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Inflation Targeting in the Post-Crisis Era

Introduction

Thank you for the invitation. I am pleased to be here. One of my main responsibilities at the Bank is overseeing the analysis of domestic economic developments in support of monetary policy decisions. It is always very helpful to meet the people and visit the places behind the economic trends we are tracking.

My speech today is about inflation targeting. It might be difficult to imagine now, but back in the 1980s, interest rates on mortgages topped 20 per cent. That, of course, was before we signed a pioneering inflation-control agreement with the federal government in 1991.

Canada was the second country in the world—after New Zealand—to adopt an inflation-targeting regime. It is not often you can say that a product worked better than advertised. Inflation targeting has. It has easily exceeded our expectations.

Since 1991, inflation in Canada, as measured by the consumer price index (CPI), has averaged 2 per cent, and its variability has fallen by roughly two-thirds.

Canadians have benefited in a number of important ways. Greater price stability has allowed consumers and businesses to manage their finances with more certainty about the future purchasing power of their savings and income. Real and nominal interest rates have also been lower across a range of maturities. As a result of these developments, low, stable and predictable inflation has encouraged more solid economic growth and a well-functioning and more stable labour market.

In addition, our inflation-targeting regime provided both a beacon and an anchor as we navigated the global financial crisis.

The inflation-targeting agreement is renewed with the federal government approximately every five years. The agreement sets the inflation objective at 2 per cent—the midpoint of a 1 to 3 per cent target range—and gives the Bank effective independence for achieving it. It was last renewed in 2011. We view

these periodic reassessments as an essential element of our commitment to good governance.

With the next renewal set for 2016, I want to talk to you today about the key issues that we reviewed in 2011, major developments since then and outstanding questions that we will be analyzing over the next two years.

I want to emphasize at the outset that nothing's broken. Our flexible inflation-targeting regime has served Canadians well, both in calm and turbulent times. So the bar for change is high.

Where We Were in 2011

In the run-up to the 2011 renewal, the Bank focused its research on three questions: whether to adopt a lower inflation target; whether to move to price-level targeting; and how monetary policy should take account of financial stability considerations. These questions were not new. But the global financial crisis cast them in a different light.

Let me outline where the Bank came out on each of these three questions in order to give you some context for the discussion that follows about our current research.¹

Should we target a lower rate of inflation?

Canada, like most other inflation-targeting central banks in advanced economies, has been aiming at an inflation target of 2 per cent. Why 2 per cent?

We know that high and variable inflation is costly. It erodes purchasing power, creates uncertainty, distorts relative prices and investment decisions, and causes arbitrary redistributions of wealth between savers and borrowers. So the inflation target should be low enough to minimize these distortionary effects. At the same time, there are risks associated with very low rates of inflation, the most important being the zero lower bound (ZLB) on interest rates. The lower the inflation target, the lower the average nominal policy interest rate will be.

Therefore, the greater the likelihood that adverse shocks will push interest rates to the ZLB and hence limit the central bank's ability to respond with conventional policy. A positive inflation rate also helps to "grease the wheels," since it is less likely that the economy will be constrained by downward nominal wage rigidity.²

¹ For more detail on the 2011 renewal, see www.bankofcanada.ca/wp-content/uploads/2011/11/background_nov11.pdf. See also M. Carney, "A Monetary Policy Framework for All Seasons" (speech to the U.S. Monetary Policy Forum, New York, NY, 24 February 2012), and M. Carney, "Renewing Canada's Monetary Policy Framework" (speech to the Board of Trade of Metropolitan Montreal, Montréal, Quebec, 23 November 2011).

² The lower the inflation target, the more likely it is that nominal wages will occasionally need to decline to facilitate economic adjustment. If workers are reluctant to accept these declines, the process of real adjustment in the labour market will be impeded. While there is some evidence of downward nominal wage rigidities in Canada, Crawford and Wright (2001) conclude that their effects do not appear to be economically significant. See A. Crawford and G. Wright, "Downward Nominal-Wage Rigidity: Micro Evidence from Tobit Models," Working Paper No. 2001-07, Bank of Canada, 2001. Others, however, have argued that this could be an important issue. See, for example, P. Fortin, "The Macroeconomics of Downward Nominal Wage Rigidity: A Review of the Issues and New Evidence for Canada," Centre Interuniversitaire sur le Risque, les Politiques Économiques et l'Emploi, Working Paper 13-09.

Another argument for a slightly positive inflation target is that official price statistics are subject to measurement bias, in effect, overstating true inflation.³

Would there be net benefits to targeting an inflation rate lower than 2 per cent?

A lower target is intuitively appealing, since even with 2 per cent inflation, the price level doubles every 35 years. A lower target could further reduce distortions stemming from incomplete indexation of nominal contracts and the tax system, and the disincentives for holding money. The Bank's research leading up to the 2011 renewal strengthened the case for lowering the target. However, our research and the experience of the crisis also highlighted the sizeable risks associated with the ZLB. While unconventional monetary policy (UMP) instruments, such as asset purchases and forward guidance, appeared to provide stimulus, their benefits and costs would only be known in the fullness of time.

Our research indicated that encounters with the ZLB should be quite rare with a 2 per cent target, but were much more likely to occur with a target below 2 per cent. The Bank therefore concluded that the benefits of a lower inflation target were insufficient to justify the increased risk of being constrained by the ZLB.

Should we move to price-level targeting?

The second question we addressed was whether there would be net benefits to adopting price-level targeting (PLT). The distinguishing feature of price-level targeting is that, unlike inflation targeting, bygones are not bygones. Past inflation misses must be corrected. For example, following a period of below-target inflation, policy would seek a period of above-target inflation to ensure the desired rate of change in the price level over time. In addition to providing greater price-level certainty over the long run, PLT could reduce the volatility of output and inflation through automatic, self-correcting changes in inflation expectations. This could be particularly useful at the ZLB.

However, for PLT to work, people need to be forward looking and the policy well understood and credible. In the end, the Bank concluded that, under ordinary circumstances, the expected benefits of PLT would be too small to justify the risks of abandoning our existing well-understood policy objective.

How to address financial stability considerations?

The crisis made it clear that price stability and financial stability are inextricably linked and that pursuing the first without regard for the second risks achieving neither. Indeed, low, stable and predictable inflation and low variability in activity can breed complacency among financial market participants as risk taking adapts to a perceived new equilibrium. The critical question this poses for policy-makers is whether monetary policy should lean against a buildup of financial imbalances.

Monetary policy influences markets and the leverage of financial institutions so broadly that it cannot easily be avoided. As former Federal Reserve Governor

³ The measurement bias is estimated to be around 0.5 per cent in Canada. See P. Sabourin, "Measurement Bias in the Canadian Consumer Price Index: An Update," *Bank of Canada Review* (Summer 2012): 1–11.

Jeremy Stein once put it, monetary policy “gets in all of the cracks.”⁴ This makes monetary policy an inappropriate tool to deal with sector-specific imbalances, but a potentially valuable one for addressing economy-wide imbalances.

However, we concluded that monetary policy should be our last line of defence. It should be preceded by responsible behaviour by individuals and institutions and by effective micro- and macroprudential regulation and supervision. These defences should go a long way to mitigate the risks. Still, in some cases, monetary policy may have a role to play. This is most obviously the case when financial imbalances affect the near-term outlook for output and inflation.

In exceptional circumstances, particularly if imbalances and excessive risk taking are widespread or encouraged by a low interest rate environment, monetary policy might have to be used even if it means that inflation would deviate from target for an extended period of time. Our credible inflation-targeting framework facilitates this flexibility while remaining perfectly consistent with ensuring long-run price stability.

So, let me sum up our review preceding the last renewal. After considerable research and discussion, the Bank concluded in 2011 that our existing framework was robust and the right tool for delivering price stability and enhancing the economic welfare of Canadians.

What We Are Focusing on Now

How have things changed since then? What have we learned, and what are the issues that we will be researching ahead of the 2016 renewal?

The optimal inflation target—2 per cent under increased scrutiny

Experience and analysis since the 2011 renewal has reinforced our view of the importance of the ZLB. At the same time, interest rates are likely to be lower, on average, in the future than they were before the crisis. As a consequence, ZLB episodes could become more frequent. Together, these factors suggest that consideration should be given to an inflation target that is above 2 per cent.

In recent years, global economic growth has repeatedly fallen short of expectations. For many advanced economies, this means that the ZLB has been a more enduring constraint on monetary policy than anticipated. This is not to say that central banks are powerless at the ZLB. In fact, a growing body of evidence suggests that UMPs have had a positive impact on economic activity and inflation.⁵

That said, it is still unclear to what extent UMPs can effectively substitute for conventional monetary policy. As well, there are potential issues associated with the use of UMPs, such as risks to central bank independence and complications

⁴ J. C. Stein, “Overheating in Credit Markets: Origins, Measurement, and Policy Responses” (speech at the Research Symposium, “Restoring Household Financial Stability After the Great Recession: Why Household Balance Sheets Matter,” sponsored by Federal Reserve Bank of St. Louis, St. Louis, Missouri, 7 February 2013).

⁵ See E. Santor and L. Suchanek, “Unconventional Monetary Policies: Evolving Practices, Their Effects and Potential Costs,” *Bank of Canada Review* (Spring 2013): 1–14.

related to exit. Our research will aim to shed additional light on the ability of UMPs to mitigate the effects of the ZLB.

The lessons we draw from recent experience with the ZLB are buttressed by analysis of the longer-term outlook for interest rates. In the mid-2000s, we estimated the real neutral rate of interest to be in the 2 1/2 to 3 1/2 per cent range. Today, we think it is more likely in the 1 to 2 per cent range (or 3 to 4 per cent in nominal terms).⁶

All else being equal, a lower neutral rate implies a greater probability of being constrained by the ZLB. Preliminary evidence for Canada suggests that with an unchanged inflation target, the probability increases from about 5 per cent to about 15 per cent. This is not trivial.

On the other hand, there are factors that will work in the opposite direction, reducing the likelihood of ZLB episodes. The most important is global financial regulatory reform, which is expected to reduce the likelihood of financial crises—a common cause of shocks large enough to necessitate near-zero interest rates.^{7, 8}

While a number of prominent economists have argued for a higher inflation target, there is good reason to be cautious.⁹ The credibility of the 2 per cent target is invaluable. It accrued gradually over time as 2 per cent came to be perceived as a stable and achievable objective. Changing the target could cause it to become regarded as temporary in nature. A less-credible target would limit the flexibility and effectiveness of monetary policy as a stabilization tool.

Our research will undertake a careful analysis of the costs and benefits of adjusting the target.

The integration of financial stability considerations—a work in progress

The Bank concluded in 2011 that monetary policy should be the last line of defence against financial imbalances. This has since become the dominant view in the central bank community. Nonetheless, after years of aggressive monetary

⁶ We define the neutral rate as the policy rate that will prevail after the effects of all cyclical shocks have dissipated. The estimated decline in the neutral rate mainly reflects lower potential growth rates and higher global savings. See C. Wilkins, “Monetary Policy and the Underwhelming Recovery” (speech to the CFA Society Toronto, Toronto, Ontario, 22 September 2014); and R. Mendes, “The Neutral Rate of Interest in Canada,” Bank of Canada Discussion Paper No. 2014-5, September 2014.

⁷ For example, a study conducted by the Financial Stability Board and the Basel Committee on Banking Supervision, with the participation of Bank of Canada staff, found that an increase of 2 percentage points in bank capital ratios reduced the probability of a financial crisis from 4.5 per cent to 1.6 per cent.

⁸ We also need to consider the possibility of reduced measurement bias in the CPI, given improvements made by Statistics Canada in the past few years. A lower bias would lead to a higher true rate of inflation for a given inflation target, thus mitigating the need for a higher target.

⁹ See P. Krugman, “Inflation Targets Reconsidered,” ECB Sintra Conference, May 2014; and L. Ball, “A Case for a Long-Run Inflation Target of Four Percent,” IMF Working Paper 14/92, June 2014. For an earlier appeal to central banks to at least consider a higher target, see O. Blanchard, G. Dell’Ariccia and P. Mauro, “Rethinking Macroeconomic Policy,” IMF Staff Position Note, 12 February 2010.

stimulus in major advanced economies, concerns about the buildup of financial stability risks have increased, leading some to question whether the appropriate trade-offs are being made between price stability and financial stability. Indeed, some critics have argued that the current monetary stimulus is simply sowing the seeds of the next financial crisis. However, as Governor Poloz discussed in a recent speech, the alternative is not attractive.¹⁰

Here in Canada, financial stability risks—mainly household imbalances—have been on our radar. To address these imbalances, a number of regulatory changes were made, which have contributed to a more constructive evolution, although the risks have been edging higher.¹¹

Financial stability risks have also been taken into account as part of our risk-management approach to monetary policy.¹² When the flexibility inherent in getting inflation back to target within a reasonable time frame permits, the Bank has opted for tactics that do not exacerbate financial stability concerns. The Bank adopted a tightening bias from April 2012 to October 2013, noting that the evolution of risks related to household imbalances may be a factor affecting the timing and degree of withdrawal of monetary stimulus. Thus far, however, the Bank has not had to use its monetary policy instrument to lean against financial risks. Going forward, additional research will be helpful to specify more fully the circumstances under which it would be appropriate for the Bank to use monetary policy for financial stability purposes.

Recent work at the Bank suggests that the best outcome is achieved when macroprudential policy targets emerging imbalances in the economy, such as excessive growth in credit, leaving monetary policy free to focus on price stability.¹³ Of course, these policies must take account of one another. Thus, for example, tighter macroprudential policy would require a more stimulative monetary policy, other things being equal, and vice versa.

How to best integrate price stability and financial stability remains a work in progress. Implementation of the global financial reform agenda both here and abroad should increase the resilience of our financial system and reduce the need for monetary policy to react. Still, much remains to be learned about the effectiveness of macroprudential instruments and the optimal mix of policy tools. Communication challenges associated with potentially moving macroprudential and monetary policies in opposite directions should also be examined.

¹⁰ S. Poloz, “The Legacy of the Financial Crisis: What We Know, and What We Don’t” (speech to the Canadian Council for Public-Private Partnerships, Toronto, Ontario, 3 November 2014).

¹¹ The Minister of Finance has tightened mortgage insurance rules, the Superintendent of Financial Institutions has developed stronger mortgage underwriting principles, and the Canada Mortgage and Housing Corporation has restructured its programs.

¹² S. Poloz, “Monetary Policy as Risk Management” (speech to the Canadian Club of Montreal, Montréal, Quebec, 12 December 2013). See also S. Poloz, “Integrating Uncertainty and Monetary Policy-Making: A Practitioner’s Perspective,” Bank of Canada Discussion Paper No. 2014-6, October 2014.

¹³ S. Alpanda, G. Cateau and C. Meh, “A Policy Model to Analyze Macroprudential Regulations and Monetary Policy,” BIS Working Paper 461, September 2014.

The measurement of core inflation—should CPIX continue to be our main guide?

As much as we aim for low, stable and predictable inflation, there will always be sharp movements in CPI inflation. These are generally driven by volatile price changes in a small number of goods and services that often tend to reverse quickly. Such price changes add considerable “noise” to total CPI, making it difficult to discern genuine movements in trend inflation. For this reason, many central banks calculate core inflation measures, which are designed to minimize the influence of the most volatile components of the CPI.

An effective core measure must have four key properties. It must be less volatile than total inflation; track long-run movements in the total CPI very closely (in other words, be “unbiased”); reliably predict future trend movements in the total CPI; and be easy to understand and explain to the public.

The Bank calculates and publishes several core measures that meet these criteria to varying degrees. Within this set, CPIX has been our main guide since 2001.¹⁴ Although CPIX isn’t a perfect measure of underlying inflation, it has a number of advantages. It depicts relatively low volatility and is fairly straightforward to calculate.¹⁵ However, excluding some of the most volatile components from the CPI doesn’t guarantee that the resulting measure will always be smooth. Some components included in CPIX (for instance, electricity) have shown fairly high volatility in recent years, while others, such as the prices of autos and certain regulated services, have tended to move countercyclically, thereby obscuring the relationship between CPIX and the output gap.¹⁶

Alternative measures of core inflation provide additional valuable information in this context. For instance, the Bank’s common component is well suited to seeing through one-off isolated price changes and tends to be more highly correlated with measures of economic slack.¹⁷ But it isn’t perfect either. It can be hard to explain, given its reliance on more advanced statistical methods.

Against this background, the properties of various measures of core inflation will be re-examined to determine whether the Bank should continue the practice of identifying one pre-eminent measure of inflation as its operational guide and, if so, whether CPIX should continue to play that role.

¹⁴ CPIX excludes eight of the most volatile components of the consumer price index and adjusts the remainder for the effect of changes in indirect taxes. The components are fruit, vegetables, gasoline, fuel oil, natural gas, intercity transportation, tobacco and mortgage-interest costs.

¹⁵ T. Lafèche and J. Armour, “Evaluating Measures of Core Inflation,” *Bank of Canada Review* (Summer 2006): 19–29.

¹⁶ See Box 2, *Monetary Policy Report*, April 2014. <http://www.bankofcanada.ca/2014/04/mpr-2014-04-16/>.

¹⁷ The common component uses a factor model to extract the component of inflation that is common across the individual series that make up the CPI. See M. Khan, L. Morel and P. Sabourin, “The Common Component of CPI: An Alternative Measure of Underlying Inflation for Canada,” Bank of Canada Working Paper No. 2013-35, October 2013.

Conclusion

Let me conclude. Canada's inflation-targeting framework merits top marks. It has performed extremely well in good times and helped us weather the bad times. For this reason, any modification to the framework must be thoughtfully researched and carefully considered. This doesn't mean there is no room for improvement, just that—as I emphasized earlier—the bar for change is high. By anchoring inflation expectations, the policy has earned invaluable credibility. It would be a mistake to compromise that credibility.

Although the financial crisis and its aftermath are forcing all central banks to reassess their operating frameworks and mandates, conducting such reviews is a well-established routine for us at the Bank of Canada. We believe that one of the core strengths of our policy framework is the research program we undertake leading to the periodic renewals of the agreement with the Government of Canada. Research on the issues I have raised in this speech will help to inform the next renewal and, more broadly, the conduct of monetary policy.

Transparency is important to us. We will keep the public informed about the progress of our work over the next two years. We are assembling on our website material related to the framework and research we are undertaking in the run-up to the 2016 renewal.

One thing is certain: no matter what is decided, the most important contribution that a central bank can make to the economic well-being of households and businesses is the achievement and maintenance of low, stable and predictable inflation. This will not be sacrificed. The only question, as always, is whether it can be delivered in an even more effective and reliable manner.

Thank you.