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Remarks by

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AI is knocking: Canada's next productivity story

Good morning. And thank you for inviting me to give the keynote speech at this year's spring policy conference. It's great to see some familiar faces here.

Today I'm going to talk about a technology that is changing how we live and work: artificial intelligence (AI). I will consider how AI is affecting the economy today, as well as what could unfold in the future.

AI may seem like a relatively new trend, but the core technology has been percolating—and steadily improving—for about 75 years.[1] What's changed is that recent advances have made AI far more powerful and accessible. Based on its current and promised applications, AI represents a significant technological advance that has the potential to boost productivity and raise living standards.

As AI continues to improve and its adoption spreads, it could permanently change how the Canadian economy works. By lowering costs for businesses and improving efficiencies, AI could support higher wages, reduce prices for consumers and spur new investment.

There's also the question of what AI will mean for jobs. When economists look back at past transformative innovations, they find that while the transition period may have been disruptive for workers, widespread adoption did not lead to net job losses. But some worry that this time will be different.

[1] The term *artificial Intelligence* was coined in 1956 in a research workshop at Dartmouth College. However, the concept of machine intelligence dates back to the late 1940s and early 1950s.

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AI also has implications for financial markets and financial stability. Its rapid rise has sparked concerns about overinvestment and overvaluation in AI-focused equities. And AI may make sophisticated cyber attacks easier to carry out and therefore more likely to occur.

To put it simply, the Bank of Canada cares about AI because of its potential to significantly affect productivity, economic growth, employment and inflation. AI also has the potential to impact the financial system, creating both new efficiencies and new risks.

These developments shape our assessment of the economy, so they matter for our monetary policy decisions and the Bank's work to foster a stable and efficient financial system.

Governor Tiff Macklem first talked about AI in a speech in September 2024. At that time, he noted both the enthusiasm for AI and the uncertainty around how it would unfold.[2] A lot has happened in the 20 months since that speech.

In my remarks today, I'm going to give you an update on how AI adoption is progressing in Canada and the effects it is having—and could yet have—on jobs and productivity. But before I do this, I want to put the recent buzz around AI into context for you by comparing it with some past episodes of large-scale technological change.

Let's dive in.

Understanding transformative technologies

AI is both a transformative innovation and a potential driver of structural change. To help put this into perspective, let me take a step back to explore the concept of technological change.

Technological change refers to the way new tools or methods reshape how work is done. This rewiring typically improves efficiency and productivity. It also often ushers in new products and services.

Technological change doesn't happen overnight. It's often a long process—starting with an idea, moving into research and development, and then into commercialization and adoption. Most of the time, these changes unfold gradually in the background. People don't notice them because they tend to be incremental—small steps that add up over time—or change that is limited to one industry.

But occasionally, technological change accelerates and becomes broadly transformative. Technologies such as steam engines, electricity, the internal combustion engine, computing and the internet reshaped entire economies and societies. Economists call these transformative innovations *general-purpose technologies*, or GPTs.

Turbocharged technological change: General-purpose technologies

GPTs have clear characteristics that set them apart from other technologies.

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[2] See T. Macklem, "Artificial intelligence, the economy and central banking" (speech to the National Bureau of Economic Research Economics of Artificial Intelligence Conference, Toronto, Ontario, September 20, 2024).

One is that GPTs are built around a single technological core that can be traced over time. They start small with lots of room for improvement—but they end up being dramatically improved, widely used and applied in many ways across the whole economy.

For example, when computers emerged in the late 1930s, they were giant machines used for code-breaking and complex calculations. Computing has since spawned laptops, smartphones, streaming services and even wearables such as fitness watches that allow us to send text messages and monitor our sleep.

Another way GPTs differ from smaller-scale technologies is that they fundamentally change how businesses and institutions operate. As they advance, they often spur new laws and regulations.

And, importantly, they generate significant spillovers. These include investment in supporting infrastructure that fuels more research and development and broader adoption. This investment, in turn, spawns other complimentary innovations—some of which may end up being GPTs in their own right.

For example, computers began as a spillover of electricity, which was itself a spillover of the steam engine. Computers, in turn, have generated spillovers of their own across many industries and with many different uses. These include smaller ones, such as digital watches, to larger ones such as software ecosystems, the internet, robotics—and now AI.

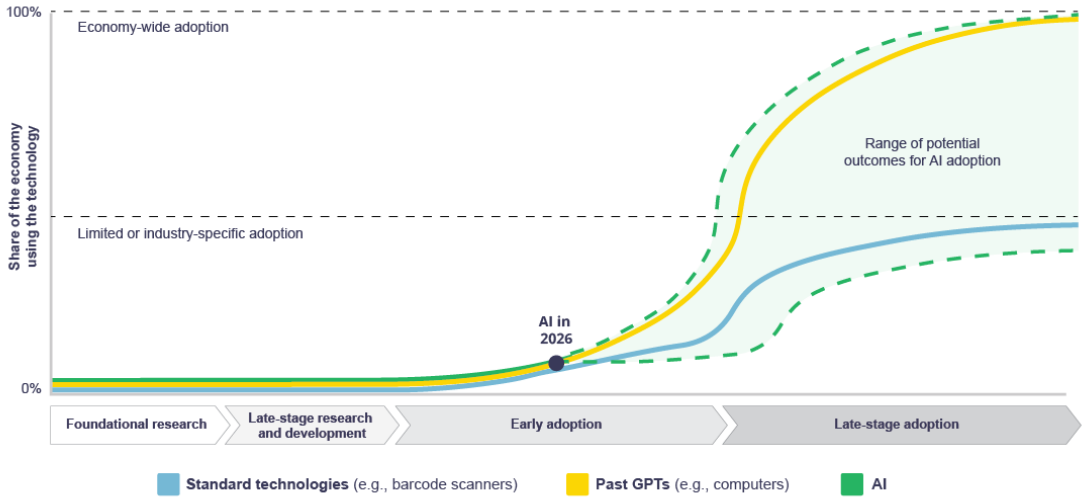
Finally, GPTs are anything but quiet. Their effects on society are large enough to permeate popular culture and generate significant debate.

At the advent of computerization, there was a lot of public debate about what computers would mean for humanity—including fears that workers would be replaced by machines and hopes that machines would give humanity endless free time. Does that sound like anything you've heard lately?

So now we are at the crux of the matter. Is AI a GPT?

I think it's fair to say that AI has many characteristics of a GPT—but not all of them, yet. This is to be expected, because while AI has been evolving for decades, we are *still* in the early days of adoption (**Figure 1**).

Figure 1: General-purpose technologies spread through the entire economy over time



Note: GPT is general-purpose technology. AI is artificial intelligence.

At this point, we don't know for certain whether AI will spread through the entire economy and create spillovers as it goes—like computers—or plateau as a powerful but still task- or sector-specific type of technology.

Why does this distinction matter? Because if AI proves to be more of a run-of-the-mill innovation, then it won't lead to massive productivity growth, and it won't radically transform the economy.

But if AI is a GPT, the technology will keep improving, adoption will broaden, and new spillovers and uses will continue to emerge. Productivity will improve and jobs will be transformed. Stronger productivity will make businesses more competitive, leading to higher wages for workers, cost savings for consumers and less pressure on inflation.

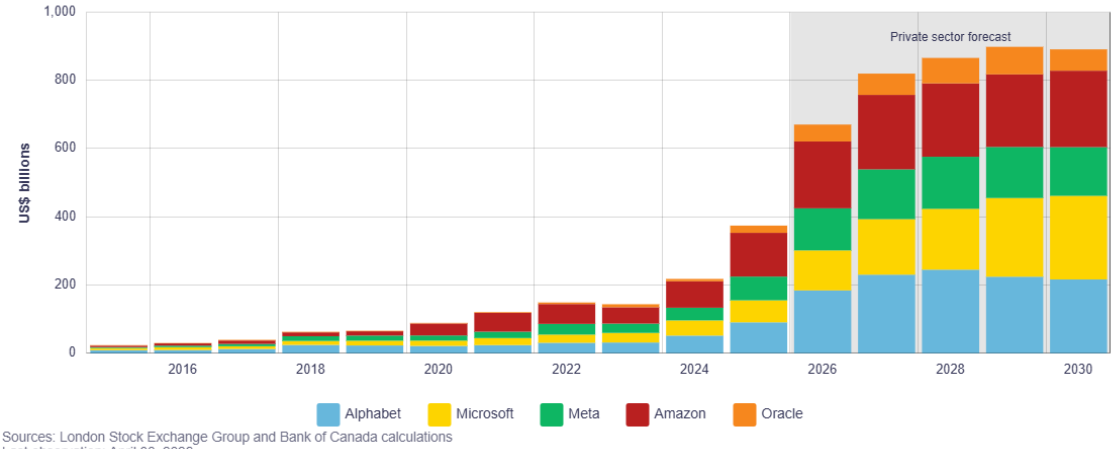
This would usher in a large structural change to the economy, and the Bank would have to adapt accordingly. That is why we need to pay attention to where AI is going.

AI investment, productivity and jobs

This brings me to what has happened since the Governor's speech in 2024.

One of the biggest changes is that investment in AI data centres has really ramped up. In 2024, AI-related investment by top US technology firms was roughly US$200 billion. It doubled to about US$400 billion in 2025. And it's expected to continue rising in coming years (**Chart 1**).

Chart 1: Capital spending by hyperscalers is expected to increase significantly over the next four years



Sources: London Stock Exchange Group and Bank of Canada calculations
Last observation: April 30, 2026

AI data centres are expanding so rapidly that new power generation capacity has not been able to keep up. This is prompting many jurisdictions to fast-track other infrastructure investment.

The massive buildout of data centre capacity, along with improvements in hardware and in the availability and capabilities of models, should eventually make accessing advanced AI tools cheaper and easier. And that, in turn, should encourage more Canadian businesses to use AI at scale.

So how pervasive is AI use in Canada right now? To help answer that, the Bank draws on external data, and we've started asking about AI in our surveys of consumers, businesses and the financial sector. Governing Council members also talk with businesses and communities to better understand how AI is being used in practice.

What we're finding is that AI adoption is gaining steam. A 2022 study by Statistics Canada showed that about 3% of Canadian businesses were using AI.[3] By 2025, the share had quadrupled to around 12%.[4] Our most recent Business Leaders' Pulse survey also revealed that many businesses have started to use AI.

But AI adoption differs across sectors. For example, just 1.5% of businesses in accommodation and food services are using AI, compared with more than 30% of finance and insurance firms.

Many businesses that are not yet using AI say it's because the technology does not meet their needs or their workers don't have the right skills. But as new applications emerge, costs fall and workers build the necessary skills, more businesses will be able to integrate AI into their operations.

For now, AI adoption remains concentrated in a few sectors. This means that even if some firms are seeing benefits, it will likely take time before significant gains show up in overall productivity data.

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[3] See Statistics Canada, "Survey of Advanced Technology, 2022," *The Daily* (July 2023).

[4] See, V. Bryan, S. Sood and C. Johnston, "Analysis on artificial intelligence use by businesses in Canada, second quarter of 2025," Government of Canada (June 2025).

That said, we are starting to see evidence of small productivity gains from AI, which I will go through in a moment. We are already incorporating limited gains into our projections and our estimates of potential output.[5]

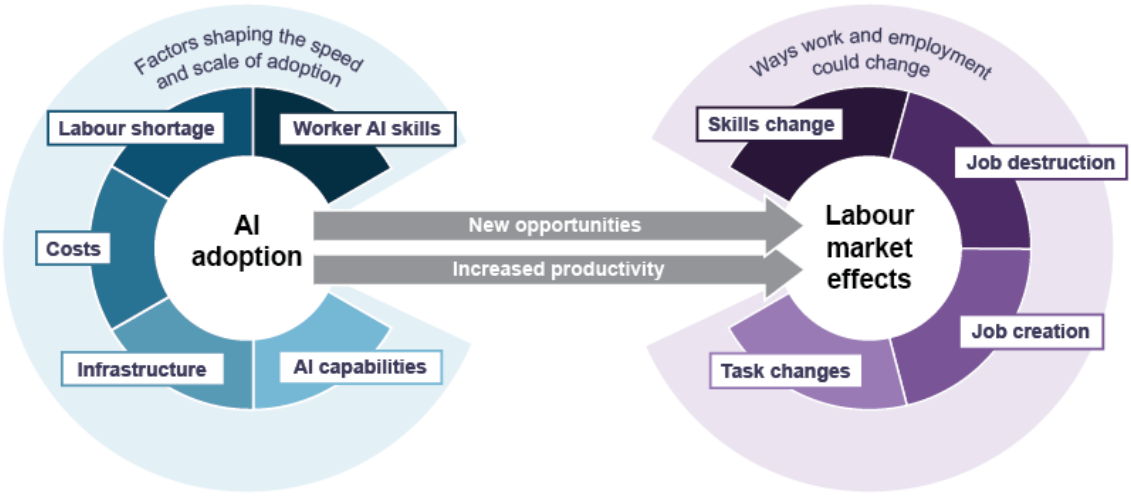
It's important to note here that productivity is not about asking people to work harder. It's about how efficiently the economy transforms work into goods and services. When productivity improves, living standards rise. Productivity also ultimately determines how fast the economy can grow when it's firing on all cylinders without generating inflationary pressures—in other words, it affects the economy's potential output.

AI and the workplace

Of course, as businesses become more productive and new uses for AI emerge, jobs will be affected—especially if AI is indeed a GPT. Understandably, this is a serious concern for many Canadians who want to know what AI will mean for their work and their job security.

How disruptive this change will be depends on the speed and scale of adoption, and on how quickly workers and businesses are able to adapt. Of course, AI could also create new opportunities for workers (**Figure 2**). And it's important to remember that other changes happening in the economy will affect the labour force, such as demographic shifts.

Figure 2: The impact artificial intelligence has on labour markets will be influenced by adoption



Note: AI is artificial intelligence.

While it is still early days, we do anticipate that some jobs will be replaced by AI. New jobs will emerge, and others will be transformed. We are monitoring the job market data closely for signs of these changes.

To put this in context, when computers were first introduced into offices, some jobs vanished, like office typists and switchboard operators. New jobs were created, like entire IT departments. And other jobs changed—analog tasks were digitalized, and workers learned to use computers.

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[5] See Bank of Canada, "Appendix: Potential output and the nominal neutral rate of interest," *Monetary Policy Report* (April 2026).

Importantly, none of this happened overnight. The changes played out over the course of many years. As workplaces restructured to fully take on the new technology, people were affected in different ways. But, ultimately, computerization did not lead to fewer jobs.

This brings me to the first of three key points about AI and jobs. So far, we don't have evidence that AI is replacing workers on a large scale.

The Statistics Canada study I mentioned earlier showed that almost 90% of businesses that have adopted AI reported no effect on staffing levels.[6] Roughly 4% said that AI had led to job creation, and about 6% reported decreases in employment linked to AI use.

Businesses in a subsequent survey did expect a slightly more negative effect on employment levels in the future.[7] But relatively few of them anticipated net decreases in employment in the coming years because of AI. This again reflects what we've heard in our own business surveys.

To be sure, some workers are already feeling the effects of AI. Several large technology firms have attributed recent job cuts to AI, among other factors. And studies have highlighted weak hiring in roles that are highly exposed to AI, such as entry-level coding and customer service. This could disproportionately affect younger workers and people in AI-exposed sectors. This is a real concern. My colleague External Deputy Governor Nicolas Vincent will delve into factors that may be affecting youth unemployment, including AI, as part of a speech on labour markets later this month—so stay tuned.

But, broadly speaking, the evidence does not yet point to widespread worker displacement because of AI. So what effect is AI having?

This is my second point: AI is changing how tasks are done, but humans remain in control.

Most respondents in our latest survey of consumers told us AI is being used in their workplace to boost productivity rather than to automate entire workflows or to replace staff on a large scale.[8] Those who currently use AI at work say it is improving the quality of their work by helping them with tasks such as writing or analyzing data (**Chart 2**).

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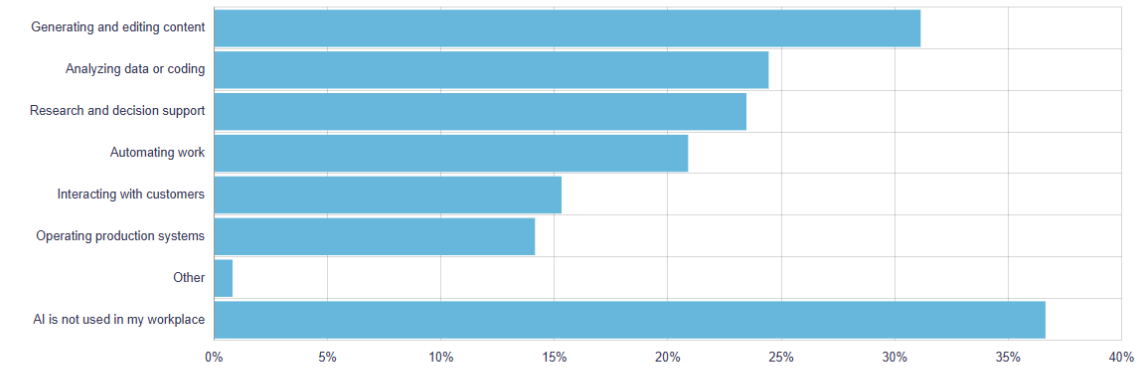
[6] See Bryan, Sood and Johnston (June 2025).

[7] See, V. Bryan, S. Sood and C. Johnston, "Analysis on expected use of artificial intelligence by businesses in Canada, third quarter of 2025," Government of Canada (September 2025).

[8] See Bank of Canada, "Box 1: Workers expect artificial intelligence to boost their productivity," *Canadian Survey on Consumer Expectations—First Quarter of 2026* (April 2026).

Chart 2: Canadians say they are using artificial intelligence at work for a wide range of tasks

In what ways are you currently using AI in your workplace? (Share of consumers currently working)



Note: AI is artificial intelligence. *Generating and editing content* includes writing, editing, generating video or images, translating or summarizing documents. *Research and decision support* includes brainstorming, learning, planning or making decisions. For responses other than *AI is not used in my workplace*, respondents could select more than one option.
Source: Bank of Canada
Last observation: 2026Q1

And in the Bank's most recent survey of senior experts in risk management in the financial sector, many said AI use was improving productivity by automating routine tasks, allowing workers to focus on higher-value ones. Looking ahead, they see AI as a tool to support decision-making, while still keeping humans very much in charge of those decisions. This reinforces the view that AI will mostly transform jobs—not eliminate them.

Some of the clearest data on how AI is transforming work comes from Indeed's Hiring Lab. In a recent survey, they found that 57% of Canadians who use AI at work were saving one to two hours a day, and 22% were saving three to five hours (**Chart 3**).[9]

Chart 3: Most Canadians who use artificial intelligence at work report daily time savings

(Share of respondents who chose each option)

Note: For *How time savings are used*, respondents could choose multiple options.
Source: Indeed
Last observation: June 2025

When asked what they did with the extra time, many workers said they took on other tasks and projects and improved the quality and efficiency of their work. In other words, AI boosted their productivity. Some also said they were using the extra time to improve their work-life balance, or for professional development—to learn new skills, increase innovation and take on new responsibilities.

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[9] See Y. Aoki, "A Tale of Two Workforces: Who's Using AI and Who's Getting Left Behind," Hiring Lab Economic Research by Indeed (December 2025).

This brings me to my third point: AI has the potential to create new job opportunities and help solve demographic challenges.

Over the next few years, retirements and slower population growth could lead to labour shortages in some sectors. With proper training, workers displaced by AI could fill some of these open jobs. At the same time, labour shortages will likely speed up the development of new ways to use AI.

In fact, this is already happening in the health care sector, where the demand for doctors is rapidly outpacing availability. Studies found that when Canadian doctors used AI to take notes and complete routine paperwork, they saved about three to four hours every week.[10] That gave doctors more time for higher-value work—and patients said they felt better cared for.[11] Another study found that nurses who used AI for scheduling tasks were able to spend more time with patients.[12]

As these examples show, AI is becoming a more cost-effective way to handle mundane tasks that have traditionally been done by highly paid medical workers. But it is not putting doctors and nurses out of their jobs.

So AI is already helping with some demographic challenges. It's also important to note that by boosting efficiency in the production of goods and delivery of services, AI could lower costs. This, in turn, could make goods and services more accessible, supporting stronger demand and employment growth.

This brings me to the future of work.

Chart 4 shows that all workers, whether they currently use AI or not, expect it to boost their productivity over the next year. And both groups are optimistic the technology could help them start a business—an important source of job creation.

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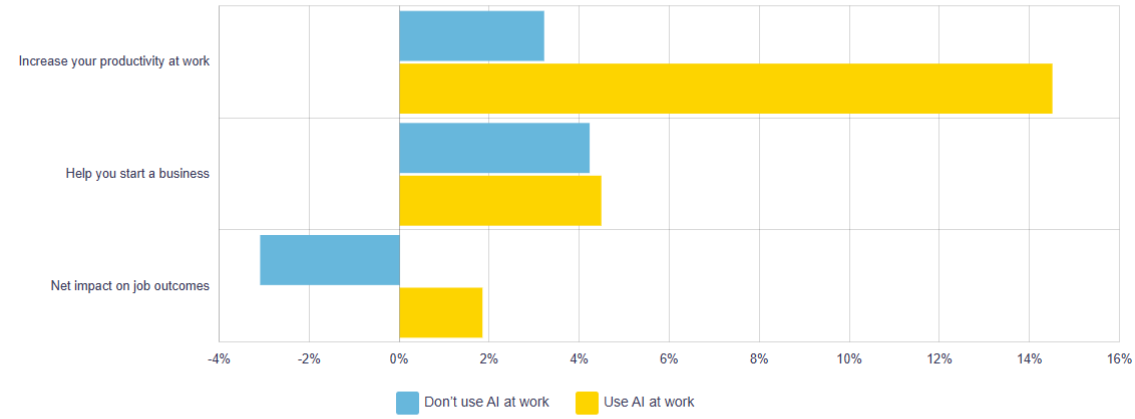
[10] See OntarioMD, "AI scribes show promising results in helping family doctors and nurse practitioners spend more time with patients and less time on paperwork" (September 2024).

[11] See Doctors of BC, "Reducing physician burdens: AI Scribes Pilot results" (May 2025).

[12] See N. Wu, H. Whitelaw, Q. Wang, A. Phelps, T. Sivanesanathan, P. DeMaio, A. Ali, K. Chen, R. Dass, E. Grewal and K. Moat, "Artificial intelligence tools for reducing administrative burden among front-line healthcare providers," Rapid evidence synthesis No. 129 (Hamilton: McMaster Health Forum, May 2025).

Chart 4: Workers expect artificial intelligence to boost their productivity or help them start a business

Over the next year, what are the chances that AI will...? (Share of respondents assigning more than 50% probability to each outcome; job outcomes are shown as net impacts)



Note: AI is artificial intelligence. Each bar reports the share of respondents who assigned a probability greater than 50% to a given AI-related outcome. For job outcomes, the bars show net impacts: the share expecting AI to help them find new job opportunities minus the share expecting AI to cause them to lose their job. In 2026Q1, among respondents currently working, 35% stated they don't use AI at work, 60% said they use AI at work, and 5% were not sure.
Source: Bank of Canada
Last observation: 2026Q1

The chart also shows that while workers who don't currently use AI at work expect it will lead to job losses, those who do have the opposite view. This suggests that the more workers are exposed to AI, the more likely they are to see it as a job or opportunity creator.

Not surprisingly, we are seeing evidence that demand is rising for workers with AI skills. As more workers build up these skills, it should help hasten AI adoption and speed up the productivity gains. These skills will be particularly important for youth entering the labour force and those in roles exposed to AI. In some cases, workplaces are already offering training on AI, reinforcing the idea that it is evolving as a support for human-centred work.

The bottom line is this: considerable uncertainty remains about how quickly, how broadly and how fully AI will diffuse throughout the economy. While we can build forecasts based on what we think will happen, we know those forecasts will likely change as new information becomes available. But given AI's potential effects on productivity, inflation and the job market, it is not something we can ignore.

Before I wrap up, I'm sure you're wondering how the Bank is using AI.[13]

Let me be clear: AI does not *make* monetary policy decisions. But it can help sharpen our insights.

For example, AI supports our analysis. Alongside traditional models, we use machine learning models to help forecast inflation and economic activity. AI also helps us track sentiment in the economy, and it has proven useful in analyzing large and more granular datasets to better understand how households and businesses are behaving. We also use AI to analyze external text, such as transcripts of earnings calls, to help track how AI is being adopted.

[13] See J. Chapman, A. Desai, M. Haghighi and J. MacGee, "Integrating non-traditional data and AI into central banking: A Canadian perspective," Bank of Canada Staff Analytical Paper (forthcoming).

Furthermore, AI contributes to the Bank's monitoring of financial stability and market functioning by cleaning, verifying and analyzing market data. It can detect patterns and vulnerabilities that we need to keep an eye on.

The Bank of Canada is not unique in this respect. Central banks around the world are using AI to strengthen analysis, process data, improve forecasts and monitor financial stability. To stay transparent, many have also developed disclosure practices and implemented responsible-use frameworks.

By using AI in a responsible and ethical way to enhance our work for Canadians, the Bank can benefit from new tools while maintaining the trust that is essential for us to achieve our mandate.

Conclusion

It's time for me to conclude.

I hope I've given you some insight today into how the Bank is viewing AI and how we are tracking developments to help inform our decisions.

AI has the potential to transform the economy. How big and how disruptive the transformation will be depends on how fast and how broadly AI is adopted, as well as other factors such as demographic changes.

The Bank cannot control the scale or speed of AI adoption. However, if necessary, we can and will support the economy as it restructures. Most importantly, we are committed to keeping inflation low and stable around our 2% target so that households and businesses in Canada can spend and invest with confidence.

And, through events like today, the Bank hopes to continue driving conversations on important, transformative questions that impact our economy—now, and in the future.

Thank you.