Canadian Government Finances in the Age of AI

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Promises. Hopes. Realities. Myths. Risks. These are some of the often-cited words used in the extended list of available AI reports. Experts notably scrutinize the impact of AI on productivity, labour market conditions, corporate earnings, public services delivery and government finances.

This report is a look ahead at the wide range of possible long-term effects of AI on Canadian budgetary finances, identifying potential fiscal gains and losses. At its core, it will come down to AI's return on investment. Since no one can pretend to know the answer, we focus on the plausible reshaping of fiscal revenues and expenses via three principal channels:

1. The debate about AI unlocking productivity gains and boosting the governments' tax base
2. The AI-driven transformation of the labour market and alteration to the tax framework
3. AI's impact on longevity, health care and health care costs

Each section proposes a list of emerging signs of these long-term shifts, along with metrics to monitor going forward. The last section of the report highlights concrete AI-integration examples among Canadian federal, provincial and other entities improving efficiency and services delivery.

Potential Impact of AI on Productivity Gains and Long-Term Public Finances

The first promising channel relates to productivity gains boosting GDP. The St. Louis Federal Reserve monitors the impact of ChatGPT. Findings support the view that generative AI contributed to a very large fraction of recent U.S. productivity gains. The percentage share of work hours spent using generative AI within the entire US workforce is consistently increasing, reaching almost 6% as of mid-2025. U.S. workers report generative AI time savings equivalent to 1.6% of all work hours, not far off the 1.9 percentage points excess cumulative productivity growth observed in recent years. Further progress is poised to be uneven. For instance, Stanford AI experts predict a bigger productivity boost this year.

PwC Canada says fast-track adoption of AI among Canadian businesses could boost Canada's GDP level by a large 9% by 2035 relative to a base case scenario. Experts from The Hub Canada have a relatively cautious prognostic, citing AI could add about 4% to Canadian GDP by 2035. For its part, the Canadian Vector Institute estimates Ontario has led the way nationally over the last 5 years. This think-tank projects AI adoption will add cumulatively the equivalent of about 1% to Ontario's real GDP level during the next decade — three times more than it did between 2019 and 2024.

Only a few U.S.-based reports looked at the possible long-term implications for the U.S. federal government's finances. Experts at the Penn-Wharton Budget Model initiative say generative AI alone will permanently increase the level of U.S. GDP by 1.5% in 2035, followed by smaller economic benefits beyond 2035. Their assessed positive impact on the U.S. federal deficit is relatively small: $400B over 10 years, or $40B annually.

In contrast, the Brookings Institution proposes a larger AI-driven fiscal shock. Among the four scenarios submitted, the most downbeat one incorporates a deterioration of the U.S. federal annual budget deficit representing 0.9% of GDP by 2044 relative to the base case scenario. The most optimistic scenario points to an annual deficit improvement representing 1.5% of GDP, or a staggering $900B in nominal terms. Besides various productivity assumptions, results vary because of assumptions relative to the pace of reduction in mortality rates related to AI usage, a topic discussed below.

Canadian governments and market participants can take away from these reports that AI could potentially lead to a sustained improvement in public finances in a different way than the 1990s productivity gains – led by hardware, software, and the Internet – contributed to a generalized fiscal improvement among industrial countries.

AI and the Emerging Labour Market Transformation

One of the key channels relates to the AI impact on labour market conditions. The Brookings Institute sees, at least for now, a continuity rather than an immediate collapse of jobs at risk of automation. The rate of change of the job occupational mix in the entire labour market since the introduction of ChatGPT is just marginally faster relative to the adoption of the Internet. In Canada, market participants and governments should monitor Statistics Canada's Survey of Business Conditions: 12% of businesses used AI between mid-2024 and mid-2025, and a higher share (14.5%) plan to use AI by mid-2026. Among them, 89% reported no change to employment levels after AI implementation. The percentage of Canadian businesses reporting a decrease in employment because of AI is sticky near 6%. In another report, researchers at Statistics Canada find that 60% of employees may be highly exposed to AI-related job transformations, with AI complementing rather than replacing the work of about half of these individuals.

Of course, the situation could change and deteriorate. The Massachusetts Institute of Technology Iceberg Index concludes that AI can already replace 11.7% of the U.S. workforce representing US$1.2T in wages, which is close to 10% of total U.S. wage compensation. If this elevated AI exposure leads to higher AI adoption, it would create a large structural fiscal shock.

One positive dynamic underway relates to workers using AI benefiting from strong wage growth. The PwC Global AI Jobs Barometer reveals an astonishing wage premium of 56% for workers with generative AI skills versus workers without AI skills. A survey conducted by Nexford University comes up with similar findings: professionals using AI daily earn 40% more than those not using it. However, researchers from the University of Pennsylvania have a big warning: turning to complementary AI assistants today is initially boosting wages, but the future may bring full automation for substitutable tasks — a dire outcome for some workers with intellectual tasks rather than physical ones.

AI Possible Implications on the Canadian Taxation Framework

The U.S. Congressional Budget Office (CBO), usually renowned for its quantitative skills and accuracy, published a report on AI and its potential impacts on the federal budget but did not provide estimates. The CBO cites an ambiguous effect of AI on fiscal revenues because some channels will likely boost revenues, while others will decrease them. The CBO report also properly identifies the upcoming challenge for governments: "*the use of AI could affect the overall amount of income in the economy and its distribution among businesses, investors, and workers*". Depending on the AI-driven future trajectory of income distribution, governments may have to come up with tax reforms.

The AI transformation of the job market is crucial for governments given its direct relationship to personal income tax (PIT) revenues and indirect implication on consumption taxes. PIT is, after all, the largest single source of fiscal revenues for Canadian governments. The heavy reliance of taxing labour income, including payroll taxes, is particularly striking at the federal level. Some 45% of total federal revenues are tied to PIT, versus 20% for the

corporate income tax and 5% for investment income. PIT revenues at the provincial level are important too — usually between 20%-30% — which is a significantly smaller share than in Ottawa, as indicated in the table below.

Percentage Share of Total Fiscal Revenues Derived from PIT Revenues

Jurisdiction	Total Revenues Tied to PIT (%)
Federal	45
Quebec	30
Nova Scotia	29
Ontario	26
British Columbia	21
Alberta	21
Manitoba	20
Newfoundland and Labrador	19

The likelihood of the tax mix shifting in the future from labour to AI will also be influenced by the degree of AI exposure and mostly AI adoption of their respective most important industries. As of 2025 Q2 and Q3, Statistics Canada reported the finance & insurance and information & cultural sectors have the largest AI adoption rate and steep increase in AI usage. The table below summarizes the latest estimates of expected AI usage across selected sectors, highlighting both high-adoption industries and those where AI uptake remains limited.

Expected AI Usage in Canada, by Selected Industry

Industry	Expected AI Usage (%)
Information & Cultural Industries	39
Finance & Insurance	32
Professional, Scientific & Technical Services	26
Accommodation & Food Services	15
Arts, Entertainment & Recreation	15
Construction	9
Manufacturing	7
Transportation & Warehousing	7
Retail Trade	6
Agriculture, Forestry, Fishing & Hunting	5
Mining, Oil & Gas	3

According to the U.S.-based RAND policy research organization's hypothetical scenario of AI leading to massive job disappearance, U.S. federal personal income revenue severely declines to less than 15% of total fiscal revenues versus about 50% today. RAND proposes several fiscal policies to offset this PIT loss, including an AI excise tax and higher tax rates on corporate income. The Brookings Institute makes the case of a "robot tax" on companies that deploy AI and robotic automation fueling corporate profits, a form of markup corporate tax. But a robot tax may prevent economic agents from embarking on AI-related investments and adoption, thus diminishing the scope of future productivity gains. Another report from the Brookings Institute proposes to tax AI services at the point of consumption rather than the underlying capital assets (robots, hardware). This new report released in early January favours digital services tax (on streaming, cloud services), token taxes (on AI-generated content) and taxation of autonomous Artificial General Intelligence (AGI) systems.

Like the labour market income tax channel, it is unclear to what extent AI will reshape other sources of taxable income. The RAND report argues the future path of corporate income tax revenues will depend on the level of competitiveness in the AI ecosystem determining corporate profits. Standford University and McKinsey estimate

U.S. companies' revenue increases related to AI adoption is modest at less than 5%, while AI usage on the spending / operating side leads to cost savings of less than 10%. In Canada, a KPMG recent survey highlights organizations are more frequently adopting generative AI, although only 2% report a positive ROI, raising eyebrows in respect to the productivity channel.

Another ambiguous fiscal impact relates to the investment income taxation channel. One positive surprise for Canadian federal and provincial governments during FY 2025-26 has been higher tax receipts related to the surge in equity prices driven by AI optimism. Time will tell if AI reshapes the structural performance of equities. Morgan Stanley Research argues today's S&P 500 market cap of US$60t could increase by US$16T.

Leveraging AI for Government Spending and Operations

Like fiscal revenues, AI could have a wide range of meaningful implications on budgetary spending on both the upside and downside. Under the hypothetical scenario that AI eliminates a wide range of jobs over time, the federal government could find itself in a disadvantage position relative to Canadian provinces because Employment Insurance (EI) is one of its responsibilities. EI payments represent 5% of the federal government's total spending. Also, several global reports suggest AI technological unemployment will require a universal basic income (UBI) financed by an AI automation tax. In the U.S., UBI could triple the current US$2.5T annual amount of social welfare funding according to the Tax Project Institute, a finding that could be applicable to the Canadian case.

At a broader level, AI provides a great opportunity to reshape the public sector workforce and enhance efficiency. Canadian governments' productivity relative to the business sector has deteriorated according to the Macdonald Laurier think-tank. So far, the OECD finds an uneven AI adoption among governments: often used in public services, civic engagement and justice functions, but lagging with respect to civil service management and policy evaluation. PwC suggests AI adoption in the public sector could boost public administration productivity by up to 3%.

On paper, the Canadian public sector can leverage AI for its operations relatively more easily than some other sectors, considering occupations are more exposed to AI applications according to the Dais think-tank. In the U.S., the Penn-Wharton Budget Model goes further by estimating that more than half of the tasks of some public sector occupations – office, administrative and management support – can be replaced by generative AI. The Boston Consulting Group may have the most upbeat estimate with respect to the future path of governments' spending, saying generative AI could lead to 35% in cost savings in applicable areas such as claims evaluation, assistance with applications and forms, and policy fact checking.

To facilitate AI integration into governments' workflows, experts at Carnegie-Standford propose the hybrid human–AI combination as being more efficient and accurate than AI agents or humans working alone. For instance, digital assistants to support public sector employees are operating in Denmark, a global frontrunner in AI adoption. The Danish AI taskforce vision presented mid-2025 calls for a rollout of AI in public entities to free up 50M hours to focus on the most important tasks and to create value for both citizens and employees.

Finally, the Brookings Institute exposes the trade-off of the initial boost in U.S. federal spending tied to AI investment – particularly AI infrastructure – and future realization of efficiencies. The report deep dives into federal contracts to discover that 85% of the contract value was related to the massive investments in the U.S. Department of Defense. Like the U.S., it all comes down to the ROI for Canadian governments. It is particularly the case at the federal level, as the November 4th budget will dedicate $82B over 5 years to the new defence investment strategy.

Potential Impact of AI on Longevity, Health Care and Health Care Costs

Health is the third big channel that will drive the net impact of AI on long-term public finances.

AI applications in the field of medicine are expanding to drug research, omics-based analysis, reverse aging and predictive health care. In the U.S., Retro Biosciences is on its way to raise billions in private capital, targeting to add 10 years to the human lifespan. NVIDIA also pushes forward with the utilization of its AI robotics development platform to allow for robots performing surgical scopes. Furthermore, AI beat doctors in a diagnosis competition held last November in Shanghai. China's first AI hospital located at Tsinghua University was launched in 2024. Results show 90%+ diagnosis accuracy and detection of diseases doctors may miss. In Japan, AI-enabled MRI technology is allowing the Kumamoto Chuo hospital to obtain better internal body images faster. The success story of home care AI plushies and nursing care robots for the elderly in Japan and South Korea is mixed: they alleviate health care labour shortage pressures but also require unproductive repair efforts because they break down often.

With respect to long-term fiscal implications, the Brookings Institute proposes one particular scenario of AI extending longevity through a reduction in mortality rate. This scenario incorporates a ~7% increase in the number of seniors aged 65 years old by 2040. Such an increase boosts U.S. federal old-age spending, adding upward pressures on the federal government's finances. There is a parallel to be drawn for the Canadian federal government under the status quo assumption that Canada's Old Age Security (OAS) payments and minimum retirement age remains at 65 years old. The OAS is the largest single expenditure item at the federal level, representing 14% of total expenses or close to $80B annually. Deloitte says OAS will cost $100B by 2030 already, an amount that could be higher under the scenario that AI radically lengthens longevity.

The other ambiguity relates to the impact of extended longevity on health cost pressures at the Canadian provincial level. The Brookings Institute proposes one scenario with slower rates of health care utilization and prices contributing to cutting about 0.8% of the U.S. federal annual deficit relative to the base case by 2044. Inversely, another scenario stipulates lower mortality rates boost health care utilization, and thus, Medicaid and Medicare, ultimately leading to a 1.6pp deterioration of the size of the U.S. federal government annual deficit. The Conference Board of Canada estimates that half of healthcare expenses are driven by the population aged 65 and over, making up one-fifth of the total population. Under the scenario that AI boosts healthcare costs, the federal government may eventually have to boost the existing Canada Health Transfer or initiate a new AI-type transfer to Canadian provinces to alleviate financial pressures.

AI Integration in Canadian Governments and Entities: Some Constructive Examples

Canadian governments at the federal, provincial and municipal levels and other entities are gradually rolling out AI applications. A sign of success on that front can be found in the Stanford University survey noting AI optimism has grown in Canada. In this section, we highlight some successful cases and ongoing progress that caught our attention. AI integration at the municipal level should not be overlooked. In the U.S., data from the City AI Connect of the Johns Hopkins University reveals growing AI integration. According to the Centre of Civic Governance, close to one-quarter of Canadian municipalities are using AI and over half are actively exploring or planning adoption.

Jurisdiction	Key Findings on AI Usage
Ontario	• The Ontario government AI framework is consistently evolving. • Public sector workers increasingly use Copilot: early estimates of a Copilot project reveal 3 hours saved per week per employee. The plan is to widen AI usage. • Deep learning used in a mental health project to support teenagers. • The Centre for Digital Health found that AI scribes used by physicians reduced the time spent on administrative tasks. • AI contributes to the reduction of wait times in hospitals in the GTA area.
Quebec	• The Quebec government has compiled more than 150 AI solutions currently being developed with respect to assistance, customer relationship, image translator and planning tools across ministries. • AI integration strategy for 2021-2026 balances innovation in the public administration with responsibility and protection of citizens' privacy.
British Columbia	• The BC government proposes an impressive list of 50+ projects using AI across ministries. Examples include mining permit management, machine learning to assess wildfire perimeters and process automation.
Alberta	• Adoption of digital scribe recording medical conversations between patients and doctors, thus allowing physicians to see more patients. • Service Alberta Ministry plans to use machine learning in 2026 to write legislation about input requirements and production standards for whisky distillers.
Nova Scotia	• AI usage to improve security in hospitals and enhance access to health information. • The government has solid guidelines on AI usage within public entities.
Newfoundland and Labrador	• The N&L government has a guide of responsible AI use in place across public institutions.
Manitoba	• AI-driven MRI machine usage in some hospitals reduces scan times by half.
Federal Government	• A register of AI uses was launched in sync with Budget 2025 to build public trust. • Last September, the federal government's chief data officer hinted about upcoming productivity gains, saying AI usage will lead to public sector job cuts.
Quebec City	• First Canadian city to use the machine learning algorithms of Google's Project Green Light to optimize traffic light synchronization. • Initial results in other cities point to reductions in vehicle stops and GHG emissions.
City of Montreal	• The new Mayor of Montreal plans to integrate AI into a variety of activities, including the management of construction sites and the fast-tracking of permit delivery.
City of Ottawa	• Drinking Water Services will use AI-based water leak detection in its infrastructures, thereby improving public safety.
Hydro-Québec	• Hydro-Québec reduces risk by using AI Light Detection and Ranging technology to predict which tree branches are likely to snap and break power lines.
Ontario Power Generation	• Ontario Power Generation (OPG) recently ratified an AI partnership to improve streamflow forecasting across its hydroelectric operations.

Takeaway: Wide Range of Possible ROI, Shifts to the Tax Base and Net Fiscal Impact

In summary, there are multiple takeaways associated with how AI could redefine the Canadian governments' tax base and fiscal path over the long run.

- To monitor AI's progress, both governments and market participants should monitor surveys tracking AI usage among Canadian firms, along with productivity figures, announcements leading to structural (un)employment shifts in AI-exposed industries, and news related to the adoption of AI among ministries, including health.
- AI adoption in its early phase makes it particularly difficult to assess to what extent in the long run Canadian federal and provincial governments will cash in on the revenue side.
- Similarly, the net impact of upward and downward pressures on – health – spending is up for grabs.
- Canadian governments may have to modernize their tax base, taxing more AI retail services and AGI systems than AI capital assets to shift away from taxing labour. Consumption taxation may replace labour taxation as their primary fiscal revenue source.
- In the meantime, governments should plan various AI-driven stress-testing exercises and come up with tax and spending mitigation policies.
- The different AI channels could ultimately translate into fiscal improvement for Canadian provincial entities relative to the federal government.
- Canadian governments at all levels are embarking on an apparently long journey to extract efficiency.
- Canadian public entities are encouraging and tracking AI deployment in the public sector workplace, in tandem establishing AI literacy, legislation and framework, building public trust and preserving privacy.

In our report, we voluntary stop short of diving into other channels where AI could influence the fiscal outlook, including tax compliance efficiency and the need for adequate data centres. In conclusion, Canadian governments could consider new frontiers, like the small European country of Albania that has been the first to embark upon an AI-driven virtual minister.