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**Advocis Western Canada Chapters**
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**(via webcast)**

# The digital transformation and Canada's economic resilience

## Introduction

Good morning, or good afternoon, depending on which part of Western Canada you are joining me from today. I'd like to thank Advocis for hosting this event.

What an extraordinary 15 months this has been! The COVID-19 pandemic remains, first and foremost, a public health emergency that continues to cause widespread suffering and disruption in Canada and around the world. The economic consequences have also been massive, with job losses exceeding those from any recession in Canadian history in both their number and suddenness.

As vaccination rollouts speed up and cases trend down, though, we can start to imagine better times. But we are still a long way from a complete economic recovery. Too many people remain out of work, particularly in the sectors hit hardest by lockdowns and physical distancing measures.

These have been tough times for many. Yet, on the whole, the Canadian economy has come through better than expected. One important reason is the large-scale government support that boosted household disposable incomes and kept many companies afloat. At the Bank of Canada, we also did our part by helping to keep credit available and its cost low.

Throughout this period, the resilience of Canadian households and businesses has also been striking. This resilience has been enabled, in part, by the digital technologies that have become more widespread, giving us new ways to shop, serve customers and work remotely. The pandemic has only accelerated the digital transformation that was already underway in Canada and globally.

I would like to thank Eric Santor and Gabriela Galassi for their help in preparing this speech.

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My remarks today will offer a progress report on the economic recovery in Canada, putting some context around the interest rate decision that we announced yesterday.

I'm also going to make some observations about the digital transformation—and what it means for where the economy is heading beyond the pandemic.

## The story so far

We have spent the past year climbing out of a very deep hole. During the worst of the pandemic, the Canadian economy contracted by almost 15 percent and lost about 3 million jobs. Economic activity and employment both rebounded strongly last summer. But the second and third waves of the virus each brought setbacks, so real activity and employment are still below pre-pandemic levels.

By April 2021, when the Bank published its latest *Monetary Policy Report* (MPR), there was reason to be more confident in the Canadian economy's resilience. Despite renewed lockdowns, we saw signs of strong growth in the first quarter. Households and businesses had clearly adapted better than expected. Job losses were mostly in sectors where activities are hard to physically distance. Canada's export markets were improving too, led by the United States, thanks to its rapid vaccination rollout and substantial fiscal stimulus.

Then the third wave of COVID-19 dealt Canada another blow this spring. More contagious variants had spread around the world and across the country, adding new uncertainty and straining hospitals in some areas. This slowed the return to work for many people in contact-sensitive sectors and led to further job losses. But with Canada's vaccinations now in high gear and lockdown measures helping to contain the virus, this setback should be temporary.

The economic data that have come in over the past few weeks provide signs of increasing resilience that bode well for the underlying recovery.

One key piece of information that arrived last week is the National Accounts data. These show that real gross domestic product (GDP) in Canada grew by an annualized 5.6 percent in the first quarter, bringing the level of real GDP to only 1.7 percent below where it was before the pandemic. In our April MPR, we had projected growth of 7 percent. But the data are quite encouraging. Household spending was even stronger than expected. GDP growth wasn't as high as in our projection mainly because businesses drew down their inventories and increased imports more than anticipated.

Overall, the data provide indications of rising confidence and resilient demand. They confirm that the Canadian economy is heading for a strong first half of 2021, despite the most recent lockdowns. We still expect positive growth in the current quarter—close to the 3.5 percent projected in our April MPR.

That being said, the latest Labour Force Survey—released Friday—shows that there were 275,000 net job losses over April and May during the renewed lockdowns, and that the unemployment rate is still above 8 percent.

I'd like to mention a few key elements of the economic picture. One is housing, which has provided a strong boost for the economy during the recovery. Signs of moderation have appeared in recent weeks, but the level of activity remains very high. The housing boom has been driven by both a desire for more living space and low mortgage rates. And the desire for more space has been driven partly by the fact that digital technology has made remote work seem like a viable option for many people, even after the pandemic. But, as we have noted, there are also signs that extrapolative expectations—the fear of missing out—are taking hold in some markets, so we are watching this closely.[1]

Another important factor has been strong gains in world prices for oil and other commodities. This mainly reflects brightening prospects for the global economy, and it is good news—especially for Western Canada and other oil-producing regions. It offers some relief from last year's commodity price collapse, which came after five years of painful adjustment to the earlier plunge in oil prices.

Inflation, meanwhile, is a more complicated story than usual. Many prices plummeted with the onset of the pandemic, and inflation was running well below our 2 percent target until recently. In April, though, consumer price inflation increased to about 3.5 percent. This was largely in line with what we projected in the MPR. It reflects the fact that year-over-year inflation compares today's prices for a range of goods and services with last year's rock-bottom prices—so-called base-year effects. It also reflects higher gasoline prices and other temporary factors. We expect inflation to stay around 3 percent through the summer and then to ease later in the year as remaining slack in the economy pushes inflation down.

As we said in April, unusually high uncertainty exists around how much policy support will be needed and for how long. That's partly because of the uneven economic effects of the pandemic. It's also because the pandemic may be accelerating structural changes in the economy, making it harder to gauge the economy's potential to grow without creating inflation. Here, a key element is the adoption of digital technologies, so let me spend a few minutes discussing that.

## The digital transformation and COVID-19

Anyone with a smartphone knows that digitalization was well underway before the pandemic. Investment in information and digital technologies has been solid around the world, including in Canada, for several years.

We can see this transformation most directly in the growth of tech industries. Computer system design and related services—a proxy for the digital sector in Canada—started growing almost three times faster than the overall economy in 2013. By 2019, economic activity in the digital sector made up almost the same share of Canada's economy as mining, oil and gas combined.

But the impact of the transformation extends well beyond tech industries. All kinds of service providers—from banks and insurers to telecommunications firms and governments—have harnessed digital technology to improve their operations and interact with clients. Retailers have expanded online platforms and made them increasingly user-friendly. Digital technologies are also transforming the goods-producing and commodities sectors. Auto manufacturers have used

[1] See the Bank of Canada's May 2021 *Financial System Review* and Governor Tiff Macklem's opening statement.

increasingly sophisticated robots for decades and, in more recent years, other industries have followed their lead.[2] And the energy sector uses automation, artificial intelligence and machine learning to cut costs and emissions and to make worksites safer.

Through the COVID-19 recession, digital technologies have played a central role in safely sustaining economic activity. One obvious example is videoconferencing technology, such as what we're using today, which has allowed millions of Canadians to do their jobs from home. Another is the proliferation of apps that allow people to order from restaurants and shop with limited physical contact.

The need to quickly adopt and even develop technologies during the pandemic has given the digital sector added momentum. While the Canadian economy shrank by about 5 percent in 2020, the proxy for the digital sector that I mentioned earlier grew by 3.5 percent—and continued to accelerate into 2021. This has helped support employment through the pandemic.

Technology-driven adaptation has also changed the types of jobs available. There have been fewer openings for servers in restaurants but more for delivery drivers, and fewer for in-store retail salesclerks but more for people in warehouses fulfilling online orders. We've also seen ever-expanding opportunities for people with digital skills—skills that were already in high demand before the pandemic. For instance, there have been fewer openings for event planners but more for people to manage social media communities. And, as workplaces have adapted to virtual operations and remote work, companies of all kinds have sought people to produce and support their digital infrastructure.[3]

These developments show that the digital transformation has been accelerated by the pandemic and suggest that it could continue to accelerate beyond the current recovery. Growing evidence shows that the pandemic has pushed firms in all sectors to overhaul their business models more aggressively than planned. Roughly half of the Canadian executives who responded to our spring Business Outlook Survey said that it has sped up their adoption of digital technologies.[4]

Still, it's going to be challenging to capitalize on the opportunities that this transformation presents. Businesses are already having trouble finding people with the right skills, and these skill shortages could intensify in the coming years.

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[2] A recent Statistics Canada report tracks the increasing adoption of robots by Canadian firms. In line with the rest of the world, the main adopter in Canada is the automotive industry, where the stock of robots grew substantially until the 2008 global financial crisis. Since then, the stock of robots in the auto sector has plateaued, while it has risen in other manufacturing industries.

[3] This can be seen in job postings on sites such as Indeed.com. Since the initial reopening in June 2020, postings for jobs in sectors linked to the production of digital infrastructure—software, hardware and IT support—have recovered faster than postings for jobs in other sectors, growing 114 percent through April 2021, compared with 86 percent for other sectors. This is after digital infrastructure–related postings dropped less than those in other sectors during the initial lockdowns last year.

[4] Similar trends have been identified at a global level. See, for example, McKinsey & Company, "How COVID-19 Has Pushed Companies over the Technology Tipping Point—And Transformed Business Forever," (October 2020).

Moreover, the opportunities could be distributed unevenly. Some people could even see fewer opportunities, at least at first, as some businesses use technology to replace workers or struggle to remain viable. Many of the jobs that could be displaced are also those that have been hit hardest by the pandemic—jobs that are disproportionately held by women, young people, low-wage earners and racialized Canadians. This underscores the importance of working to equip all Canadians to take advantage of the expanding digital opportunities.[5]

This is a key policy challenge. Education, job training and labour market policies are essential to prepare Canadian students for the digital economy and to enable workers to transition to the jobs of the future. Governments, academic institutions and businesses all have roles to play here.

## Rapid digitalization and our potential

Now, let me bring this back to the Bank's responsibilities. We make monetary policy decisions to achieve our 2 percent inflation target on a sustainable basis, by supporting the economic growth required to get there. And we have been very successful: inflation has averaged just under 2 percent over three decades.

A key question in this context is this: once the pandemic is behind us, what does the digital transformation mean for the Canadian economy's potential output—that is, for how fast the economy will be able to grow without sparking inflation?

Most severe recessions have a prolonged negative effect on potential output for two reasons. First, the widespread economic disruption tends to cause some firms to delay or cancel investments and others to shut their doors. That reduces the economy's capacity to produce, which limits growth. Second, when people face a long spell of unemployment, their skills get rusty and they lose touch with the job market, making it harder for them to get back to work.[6] This is known as "scarring." It reduces the economy's workforce and overall productivity.

There is no doubt the recession caused by the pandemic, like all recessions, will result in lost capacity and scarring. But the accelerated digital transformation has supported resilience so much that we now think the damage to potential will be less than we earlier feared.

In our latest MPR, we updated our estimates of potential output as we do every April. Based on the resilience that we've seen over the past year, we estimated that the effects of the pandemic had lowered potential less than we had thought they would. We also estimated that the accelerated adoption of digital technology would boost productivity growth. We took a cautious view though because the size and timing of this boost are highly uncertain. But there is a good chance that

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[5] See T. Macklem, "Canada's Labour Market: Rebound, Recuperation and Restructuring," (remarks delivered virtually to Edmonton Chamber of Commerce and Calgary Chamber of Commerce, Edmonton and Calgary, Alberta, February 23, 2021).

[6] See C. Huckfeldt, "Understanding the Scarring Effect of Recessions," Cornell University Department of Economics (February 2021) and S. Davis and T. von Wachter, "Recessions and the Costs of Job Loss," *Brookings Papers on Economic Activity* (Fall 2011): 1–72.

productivity growth—a key driver of potential—will be stronger than expected, giving the economy more room to grow before inflation becomes a worry.

I should stress that there is always a lot of uncertainty around our estimate of potential output, and this is particularly true these days. We haven't seen a recession or recovery quite like this one, with such widely different effects across sectors, businesses and groups of workers. Also, the restrictions have affected both demand and supply. That makes it harder to interpret economic signals.

As well, the digital transformation itself is a source of uncertainty. First, it is difficult to predict the future benefits of innovation. And second, these benefits can be very hard to detect while they are coming about. In fact, it's possible that much of the investment that enhances productivity isn't showing up in statistics. That's because cloud services or databases are less tangible and therefore harder to measure than, say, buying a new line of factory machinery. Measuring intangible investments that travel across borders is especially difficult.[7]

Given the unusually high uncertainty around potential and its future growth, we need to rely on a wider range of information than usual to assess how much slack exists in the economy. That assessment is key to deciding when to start scaling back our monetary policy stimulus. As we said in April, this will include looking at a range of indicators of labour market conditions. We will have more to say about that in our next MPR in July.

The main message I want to leave with you is this: the digital transformation has not only been very helpful during the pandemic, but it also stands to increase our productivity and, in turn, our growth potential for years to come. But we have to be mindful of the challenges associated with this transformation—and do all we can to put people and businesses in the best position to benefit.

Now, let me turn to the discussions around our policy decision yesterday.

## Our policy decision

Earlier, I talked about how the economy and inflation have evolved compared with our April projections. Now I'd like to explain what it all means for our policy decision yesterday and tell you about some of the key issues preoccupying me and the other members of the Bank's Governing Council.

The bottom line is that the Canadian economy has been largely on track with our story. We haven't seen much over the past six weeks that would materially change our view about the outlook. Recent data have confirmed that growth in the first quarter was largely in line with our estimates, and that shutdowns associated with the third wave of the virus are having an impact on the economy in the second quarter. Unfortunately, this is once again affecting jobs in contact-sensitive sectors—the same jobs and same people who have been most affected by previous shutdowns. The employment rate remains well below its pre-

[7] Statistics agencies in Canada and around the world are researching these measurement issues, so central banks and other policy-makers can have a more complete picture of how digitalization affects productivity and growth. This includes a G7 working group that the Bank chairs.

pandemic level, with women, young people, low-wage earners and racialized Canadians continuing to bear the brunt of job losses.

The good news is that vaccinations are rolling out at, or faster than, the pace we assumed in April. We have also seen other economies, such as the United States, pick up smartly as they have reopened. These developments are encouraging and suggest we are on track for a strong consumer-led recovery as containment measures ease here in Canada.

The risks to the inflation outlook identified in the April MPR, on both the upside and downside, remain relevant—more infectious new variants; stronger household spending in Canada and stronger growth in the United States; the potential for weaker exports because of a stronger Canadian dollar; stronger potential output, which I discussed earlier in the speech; and finally, the potential for more persistent cost pressures to push up inflation.

Let me home in on one issue Governing Council discussed in the lead up to yesterday's decision—inflation. This shouldn't be a surprise, since our job is to deliver low and stable inflation. As I already mentioned, inflation in April came in above 3 percent, and we expect it to stay around 3 percent over the next several months, before moderating. While inflation over this period is likely to be higher than what we projected in the April MPR, the underlying story is the same. Most of the run-up in inflation is simply arithmetic—base-year effects. Gasoline prices, in particular, are much higher this year than they were last year—partly because they fell so much a year earlier, but also because global oil prices have risen in recent months. Indeed, commodity prices more generally have rebounded through the first half of this year in response to prospects for stronger demand as the global economy recovers.

But these base-year effects are, by definition, transitory—they will not persist beyond the next few months. What will persist until we see a complete recovery is the underlying slack in the economy. This slack will continue to put downward pressure on inflation as these base-year effects fade.

I mentioned the risk of more persistent cost pressures that we identified in the April MPR. Some of these could come from higher prices for raw materials that businesses use to make their products. Some of these pressures could also come from supply chain bottlenecks as the economy reopens and demand temporarily exceeds supply. Indeed, we have seen supply chain issues globally in products such as semi-conductors, and in countries such as the United States, where businesses have had more difficulty re-hiring workers. These supply chain bottlenecks will likely become unblocked as things normalize, but this is a risk that we will monitor closely.

All of this brings me to yesterday's policy decision.

The Governing Council judges that there remains considerable excess capacity in the Canadian economy and that the recovery continues to require extraordinary monetary policy support. We reaffirmed our commitment to hold the policy interest rate at the effective lower bound until economic slack is absorbed so that the 2 percent inflation target is sustainably achieved. Based on our April projection, we expect this to happen sometime in the second half of 2022.

We also reaffirmed that we are continuing our quantitative easing (QE) program to reinforce this commitment and keep interest rates low across the yield curve. In that context, we maintained our pace of weekly purchases of Government of Canada bonds at a target of $3 billion.

Decisions regarding adjustments to the pace of net purchases will be guided by Governing Council's ongoing assessment of the strength and durability of the recovery. As Governor Macklem said in April, if the recovery evolves in line with or stronger than in our latest projection, then the economy won't need as much QE stimulus over time. Given the reopenings happening in many parts of Canada, we expect to learn more over the coming weeks to further inform that assessment.

We will have an updated outlook in July, where we will take into account all data and developments that will accumulate over the coming several weeks. Canadians can count on us to continue to provide the appropriate degree of monetary policy stimulus to support the recovery and achieve the inflation objective.