BANK OF CANADA
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Our quantitative easing operations: looking under the hood

Introduction

Good afternoon and thank you very much for the kind introduction, John.

I'm really pleased to have the opportunity to talk with all of you today—even if we are doing so virtually and from opposite coasts. I'm now a resident of Canada's west coast, but I hold fond memories of time spent vacationing in the Maritimes from my home town of Québec.

As you know, the Bank made the decision yesterday to maintain our target for the overnight rate at 0.25 percent, and we'll spend some time discussing that later. But first, I want to talk about some of our actions to address COVID-19 and the immense challenges this pandemic poses to the financial well-being of Canadians.

Since the pandemic hit in March, we have taken swift and decisive actions to help Canadian households and businesses bridge this short-term crisis. But we are also concerned with providing a strong foundation for longer-term recovery.

In the face of the pandemic, we lowered our policy interest rate to 0.25 percent to ensure lower borrowing costs for households and businesses. We have committed to maintaining our policy rate at the current level until our inflation objective is achieved.

We also launched nearly a dozen liquidity facilities and asset purchase programs to keep markets functioning and credit flowing as well as to allow interest rate cuts to work their way through the economy.

I would like to thank Stéphane Lavoie, James MacGee and Jonathan Witmer for their help in preparing this speech.

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Today, I'll discuss our main large-scale asset purchase program—the Government of Canada Bond Purchase Program[1]—in greater detail. We commonly refer to this program as quantitative easing.

What's important to remember about this and other programs is that they are all grounded in the same policy framework that has served Canada well for years. Each of our actions has been designed to return the economy toward its full capacity to support our 2 percent inflation target.

With this in mind, I would like to clarify some of the mechanics of and potential misinterpretations about our quantitative easing—or QE—program. When we conduct QE, the Bank purchases bonds in the secondary market that were previously issued by the Government of Canada. This program has expanded our balance sheet, which has generated considerable attention and some concern.

The most common questions we get are: How do we buy these assets? How do we pay for them? Are we financing the federal government's debt? And, are we in danger of igniting high inflation through this process?

So let's take some time to talk about QE: what it does, what it doesn't do, and how it works. Because monetary policy works best when it's well understood.

What quantitative easing does

As I just mentioned, the Bank's primary monetary policy goal is to achieve our 2 percent inflation target on a sustainable basis. To do that, we strive to keep the economy's production as close to capacity as possible. This is particularly important in times like these, when inflation is well below target and unemployment is high.

Our policy interest rate is the overnight rate. It is our main policy tool in normal times. The overnight rate has a direct impact on the cost of borrowing over very short terms. Increases or decreases in the policy rate also shape the market's expectations of future overnight rates. In turn, this affects longer-term borrowing and lending rates. Through this channel, the Bank influences the cost of credit for Canadian households and businesses. This influences spending and investment decisions—and, ultimately, inflation.

But the policy rate isn't the only way we can affect the longer-term interest rates that matter to Canadians. When we can no longer reduce our policy rate, we need to dig deeper into our tool kit if we want to further stimulate the economy.

One important instrument in our extended tool kit is QE, so let me begin by explaining how QE affects interest rates.

When the Bank buys government bonds of a given maturity, it bids up their price. This, in turn, lowers the rate of interest that the bond pays to its holders. When the interest rate on government bonds is lower, this transmits itself to other interest rates, such as

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[1] For more information, see the Bank's Government of Canada Bond Purchase Program web page.

those on mortgages and corporate loans. This stimulates more borrowing and spending, which helps inflation move closer to the 2 percent inflation target.

So, as you can see, even when the overnight rate can no longer be reduced, the Bank can still affect longer-term interest rates by using QE.

How quantitative easing works

Let’s turn our attention now to the mechanics of QE.

Every week, the Government of Canada sells bonds to financial institutions—mostly commercial banks—that have been approved to participate in their auctions. Under QE, the Bank buys these bonds from auction participants, not directly from the government.

The Bank conducts QE operations through a reverse auction. When you think of an auction, you probably imagine someone selling goods, with people bidding to purchase them. When we conduct QE, we call it a reverse auction because it’s the opposite: we hold an auction to buy—not sell—government bonds.

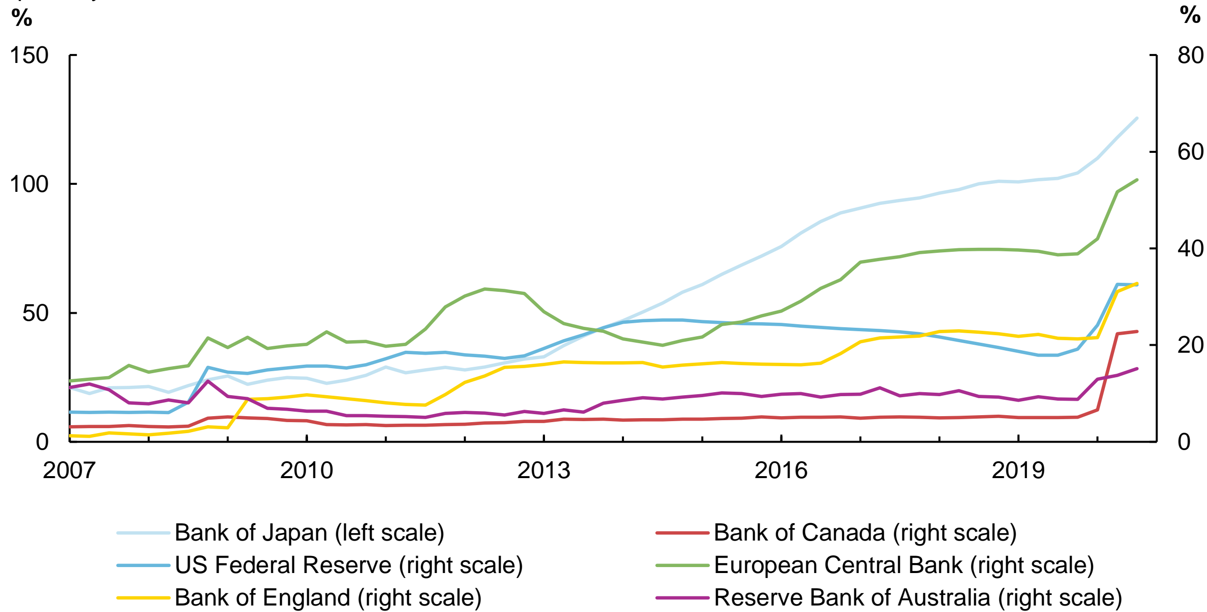
We announce our intention to buy a certain quantity of bonds on a given day. We then receive offers from market participants who wish to sell us some of the bonds they hold. The bidding process is competitive, and we typically receive many more offers to sell than we are willing to buy. This is good because it means we can purchase bonds that are offered at the lowest price.

We are currently buying a minimum of $4 billion a week of bonds through this process. Overall, we have purchased slightly more than $180 billion since the program was launched in March.

That’s a big number. And it’s true that our QE program and other asset purchases led to a substantial increase in the Bank’s balance sheet. But despite all the purchases we’ve made, it is worth noting that the value of the assets we hold for the size of the Canadian economy remains relatively low by international standards—roughly two-thirds of that of the Bank of England or US Federal Reserve (**Chart 1**).

Chart 1: The Bank of Canada's balance sheet remains relatively low

Central bank total assets as a percentage of a four-quarter average of Gross Domestic Product, quarterly data



Sources: Bank of Canada, Bloomberg Finance L.P., national sources via Haver Analytics and Bank of Canada calculations
Last observation: 2020Q3

Of course, when we buy these bonds through our auction, we need to pay for them. But we don't print new bank notes to do so.

Rather, we pay for them by issuing a particular form of liability. For anyone who knows the basic principles of accounting, you know our balance sheet has to, well, balance. The bonds we purchase become an asset for us, so we need a liability on the other side to pay for them.

Here's an example.

If we buy $100 million of government bonds from Bank A, we pay for them by issuing what are called settlement balances. These appear as deposits with the Bank of Canada.

Just like commercial banks consider deposits as a liability that they owe to their clients, settlement balances are a liability the Bank of Canada owes to the commercial banks. We pay interest on them at our deposit rate, which moves one-for-one with our policy interest rate.

So to recap, when we perform our QE operations, we buy government bonds from financial institutions and issue liabilities—in the form of settlement balances—to pay for them.

It's important to note here that settlement balances are a normal part of central banking operations. Being able to issue settlement balances is a privilege that only central banks

have. We use this ability carefully to fulfill our mandate of promoting the economic and financial welfare of Canada and Canadians.

Questions about quantitative easing

I'll be the first to admit that the mechanics of quantitative easing can be hard to wrap your head around.

So I'd like to turn my attention now to the questions I raised earlier—what the public and some officials have asked us to explain about QE. The first is the impression that we're activating the printing press and issuing bank notes to buy government bonds.

Are we printing cash?

Like a lot of central banks, the Bank of Canada moved away many years ago from setting the amount of cash in the economy. Instead, we set the overnight interest rate and let households and businesses decide how much cash they need to conduct their transactions.

When we conduct QE, as I have explained, we buy government bonds and pay for them by issuing a variable interest rate liability in the form of settlement balances. Just like anyone else who takes on debt, we compensate the holders by paying interest on these balances. And as our policy rate changes, so does the interest rate we pay on settlement balances. When we carry out QE, our balance sheet expands, but the number of bank notes in circulation does not.

Is the Bank financing the federal government's debt?

Another important point is that QE does not release the government from its liabilities. We are not financing government spending at no cost, nor are we making the government's debt disappear.

There is a big difference between financing the government and influencing the cost of government financing. Through QE, the Bank of Canada is doing the latter—we are lowering the cost of borrowing for the government. But most importantly, we are lowering the cost of borrowing for everyone in the economy.

To put it simply: we are not providing a free lunch for the government. The government will have to repay the bonds that we purchase through our QE program when they reach maturity.

I should note that QE operations may result in a profit or loss for the Bank because of the difference in interest rates between our borrowing cost and the return on government bonds. Any profit or loss arising from our QE operations is passed on to the government, as part of our regular remittance. However, it's important to state that increasing revenue is not the primary goal of these operations. The sole purpose of QE is to reduce the cost of borrowing for everyone in Canada, so we can help people get back to work and achieve our inflation target.

Will QE cause high inflation?

So let's move on now to my third and final point of clarification. Since we started QE, I've heard and read a lot about the risk of causing excessive inflation. It is true that QE

is designed to increase our current low level of inflation. That’s the whole point—to get us back near our 2 percent target. But rest assured we will not overuse QE and overshoot our 1 to 3 percent target range for inflation. The exit strategy for our QE program is tied to our inflation goals.

We will pursue quantitative easing until our economic recovery is well underway. At that point we will have three different options.

Once the amount of purchases has been reduced, the first option would be to stabilize the level of assets on our balance sheet by reinvesting any proceeds from maturing assets into new ones. This would maintain—but not increase—the level of stimulus.

The second option would be to allow maturing assets to roll off the balance sheet and not reinvest the proceeds.

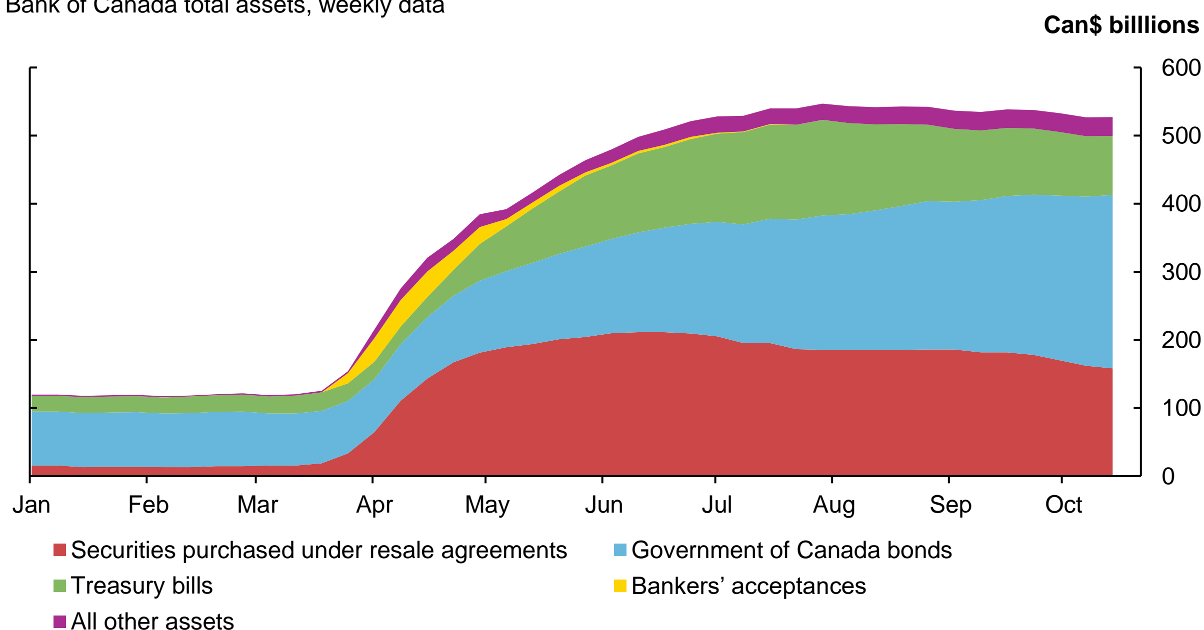
The third option would be to actively sell the assets, thus quickly reducing our balance sheet. This option would be the most aggressive for reducing the level of stimulus.

Several central banks that used QE during the global financial crisis focused on the first two options, in a careful sequence. Our choice between the different options would depend on our outlook for the evolution of inflation.

How we’ve done so far

The good news is that our efforts in the face of COVID-19 have had their intended effect. Financial markets are functioning much better than they were when we began our policy actions in March. Our balance sheet has been stable since July, largely due to reduced use of certain programs (**Chart 2**).

Chart 2: The Bank of Canada’s balance sheet size has stabilized



Source: Bank of Canada
Last observation: October 21, 2020

And our bond purchases have recently been recalibrated. We have adjusted our QE program to focus its impact on longer-term interest rates that matter for Canadians. We are buying fewer bonds at shorter maturities and more at longer maturities, where the benefit for Canadian households and business is greater. For example, when we buy more five-year bonds, this lowers the five-year lending rates on loans for households and businesses.

Since this recalibration will increase the impact of each dollar spent in our QE program, we recently reduced our minimum weekly purchases from $5 billion to $4 billion. All of this allows us to be more efficient with our balance sheet, while continuing to provide at least as much monetary stimulus.

Yesterday's decision

Let me conclude by spending a few minutes to provide some context for and insight into our policy decision yesterday. We decided to maintain the level of the policy interest rate at 25 basis points and continue asset purchases at a minimum of $4 billion weekly in our QE program.

Foremost on our minds heading into the decision were recent developments across a few dimensions—how things have transpired to date, how things look in the near term and how things are shaping up further out.

Let me briefly discuss each in turn.

Looking back on developments to date, last week's publication of Canada's National Accounts for the third quarter of 2020 confirmed our expectation that a sharp rebound would take place as the economy reopened, following the precipitous decline in activity in the second quarter. Indeed, the economy grew rapidly, at close to 9 percent in the third quarter, just a bit below the 10 percent growth we had expected in our October *Monetary Policy Report* (MPR). The overall level of economic activity remains largely on track with our expectations, reflecting some historical revisions to gross domestic product and a little more momentum heading into the fourth quarter than we anticipated in October. It's also worth noting that stronger global demand is pushing up prices for most commodities, including oil.

A second aspect of our view was that this sharp rebound would give way to a longer, slower phase of the economic recovery. We've called this the recuperation phase. And indeed, more recent data suggest this part of our view is also unfolding largely as expected.

The rising incidence of COVID-19 cases across the country and the tightening of restrictions on activity in response are exacerbating this dynamic. The second wave is clearly underway, here in Canada and globally. This will weigh on economic activity in the first quarter of 2021 and represents an important downside risk further out, if the situation becomes much worse. As we noted in yesterday's decision, the federal government's recently announced measures should help maintain household and business incomes during this second wave of the pandemic and support the recovery.

Looking further out, the picture is more reassuring—recent positive news on vaccines represents an upside risk to the outlook, although uncertainty remains around how they will be rolled out, in Canada and globally.

So that sets the scene. Going forward, both downside and upside risks to inflation are in play. For the Bank, that means being prepared to respond in either direction. Thankfully, we have the tools to do so.

Should things take a more persistent turn for the worse, we have a range of options at our disposal to provide additional monetary stimulus. This could include increasing the stimulus power of our QE program, or it could involve targeting specific points in the yield curve, otherwise known as yield-curve control. It could also include reassessing the effective lower bound, which would allow for the possibility of a lower—but still positive—policy rate. In theory, negative interest rates remain in the Bank's tool kit. But we've been clear that, barring a dramatically different set of circumstances, we don't think negative rates would be productive in a Canadian context.

What about options for responding to the upside? The faster people get vaccinated and more people get back to work in contact-sensitive sectors, the more quickly the recovery could unfold. Such an outcome would be welcome news. In that context, we may need to re-examine the amount of stimulus needed to achieve our inflation target. Earlier in my speech, I illustrated how we could withdraw stimulus from our QE program when the time comes.

What we do know today is that Canada's economic recovery will continue to require extraordinary monetary policy support. We have been clear that we will hold our policy rate at its effective lower bound until economic slack is absorbed, so that the 2 percent inflation target is sustainably achieved. As of our October MPR*,* that doesn't happen until into 2023. We have not yet done a full analysis of all new information to shift that assessment. To reinforce our commitment and keep interest rates low across the yield curve, the Bank will continue the QE program until the recovery is well underway and will adjust it as required to help bring inflation back to target on a sustainable basis.

Whatever the outcome, the Bank remains committed to providing the monetary policy stimulus needed to support the recovery and achieve the inflation objective.