

A man with a beard and glasses, wearing a blue button-down shirt, is smiling and gesturing with his hands as if speaking. The background is a blurred office or library setting.

Lost in Transition:

Canada's Economic Opportunity
from Closing Gaps in Learning Paths

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The transition points

To estimate the potential earnings losses from gaps in learning paths in Canada, we focused on three of the major disruptive transition points in an individual's work cycle: 1. the move from education to work; 2. unemployment due to redundancy; and 3. displacement caused by new technologies.

Having identified these three key transition points, we estimated the number of affected workers, the average duration of job search, and the average wages for individuals at each stage of the work cycle. Based on these data points, we assessed the potential earnings loss at each transition point. For Canada, we drew on publicly available datasets, mainly from Statistics Canada, as well as various academic papers, reports and surveys by organizations such as the OECD and World Economic Forum (WEF).

1. The transition from school to work. Canadian students can undergo the transition from school to work at various stages: when graduating from secondary school and directly entering the workforce, or later in life when graduating from college, university or other third-level institutions. In addition, some students leave before completing high school. In 2021/2022, about 9% of students who had entered Grade 10 two years earlier failed to graduate from high school.

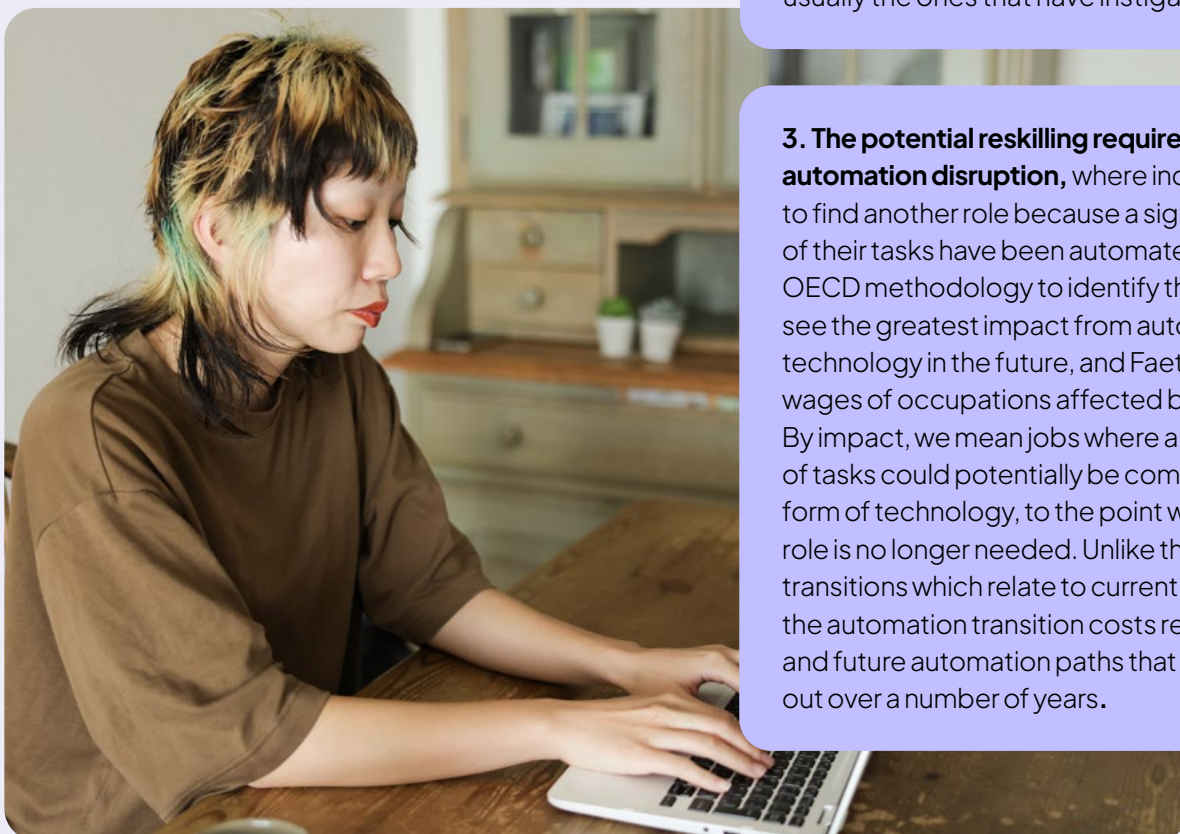
Excluding the pandemic, Statistics Canada shows Canadian grads now face an unemployment rate of 11.2% — the highest since the mid 1990s¹. Even more problematic, 24% of Ontario grads could not land a job in their degree-associated field within three years², delaying careers, stalling earnings, and straining an already tough entry level market, leaving many questioning the long-term value of their education.

2. The transition from one job to another.

We focused on involuntary job separations such as redundancies, where individuals are least likely to be prepared for their next role, as they are not usually the ones that have instigated the change.

3. The potential reskilling required due to automation disruption,

where individuals need to find another role because a significant portion of their tasks have been automated. We used an OECD methodology to identify the roles that will see the greatest impact from automation-related technology in the future, and Faethm data for the wages of occupations affected by automation. By impact, we mean jobs where a large proportion of tasks could potentially be completed by some form of technology, to the point where a human role is no longer needed. Unlike the first two transitions which relate to current transition paths, the automation transition costs relate to current and future automation paths that are likely to play out over a number of years.



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Findings

Based on this approach, we estimate potential annual transition losses of circa CAD 146.2 billion for the Canadian economy, representing about 4.8% of annual Canadian GDP in 2024 (See Figure 1 for a breakdown of the transition losses by transition point.)

CAD 146.2 billion
annual transition losses

Most of this stems from the potential risk of disruption by automation, with CAD 111 billion in earnings at risk as automation technologies—such as robotic process automation, large-language-model chatbots, agentic AI models and autonomous mobile robotics—require individuals to reskill for changed or completely new tasks

Our analysis can illustrate the potential boost to earnings from measures that improve learning paths for Canadian students and workers. For instance, reducing the length of time it takes to reskill due to automation disruption from 18 weeks to 10 weeks would yield additional employee earnings of CAD 50.8 billion

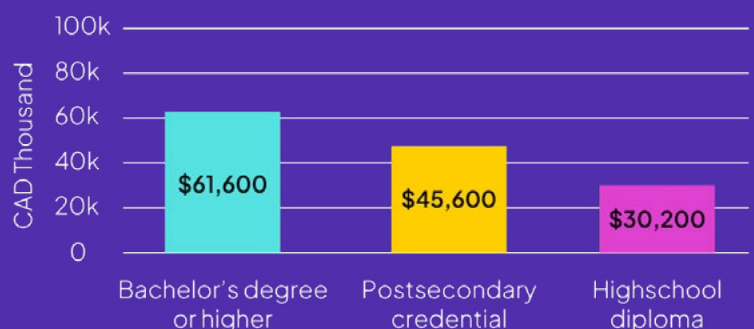
Figure 1: Breakdown of potential transition-path earnings losses for the Canadian economy, by transition point (CAD billions)



A bachelor's degree or higher earned \$61,600. A post-secondary credential came next at \$45,600. Meanwhile, a high school diploma earned \$30,200³.

The average duration of unemployment following a job loss is 21.9 weeks⁴—more than four months. This means significant financial strain and emotional stress for most families. It's a strong reminder of why we must build more effective reskilling and job-matching pathways to shorten this gap.

Figure 2: Annual earnings by education level for 25–34 year olds (CAD thousands)



Additional context

Education-to-work transition points in Canada are complex and represent significant pain points for individuals, employers and the broader economy. Canada is somewhat unique in that many graduating high-school students do not immediately go on to post-secondary education but instead take some kind of formal schooling gap over the subsequent six years. A study of 2014/2015 graduating students in British Columbia, for example, found that only 57.9% went immediately on to post-secondary education, but that this proportion rose to 80.9% within six years.⁵ Our assumption is that most of these high-school graduates entered the labour force first.

Another challenge relates to early (high-school) leavers. In 2021/2022 the on-time graduation rate was 84%, while the extended graduation rate (i.e., also including students who took an extra year or longer to graduate) was 91%.⁶ These figures relate to the particular cohort of students who started grade 10 several years prior to 2021/2022. More generally there is a significant group of 15-24-year-olds in the population who have dropped out of high school at different points—this is sometimes called the “status drop-out rate”. The proportion of the population aged 20-24 who don't have a certificate, diploma or degree of any kind, not even a high school diploma, was 7.8% in 2021.⁷ For our analysis we used the more conservative on-time graduation rate, but it is likely that this underestimates the transition costs from early school leavers in Canada.

Our analysis relates to all students in Canada, regardless of nationality. Canada in recent years has seen a large increase in the number of international students studying at tertiary level, which more than doubled between 2010 and 2019 (from 142,200 to 388,800). In 2020 there were 138,588 international students who graduated in Canada, or 23.48% of the total.

Etmanski reports that 83,300 of these international 2020 graduates were still in Canada in 2023.⁸ International graduates remaining in Canada have somewhat lower employment and median earnings outcomes, as well as generally poorer alignment between jobs and qualifications. We have not adjusted for these effects, but they suggest that our estimates of transition costs are likely to be on the conservative side.

Further considerations

Our estimates are generally conservative, as we have not factored in other transition losses. For example, some workers would like to work full-time but can't find a full-time role; others may suffer from a “skills discount”—that is, they can't find a job that fully matches their skills and thus earn less. In addition, according to the OECD, Canada has a significant proportion of 18-24 year olds who are commonly referred to as “NEETs”—young people who are ‘Not in formal Employment, Education or Training’. In 2023, 11.3% of Canadian young people fell into this category.⁹ Additionally, over a quarter (25.5%) of young Canadians ages 15-24 who are NEET have never held a job.¹⁰ We have not quantified the earning losses for this category, as it is likely there would be some overlap with the estimates for early school leavers. However, the presence of significant numbers of NEETs again suggests that our estimates are likely on the conservative side.

In addition, our calculation is based on an individual's earnings. This is useful as it reflects the impact on people—we believe this is important because of the role that skills and employment play in an individual's wellbeing. However, it is worth noting that at the macroeconomic level, the loss—or potential opportunity—from interventions, is even higher.

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The Jobs on the Front Line of Automation

Since 2019, the number of Canadian jobs exposed to AI has surged **108%**¹¹, intensifying concerns in a workforce where **56.1%**¹² of businesses already report employee skill gaps. This pressure isn't just on service roles; Oxford Economics notes rising unemployment for recent graduates in technical fields like finance and computer science, where AI is highly proficient¹³.

Crucially, entry-level positions — such as marketing analyst, research assistant, or junior developer — are increasingly vulnerable to outright replacement. As agentic AI evolves, firms may bypass hiring some entry-level staff entirely, fundamentally reshaping early-career opportunities across sectors. This accelerating shift underscores an urgent need for proactive reskilling and workforce adaptation.

Jobs highly exposed to AI have seen 78% more skill change (3.6 vs. 2.0) than low-exposure roles¹⁴. In plain terms, **AI-heavy jobs evolve almost twice as quickly, demanding new tools, methods, and knowledge.**



References

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- ² Postsecondary labour market outcomes three years after graduation, organized by province, with data updated every five years. Table 3710 0251 01, Statistics Canada, May 2, 2025.
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- ⁵ Leanage, A. and R. Arim, May 2024, Enrolment and persistence in postsecondary education among high school graduates in British Columbia. Statistics Canada.
- ⁶ Statistics Canada. Table 37-10-0221-01 True cohort high school graduation rate, on-time and extended-time graduation rates, by gender.
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- ⁸ Etmanski, B., 5 February 2025, International student graduates' labour market early outcomes: Results from the National Graduates Survey. Statistics Canada.
- ⁹ OECD, Education at a Glance, p.64.
- ¹⁰ Statistics Canada, cited in Indeed, December 18 2024, 2025 Canada Jobs & Hiring Trends Report: Trying to Turn the Ship Around
- ¹¹ <https://www.pwc.com/gx/en/issues/artificial-intelligence/job-barometer/aijb-2025-canada-analysis.pdf>
- ¹² Survey of Employers on Workers' Skills 2021, StatsCan. <https://www150.statcan.gc.ca/n1/daily-quotidien/221003/dq221003d-eng.htm>
- ¹³ Martin, M., 2025. Educated but unemployed, a rising reality for US college grads. <https://www.oxfordeconomics.com/wp-content/uploads/2025/05/US-Educated-but-unemployed-a-rising-reality-for-college-grads.pdf>
- ¹⁴ <https://www.pwc.com/gx/en/issues/artificial-intelligence/job-barometer/aijb-2025-canada-analysis.pdf>