

# Discussion 1

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## Introduction

A number of issues arise in any discussion of inflation targeting, and many of them were addressed at this conference. The following questions appear especially relevant to me:

- Why should a central bank adopt inflation targeting?
- What are the pros and cons of inflation targeting versus price-level targeting?
- What level of inflation should be chosen as the target?
- How should an inflation target be implemented?

I will discuss each issue to highlight the views offered by conference participants and suggest how these views can be used to guide policy decisions.

## The Issues

### **Why should a central bank adopt inflation targeting?**

The objective of most central banks is to foster a stable monetary and financial environment that promotes economic well-being. The question, then, is whether a policy of inflation targeting achieves these goals better than alternative policies. The presentations by Christopher Ragan and Frederic Mishkin focused on this issue. What is very clear from the data is that inflation in Canada has been low and stable since the adoption of inflation targeting. In particular, over the past 10 years, yearly inflation has been kept very close to 2 per cent, which indicates that inflation targeting

has been successful at promoting a stable, nominal environment in Canada. This is the case in most other inflation-targeting countries, as well.

Has inflation targeting also been successful in promoting economic well-being? One way to evaluate this is to look at whether GDP growth has been more volatile in inflation-targeting countries relative to non-inflation-targeting countries. The finding on this front, as described by Ragan and Mishkin, is that GDP growth has not been more variable in inflation-targeting countries, which supports the view that the stability of inflation achieved under inflation targeting does not come at the cost of greater output instability. Hence, inflation targeting can be reasonably viewed as an effective policy, since it can achieve considerable inflation stability at no apparent cost, and for this reason, it would appear that Canada should maintain such a policy stance. It should be noted, however, that over the past 10 to 15 years, most industrial countries that have not adopted inflation targeting have also witnessed an important improvement in inflation performance. This would suggest that although inflation targeting has attractive features, alternative policies may perform just as well, and one must not overstate the case for inflation targeting.

As emphasized in the presentation by Mishkin, even though cross-country evidence on the economic effects of inflation targeting does not yet demonstrate clear advantages of such a monetary regime over reasonable alternatives, this may be simply a question of time. In response to large cost shocks—due, for example, to changes in energy prices—an inflation-targeting regime may provide an environment with more nominal stability than most other regimes, since agents' expectations of inflation are likely to be well anchored. Accordingly, a cost shock should not induce spiralling price changes in an inflation-targeting regime. We may soon learn whether this hypothesized feature of inflation targeting is borne out in the data.

### **What are the pros and cons of inflation targeting versus price-level targeting?**

A growing literature is evaluating whether price-level targeting is preferable to inflation targeting as a means of promoting economic well-being. Eva Ortega and Nooman Rebei offer an interesting contribution to this literature. They evaluate the welfare gains of price-level targeting over inflation targeting. The environment considered mimics properties of the Canadian economy, with multiple sectors and substantial nominal stickiness. While the authors find that price-level targeting may be preferable to inflation targeting, the welfare gains they calculate are minimal. Hence, one may conclude that switching to price-level targeting may not be desirable in the Canadian case. If one considers that a change in regime to price-level

targeting likely results in an initial period of potentially costly adaptation, then this cost likely outweighs the benefits. Although I believe this is the right conclusion from the Ortega-Rebei paper, their model does not include the main elements that are considered important by proponents of price-level targeting.

For example, one of the assumed benefits of price-level targeting is that it helps in long-run planning, in retirement planning, for example. And although it is in principle possible to evaluate such claims, in practice it is difficult, since the process is sensitive to many assumptions. In fact, the attractiveness of price-level targeting for retirement planning depends in part on the sophistication of investors and on the availability of financial instruments. If investors are sophisticated, they can often create a portfolio where the real return is not sensitive to inflation outcomes. In contrast, if investors are not sophisticated or if there are substantial fees on complicated financial assets, investors could gain by price-level targeting, since it would help them reduce the return risk associated with the long-run variability of prices that can occur under inflation targeting. However, this latter case is based on assumptions that are currently difficult to incorporate into a model where welfare gains can be assessed. It may be true, therefore, that price-level targeting is desirable, but more work needs to be done to produce a convincing case. At this point, Ortega and Rebei suggest that welfare gains associated with moving from inflation targeting to price-level targeting appear rather small.

### **What level of inflation should be chosen as the target?**

In maintaining a regime of inflation targeting, it is necessary to determine the most preferable target level. In the Canadian context, two issues arise: (i) identifying the potential costs associated with choosing a target at a level below 2 per cent, and (ii) determining whether the status quo of 2 per cent has particular appeal over another level. Both issues were acknowledged at the conference.

One cost often associated with choosing an inflation target below 2 per cent is the possibility of falling into a liquidity trap, owing to the zero lower bound on interest rates. When the economy is in a recession with a very low demand for borrowing, it might be desirable to have a real interest rate that is negative. If inflation is kept very close to zero, however, monetary authorities cannot implement a significantly negative real rate, since the nominal interest rate is bounded below by zero. Hence, this zero-lower-bound problem suggests that it may not be desirable for monetary authorities to have an inflation target too close to zero.

The paper by Francisco Ruge-Murcia examines whether the financial market has perceived the zero-lower-bound problem to be a relevant issue in the Canadian case when the inflation target is at 2 per cent. He examines how the term structure of interest rates behaves when the short-term nominal interest rate is low. If the market perceives that the economy may be constrained by the zero lower bound, interest rates over longer horizons should react to changes in the short-term rate much less at low levels of interest rates than at high levels. The author finds that the zero-lower-bound problem does not appear to be a relevant constraint on monetary policy when the inflation rate is around 2 per cent. This observation suggests that it is justifiable to consider inflation targets below 2 per cent without an immediate concern for the zero-lower-bound constraint. One must be cautious when promoting such a position, however, since Ruge-Murcia does not tell us how far below 2 per cent a country can choose an inflation target before the lower-bound problem takes effect. Additional research needs to explore this question. A more telling reason for not choosing a target below 2 per cent can be found in the Japanese experience. In that economy, the lower-bound problem on nominal interest rates appears to have been an important element behind the stagnation observed since 1990. Given that during this period inflation in Japan was close to zero (sometimes negative), choosing an inflation target at or close to zero may not be the optimal solution.

In his paper, Kevin Moran discusses the costs associated with changing the level of the inflation target. He takes the view that a change in an inflation target induces a period of adaptation, during which agents in the economy learn how to function in the new regime. Moran assumes that agents do not adjust their behaviour immediately in response to the announcement of a change in target, but instead adjust their behaviour slowly as they learn to believe in the new target and to recognize its implications. In such an environment, a reduction in the inflation target leads to a temporary recession, since prices are set too high during the learning period. Moran finds that such an adjustment period rationalizes a strong status-quo bias in favouring the pre-existing target over small departures, since the latter has few benefits in the long run and entails significant costs in the short run as a result of the induced recession. Hence, when we consider the problem of choosing an inflation target too close to zero in the context of the zero-bound problem and the potential short-run costs associated with a change in the inflation target, maintaining an inflation target at 2 per cent remains an attractive option.

**How should an inflation target be implemented?**

After a central bank has chosen a level for targeting inflation, it must decide how to achieve this end.

The most common way to discuss the means is in terms of feedback rules for the setting of interest rates, that is, rules that specify how to adjust interest rates in response to different economic outcomes. When setting a feedback rule, two issues arise. First, what variables should be included in the feedback rule, and second, how strong should the feedback be?

Inflation and output are the most common elements to include in a feedback rule. A rule that contains only these two variables is generally referred to as a Taylor rule. The degree to which monetary authorities should respond to these variables depends on how agents in the economy set prices and especially on how prices react to changes in marginal cost and expected inflation. The paper by Robert Amano and Stephen Murchison and the paper by Bergljot Barkbu and Nicoletta Batini provide estimates of this relationship (which is referred to as the new Phillips curve), using different methodologies. Although these papers are careful and innovative, the authors do not arrive at conclusive results. In fact, the results are quite sensitive to different assumptions and specifications. Hence, it seems as if the data do not clearly indicate how strongly a monetary authority should react to inflation and output to maintain inflation near its target. This is unfortunate, since it is such an important issue. Once again, more work may be desirable. A possible avenue for such research is to compare the economic performance of various countries that use different feedback rules. This may prove fruitful, since this method is more direct than first estimating a new Phillips curve and then using the inferred parameters to arrive at the optimal rule.

One question that has recently attracted considerable interest is whether monetary policy should react to asset prices. In particular, in response to the stock market rise of the late 1990s and the subsequent crash in the autumn of 2000, it has been common to ask whether monetary authorities should react to stock prices. The paper by Robert Tetlow explores the issue in depth. Tetlow uses a quantified general-equilibrium model to determine whether monetary authorities should react to stock market bubbles, that is, whether they should react to increases in stock prices that are not driven by fundamentals but rather by speculation. Tetlow discovers that inflation and output stability could be improved by adopting a feedback rule that does react to bubbles. He finds, however, that the gains from doing so are modest relative to a rule that simply reacts to expected inflation. This is not surprising, since a policy reaction to expected inflation already incorporates a partial reaction to bubbles. In contrast, if a monetary authority is assumed

not to react to expected inflation, but instead reacts only to realized inflation, then Tetlow's paper indicates a sizable gain associated with reacting to stock prices. Although this paper is certainly not the last word on the subject, it does suggest that monetary authorities should keep an eye on the stock market when setting policy—which I believe they already do. In my opinion, the issue of how monetary authorities should react to fluctuations in asset prices remains a key question. Now that many monetary authorities—such as the Bank of Canada—appear to have inflation under control, business cycle fluctuations will most likely be driven by non-monetary disturbances such as those associated with asset-price fluctuations. Accordingly, there will be considerable pressure to intervene in such cases, and the Bank of Canada should have a clear position on whether monetary policy should react to asset-price fluctuations.

Another feedback issue that arises, especially in the Canadian context, is whether it is desirable for monetary authorities to react to changes in the exchange rate. This issue has received considerable attention at the Bank of Canada. In the paper by Steven Globerman and Paul Storer, it is suggested that the issue may need to be revisited as a result of recent developments in exchange rate pass-through, that is, developments in the responsiveness of import and export prices to changes in the exchange rate. Based on US and Canadian price data, the authors show that exchange rate pass-through has decreased since the mid-1990s as volatility has increased. This observation can be seen as a deepening of the exchange rate disconnect puzzle, whereby the real behaviour of the economy appears disconnected from the behaviour of the exchange rate. It is not clear what such an observation implies in terms of monetary policy, but the authors do suggest a need to track these developments and understand their implications.

## **Conclusion**

The objective of this conference was to discuss issues in inflation targeting with the hope, as indicated in the opening remarks by Agathe Côté, of providing additional guidance to the Bank of Canada. In this context, I believe that the conference was very successful in re-examining the key issues and questions related to the conduct of monetary policy in an inflation-targeting regime. Conference participants generally agreed on the attractive features of inflation targeting and on its favourable macro-economic outcomes in Canada. Moreover, while there was debate on the potential value of choosing an inflation target lower than 2 per cent, there was considerable agreement that a 2 per cent target provided a degree of price stability that is conducive to economic efficiency and growth. The issues of communication and transparency were touched on during the

conference and underscored in the talk by Frederic Mishkin. Honesty and clarity remain the most important benchmarks for communication, and one hopes that the Bank of Canada will continue to follow a strategy shaped by these guidelines.

