

Intelligence MEMOS



From: Tingting Zhang
To: Immigration Policymakers
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Re: **WATCH OUT HOW MANY STEM WORKERS WE ARE ADMITTING**

The science, technology, engineering, and mathematics (STEM) workforce plays a crucial role in Canada's economy, vital for innovation, technological development, automation, infrastructure, and a green economy. And rising demand means Canada has experienced a [STEM skill shortage](#).

Governments have implemented several immigration initiatives to address this, but there can always be too much of a good thing. Saturating the market with an excess of STEM workers may lead to adverse labour market outcomes for workers and we need to carefully monitor labour market dynamics to avoid this scenario.

Canada offers several federal and provincial STEM-focused immigration programs, including the Federal Skilled Worker Program, the Canadian Experience Class, and the Provincial Nominee Program (PNP). [Ontario](#), [Alberta](#) and [British Columbia](#) have developed their own provincial nominee programs specifically tailored to tech professionals. Ontario's Human Capital Priorities Stream [issued](#) 17,502 notifications of interest to applicants in 2023, with approximately half targeting tech workers. The federal government introduced a category targeting candidates with [STEM](#)-specific work experience and education under the Express Entry selections last June. In all, 24,460 people intending to work in STEM positions were granted permanent resident status last year through these different avenues.

Canada also offers temporary foreign worker (TFW) programs, such as the [Global Talent Stream](#), that provide additional entry points for STEM workers, even if they have no job offer.

The federal government also launched its Tech Talent Strategy last year to attract more skilled workers. Its open work permit [stream](#) for H-1B specialty occupation visa holders in the US garnered 10,000 applications within 48 hours of its launch. Ottawa is also considering an Innovation Stream under the International Mobility Program. This would extend open work permits for up to five years for highly skilled workers in selected STEM occupations. The Innovation Stream will provide both closed and open work permits, offering workers the flexibility to work for specific companies or anywhere in Canada. Top of Form

This all means the supply of STEM workers is rising fast. At home, the number of postsecondary [graduates](#) in STEM fields has increased over the past decade. Both international and domestic [enrollments](#) are also up. A recent [study](#) by Statistics Canada showed that an influx of 100 international students in STEM fields correlated with an increase of 141 domestic student enrollments in the same fields at universities.

Should the supply of STEM workers extensively exceed the demand, it may well create challenges for both domestic and foreign STEM workers.

The 2000 collapse of the internet bubble left thousands of IT workers, disproportionately immigrants, out of work or work in lower-skilled and lower-paying occupations, and a University of Alberta [study](#) highlighted how Canada's inducements to IT migrants played a role. The result was a considerable decline in the earnings of immigrant IT workers and a significant widening gap between new immigrants and Canadian-born IT workers.

There are risks associated with aligning immigrant supply with labour demand for specific industrial or occupational roles at one point in time. Demand forecasts in 2000 were upended by the tech collapse.

Today, the sector is again experiencing significant [layoffs](#), this time attributed to rising interest rates and high inflation. STEM job vacancies fell significantly from 42,140 in Q3 2022 to [25,045](#) in Q3 2023. Meanwhile, the jobless number rose to [25,700](#) in 2023, up from 19,300 in 2019. This suggests new STEM immigrants may encounter job challenges, potentially leading to high unemployment rates.

Policymakers need to make sure they are assessing the entirety of the immigration system, including all initiatives targeting STEM professionals, to track the total influx. And any major fluctuations in labour market demand should spark review and adjustment of all STEM-specific immigration programs. More and more timely data would help. The Canadian Occupational Projection System ([COPS](#)) forecasts several STEM occupations would face shortages between 2022-2031, but it did not include the impact of recent immigrant initiatives on the supply.

Government agencies need to invest in better data collection and sound analysis of the STEM workforce to better understand its supply and demand. One possible approach would link STEM temporary foreign worker intake to factors such as sectoral unemployment rate, changes in job vacancies, and the availability of new graduates. This could align the inflow of STEM workers with current labour market demand, providing a more balanced and responsive approach to workforce needs. Let's not repeat 2000.

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