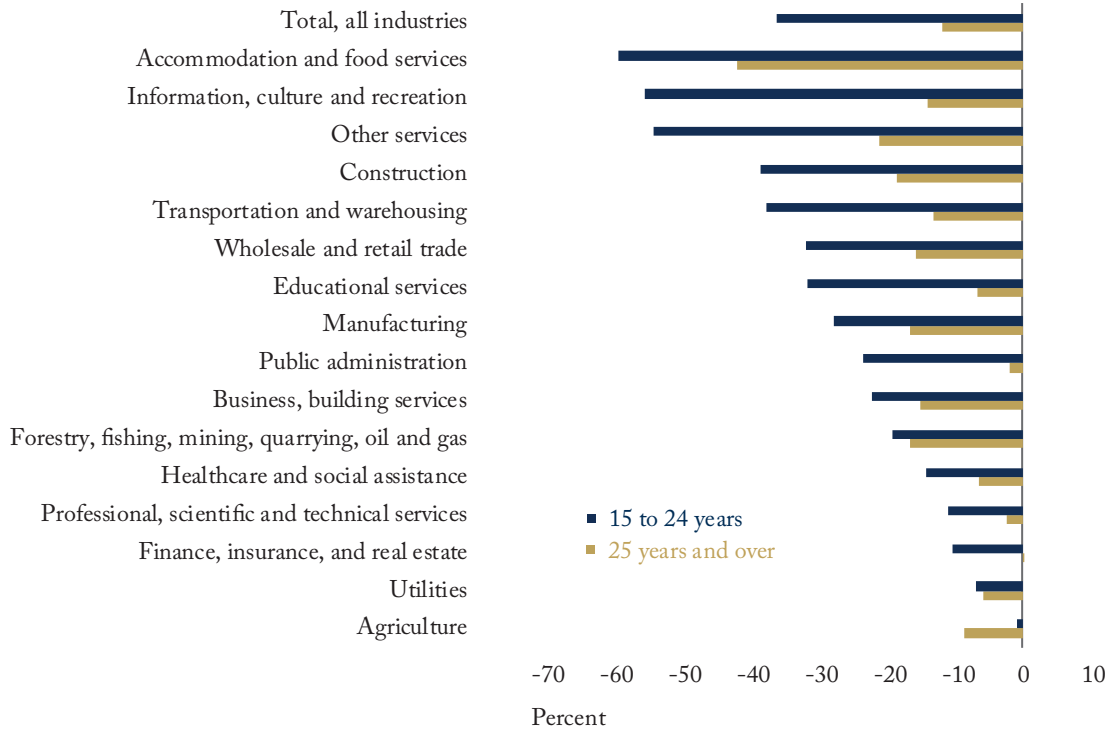
Source: Authors' calculations using Statistics Canada Table 14-10-0373-01.

industry in Canada<sup>18</sup> (Figure 5). Social distancing measures instituted by public health to control the virus's spread had a significant impact on high-contact industries such as accommodation and food industry and youth are more likely to work in high-contact industries, compared to adults. For example, 20 percent of employed youth in April 2019 had a job in accommodation and food services, compared to less than 5 percent of employed adults (25 years and over).

Also, compared to the same month in 2019 before the pandemic, youth were impacted in April 2020 more severely in all industries, except in agriculture and utilities – industries that youth are least likely to work in (Figure 5). After two years, employment for youth in April 2022 had almost recovered (only one percent below the pre-pandemic level) and youth also experienced notable employment increases in several industries such as healthcare and public administration.

18 Total employment (for ages 15 and over) in accommodation and food services declined by 49 percent during the same period of time.

**Figure 5: Percentage Change in Employment in April 2020 Compared with April 2019, by Age and Industry**



Note: Since the data are not seasonally adjusted, we compare April 2020 with the same month in 2019 to avoid inconsistencies based on seasonal fluctuations.

Source: Authors' calculations using Statistics Canada Table 14-10-0022-01.

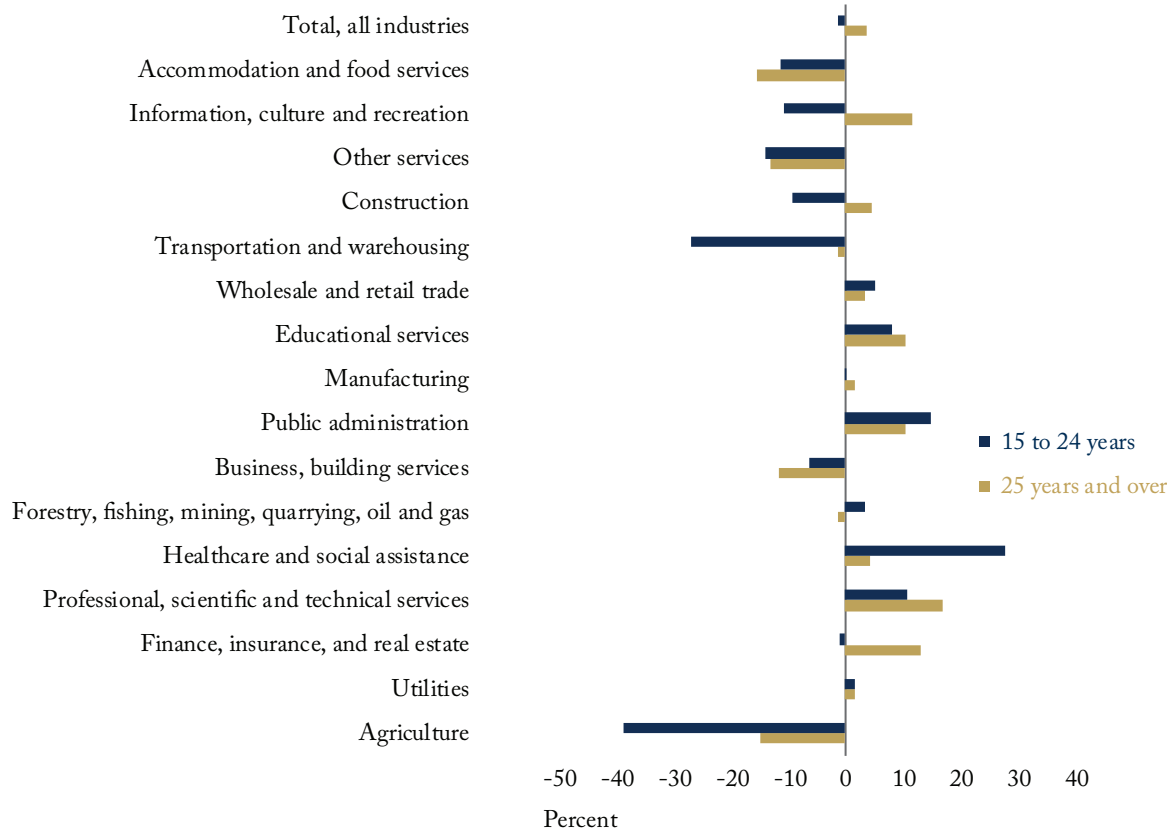
However, youth employment was still significantly below the pre-pandemic level in some industries, showing the uneven recovery across industries (Figure 6). Since overall employment is higher than pre-pandemic level, these industrial variations in employment changes suggest that youth may have transitioned out of industries that were providing in-person services and targeted by restrictions into others that were not as affected. Consequently, the share of youth who worked from home increased respectively by 13.6 percent between April 2020 and June 2021, according to Statistics Canada LFS. There is also a high preference (76.9 percent) among young Canadians (ages 15-34) to be able

to work at least half of their hours at home post-pandemic.

### *Gender and Age*

The negative impact of the pandemic on female employment was larger than on male employment, especially among youth (ages 15-24) due to their overrepresentation in the three hardest hit industries: accommodation and food services, wholesale and retail trade, and information, culture and recreation. In February 2020, 58.9 percent of young women worked in those three industries, compared to only 51.1 percent of young men.

**Figure 6: Percentage Change in Employment in April 2022 compared with April 2019, by Age and Industry**



Note: Since the data are not seasonally adjusted, we compare April 2022 with the same month in 2019 to avoid inconsistencies based on seasonal fluctuations.

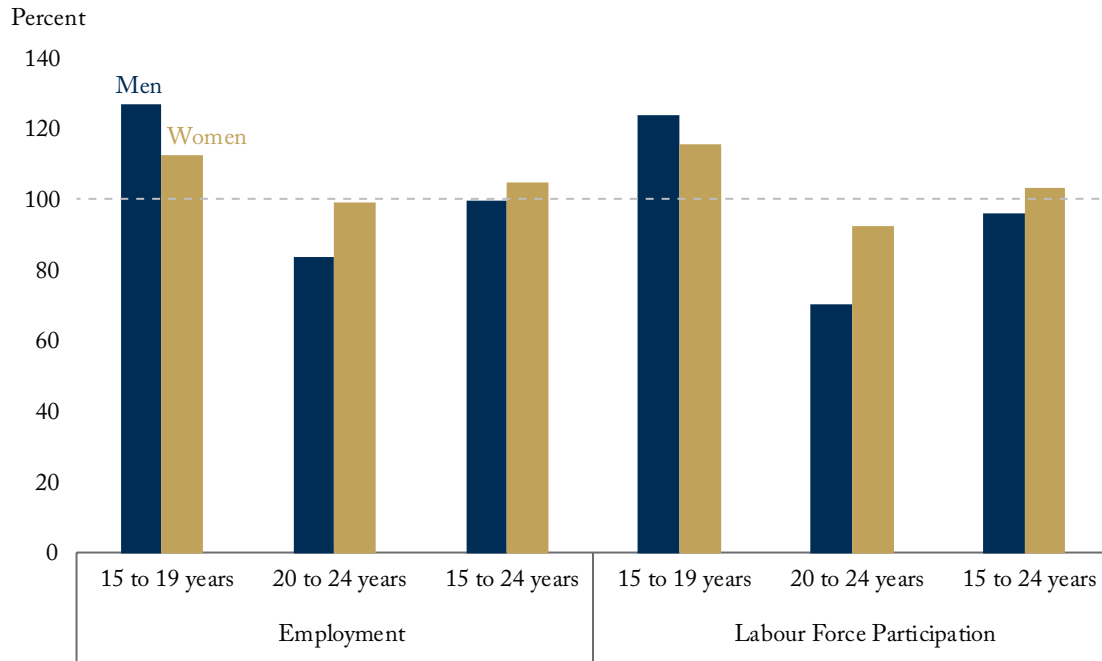
Source: Authors' calculations using Statistics Canada Table 14-10-0022-01.

While, overall, both employment and labour force participation have fully recovered for young women (ages 15-24), men's labour force participation has not fully recovered as of May 2022. Disaggregated data show that the recovery has been uneven (Figure 7). In particular, labor-force participation and employment of youth ages 20-24 are still much lower than pre-pandemic levels due to the slower recovery among men.

Low participation and employment of young people is concerning if it leads to an increase in the

share of young people who are not in employment, education or training since these individuals fail to gain skills and experience that could help them improve their employability. They also face a potentially higher risk of low income and social exclusion. The early results from the impact of the pandemic show that the NEET rate of Canadians aged 15-19 and 20-24 increased respectively by 10 and 14 percentage points from February 2019 to 16 and 27 percent in April 2020, with not attending school being the reason for those aged 15-19 as well

**Figure 7: Recovery in Youth Labour Force Participation and Employment by Age Group and Gender in May 2022**



Note: The bars show the change in employment and labour force participation between May 2022 and April 2020, compared to the change between February 2020 and April 2020, to show the percentage of recovery.

Source: Authors' calculations using Statistics Canada Table 14-10-0287-01.

as a decline in employment for older youth (Brunet 2020). The impacts broken down by male and female NEET rates were also similar.

During the pandemic, the number of youth aged 15 to 24 years neither in employment, education or training (NEET) grew, largely due to public health restrictions that closed schools and limited the operation of non-essential businesses. Using Labour Force Survey data, our estimates show that the NEET rates in April 2022 for youth aged 15-19 and 20-24 respectively were about 4 and 11 percent.

The slower recovery of young individuals ages 20-24 could be explained by the counter-cyclicality of schooling decisions. Post-secondary enrollments tend to increase during economic downturns (Alessandrini, Kosempel, Stengos 2015).

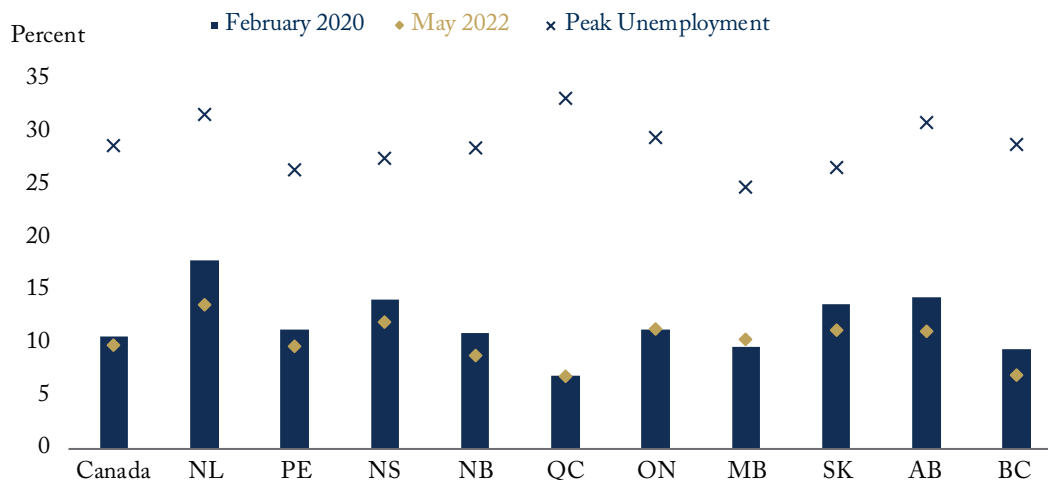
### Province

The impacts of, and recoveries from, the pandemic for youth also vary substantially across the country due to provincial variations in COVID experiences and in the nature and timing of responses to the pandemic. Existing variations in labour-market conditions and industry structure across provinces could also play a role.

Figure 8 shows that just two months into the pandemic, Quebec – the province with the lowest pre-pandemic youth unemployment rate (6.9 percent) experienced the largest increase (of all provinces) in its youth unemployment rate (a 26.3 percentage point increase) and had the highest provincial unemployment rate (33.2 percent). The unemployment rate in Quebec, however, trended downward more quickly compared to other



Figure 8: Youth Unemployment Rate by Province



Source: Authors' calculations using Statistics Canada Table 14-10-0287-01.

provinces and was at its pre-pandemic level in May 2022. The youth unemployment rate in May 2022 returned to or was below its pre-pandemic level in all provinces, except Manitoba.

However, an unemployment rate below the pandemic level does not necessarily indicate a greater transition into employment and full recovery. It could be related to lower labour-market participation. Young individuals may exit the labour market when they are unable to easily find employment and get discouraged or have no incentives to search for a job due to attending school.

For example, Quebec has the lowest youth unemployment rates but it has also made the least progress toward recovery in its labour force participation (Figure 9).

### An International Comparison

Young peoples' ability to transition from unemployment to employment differs across

countries due to variations in factors such as labour-market policies and conditions, and education systems that integrate with the labour market through work-integrated learning opportunities such as co-op positions, apprenticeships or field placements.

A comparison of the youth unemployment rate in 2019 shows that Canada performed above the OECD average. Young people fared notably better in Germany and the United States but they faced a slightly higher unemployment rate in Australia and Great Britain.

Although the unemployment rate is a key indicator of international differences in the labour-market impact of COVID-19 on youth, countries such as Canada and the United States classify persons on temporary layoff as unemployed while most OECD countries classify those persons as employed people. This technical inconsistency is an issue for the pandemic recession since it has resulted in a more substantial surge in the US and

Figure 9: Recovery in Youth Labour Force Participation and Employment by Province in May 2022



Note: The bars show the change in employment and labour force participation between May 2022 and the pandemic trough, compared to the change between February 2020 and the trough, to show the percentage of recovery. In most provinces, the trough of the COVID-19 recession in regards to labour force participation and employment was in April 2020, except for employment in New Brunswick, Ontario and Saskatchewan, which was in May 2020.

Source: Authors' calculations using Statistics Canada Table 14-10-0287-01.

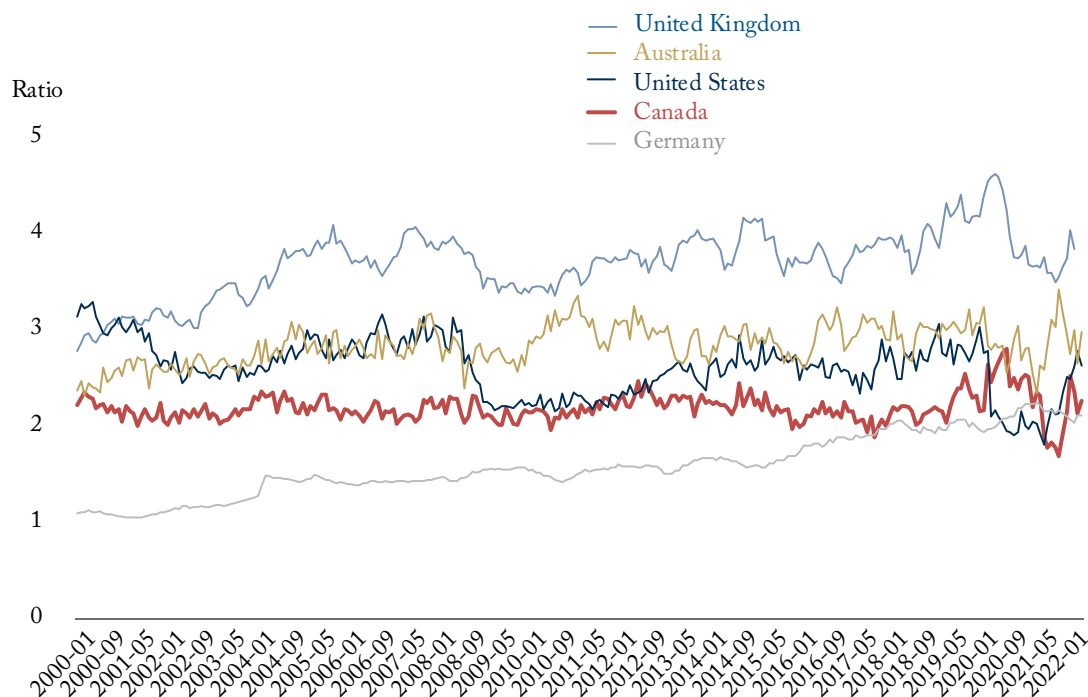
Canada's unemployment in March/April 2020, compared to other countries.

To overcome the challenges related to technical and methodology differences, we use the ratio of youth-to-adult unemployment rate to gauge the performance of youth (ages 15-24) relative to adults (ages 25-74) over time and during the pandemic across the selected countries.

Figure 10 shows the ratio consistently exceeds one, demonstrating the persistent unemployment gaps between youth and prime-working-age adults. Overall, youth in Germany have experienced the lowest unemployment gaps with adults, with the exception of the pandemic period, compared to the selected countries. This is not a surprising observation since Germany has a strong vocational education system that provides occupation-specific training and produces work-ready graduates who face a smooth school-to-work transition and low

unemployment rates (Forster et al. 2016; OECD 2018). Despite that, the German unemployment ratio of youth to adults has been widening over time and youth in Germany, similar to that of other countries, have been affected by the pandemic more severely than adults. In contrast, the relative unemployment rate of youth in Canada started to improve significantly after reaching its peak in August 2020 and reached its lowest ratio in October 2021, below the ratio of other countries in this chart. Due to the Omicron variant and related public health restrictions, Canada's witnessed another increase before the end of 2021. Although the labour market is very tight and youth unemployment fell to an all-time low in the spring of 2022, Canada's unemployment-rate ratio of youth to adults was still above two (2.27 in April 2022).

Figure 10: Ratio of Youth-to-Adult Unemployment Rate by Country, January 2000-May 2022



Note: The ratio of youth-to-adult unemployment rate represents the unemployment rate of 15-24 year-olds relative to the unemployment rate of 25-74 year-olds.

Source: Authors' calculations using OECD data on unemployment rate by age group.

## POLICY DISCUSSION

Canadian youth were disproportionately affected by COVID-19 mainly due to their overrepresentation in industries that were hardest hit. COVID-related education and work disruptions led to income losses, high unemployment and likely learning losses among youth. Unlike in previous recessions youth witnessed a rapid recovery that will help mitigate or prevent scarring. However, the recovery has been uneven and some groups of youth need employment support. Unaddressed learning losses can also potentially have long-term negative

impacts on future employment and earnings outcomes of current students.

Youth have always experienced a gap in their unemployment rate compared to adults since they have the least experience and are more likely to be students who haven't completed their education. However, a large unemployment gap between non-student youth and adults in a tight labor market with a large share of job vacancies requiring no minimum level of education (33.9 percent) or past experience (49.8 percent) needs attention.<sup>19</sup> A targeted combination of policies that support

19 There were 890,385 job vacancies in the first quarter of 2022, up from 512,760 in the first quarter of 2020.

**Table 1: Targeted COVID Measures for Youth by Selected Country**

	COVID-19 Related Supports for Youth by Type				
	Income Support	Hiring Subsidies	Work-based Learning Opportunities	Strengthening Employment Services	Support for Students
Canada	✓		✓		✓
Norway					✓
Netherlands	✓		✓	✓	✓
Germany	✓		✓	✓	✓
Austria	✓	✓	✓	✓	✓
Australia	✓	✓	✓	✓	
Denmark	✓		✓	✓	✓
United States	✓		✓		✓
United Kingdom		✓	✓	✓	

Source: OECD (2021a).

human capital accumulation through education and training, reduce skills mismatches and increase labour mobility can help reduce unemployment among non-student low-educated youth.

Variations in COVID responses, reopening strategies as well as in existing challenges and gaps can explain uneven labour-market impacts and recoveries among youth. For example, as shown in Table 1, many selected countries including Canada provided targeted income supports, at different scope and scale,<sup>20</sup> and increased investment in work-integrated opportunities to support youth

during the pandemic, while only a few countries introduced new, or expanded existing, hiring subsidies (Australia, Austria and United Kingdom). Some countries also strengthened their employment services during the pandemic but Canada lags behind those peers.<sup>21</sup> Further, to support post-secondary students and recent graduates (which are often youth), many countries, including Canada, introduced or bolstered supports for students and recent graduates. The OECD (2021a) reported that many countries introduced new allowances, expanded the eligibility of pre-existing supports for

20 Many countries including Canada implemented job retention schemes to preserve jobs during the pandemic. While the public-use data on Canada's Emergency Wage Subsidy program have no information on the age of workers who benefited from it, statistics on similar programs from other countries show that a high share of users tended to be youth workers OECD (2021a).

21 For a comprehensive review of OECD countries' policy responses to support young people see OECD (2021a and b).

students and adjusted both tuition fees and loan repayments.

To support youth during the recovery and alleviate potential negative long-term effects, Canadian governments (at all levels) need to ensure that young Canadians are equipped with relevant skills, support them to make up for learning losses (Oreopoulos 2021),<sup>22</sup> and consider targeted labour market programs and policies that help encourage greater participation and ease the transition into employment and better jobs for young Canadians who still face difficulties finding employment.

Active labour market programs include providing youth counselling and job search assistance to boost their employability, connecting them with employers to gain valuable workplace experience or offering them training opportunities to obtain or improve on their skills. Evidence shows that subsidized employment and training are very effective interventions to help people get into work during both a recession and over the longer term. Their effectiveness varies across participant groups, with larger impacts for females and the long-term unemployed (Card, Kluge, and Weber 2018).

Doiron and Gørgens (2008) also argue that extended training programs seem to have potentially larger long-term impacts on employment than job placement policies, with the more short-term goal of reducing the duration of unemployment. Unlike subsidized employment and training, job search assistance programs are effective in the short term (Malo 2018). Policy interventions should also aim at not only reducing unemployment duration but also at lowering the

incidence of unemployment since the frequency of unemployment matters (Doiron and Gørgens 2008). This highlights the importance of job retention policies during economic downturns.<sup>23</sup>

Canada has already taken actions and started moving in that direction. For example, the 2021 federal budget introduced a recovery plan to support creation of 215,000 new work-integrated training opportunities and short-term, subsidized, high-quality jobs for youth over a certain period of time (three to five years) through various programs and by expanding existing hiring subsidies. In Budget 2022, the government announced its plan to modernize the labour-market agreements with provinces to ensure workers and employers receive support for re-training to prevent unemployment and to support an employment strategy for persons with disabilities to increase participation and employment.

However, Canada can take more actions to support youth and improve their short-term and long-term labour market outcomes.<sup>24</sup> We recommend:

- Expanding employment services (counselling and job search assistance) to reduce unemployment duration and recurrence (Crépon, Dejemeppe and Gurgand 2005);
- Enhancing labour market flexibility and labour mobility (occupational and geographical mobility) to reduce mismatches (Mahboubi 2021) and improve the skills match with the first job (Liu et al. 2016).
- Encouraging participation in and support for opportunities in education, learning and training, and addressing barriers to participation (Mahboubi 2021) for non-student youth; and

22 <https://www.cdhowe.org/intelligence-memos/philip-oreopoulos-%E2%80%93-high-dosage-tutoring-stems-pandemic-learning-loss-canada>

23 While some OECD countries such as the US and Canada relied more heavily on income support programs to support workers affected by the pandemic, others focused primarily on job retention schemes (e.g., wage subsidies).

24 Supporting youth requires a mix of programs and strategies and there is no silver bullet to improve outcomes. While some programs are costly, if they are designed and implemented properly, the gains could outweigh the cost in the long term because of lower unemployment, and higher earnings and collected taxes.



- Increasing support and funding to expand summer school and offering tutoring during and after school for K-12 students, while ensuring students, particularly those from disadvantaged backgrounds, receive the supports they need to make up for learning losses.

Given that the impacts of and recovery from the pandemic are uneven among youth, it is also important to ensure that services and programs to support youth are available to individuals who are low educated, low income and/or not in education and employment. Governments also need to consider labour-market policies that help ease the impact of labour market shifts accelerated by the COVID-19 pandemic, such as remote work and automation. In particular, telework/remote work, automation and changing preferences have all been accelerated by the COVID-19 pandemic, which will likely have a long-lasting impact. Prior to COVID-19, younger workers were less likely to telework but there has been an increase in the share and also a large increase in their preferences to work remotely. The rise in telework full-time has some implication and negative impacts for young workers. It may contribute to soft-skill atrophy as it limits teamwork, mentorship and informal cooperation and support, which is particularly damaging for young workers who benefit the most early in their careers from the human and social capital in the workplace. Support for a hybrid work arrangement model and support for soft skills training would help balance the needs of young workers and their preferences.

Finally, provincial governments should work with the Council of Ministers of Education, Canada and potentially Statistics Canada to collect better and more accessible and frequent data on key educational indicators on a regular and timely basis to identify gaps and students learning needs and ensure early policy interventions to maximize their effectiveness.

## CONCLUSION

The COVID-19 pandemic has had a disproportionately profound impact on younger Canadians due to their concentration in industries that were hardest hit and the disruptions in other important aspects of their life, including education and learning.

In addition to existing and new programs to support youth during the recovery, we recommend expanding employment services and counselling schemes; enhancing labour market flexibility and labour mobility; and encouraging and supporting participation in targeted education and training opportunities.

Governments should also ensure that services and programs to support youth are available to low-educated, low-income youth and NEETs. Finally, provincial governments should work with the Council of Ministers of Education, Canada and potentially Statistics Canada to address educational data gaps by collecting better and more accessible and frequent data on key educational indicators on a regular and timely basis.

## REFERENCES

- Ayako, Kondo. 2007. "Differential Effects of Graduating during a Recession across Race and Gender." ISERP Working Paper 07-05, Institute for Social and Economic Research and Policy (ISERP), Columbia University.
- Alessandrini, Diana, Stephen Kosempel, and Thanasis Stengos. 2015. "The business cycle human capital accumulation nexus and its effect on hours worked volatility," *Journal of Economic Dynamics and Control*, Elsevier 51(C): 356-377.
- Arulampalam, W., Gregg, P., and Gregory, M. (2001), "Unemployment Scarring." *The Economic Journal* 111: 577-584. <https://doi.org/10.1111/1468-0297.00663>
- Aurini, Janice, Scott Davies. 2021. "COVID-19 school closures and educational achievement gaps in Canada: Lessons from Ontario summer learning research" *The Canadian Review of Sociology*. May. <https://doi.org/10.1111/cars.12334>
- Batdi, Veli, Yunus Doğan, and Tarık Talan. 2021. "Effectiveness of online learning: a multi-complementary approach research with responses from the COVID-19 pandemic period, Interactive Learning Environment" Taylor Francis Online. <https://www.tandfonline.com/doi/abs/10.1080/10494820.2021.1954035>
- Becker, Michael. 2013. "Industrial actions in schools: strikes and student achievement" *Canadian Journal of Economics*. 46 (3): 1014-1036. August.
- Blanden, Jo, Matthias Doepke, and Jan Stuhler. 2022. "Education Inequality." NBER Working Paper No. 29979J. April.
- Brunet, S. 2020. "Impact of the COVID-19 pandemic on the NEET (not in employment, education or training) indicator," March and April 2020. Education Indicators in Canada: Fact Sheet (Catalogue no. 81-599-X – No. 15). Ottawa: Statistics Canada.
- Campolieti, Michele, Tony Fang, and Morley Gunderson. 2010. "Labour Market Outcomes and Skill Acquisition of High-School Dropouts," *Journal of Labor Research*, 31 (1):39-52. <https://EconPapers.repec.org/RePEc:spr:jlalbre:v:31:y:2010:i:1:p:39-52>.
- Card, David. 1999. "The Causal Effect of Education on Earnings." *Handbook of Labor Economics*, In Orley Ashenfelter and David Card (Eds.), 3: 1801-1863. Amsterdam: North-Holland.
- Card, Arrow David, Jochen Kluge, and Andrea Webera. 2018. "What Works? A Meta Analysis of Recent Active Labor Market Program Evaluations Get access." *Journal of the European Economic Association*, 16 (3):894-931.
- Cellini, Stephanie Riegg. 2021. "How does virtual learning impact students in higher education?" Brookings. August.
- Cooper, Harris, Barbara Nye, Kelly Charlton, James Lindsay, and Scott Greathouse. 1996. "The Effects of Summer Vacation on Achievement Test Scores: A Narrative and Meta-Analytic Review." *Review of Educational Research* 66(3): 227-268. <https://doi.org/10.3102/003465430066003227>.
- CREDO (the Center for Research on Education Outcomes at Stanford University). 2020. "A Meta-Analysis of Simulations of 2020 Achievement Assessments in 19 States." October.
- Crépon, Bruno, Muriel Dejemeppe, Marc Gurgand. 2005. "Counseling the Unemployed: Does It Lower Unemployment Duration and Recurrence?" IZA. Discussion Paper No. 1796.
- Doll, Jonathan Jacob, Zohreh Eslami, and Lynne Walters. 2013. "Understanding Why Students Drop Out of High School, according to Their Own Reports: Are They Pushed or Pulled, or Do They Fall Out? A Comparative Analysis of Seven Nationally Representative Studies." *SAGE Open* 3 (4): 215824401350383. <https://doi.org/10.1177/2158244013503834>. <https://journals.sagepub.com/doi/full/10.1177/2158244013503834>

- Doiron, Denise and Tue Gørgens. 2008. "State dependence in youth labor market experiences, and the evaluation of policy interventions." *Journal of Econometrics*. 145: 81-97. 10.1016/j.jeconom.2008.05.010.
- Forster, A. G., and T. Bol. 2018. "Vocational Education and Employment over the Life Course Using a New Measure of Occupational Specificity." *Social Science Research* 70 (February): 176-97. <https://doi.org/10.1016/j.ssresearch.2017.11.004>.
- Galarneau, Diane, Mark Kinack, and George Marshall. 2020. "Work-integrated learning during post-secondary studies, 2015 graduates." Statistics Canada, May 25, 2020, <https://www150.statcan.gc.ca/n1/pub/75-006-x/2020001/article/00003-eng.htm>
- Gallagher-Mackay K., Srivastava P., Underwood K., et al. "COVID-19 and education disruption in Ontario: emerging evidence on impacts." Science Briefs of the Ontario COVID-19 Science Advisory Table. 2021;2(34). <https://doi.org/10.47326/ocsat.2021.02.34.1.0>
- Halloran, Clare, Rebecca Jack, James C. Okun, and Emily Oster. 2021. "Pandemic Schooling Mode and Student Test Scores: Evidence from US States." NBER Working Paper No. 29497. November.
- Hanushek, E.A., and Woessmann, L. 2020. "Education, knowledge capital, and economic growth." In S. Bradley & C. Green (Eds.). *The Economics of Education: A Comprehensive Overview*, second edition. Elsevier: Academic Press. <https://doi.org/10.1016/B978-0-12-815391-8.00014-8>
- Hammarström, A., and Janlert, U. 2000. "Do early unemployment and health status among young men and women affect their chances of later employment?" *Scandinavian Journal of Public Health*, 28(1): 10-15. <https://doi.org/10.1177/140349480002800104>
- Haack, Catherine, and Pierre Lefebvre. 2020. "Pandemic School Closures May Increase Inequality in Test Scores," *Canadian Public Policy*. 46 (S1): S82-S87. July.
- Heckman, James J., and George J. Borjas. 1980. "Does Unemployment Cause Future Unemployment? Definitions, Questions and Answers from a Continuous Time Model of Heterogeneity and State Dependence." *Economica* 47, no. 187: 247-83. <https://doi.org/10.2307/2553150>.
- Jacob, Brian A., and Kelly Lovett. 2017. "Chronic absenteeism: An old problem in search of new answers." Brookings. July 27, 2017
- Kahn, Lisa B. 2010. "The Long-Term Labor Market Consequences of Graduating from College in a Bad Economy." *Labour Economics* 17 (2): 303-16. <https://doi.org/10.1016/j.labeco.2009.09.002>.
- Liu, Kai, Kjell G. Salvanes, and Erik Ø. Sørensen. 2016. "Good skills in bad times: Cyclical skill mismatch and the long-term effects of graduating in a recession." *European Economic Review* 84: 3-17.
- Malo, A. Miguel. 2018. "Finding proactive features in labour market policies: A reflection based on the evidence ilo future of work research paper series." International Labour Organization.
- Mahboubi, Parisa, and Momanyi Mokaya. 2021. *The Skills Imperative: Workforce Development Strategies Post-COVID*. Commentary 609. Toronto: C.D. Howe Institute.
- \_\_\_\_\_. 2017. "Talkin' Bout My Generation: More Educated, but Less Skilled Canada." E-Brief. Toronto: C.D. Howe Institute.
- Marcotte, Dave E., and Hemelt, Steven W. 2007: "Unscheduled school closings and student performance," IZA Discussion Papers, No. 2923, Institute for the Study of Labor (IZA)
- McKinsey & Company 2021. "COVID-19 and education: The lingering effects of unfinished learning."
- Meyers, K. and M. A. Thomasson. 2017. "Paralyzed by panic: Measuring the effect of school closures during the 1916 polio pandemic on educational attainment." Tech. rep., National Bureau of Economic Research.

- Messacar, Derek, Tomasz Handler, and Marc Frenette. 2021. "Predicted Earnings Losses from Graduating during COVID-19." *Canadian Public Policy*, University of Toronto Press, 47(2): 301-315. June. DOI: 10.3138/cpp.2020-109
- Millenky, Megan. 2016. "Connecting high school dropouts to employment and education: an impact study of the National Guard Youth Challenge Program." *IZA J Labor Policy* 5, 10 (2016). <https://doi.org/10.1186/s40173-016-0065-x>
- Mroz, Thomas A., and Timothy H. Savage, 2006. "The Long-Term Effects of Youth Unemployment," *Journal of Human Resources*, University of Wisconsin Press, vol. 41(2).
- OECD (Organisation for Economic Co-operation and Development). 2021a. "What Countries Done to Support Young People in the COVID-19 Crisis." Paris: OECD Publishing
- \_\_\_\_\_. 2021b. "The Updated OECD Youth Action Plan: Building Blocks for Future Action." Paris: OECD Publishing
- \_\_\_\_\_. 2020. "Governance for Youth, Trust and Intergenerational Justice: Fit for All Generations?" OECD Public Governance Reviews, OECD Publishing, Paris, <https://doi.org/10.1787/c3e5cb8a-en>
- \_\_\_\_\_. 2018. "Education at glance." OECD Indicators. Paris: OECD Publishing.
- Oreopoulos, Philip. 2005. *Stay in School: New Lessons on the Benefits of Raising the Legal School-Leaving Age*. Commentary 223. Toronto: C.D. Howe Institute.
- Oreopoulos, Philip, Till von Wachter and Andrew Heisz. 2012. "The short-and long-term career effects of graduating in a recession." *American Economic Journal: Applied Economics*, 4(1), 1-29.
- Research and Development Toronto District School Board. 2021. "What is our System Saying? Winter Consultations with Parents, Students, and TDSB Staff." [https://www.tdsb.on.ca/Portals/0/docs/Parent%20Student%20and%20Staff%20Winter%20Check-in%20Surveys\(1\).pdf](https://www.tdsb.on.ca/Portals/0/docs/Parent%20Student%20and%20Staff%20Winter%20Check-in%20Surveys(1).pdf)
- Rumberger. Russell W. 2020. "The economics of high school dropouts." *The Economics of Education*. January.
- Rodríguez, S. Javier, Jared Colston, Zhixuan Wu, and Zi Chen. 2020. "Graduating during a recession: A literature review of the effects of recessions for college graduates." Center for Research on College-Workforce Transitions (CCWT), University of Wisconsin Madison. October.
- Sansone, G., Fallon, B., Birken, C., Miller, S.P., Gallagher-Mackay, K., Sajedinejad, S., Jenkins, J., and Davies, S. 2021. "Effects of School Closures During the COVID-19 Pandemic on Achievement Gaps and Learning Inequalities: Policy Implications." Toronto, Ontario: Policy Bench, Fraser Mustard Institute of Human Development, University of Toronto. <https://socialwork.utoronto.ca/wp-content/uploads/2021/07/Policy-Bench-Brief-School-Closures-and-Achievement-Implications-Final-July9.pdf>
- Science M., Thampi N., Bitnun A., et al. "School Operation for the 2021-2022 Academic Year in the Context of the COVID-19 Pandemic." Science Briefs of the Ontario COVID-19 Science Advisory Table. 2(39). <https://doi.org/10.47326/ocsat.2021.02.39.1.0>
- Schwandt, Hannes, and Till Von Wachter. 2019. "Unlucky cohorts: Estimating the long-term effects of entering the labor market in a recession in large cross-sectional data sets." *Journal of Labor Economics* 37, no. S1: S161-S198.
- Tanveer, Misbah, Enrico Marelli, Enrico, and Marcello Signorelli. 2012. "The Impact of Financial Crises on Youth Unemployment Rate." *Quaderni del Dipartimento di Economia, Finanza e Statistica* 79/2010, Università di Perugia, Dipartimento Economia.
- Tombe, Trevor, and Daniel Schwanen. 2020. *Alberta's Opportunity: The Ins, Outs and Benefits of Greater Job Mobility*. Commentary 580. Toronto: C.D. Howe Institute.
- Topel, Robert H., and Michael P. Ward. 1992. "Job Mobility and the Careers of Young Men." *The Quarterly Journal of Economics* 107, no. 2: 439-79. <https://doi.org/10.2307/2118478>.



- 
- Wall, Katherine. 2021. "Gendered impacts of the COVID-19 pandemic on the proportion of youth neither in employment nor education at the start of the school." Statistics Canada. May 25.
- Ward, Michael E., Kyna J. Shelley, Kristopher J. Kaase, and John F. Pane. 2008. "Hurricane Katrina: A Longitudinal Study of the Achievement and Behavior of Displaced Students." *Journal of Education for Students Placed at Risk (JESPAR)*, 13, 297-317.
- Whitley, J., Beauchamp, M. H., and Brown, C. 2021. "The impact of COVID-19 on the learning and achievement of vulnerable Canadian children and youth." *Facets Journal*. <https://www.facetsjournal.com/doi/full/10.1139/facets-2021-0096>
- Wyonch, R. 2020. *Work-Ready Graduates: The Role of Co-op Programs in Labour Market Success*. Commentary 562. Toronto: C.D. Howe Institute. January.

---

NOTES:

---



---

NOTES:

---

## RECENT C.D. HOWE INSTITUTE PUBLICATIONS

- July 2022 Ambler, Steve, and Jeremy Kronick. *Money Talks: The Old, New Tool for Predicting Inflation*. C.D. Howe Institute Commentary 623.
- June 2022 Hodgson, Glen. “Climate Risk and Canadian Banks: Is More Capital Required?” C.D. Howe Institute E-Brief.
- May 2022 Nikolakakis, Angelo. “High Stakes Ahead: Canada and the Global Minimum Tax for Multinationals.” C.D. Howe Institute E-Brief.
- May 2022 Baldwin, Bob. “The Evolving Wealth of Canadians: Who Is Better Fixed for Retirement? Who is Not?” C.D. Howe Institute E-Brief.
- May 2022 Grootendorst, Paul, Javad Moradpour, Michael Schunk, and Robert Van Exan. *Home Remedies: How Should Canada Acquire Vaccines for the Next Pandemic?*. C.D. Howe Institute Commentary 622.
- April 2022 Blomqvist, Åke. *Going Dutch: Choice, Competition and Equity in Healthcare*. C.D. Howe Institute Commentary 621.
- April 2022 Jackson, Catherine, with Abhishek Kumar, and Ramisha Asghar. *Put to the Test: Ranking Canada’s Universities on Their Climate Change and Endowment Activities*. C.D. Howe Institute Commentary 620.
- April 2022 Ciuriak, Dan. “The Economic Consequences of Russia’s War on Ukraine.” C.D. Howe Institute Verbatim.
- April 2022 Lester, John. “An Intellectual Property Box for Canada: Why and How.” C.D. Howe Institute E-Brief.
- March 2022 Drummond, Don, and Duncan Sinclair. “Fixing, Funding, and Reforming Health Services.” C.D. Howe Institute E-Brief.
- March 2022 Marshall, David. *Time for a Tune-up: Reforms to Private-Sector Auto Insurance could Lower Costs and Add Value for Consumers*. C.D. Howe Institute Commentary 619.

## SUPPORT THE INSTITUTE

For more information on supporting the C.D. Howe Institute’s vital policy work, through charitable giving or membership, please go to [www.cdhowe.org](http://www.cdhowe.org) or call 416-865-1904. Learn more about the Institute’s activities and how to make a donation at the same time. You will receive a tax receipt for your gift.

## A REPUTATION FOR INDEPENDENT, NONPARTISAN RESEARCH

The C.D. Howe Institute’s reputation for independent, reasoned and relevant public policy research of the highest quality is its chief asset, and underpins the credibility and effectiveness of its work. Independence and nonpartisanship are core Institute values that inform its approach to research, guide the actions of its professional staff and limit the types of financial contributions that the Institute will accept.

For our full Independence and Nonpartisanship Policy go to [www.cdhowe.org](http://www.cdhowe.org).



**C.D. HOWE**  
INSTITUTE

67 Yonge Street, Suite 300,  
Toronto, Ontario  
M5E 1J8