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Manitoba Association for Business Economists
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Anchoring Expectations: Canada's Approach to Price Stability

Introduction

Thank you for the invitation to speak to you today here in the hometown of James Coyne.

Mr. Coyne, who died in 2012, was the governor of the Bank of Canada from 1955 to 1961. As governor, he stressed that price stability should be the primary function of monetary policy.

That principle—price stability—is now the cornerstone of monetary policy frameworks around the world. In practice, it is achieved by maintaining inflation at a low, stable and predictable level.

Our mandate at the Bank of Canada's is to "promote the economic and financial welfare of Canada." And, like former Governor Coyne, we believe that inflation control is the main contribution monetary policy can make to achieving that goal.

Our current monetary policy framework consists of an explicit inflation target and a flexible exchange rate. It was established in an agreement with the federal government in 1991 and, since 2001, has been renewed every five years.

With this framework, we have anchored inflation expectations, achieved low and stable inflation, and promoted sustained employment and economic growth.

Three main factors have contributed to the framework's credibility and success.

First, we have a clear, simple and well-understood inflation target, whose focal point is 2 per cent. Second, the framework has political legitimacy, is coherent with other public policies and is implemented with effective tools. And third, we have a formal review process for continually improving the framework that is

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widely admired by many of our peers and was cited as one of the factors that earned us the Central Bank of the Year Award we received recently.

My speech today is the first in a series that my colleagues and I will be delivering over the next four years as we embark on our review of the framework leading up to the 2021 renewal of the inflation target.

I'll start with some background on our experience—and that of many other central banks—with inflation in the 1970s and 1980s and on the lessons we learned trying to control it. I'll discuss how and why the Bank adopted an inflation target for its monetary policy. I'll review the impact of the policy on inflation, why it works so well, and the unique and innovative process we follow to ensure that it remains effective. Finally, I'll conclude with a discussion of important economic developments affecting economies worldwide. Strengthening the framework to manage the potential risks these developments pose to the Canadian economy is the key objective of our research over the next four years.

The search for an anchor

Monetary policy needs a nominal anchor or a fixed point of reference to help tie down the expectations people have about inflation. During the 1960s, that anchor in most countries was a pegged nominal exchange rate that linked the value of domestic currencies to the US dollar.[1] This exchange rate arrangement, known as the Bretton Woods system, collapsed in the early 1970s, largely because of unsustainable inflationary pressure in the United States. Without an anchor for monetary policy, inflation and inflation expectations rose rapidly, exacerbated by large oil price shocks. In some years, inflation hit double-digit levels in Canada and in other advanced economies.

Economist Milton Friedman's great insight into inflation is that it is always and everywhere a monetary phenomenon, which led him to claim that low inflation could be achieved by controlling the growth rate of money. He also emphasized that inflation expectations are influenced by monetary policy and that they eventually adjust to actual inflation. For this reason, he argued, there is no long-run trade-off between inflation and output.[2] Thus, central banks should focus on controlling inflation.

In 1975, the Bank adopted a money supply target. But, by 1982, we were forced to abandon it—or, rather, it abandoned us, as former Governor Gerald Bouey once quipped—after it became clear that financial innovations had weakened the Bank's ability to control the money supply and overall spending with its policy

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[1] In turn, the US dollar was convertible to gold at a rate of US$35 an ounce.

[2] Friedman's analysis of inflation expectations and a vertical long-run Phillips curve can be found in M. Friedman, "The Role of Monetary Policy," Presidential Address delivered at the American Economic Association, 1967, and published in *The American Economic Review* 58, no. 1 (March 1968): 1–17.

interest rate.[3] Unfortunately, by then inflation and inflation expectations had risen and the expectations had become so entrenched that inflation declined only when the Bank of Canada and most other major central banks boldly increased interest rates in the early 1980s. It worked, but at the cost of a severe global recession.

After this disinflation, the Bank renewed its search for a viable nominal anchor and considered various options.[4] We tried to identify one that would be effective, straightforward to operationalize and easy to communicate, and that the public would trust.

In the late 1980s, then-Governor John Crow delivered several speeches in which he laid out an argument in favour of price stability *itself* as a long-run goal for monetary policy.[5] The inflation rate was then running at roughly 5 per cent. No one knew with certainty what rate best represented price stability. And economic theory was not yet developed enough to confidently predict the outcome of such a policy, if implemented.

Still, the idea of using the policy rate to directly target the rate of inflation held promise. At the time, only one other country in the world had attempted such a policy approach: New Zealand adopted inflation targeting in 1990. Canada became the second the following year when the Bank and the Department of Finance announced an agreement on a monetary policy framework that set a path for reducing inflation.[6] The agreement gave the Bank operational independence to use its statutory tools to achieve the inflation target, while at the same time acknowledging that “a range of public policies, besides monetary policy, can make a significant contribution” to controlling inflation.[7]

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[3] The measure of the money supply targeted was M1, which includes its most liquid components: coins, cash and chequing accounts. The innovations that made it difficult to target were in both non-personal and personal banking. The years leading up to and following its abandonment in 1982 witnessed an exhaustive search for alternative, broader aggregates of the money supply that could be targeted instead, although a suitable replacement was not ultimately found. For an account of this search, see F. Caramazza, D. Hostland and S. Poloz, “The Demand for Money and the Monetary Policy Process in Canada,” *Journal of Policy Modeling* 12, no. 2 (Summer 1990): 387–426.

[4] These options included different monetary aggregates, along with nominal spending, the exchange rate and the price level. See P. Duguay and D. Longworth, “Macroeconomic Models and Policy Making at the Bank of Canada,” *Economic Modelling* 15, no. 3 (July 1, 1998): 357–75.

[5] J. Crow, “The Work of Canadian Monetary Policy,” The Eric John Hanson Memorial Lecture Series II (Winter 1988), Department of Economics, University of Alberta, Edmonton, January 18, 1988.

[6] The agreement established a path for a progressive reduction in the rate of inflation to 3 per cent by the end of 1992, 2 1/2 per cent by the middle of 1994 and 2 per cent by the end of 1995. The agreement provided no specific target for the post-1995 period, although it was understood that the experience of the first four years would inform the selection of the target. The target has remained at 2 per cent since then and is tracked by Statistics Canada’s measure of total CPI inflation.

[7] The *Bank of Canada Act* gives the Minister of Finance the ability to issue a binding directive to the Governor if the two encounter irreconcilable differences concerning monetary policy. This power has never been exercised. Its use would entail significant political costs: the directive must be made public and would likely trigger the Governor’s resignation.

Since 1995, our inflation-control target has been 2 per cent, the midpoint of a 1 to 3 per cent range. Central banks in many other countries—37 in total—have now also adopted an inflation target and most, especially in advanced economies, have chosen 2 per cent as their target. Experience suggests that 2 per cent is sufficiently low that it does not materially distort economic decision making and behaviour, but still leaves the central bank adequate room to lower its policy rate in response to a significant adverse shock to the economy. Because a 2 per cent target balances these offsetting considerations, it is symmetric. In other words, we care equally about deviations above and below 2 per cent. The 1 to 3 per cent range reflects normal variations in consumer price index (CPI) inflation, since it is subject to a wide variety of temporary shocks. These ongoing shocks make it impossible to hit the 2 per cent target consistently.

We aim to achieve the target by adjusting our policy rate, which directly influences interest rates for household and corporate borrowing. Doing so helps align demand for domestically produced goods and services with the economy's capacity to supply them. If aggregate demand is expected to exceed or fall short of the economy's potential output, we typically raise or lower the policy interest rate to close the gap and keep inflation on target.

As I mentioned earlier, the other central pillar of our monetary policy framework is a flexible, market-determined exchange rate. It serves two important functions: it allows Canada to have an independent inflation target; and it helps the economy adjust to external shocks, most notably, movements in commodity prices.

The outcome

It's not often that a policy performs better than expected. Our inflation-control target did just that, and continues to do so.

Over the past 27 years, we have reduced inflation as measured by the CPI and maintained it at a level close to our 2 per cent target, with no persistent episodes outside our control range (**Chart 1**).[8] Because inflation has been so close to the 2 per cent target, it has served as an anchoring and coordinating mechanism, allowing Canadians to make better economic decisions and achieve better economic outcomes. In addition, there has been much less volatility in interest rates and output growth.

We have learned some key lessons from this experience.

First, the clarity and simplicity of the 2 per cent target has facilitated its communication and broad acceptance, and that has helped enhance the target's credibility.

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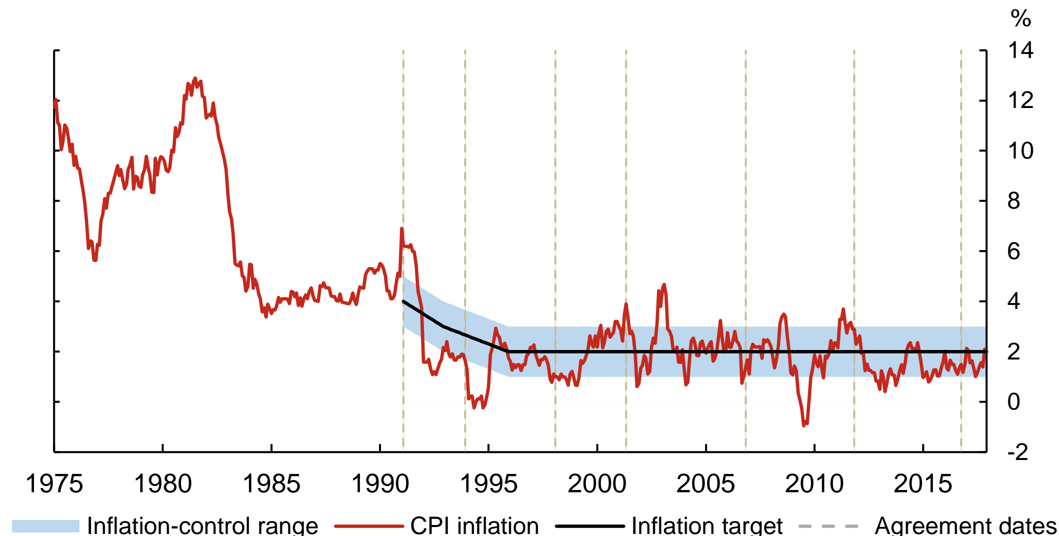
[8] See Table 1, *Renewal of the Inflation-Control Target—Background Information—October 2016*.

Second, as inflation expectations have become firmly anchored at the 2 per cent target, the effectiveness of the policy has increased (**Chart 2**).[9] For example, during the global financial crisis of 2007–08, the Bank was able to aggressively reduce its policy rate and provide substantial monetary stimulus because inflation expectations were so well anchored. As a consequence, a reduction in the policy rate translated directly into a similar reduction in the real interest rate, which is necessary for stimulating demand.[10]

Third, the more successful we are at hitting the target, the more credible the policy is and the more confident Canadians are that inflation will remain on target (**Figure 1**).[11] This self-reinforcing feedback loop has been instrumental in our ability to keep inflation on target.

Chart 1: Since 1991, inflation has remained mostly within the control range

Consumer price index inflation, year-over-year percentage change, monthly data



Sources: Statistics Canada and Bank of Canada

Last observation: December 2017

We also recognize that the credibility and success of our inflation-targeting regime depends critically on the coherence of the macroeconomic and financial policy framework in Canada. For monetary policy to be effective, it must be

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[9] Champagne and Sekkel find that monetary policy shocks have a slightly stronger impact on output after the adoption of an inflation-targeting régime. See J. Champagne and R. Sekkel, Changes in Monetary Regimes and the Identification of Monetary Policy Shocks: Narrative Evidence from Canada, Staff Working Paper No. 2017-39, Bank of Canada, 2017.

[10] This was not always the case. In the early 1990s, when expectations were less well anchored, the Bank found it difficult to reduce the policy rate because the exchange rate would depreciate sharply.

[11] For recent evidence on the impact of the inflation target on inflation expectations in Canada, see P. Beaudry and F. Ruge-Murcia, “Canadian Inflation Targeting,” *Canadian Journal of Economics* 50, no. 5 (December 2017): 1556–1572; and J. Yetman, “The Evolution of Inflation Expectations in Canada and the US,” *Canadian Journal of Economics* 50, no. 3 (August 2017): 711–37.

complemented by sustainable fiscal policy, as well as strong financial regulation and supervision that promote financial stability.

Because inflation targeting has worked so well, it is easy to lose perspective. We now discuss inflation in decimal points rather than the percentage points we were worried about in the 1980s, when inflation was running, in some years, above 10 per cent. At the same time, we must also understand that when inflation is persistently away from the target, as it has been in recent years, we run the risk that inflation expectations will drift away from 2 per cent.

Chart 2: Inflation expectations have become well anchored in Canada

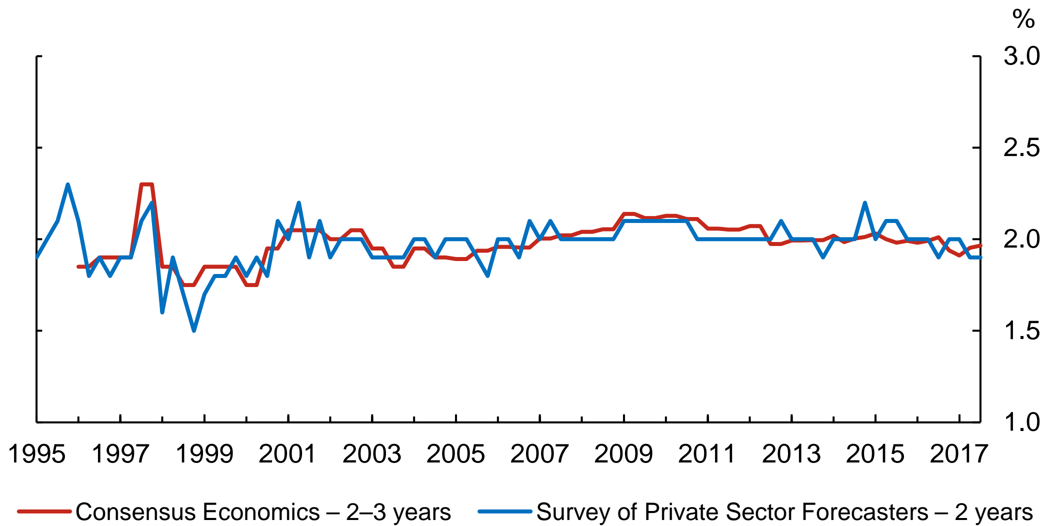
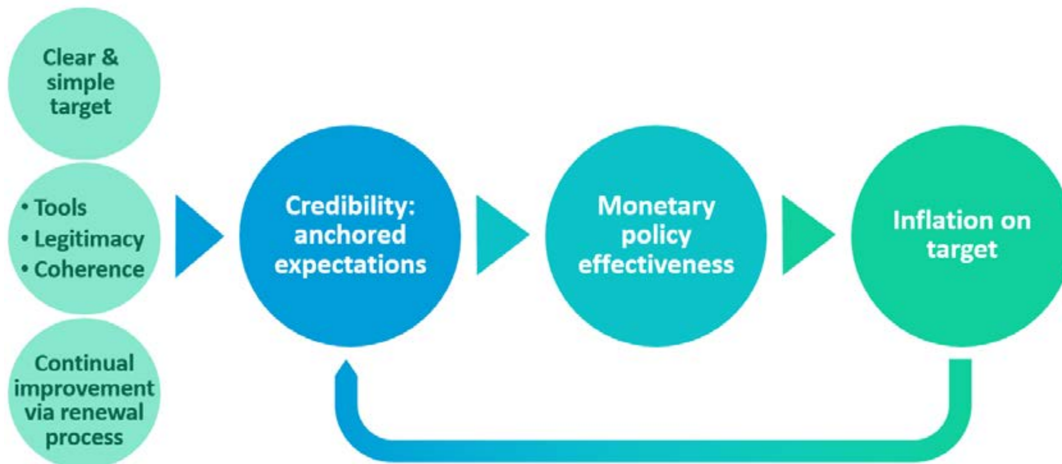


Figure 1: Anchored expectations and the success of inflation targeting



Reviews and renewals

While inflation targeting itself was very innovative, even more so is the joint agreement and its renewal process. For each renewal, the Bank conducts a deliberate, rigorous and transparent research program to critically examine important issues related to the policy framework. Based on this analysis, we adjust and improve the framework.

We examine two types of issues in the renewal process: fundamental and operational. Fundamental issues include whether the target for monetary policy should be changed, and to what extent monetary policy should consider financial stability concerns.[12] Operational issues include how to measure underlying or core inflation.

Given the policy's effectiveness, the renewals have gone smoothly. But, I can assure you, they are not automatic. The issues we research are based on monetary policy experience, primarily in Canada, but also in other jurisdictions, and on academic and policy-related discussions and research. We also consult widely, most notably with the Department of Finance, as well as other central banks, policy institutions and the private sector. All our research, as well as a comprehensive background document, is published on our website.

The renewal process has evolved over time as our experience and understanding of inflation targeting has broadened and deepened. Although we haven't made many changes to the framework, we've gotten better at operationalizing it. Most notably, having a well-understood and credible inflation target has facilitated—and indeed demanded—more transparent communications, since the public can more easily hold the Bank accountable for monetary policy outcomes.[13] To this end, we decided in November 2000 to announce adjustments to our policy rate on eight fixed dates throughout the year.[14] Four of these announcements are accompanied by our *Monetary Policy Report*, which sets out our outlook for the global and Canadian economies as well as the risks to our projections. Starting this year, the four other decisions will be followed by a public speech by a member of Governing Council.

Finally, let me give you a quick overview of some of the questions we addressed in previous reviews.[15]

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[12] Fundamental issues that represent changes in the primary objective of monetary policy would be included in the joint agreement.
[13] Beaudry and Ruge-Murcia (2017) argue that the adoption of the inflation target enhanced the governance of monetary policy in Canada.
[14] Previously, interest rate decisions were announced on a more ad hoc basis, often after interest rate adjustments by the US Federal Reserve.
[15] See *Renewal of the Inflation-Control Target—Background Information—October 2016 and Renewal of the Inflation-Control Target—Background Information—November 2011*.

In 2011, we asked whether the 2 per cent target should be lowered, and in 2016, whether it should be raised. Decisions to alter the target rate of inflation require that we balance two considerations. On one hand, higher inflation is economically costly. It distorts the price mechanism and is socially unjust because many people, especially those with lower or fixed incomes, cannot adequately hedge their financial situation against higher inflation. On the other hand, higher inflation, if it were credible (which is a big "if"), would give the central bank a higher neutral policy rate. That's the interest rate consistent with the economy growing at its potential and inflation staying on target. It serves as a benchmark for us to gauge the degree of monetary stimulus in place and provides a medium- to long-run anchor for the policy rate.

The level of the neutral rate is important because, in the event of an adverse shock, we would prefer to have sufficient room to lower our policy rate to provide stimulus without the risk of dropping it to zero or below. In some jurisdictions, policy rates have been lowered to slightly negative levels, but these negative levels appear to be less effective in stimulating economic activity. For both our 2011 and 2016 reviews, our research found that the 2 per cent target roughly balances these two considerations, especially since our target is clearly understood and is very credible.

In both reviews we also examined to what extent the conduct of monetary policy should take account of financial stability concerns. We concluded in both reviews that monetary policy should be used only in exceptional circumstances because it is most effective at achieving the inflation target, while macroprudential policy has proven useful for mitigating financial vulnerabilities.[16] In addition, we found that post-crisis reforms have made the financial system much more resilient. We know financial stability is necessary for achieving the inflation target on a sustainable basis. Therefore, central banks must be mindful of the impact interest rate changes might have on financial stability and consider adopting a more flexible horizon over which to return inflation to target. Moreover, well-anchored inflation expectations provide more scope for central banks to implement a flexible horizon.

Finally, in 2016, we re-examined how we should measure core inflation. Our search led us to adopt three new measures. None of them is perfect but, together, they are giving us a much better reading of underlying inflation than previous measures did.[17]

Toward 2021

As I mentioned, our next renewal is in 2021. At this early stage in the process, we are examining recent economic developments that could affect the resilience of the Canadian economy. We are also assessing possible measures to

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[16] See T. Lane, "Monetary Policy and Financial Stability—Looking for the Right Tools" (speech at the HEC Montréal, Quebec, February 8, 2016).
[17] L. Schembri, "Getting to the Core of Inflation" (speech at the Department of Economics, Western University, London, Ontario, February 9, 2017).

strengthen the monetary policy framework to respond to adverse shocks and increase overall macro resilience. Three important developments in advanced economies could pose a challenge to our framework.

First are higher levels of household and public debt (**Chart 3, Chart 4**). Low interest rates have encouraged households to take on debt, and the elevated level of government debt is largely a legacy of stimulus policies pursued during the Great Recession of 2008–09. Now, there is less space, on average, across the G7 for more borrowing to stimulate demand.

Second, over the past 25 years, we've seen a gradual decline in interest rates, including long-term bond yields and, most importantly, estimates of the neutral interest rate (**Chart 5**).[18] This reduces the scope of central banks to adjust their policy rate.

And, third, the trend rate of economic growth has been decreasing, owing to fundamental forces: lower labour force growth, reflecting an aging population, and declining labour productivity growth, which is more difficult to explain. The underlying growth in the economy is expected to remain low or to slow further. Therefore, the cyclical forces that normally help to propel an economy out of an unexpected downturn, namely business and residential investment as well as purchases of large durable goods, may be less powerful, especially if debt levels are high and confidence is slow to rebound. In such circumstances, policy might have to be more aggressive to boost confidence and increase demand.

The policy implications of these developments were the focus of our discussions in September 2017 at a public workshop we hosted at the Bank to launch our 2021 research agenda. We invited Canadian and international academics, journalists, and economists from the private sector, think-tanks and unions to suggest ideas for our research agenda for the renewal.[19]

These ideas can be grouped into three broad sets of issues regarding our monetary policy framework: its objective, the available tools to achieve the objective and the potential role of policy coordination. Let me say a few words about each.

On our objective, one alternative that participants discussed was a switch to price-level targeting (PLT). Under PLT, monetary policy would seek over time to keep the price level, rather than the inflation rate, on a predetermined path. This would imply that past deviations from this path would have to be reversed, likely gradually, with higher or lower rates of inflation. We researched PLT for the

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[18] The Bank's current estimate of the neutral rate of interest, which appeared in the January *Monetary Policy Report*, is 2.5 to 3.5 per cent in nominal terms, down from a range of 3.0 to 4.0 per cent a little more than three years ago.
[19] The proceedings of the workshop, as well as speeches and other material related to the 2021 renewal and previous renewals, are available at Toward 2021-Reviewing the monetary policy framework.

2011 renewal and, in the end, we concluded that its benefits did not clearly outweigh the costs and risks of making the shift. But we also said that our assessment of PLT could change.

Chart 3: Household debt has risen to elevated levels in Canada and the G7

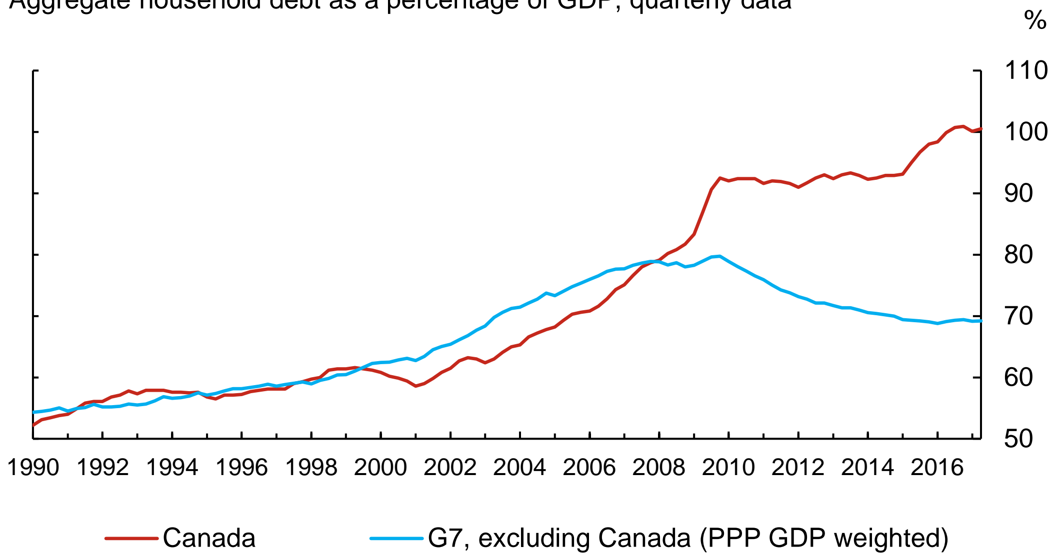


Chart 4: High levels of G7 public debt are a legacy of post-crisis fiscal stimulus

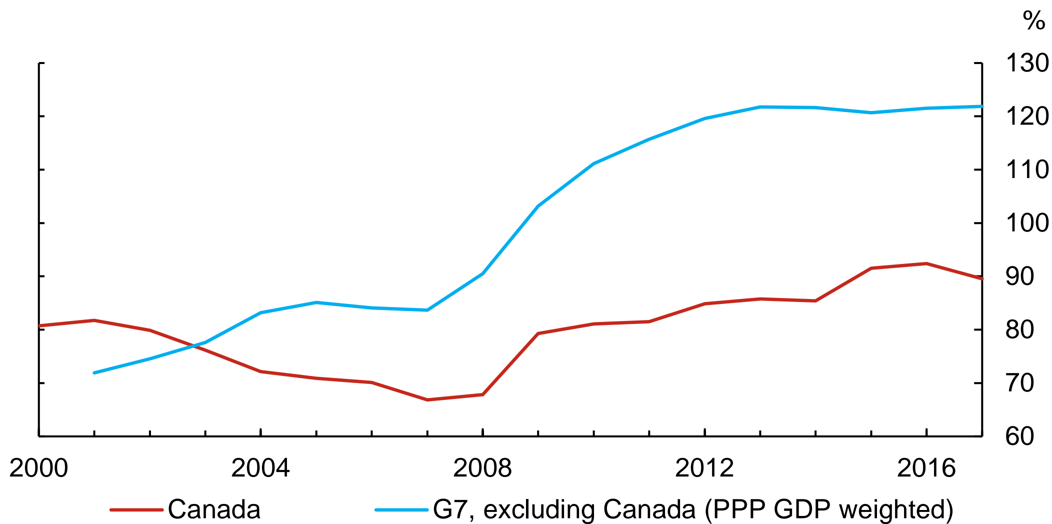
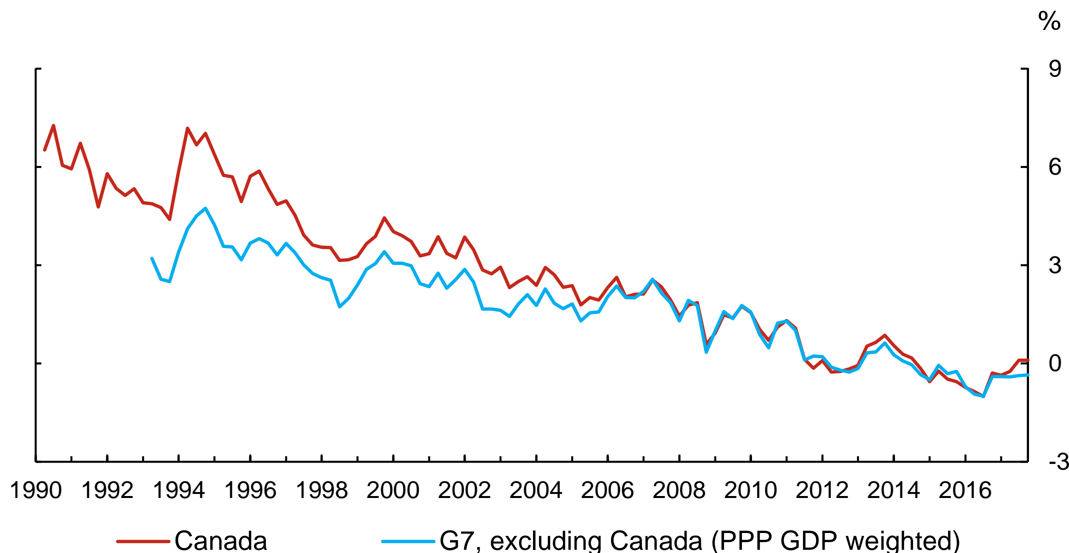


Chart 5: Real interest rates have declined since 1990

Long-term real government bond yields in advanced economies, quarterly data



Sources: Bloomberg and Consensus Economics

Last observation: 2017Q4

What about our tools? In recent years, central banks have used various tools to ease monetary conditions and stimulate demand when their policy rate was at the effective lower bound.[20] For example, in 2009 we issued a conditional commitment to keep the key policy rate unchanged for a year, as long as the outlook for inflation didn't change. Other central banks also used such explicit forward guidance as well as large-scale asset purchases, typically of government securities, for this purpose. Further research is needed to examine the effectiveness of these tools and how best to use them.

Finally, the experience during the crisis, when both aggressive monetary and fiscal stimulus were used, highlighted the benefits of simultaneous policy action. Although monetary policy is normally seen as the most effective countercyclical policy tool because it can respond flexibly and nimbly to adverse shocks, it may need support from other policies more frequently in the future. Indeed, studies have shown that when rates are at the effective lower bound, countercyclical fiscal policies, such as automatic stabilizers, and discretionary policies, such as infrastructure spending, are highly effective. Our agreement with the federal government includes a commitment by both the Bank and the government to the inflation target. That means all economic policies—including monetary, fiscal and

[20] S. S. Poloz, "Prudent Preparation: The Evolution of Unconventional Monetary Policies" (speech to the Empire Club of Canada, Toronto, Ontario, December 8, 2015).

macroprudential—can work together in a complementary fashion for this purpose.[21]

More explicit coordination of fiscal and monetary policy would raise governance issues for both the government and the Bank, given our respective mandates. One interesting suggestion that came up at the workshop was to focus our research on ex ante mechanisms to coordinate policies, because complementary frameworks could deliver better outcomes.

Conclusion

Let me conclude.

Canada's experience with inflation targeting has been much more successful than originally expected. In hindsight, we underestimated how powerful anchored inflation expectations would be in helping to keep inflation close to target.

Our policy framework continues to work, and work well—inflation and inflationary expectations remain firmly anchored. The framework's strengths are the following:

- It features a clear, simple and well-understood target—a focal point.
- The agreement with the government underpins its credibility.
- And, finally, it is continually improved through the renewal process to ensure that we are able to meet future challenges.

A strong framework enhances the resilience of the economy, making it better able to weather adverse shocks. An important recent example of such a shock was the sizable oil and commodity price declines in 2014 and 2015. The policy rate reductions we made in 2015 in response to this shock were effective in facilitating the economy's adjustment and returning inflation to target.

In coming speeches in this series on the review of our framework, we will finalize and share with you the research questions we will be working on leading up to the 2021 renewal.

We continue to believe that the best contribution the Bank can make to improving the performance of the Canadian economy is to ensure that inflation remains low, stable and predictable.

[21] Governor Stephen S. Poloz has described the agreement as a "simple yet elegant" form of monetary and fiscal policy coordination. See: S. S. Poloz, "The Doug Purvis Memorial Lecture—Monetary/Fiscal Policy Mix and Financial Stability: The Medium Term Is Still the Message," Staff Discussion Paper, No. 2016-13, Bank of Canada, June 2016.