



BANK OF CANADA
BANQUE DU CANADA

Remarks by Rhys Mendes
Deputy Governor
Greater Charlottetown Area Chamber of Commerce
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Sticking the landing: Keeping inflation at 2%

Introduction

Good morning, it's wonderful to be here in Charlottetown today to give my first public speech as a deputy governor at the Bank of Canada. I'm delighted not only to visit Prince Edward Island but also to learn more about the local economy. To do our job well at the Bank, we need to understand how our policies affect people and businesses across this vast country. That's why I'm meeting with business and community leaders from several sectors while I'm here.

Our job at the Bank is to keep inflation low and stable, so we aim to keep it centred on a 2% target. This is how we ensure the economy works best for all Canadians. Inflation has now come down significantly and is back at 2%. We want it to stay there. For this reason, we decided last month to lower our policy interest rate by 50 basis points to 3.75%. Our focus now is on ensuring that inflation remains low, stable and predictable. We need to stick the landing.

The past few years have been difficult for Canadians. The COVID-19 pandemic caused the sharpest economic downturn in a century, which was followed by an unexpectedly fast rebound. Inflation surged to a four-decade high, and the Bank responded by increasing interest rates to levels not seen since the early 2000s. We did what we believed was necessary to restore price stability. And it worked: inflation has returned to 2%, and interest rates have started to come down. But it hasn't been painless.

Higher interest rates were a burden for families and businesses. Inflation is back to normal, but it may not feel that way for many people. Especially if they are facing higher interest payments on their mortgages or other loans.

With all of this in mind, the Bank owes it to Canadians to assess how effective our interest rate decisions were in countering high inflation. I'll begin by discussing the factors that led to the run-up in inflation, and I'll explain how monetary policy worked to address them. My aim is to shed some light on the question of whether higher interest

I would like to thank Justin-Damien Gu  nette, Oleksiy Kryvtsov and Konrad Zmitrowicz for their help in preparing this speech.

rates were really needed to bring inflation down to 2% or whether it would have returned to target on its own.

Then I'll talk about what price stability means for us at the Bank of Canada. I'll explain why we want inflation to stay around 2% and not fall below target. And why—even though it may seem counterintuitive—it would be painful for many Canadians if we were to try to bring about a period of price declines.

How monetary policy helped tame high inflation

Let's begin with the sharp rise in inflation in 2021 and 2022. To better understand how monetary policy helped bring inflation down, we need to look at the factors behind inflation. We can break down these drivers of inflation in many ways. But for today, let's think in terms of three broad categories.

The first category is made up of mostly global factors, like food and energy prices, which aren't directly influenced by our monetary policy.

The second is inflation expectations. When businesses expect high inflation, they tend to raise prices more rapidly than normal in anticipation of future cost increases.

And the third is the amount of demand relative to supply in the Canadian economy. If demand for goods and services goes up but businesses don't have the capacity to keep pace, prices tend to rise. When this happens across many sectors at the same time, it leads to inflation. To keep inflation stable at 2%, we need the economy to be like the third bowl of porridge in the story of Goldilocks and the three bears—not too hot, not too cold, but just right.

Monetary policy works primarily through the second and third categories.

In the post-pandemic period, inflation initially picked up because of drivers in the first category.¹ Strong global demand for goods—combined with pandemic- and weather-related disruptions—strained global supply chains and pushed inflation in goods prices sharply higher. As economies around the world reopened, global commodity prices began to rise. Then, in early 2022, Russia's invasion of Ukraine disrupted the supply of many commodities, sending food and energy prices soaring.

Admittedly, on its own, Canadian monetary policy would have had little effect on these global factors. This begs the question of why we bothered to raise interest rates at all. It's a reasonable question, so I'll try to answer it by explaining how our actions played a key role in reducing inflation here in Canada.

The first thing to note is that we were not acting in isolation. Central banks around the world were also raising interest rates. Although these actions were not formally coordinated, the synchronized nature of this tightening contributed to reducing global

¹ See, for example, F. Bounajm, J. G. J. Roc and Y. Zhang, "Sources of pandemic-era inflation in Canada: an application of the Bernanke and Blanchard model," Bank of Canada Staff Analytical Note No. 2024-13 (June 2024).

demand for goods. This, in turn, relieved some of the pressure on supply chains. Global tightening of monetary policy also eased commodity prices.²

Clearly, the collective impact of many central banks all acting at the same time helped lessen the global pressures behind the initial surge in inflation. But as these global developments were playing out, domestic pressures were building up here in Canada. Demand, in particular, started to play a more important role in keeping inflation elevated.

So let's now turn to how the Bank's actions worked through the second and third categories of drivers I outlined: inflation expectations and demand in the Canadian economy.

Anchored inflation expectations were a game changer

To explain the role inflation expectations played, I need to take you back to the 1970s—another period when global forces sparked a run-up in food and energy prices.³

As inflation rose in the early 1970s, people quickly came to expect that it would remain high indefinitely. Starting in 1973, Canadians lived through a decade of fast-rising and volatile prices. Inflation averaged almost 10% and peaked just under 13%.⁴ Bringing inflation back down had huge economic and social costs. The Bank's key interest rate reached 21%, and the unemployment rate rose above 13%.

Canada's recent experience in taming high inflation has been vastly different. Although inflation rose slightly above 8%, the policy rate peaked at 5%, and the unemployment rate has been around 6.5% since June.

This dramatic difference in performance comes down to one key variable: inflation expectations. In the 1970s, inflation expectations were not anchored.⁵ In contrast, inflation expectations were well anchored before the 2021–22 price shocks happened.⁶ This was a game changer.

² Tighter monetary policy can lower commodity prices in several ways, including by reducing current and future demand for storable commodities. See J. Miranda-Pinto, A. Pescatori, E. Prifti and G. Verduzco-Bustos, "Monetary Policy Transmission through Commodity Prices," International Monetary Fund Working Paper No. 2023/215.

³ See A. S. Blinder and J. B. Rudd, "[The Supply-Shock Explanation of the Great Stagflation Revisited](#)," NBER Chapters, in: *The Great Inflation: The Rebirth of Modern Central Banking*, 119–175 (2013), National Bureau of Economic Research.

⁴ See T. Macklem, "[Ending the pain of high inflation](#)" (speech delivered to the Saint John Region Chamber of Commerce, Saint John, New Brunswick, November 22, 2023.)

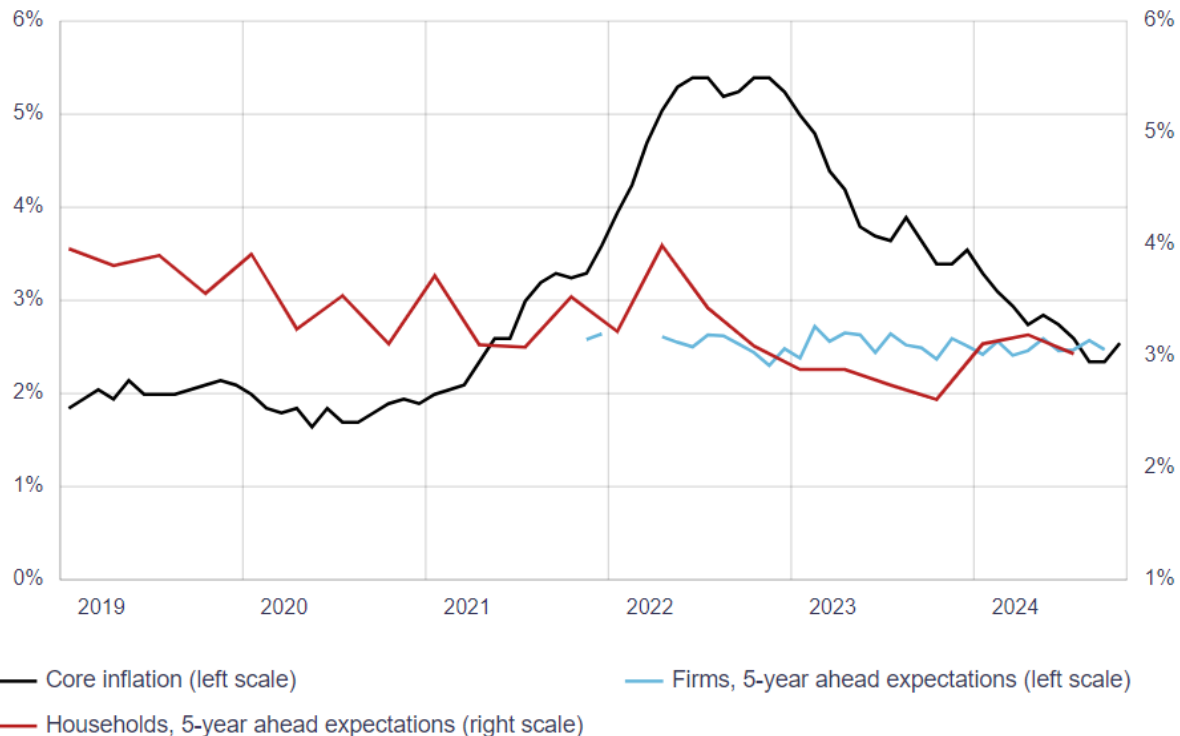
⁵ While data on inflation expectations for the 1970s are limited, work done by the International Monetary Fund (IMF) based on proxies using past inflation volatility suggests that inflation expectations were more strongly anchored in the more recent episode. For more information, see IMF, *World Economic Outlook: Policy Pivot, Rising Threats*, Chapter 2, Washington, DC (October 2024).

⁶ See S. Kozicki, "[Economic progress report: More transparency in uncertain times](#)" (speech delivered to the Urban Development Institute of Quebec, Montréal, Quebec, December 8, 2022.)

Inflation climbed to levels not seen in decades. But because the Bank had committed to an inflation target of 2% and had kept inflation close to that target for 30 years, Canadians continued to believe it would eventually come back down. We reinforced that belief by committing to act forcefully to get inflation back to 2% and then following through with decisive policy action. This kept long-term inflation expectations anchored and helped bring down short-term expectations, which had moved upward as inflation rose (**Chart 1**).⁷

Chart 1: Measures of long-term inflation expectations remained stable even as inflation rose

Year-over-year percentage change, monthly and quarterly data



Note: Core inflation is defined as the average of CPI-trim and CPI-median. Data on inflation expectations are from the Business Leaders' Pulse for businesses and from the Canadian Survey of Consumer Expectations for households. Business inflation expectations are at the monthly frequency, while household inflation expectations are at a quarterly frequency. Questions on inflation expectations were not asked in the January or March 2022 Business Leaders' Pulse.
Sources: Statistics Canada, Bank of Canada and Bank of Canada calculations
Last observation: CSCE, 2024Q3; BLP, September 2024; Core inflation, October 2024

⁷ Research supports the argument that monetary policy actions and communications in 2021–22 helped keep inflation expectations in check. See, for example, R. Reis, “The credibility revolution in inflation expectations” (John Kuszczak Memorial Lecture at the Bank of Canada’s annual economic conference, Ottawa, Ontario, November 7, 2024) and R. Asghar and M. Jain “Perceived Monetary Policy Transmission,” Bank of Canada Staff Working Paper (forthcoming).

Ultimately, anchored inflation expectations made it possible to get inflation back to target without causing a sharp economic downturn.

The role of excess demand in the post-pandemic surge in inflation

Now let's turn to our final driver of inflation: the balance between supply and demand in the Canadian economy.

Monetary policy affects the economy primarily through its influence on demand. Low interest rates encourage demand by making it less expensive to borrow and spend, while high interest rates encourage people to save, thus reducing demand. To ensure inflation stays sustainably at 2%, monetary policy needs to keep demand in line with supply.

But as the economy rebounded from the pandemic, supply and demand fell out of balance. Restrictions had eased, and Canadians wanted to do all the things they had missed during the pandemic, like going out to restaurants or travelling. At the same time, many services businesses were struggling to fully reopen. They couldn't hire enough workers or get all the equipment and materials they needed.

By early 2022, demand was growing much faster than supply. There was too much—or excess—demand in the Canadian economy.

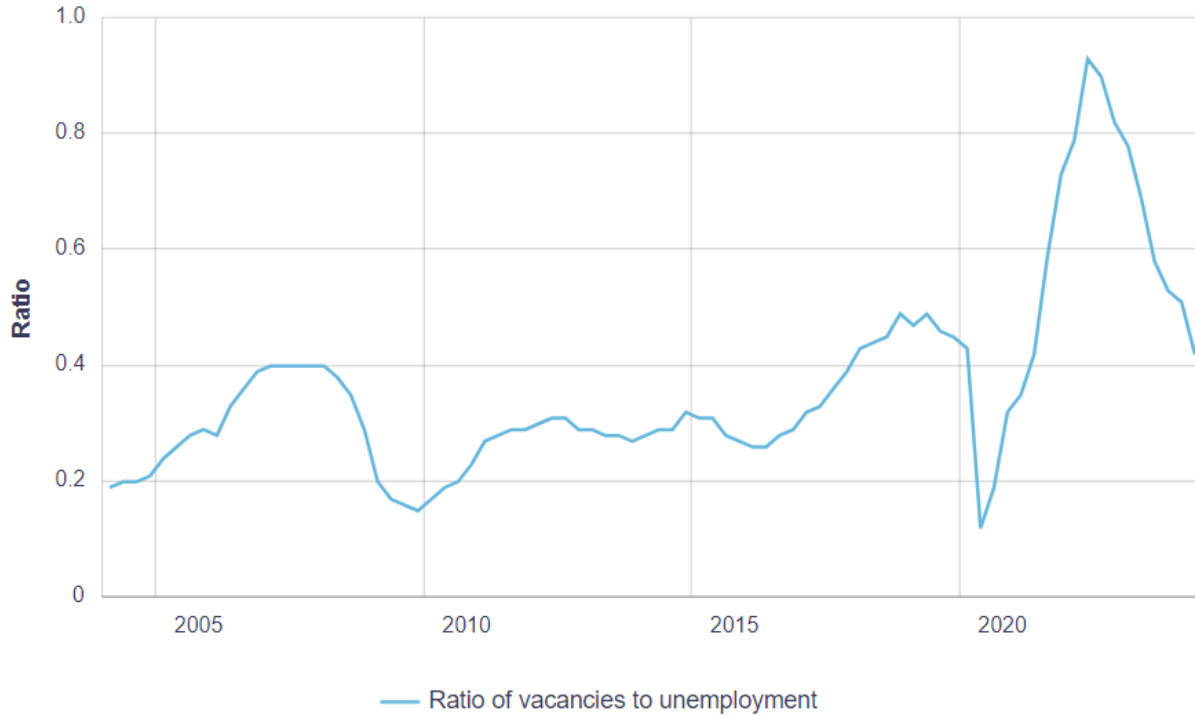
There are various ways of assessing imbalances between supply and demand.⁸ But for the purposes of my speech today, I'll focus on the ratio of job vacancies to unemployed workers. Like other measures, it was signalling significant excess demand during the post-pandemic period (**Chart 2**).⁹

⁸ The output gap is another commonly used way of measuring imbalances between supply and demand in the economy. It was also signalling significant excess demand. For a third example, see M.-A. Gosselin and T. Taskin, "[What Can Earnings Calls Tell Us About the Output Gap and Inflation in Canada?](#)" Bank of Canada Staff Discussion Paper No. 2023-13 (June 2023).

⁹ A key advantage of the vacancy-to-unemployment ratio is that vacancies are a direct measure of labour demand. However, the vacancy-to-unemployment ratio may have somewhat overstated the extent of excess demand during this period. See, for instance, H. Afrouzi, A. Blanco, A. Drenik and E. Hurst, "A Theory of How Workers Keep Up With Inflation," University of Texas at Austin Working Paper (November 2024).

Chart 2: The Canadian economy was in excess demand in the post-pandemic period

Quarterly data



Note: All data are seasonally adjusted. For more information on how the data on vacancies are constructed, see A. Lam, “Canada’s Beveridge curve and the outlook for the labour market,” Bank of Canada Staff Analytical Note No. 2022-18 (November 2022).

Sources: Statistics Canada and Bank of Canada calculations

Last observation: 2024Q2

Job vacancies—which measure the demand for labour—surged to a record high in 2022. At the same time, the unemployment rate fell to the lowest level on record, meaning that the supply of workers available to fill those job openings was limited.

It’s clear that the Canadian economy was overheating—the porridge was too hot. We needed to raise interest rates to bring demand and supply back into balance and to cool inflation.

But there’s more to the story. There’s reason to believe that, by eliminating excess demand, our actions ended up having more of an effect on inflation than is normal.¹⁰

This idea is complicated, so—bear with me here—I’m going to set it up with a potato-related anecdote. Imagine you own a french fry factory. Suppose one day, consumers

¹⁰ See R. Asghar and M. Jain, “Perceived Monetary Policy Transmission,” Bank of Canada Staff Working Paper (forthcoming).

decide they want to start eating more french fries, so orders increase. At first, your factory can meet that demand by being more efficient. But orders keep coming in, and you need to hire more workers to keep up. Labour markets are tight, which means you have to pay higher wages and charge a bit more for your fries. As time goes on, it gets more and more costly to expand your output to meet even small increases in orders. As a result, you raise your prices at a faster pace.

This anecdote demonstrates that prices tend to become very responsive when the economy has a lot of excess demand. If this is happening in sectors across the economy, inflation begins to rise more rapidly. But a key feature of this responsiveness is that inflation acted in the same way on the way down as it did on the way up. The Bank raised interest rates, which eliminated excess demand. As that excess demand diminished, inflation declined relatively quickly.¹¹

Now let me show you how this phenomenon played out during the pandemic using a Phillips curve. The Phillips curve is what economists call the relationship between inflation and economic activity. We can see that the Phillips curve was relatively flat until the middle of 2021 (**Chart 3**, blue dots).¹² This means inflation never strayed too far from 2%, regardless of the level of economic activity.

¹¹ In the post-pandemic episode, it took just over two years to bring inflation in Canada back to 2% from its peak of 8.1%. This is much shorter than the average duration of disinflation of 4.4 years in the international experience between 1990 and 2019. See A. Blanco, P. Ottonello and T. Ranosova, "The Dynamics of Large Inflation Surges," National Bureau of Economic Research Working Paper No. 30555 (October 2022).

¹² The Phillips curve is plotted using an average of our two preferred measures of core inflation, which are less affected by volatile price components, such as food and energy, than total inflation is. The link between excess demand in the economy and inflation is more evident using this measure.

Chart 3: Inflation becomes more responsive to changes in activity when there is significant excess demand in the economy

Seasonally adjusted quarterly data, sample: 2004Q1–2024Q2



Note: Core inflation is defined as the average of CPI-trim and CPI-median. The horizontal axis shows the log of the ratio of vacancies to unemployment, minus the log of its pre-pandemic average (2004Q1 to 2019Q4). For more information on how the data on vacancies are constructed, see A. Lam, “Canada’s Beveridge curve and the outlook for the labour market,” Bank of Canada Staff Analytical Note No. 2022-18 (November 2022).

Sources: Statistics Canada and Bank of Canada calculations
Last observation: 2024Q2

But as the economy moved further into excess demand—beyond anything we had seen in recent decades—inflation became more responsive. Prices began to rise more frequently, even with relatively small increases in demand (**Chart 3**, red dots).^{13, 14}

¹³ A growing body of recent research points to nonlinearities in the Phillips curve. See for example M. C. Dao, P.-O. Gourinchas, D. Leigh and M. Prachi, “Understanding the international rise and fall of inflation since 2020,” *Journal of Monetary Economics* 148(S) (November 2024) and A. Blanco, C. Boar, C. J. Jones and V. Midrigan, “The Inflation Accelerator,” National Bureau of Economic Research Working Paper No. 32531 (May 2024). See also P. Benigno and G. B. Eggertsson, “It’s Baaack: The Surge in Inflation in the 2020s and the Return of the Non-Linear Phillips Curve,” National Bureau of Economic Research Working Paper No. 31197 (April 2023).

¹⁴ To some extent, the steep part of the empirical Phillips curve likely also reflects temporary shifts in the curve due to supply shocks and movements in short-run inflation expectations rather than a structural nonlinearity. For this view, see P. Beaudry, C. Hou and F. Portier, “The Dominant Role of Expectations and Broad-Based Supply Shocks in Driving Inflation,” National Bureau of Economic Research Working Paper No.32322 (April 2024).

Then, as our successive interest rates increases chipped away at excess demand, we saw the same responsiveness on the way down. Inflation declined faster than normal.

The idea that inflation could start to respond more dramatically to small changes in demand—what economists call a nonlinear Phillips curve—has been around for a long time.¹⁵ We just hadn't had enough excess demand in recent decades to experience it.

Before we move on, I want to tie excess demand back to those global supply challenges I spoke about earlier. The post-pandemic period was unique in that supply shocks coincided with excess demand. Because we had so much demand in Canada, the effects of those shocks—mainly increased prices for energy and agricultural products—impacted a broader set of consumer prices than normal. Businesses faced elevated input costs, and they were able to pass those costs on to consumers more easily than usual.¹⁶

Simply put, the presence of excess demand in the economy amplified the inflationary effects of supply shocks.^{17, 18} By eliminating excess demand, we were able to stop that amplification. The supply challenges were still there, but businesses were less likely to pass on any additional cost increases because there was less demand.

I know I've covered a lot of complicated concepts so far. What I hope you'll take away is that because there was significant excess demand in the Canadian economy, inflation went up faster than normal. But it also came down more quickly in response to higher interest rates. By eliminating excess demand, our actions played a central role in bringing down inflation.

In addition, our three decades of successful inflation targeting ensured long-term inflation expectations did not become unanchored. This was crucial because it prevented a period of persistently high and volatile inflation like we saw in the 1970s.

The bottom line is that monetary policy—both here and around the world—played a decisive role in getting inflation back to 2%.

¹⁵ See T. Macklem, "[Capacity constraints, price adjustment, and monetary policy](#)," *Bank of Canada Review* (Spring 1997): 39–56.

¹⁶ See O. Bilyk, T. Grieder and M. Khan, "[Markups and inflation during the COVID-19 pandemic](#)," Bank of Canada Staff Analytical Note No. 2023-8 (June 2023). The authors construct measures of price markups using the financial statements of publicly traded Canadian firms. They find that markups remained stable during the pandemic, suggesting that businesses fully passed through higher costs to consumer prices.

¹⁷ See T. Macklem, "The Bank of Canada's response to post-COVID inflation, and some lessons learned," in B. English, K. Forbes and A. Ubide (eds), *Monetary Policy Responses to the Post-Pandemic Inflation*, Centre for Economic Policy Research Press (February 2024) and N. Vincent, "[Understanding the unusual: How firms set prices during periods of high inflation](#)" (speech delivered to the Chamber of Commerce of Metropolitan Montreal, Montréal, Quebec, October 3, 2023.)

¹⁸ For a theoretical model that exhibits this effect, see S. Murchison, "Non-homothetic Preferences and the Demand Channel of Inflation," Bank of Canada Staff Working Paper (forthcoming). In addition, M. Harding, J. Lindé and M. Trabandt, "Understanding post-COVID inflation dynamics," *Journal of Monetary Economics*, 140(S): 101–118 (November 2024), present a model in which the inflationary impact of cost-push shocks is greater when marginal cost and inflation are already elevated.

Why don't we want inflation below 2%?

Now that inflation is back around 2%, what should monetary policy aim to do going forward? Our inflation target is symmetric, which means we are equally concerned with inflation above or below 2%.

We just lived through a period of high inflation. For many young Canadians, it was the first time in their lives that inflation was noticeable. And while the average wage has kept pace with prices, we also know that averages don't tell the whole story.¹⁹

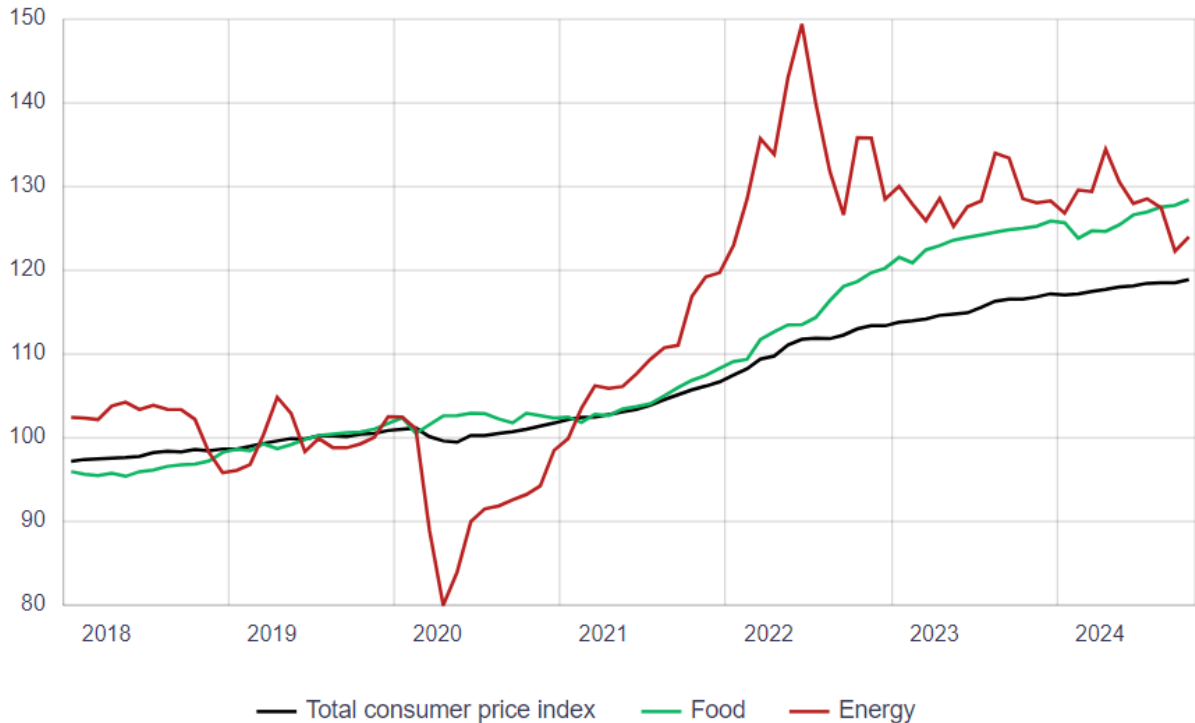
Income growth has not been even across households, and cost increases affect people differently, depending on their spending patterns. For instance, we know low-income families spend a relatively larger share of their household budgets on necessities like food and energy, which increased more than overall consumer prices. (**Chart 4**).²⁰

¹⁹ Prices have increased by 19% since 2019, while wages have risen by 26%, according to data from Statistics Canada. Prices are measured by the consumer price index, while wages are average hourly wages of all employees from the Labour Force Survey. Alternative measures of compensation also indicate that wages have kept up with prices, although the magnitudes of the increases vary.

²⁰ During the recent inflation surge in Canada and many other countries, the prices of cheaper brands of many food products grew faster than prices of the more expensive brands. See A. Cavallo and O. Kryvtsov, "Price discounts and cheapflation during the post-pandemic inflation surge," *Journal of Monetary Economics*, 148(S) (November 2024). In addition, low-income households in Canada experienced more inflation than other households. See O. Kostyshyna and M. Ouellet, "[Household Food Inflation in Canada](#)," Bank of Canada Staff Working Paper No. 2024-33 (September 2024).

Chart 4: Prices for energy and food increased more than overall consumer prices

Index: 2019 = 100, monthly data



Note: *Food* is defined as prices of food purchased in stores.
Sources: Statistics Canada and Bank of Canada calculations
Last observation: October 2024

It's important to acknowledge these inequities, but monetary policy is not the best tool to address them. The best contribution monetary policy can make is to keep overall inflation low, stable and predictable.

This begs another question. If low inflation is a good thing, why not let it fall below 2%? The idea of a period of no price gains—or even price declines—can sound tempting, particularly after three years of higher-than-normal price increases. But there are trade-offs and risks involved in trying to push inflation below target, even temporarily. And it may not actually be that easy to accomplish.

We know from the Phillips curve that I showed you earlier that inflation has tended to be fairly stable at around 2% when demand is weak. This means that the Bank would likely need to reduce demand by a lot to get to the point where prices were increasing by significantly less than 2%.

To reduce demand, we would need to keep interest rates higher than otherwise. Put differently, we'd have to stop cutting interest rates and possibly even raise them again. This would affect mortgage rates and the cost of other loans. At the same time, lower

demand would likely prompt businesses to lay off workers, which would lead to more unemployment and lower wages.

In other words, it would take a pretty big hit to the economy to get a meaningfully lower level of prices. This trade-off would likely leave most people feeling worse off.

In addition, there would be a risk that inflation expectations could drift lower. If this happened, it would limit the amount of stimulus that monetary policy can provide in response to a downturn and increase the risk of a severe recession.²¹

A shift down in inflation expectations would also make it difficult for us to eventually get inflation back up to 2%. For example, if consumers came to expect falling prices, they might put off purchases in anticipation of a better deal in the future. If lots of people put off buying things, businesses might drop prices to encourage buyers. But these price declines could instead incentivize consumers to continue delaying purchases in the hope of even lower prices. Escaping a deflationary cycle of this nature can be extremely difficult.

Keeping inflation at the 2% target mitigates these risks. When inflation is stable at 2%, it fades into the background. Households and businesses can plan and invest with confidence, helping the economy to grow. Price stability is low, stable and predictable inflation. This is what we are aiming for—and what we achieved for most of the 30 years before the pandemic.

We've restored low inflation; now we need to ensure it stabilizes near the 2% target. We need to stick the landing.

Conclusion

To wrap up, let's go back to the question of whether inflation would have fallen back to target on its own. Clearly, global developments led the early surge in inflation, and they also played a leading role in its decline.

However, if the Bank hadn't raised interest rates, long-term inflation expectations may not have remained stable. Had long-term inflation expectations become less stable, it would have been far more costly to bring inflation back to 2%.

Further, as I explained, global factors weren't the only reason inflation rose so far above target. Demand was adding fuel to the fire, and the Canadian economy was overheating. If the Bank hadn't acted, inflation wouldn't have come all the way back to 2%—even after commodity prices declined and global supply chains began to normalize.

Now that inflation is back at 2%, we want to keep it there. We know the increases in price levels over the past few years have been very difficult for many Canadians. But the trade-offs required to reverse those increases would be even more painful. Ultimately, the risks outweigh any potential benefits.

²¹ Because the policy rate is subject to an effective lower bound, lower inflation expectations reduce how low monetary policy can push the real (inflation adjusted) interest rate.

Monetary policy worked to remove excess demand from the economy. We no longer need interest rates to be as restrictive as they were. This is why we took a bigger step at our last decision.

Since then, data for October were released showing inflation at 2%, in line with our expectations. Our preferred measures of core inflation ticked up to about 2½%. We still have more information to come before our next rate decision in December, including third quarter gross domestic product data and the November employment numbers. We'll be looking closely at those indicators and reviewing any other information we receive.

If the economy evolves broadly in line with our forecast, then it's reasonable to expect further cuts to our policy rate. That said, the timing and pace of further cuts will be guided by incoming information and our assessment of its implications for the inflation outlook. We will be taking our monetary policy decisions one at a time.

The past few years were unlike anything we'd experienced before, and none of it was easy. But we believe inflation will once again fade into the background as it settles back at 2%. This will allow Canadian consumers and businesses to spend and invest with confidence and the economy to work better for everyone.

Thank you.