



BANK OF CANADA  
BANQUE DU CANADA

# FRAMEWORK FOR CONDUCTING MONETARY POLICY AT LOW INTEREST RATES

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# Framework for Conducting Monetary Policy at Low Interest Rates

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## Objective

The best contribution monetary policy can make to the economic and financial well-being of Canadians is to meet its objective of ensuring that inflation remains low, stable and predictable. This objective is formalized under a renewable joint agreement between the Bank of Canada and the Government of Canada that specifies a 2 per cent target for total consumer price index (CPI) inflation—the midpoint of a 1 to 3 per cent range. Normally, the Bank conducts monetary policy to achieve its inflation target by adjusting its key policy rate—the target for the overnight interest rate. However, at very low interest rates, the Bank may need to employ additional instruments.

In the April 2009 *Monetary Policy Report*, the Bank outlined a framework for conducting monetary policy at low interest rates. This document updates that framework and describes a series of policy measures that could be deployed in a very low interest rate environment. In using these measures, the Bank will maintain its focus on achieving the mandated inflation target while adhering to the principles of maximizing the economic impact and market neutrality of a given policy action and minimizing the risks to its balance sheet. Nevertheless, the use of unconventional policy measures does involve some risk of unintended consequences, and, therefore, close monitoring of market functioning and financial stability indicators would be required.

## Policy Measures

The Bank has at its disposal a suite of extraordinary policy measures that could be used to provide additional monetary stimulus at very low interest rates. International experience has demonstrated that these measures can be effective in helping a central bank achieve its objectives. In each case, the measure can provide additional monetary stimulus and/or improve credit market conditions.

Without prejudging the order or efficacy of their use, the available measures are as follows.

### Forward guidance

In contrast to the more typical interest rate environment, there are clear benefits in a very low rate environment associated with conditional statements about the path of policy that are tied to the inflation outlook or other economic variables. In particular, statements that provide extraordinary forward guidance allow a central bank to provide additional monetary stimulus by influencing the expected duration of low interest rates and/or providing greater certainty regarding the interest rate outlook. The Bank could also back up these statements with offers of longer-term purchase and resale agreements (PRAs) at rates consistent with its guidance regarding the operating band.

Credible forward guidance by a central bank to keep short-term rates low for a longer period than expected by the market should lower bond yields throughout the term structure and, in turn, support the prices of other financial assets and the depreciation of the currency—all of which serve to boost aggregate demand, leading to an increase in output and inflation.

### Negative policy rates

In principle, nominal interest rates cannot fall below zero because investors can always earn a zero nominal return by holding currency. In practice, however, the nominal return for holding currency is negative, due to storage, transportation, insurance and other costs associated with securing and storing bank notes, particularly in large quantities. These costs make it possible for nominal interest rates to fall somewhat below zero.<sup>1</sup>

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<sup>1</sup> For a discussion of the determinants of the effective lower bound on interest rates in Canada, see “[Estimating Canada’s Effective Lower Bound](#)” by J. Witmer and J. Yang, Staff Analytical Note No. 2015-2, Bank of Canada 2015, available on the Bank’s website.

In April 2009, the Bank set an effective lower bound (ELB) of 25 basis points for the overnight rate. The choice of a slightly positive ELB was motivated in part by concerns about the need to provide lenders and borrowers with the incentive to transact in markets. At the time, there was substantial uncertainty about the impact of very low interest rates on market functioning. This uncertainty led most central banks to exercise due caution by setting a slightly positive ELB.

Recent international experience has led to a reduction in this uncertainty. Several countries have adopted negative policy rates, and, in these jurisdictions, markets have continued to function effectively. The Bank's analysis suggests that Canadian markets would also continue to function effectively in an environment with a policy rate below zero. At this time, the Bank's best estimate is that the ELB for the target for the overnight rate is approximately -0.5 per cent.

Considerable uncertainty remains, however, as to precisely how far below zero the policy rate could go before markets became materially impaired or the demand for bank notes increased significantly. Furthermore, the Bank's estimate will likely evolve over time as we monitor the experiences of other central banks operating in a negative interest rate environment or observe how Canada's financial system would adapt to a negative rate environment. In practice, should rates be lowered below zero, the risk of triggering unintended consequences would need to be assessed carefully, based on a detailed and continuous monitoring of indicators of market functioning and the demand for bank notes. In the event that the Bank judged that the lower bound was being approached, it would clearly communicate that information to the public.

### Large-scale asset purchases

Outright purchases of financial assets through the creation of excess settlement balances (that is, central bank reserves) will push up the price of, and reduce the yield on, the purchased assets (which could include longer-term government securities or private assets such as mortgage-backed securities and corporate debt).<sup>2</sup> The expansion of settlement balances would encourage the acquisition of other

types of assets (portfolio rebalancing), reducing yields more generally and easing overall financial conditions. As with conventional monetary policy easing, the exchange rate would typically depreciate in response to lower interest rates.

### Funding for credit

In some circumstances, the supply of credit to particular sectors of the economy may become impaired. To ensure that credit market impairments do not restrain aggregate demand, funding for credit facilities could be established. Facilities of this type would provide collateralized term funding to banks at a subsidized rate. In return, banks would need to meet certain lending objectives in order to qualify for access to the facility. A key advantage of this type of facility is that it would enable the Bank to target the measure to those specific sector(s) of the economy where credit supply is judged to be impaired.

### Sequencing of the policy measures

There is no predetermined bias regarding the order in which the policy measures identified above are used. The efficacy of each measure would depend on the economic and financial context. For example, there may be more scope for forward guidance to reduce the expected path of the policy rate when markets expect the policy rate to rise faster than warranted by economic conditions, including the outlook for inflation. In another situation, a funding-for-credit program may be more effective when credit market impairments are an important restraint on aggregate demand.

In some cases, the measures could be complementary. While international evidence has shown each of these measures to be effective, there are likely to be limits on the degree of stimulus that can be provided with any single measure. However, given that each measure operates through somewhat different channels, the measures can be used in conjunction for greater effect and, in many cases, would be mutually reinforcing. For example, asset purchases could be used to reinforce a conditional commitment made through forward guidance. Given the uncertainty concerning the magnitude of the impact of each policy, using several measures simultaneously would help to diversify the risks associated with under- or overestimating such impact.

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<sup>2</sup> In some circumstances, these purchases could be sterilized. For example, the purchases could be financed by reducing holdings of other assets or by increasing government deposit liabilities so that the monetary base remains unchanged.

## Principles Guiding Potential Bank of Canada Actions

The following principles would guide the Bank's thinking in terms of which actions to undertake:

**Focus** on the inflation target. The Bank would undertake transactions in the amounts and types that will have the desired effect in supporting aggregate demand and achieving the inflation target.

**Impact.** Asset purchases would be concentrated in the maturity range where they are expected to have the maximum impact on the economy.

**Neutrality** across sectors and across similar assets. To limit potential distortions, actions should be taken in as broad and neutral a fashion as possible. Markets in which purchases would occur should be defined as broadly as possible. Operations should be conducted in a neutral fashion (e.g., through an auction).

**Prudence.** The Bank would take into account investment quality and would minimize operational risks. It would mitigate financial risks to its balance sheet, which could arise from changes in yields (valuation losses) or from the credit performance of private sector assets (credit losses).

Where appropriate, the Bank would consult with federal government agencies on the details of how the measures are to be implemented.

## Key Indicators and Exit Strategy

The Bank would closely monitor a number of indicators to assess the effectiveness of its policy measures in terms of the outlook for aggregate demand and inflation. Most important would be the overall effect on households and businesses of any actions on financing conditions, including the exchange rate.

The eventual exit from these measures would be guided by the Bank's assessment of economic and financial conditions and the outlook for inflation. In the case of asset purchases, a number of alternatives are available, including natural runoff through the maturing of the assets, "refinancing" the acquired assets (e.g., financing in the repo market or allowing the runoff of other assets on the Bank's balance sheet), and asset sales. In cases where assets need to be sold, the disposition of securities would be carried out at an appropriately measured pace. Management of the Bank's balance sheet would be communicated accordingly.

## Communication

A press release on each fixed announcement date would remain focused on the target for the overnight rate and on any conditional statements about the future direction of policy rates. The press release would also indicate any intention to carry out or maintain purchase and/or credit programs and their approximate size (where relevant, given the program design). The Bank would explain the broad objectives of the extraordinary measures being deployed and how they are to be implemented. Detailed operational decisions (such as pricing, specific timing and the exact securities eligible) would be communicated in separate market announcements.