Conference Summary: International Experience with the Conduct of Monetary Policy under Inflation Targeting

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The Bank of Canada's annual research conference, held in July 2008, examined central banks' experiences with the conduct of monetary policy under inflation targeting. Since the introduction of inflation targeting by New Zealand in 1990, and the formal adoption of inflation targets by the Bank of Canada in 1991, inflation targeting has become a popular monetary policy framework. For Canada, inflation targeting has contributed to keeping total CPI inflation very close to 2 per cent, on average, since 1991. The reduction in inflation, coupled with an explicit commitment to keep inflation low, stable, and predictable, has helped to anchor inflation expectations close to the 2 per cent inflation target as well. Since other countries that have introduced inflation targeting have had similar experiences, inflation targeting is often credited as a monetary policy framework that can keep inflation low and stable, and thus contribute to sound and stable macroeconomic performance.[1]

The purpose of the Bank of Canada's 2008 conference was to review the international experiences with inflation targeting in more detail by bringing together central bankers from various inflation-targeting and non-inflation-targeting countries around the world. The conference consisted of two special lectures and several sessions, and concluded with a panel discussion. The opening John Kuszczak Memorial Lecture, given by Carl Walsh, provided a systematic overview of the international experience with inflation targeting.[2] It was followed by sessions focused on i) how inflation targeting can manage external shocks, ii) various ways in which monetary policy decisions are taken, and iii) the issues of transparency and communication. The sessions all followed the same format: a distinguished scholar presented a paper outlining the key issues, which was then discussed by a panel of (mostly) central bankers, who responded to the paper by sharing experiences or methodologies from their central bank. The keynote address, which was delivered by Frederic Mishkin of the Board of Governors of the U.S. Federal Reserve System, outlined possibilities for further enhancements to the Fed's communication policy. A closing panel considered options for the future of inflation targeting.

John Kuszczak Memorial Lecture: Inflation Targeting—What Have We Learned?

The John Kuszczak Memorial Lecture, which opened the conference, was given by Carl Walsh of the University of California at Santa Cruz, who reviewed the international experience with inflation targeting. Since the introduction of inflation targets by New Zealand nearly 20 years ago, more than 20 developed and developing nations have adopted a program of inflation targeting. Walsh argues that the experience with inflation targeting has typically been very positive, given that no central bank has ever moved away from

1. Conference papers will be published in a forthcoming issue of *International Finance*.

2. This lecture is funded by the Bank of Canada in memory of our esteemed colleague, John Kuszczak, who died in 2002.

it (except to join a monetary union). Testing for the statistical benefits of inflation targeting is not straightforward, however. Among industrialized countries, for example, the main difference between inflation targeters and non-inflation targeters is that inflation expectations are better anchored under inflation targeting. Yet, better anchoring of inflation expectations does not translate into statistically different levels of inflation, volatilities of inflation, or differences in rates of output growth. From a research perspective, this presents a puzzle: Economic research typically emphasizes the importance of well-anchored inflation expectations, which should translate into less-volatile output and inflation. For this reason, a cornerstone of modern economic modelling in central banks is a strong emphasis on inflation expectations.

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This statistical puzzle may be explained by the difficulty of distinguishing between inflation-targeting central banks and non-inflation-targeting central banks, since the latter are adopting more and more insights and practices from inflation targeters. Thus, even though central banks such as the European Central Bank (ECB) or the U.S. Federal Reserve are not inflation-targeting central banks in a strict sense, their conduct of monetary policy has incorporated many of the insights that originate from inflation targeting. This is visible, for instance, in attempts to influence inflation expectations by announcing definitions of price stability (in the case of the ECB), or by specifying a level for inflation at the end of the projection horizon (as the U.S. Federal Reserve has done at times). In that sense, the biggest success of inflation targeting is not the reduction in the rate of inflation, which has also been achieved by other central banks with different monetary policy frameworks, but its emphasis on a clear focus on inflation and well-anchored inflation expectations.

During the general discussion, it was noted that identifying the benefits of inflation targeting might be easier for emerging markets, because the differences between inflation-targeting central banks and those using other monetary policy frameworks are more pronounced. Various central bankers also noted that having a clear mandate and improved accountability facilitates not only communication with the public, but also the political discussion. Adoption of a formal target for inflation simply makes it easier to communicate that the central bank focuses on price stability, rather than on other goals.

Session 1: External Influences and Inflation Targeting

Many small open economies that export commodities experience periods of high economic volatility, brought about by changes in the external environment. Large movements in the prices of commodities, for example, can contribute to considerable fluctuations in exchange rates. The purpose of this session was to examine how monetary policy should deal with these large and potentially persistent fluctuations in the exchange rate that are induced by changes in the price of, or demand for, commodities.

Laurence Ball's presentation, "Policy Responses to Exchange Rate Movements," explores ways to deal with sectoral reallocation of resources caused by swings in exchange rates. The main idea is that when sectoral reallocation of capital and labour is costly, policy-makers might consider dampening or smoothing the reallocation induced by *temporary* fluctuations in the exchange rate. Policy-makers need to think carefully about the source of exchange rate movements, however, because the optimal policy response might be different if the exchange rate moves in response to changes in a narrow set of commodity prices, as opposed to changes in demand for a broad basket of exports. If policy-makers were to adopt policies to smooth fluctuations in commodity prices, Professor Ball advocates the use of fiscal policy.

The paper was discussed by Mark Wynne from the Federal Reserve Bank of Dallas, Klaus Schmidt-Hebbel from the Central Bank of Chile, and Bernard Hodgetts from the Reserve Bank of New Zealand. The discussants commented on the idea of smoothing sectoral reallocation. The international experience suggests that attempts to limit fluctuations in currency markets may not be very successful in practice. For example, the appreciation of New Zealand's currency between the summer of 2007 and the summer of 2008, which was fuelled by strong commodity prices, was so large that to offset the effects of the appreciation (which included benefits that occur through wealth

effects and better terms of trade) and to stabilize the sectoral composition of the economy, a very large fiscal contraction would have been required. Given that this might have entailed large distributional effects, it is not clear that such a policy is politically feasible. It was noted as well that in many cases it is not clear *ex ante* whether a shock to commodity prices or exchange rates is temporary or permanent. Identifying the persistence of changes in commodity prices or the exchange rate is important for formulating the correct policy response. If movements are temporary, smoothing fluctuations might be warranted; in the face of a permanent or very persistent currency movement, however, sectoral reallocation should not be resisted. In fact, changes to the economic structure are required to reflect the change in the external environment. Taken together, experiences from other central banks suggest that economic policies should probably be directed to facilitate adjustment, rather than to resisting sectoral reallocation.

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Session 2: Monetary Policy Decision Making

Today, more than 80 central banks take decisions in committees, and no central bank has ever replaced a committee by a single decision-maker. The structure of the monetary policy committee is part of the overall institutional framework of the central bank. The structure and composition of a committee can affect the outcome of the meeting and, possibly, the quality of its decisions. Hence, it is important to understand how different committees take decisions.

In the presentation “Making Monetary Policy by Committee,” Alan Blinder reviewed several aspects of the issue, including the benefits of committee decision making, how committees take decisions, and the different types of committees (individualistic, collegial, or autocratically collegial committees). He finds that there is no “best” way for central banks to take decisions, since very different institutional arrangements may each produce good decisions. Still, by reviewing different decision-making structures, a number of conclusions can be drawn. First, to facilitate an open exchange of views, committees should not be too large. Second, not all members of a monetary policy committee need to be specialists in monetary economics, since “a fresh look by an outsider” might be helpful at times. In light of this, Professor Blinder recommends that committees should probably not be staffed exclusively by “Bank careerists.” Third, committees seem to respond just as quickly as simple decision-makers. And, lastly, the type of committee may substantially influence the Bank’s communication strategy. An individualistic committee where decisions are taken by voting may opt for a more diverse communication strategy than a collegial committee, where the emphasis on consensus is likely to shape external communications quite differently.

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The discussants for this session were Zvi Eckstein from the Bank of Israel, Francisco Ruge-Murcia from the Université de Montréal, and Paul Tucker from the Bank of England. The discussants agreed that there is no single, optimal framework for taking decisions. An interesting insight of this session is that there are significant differences in how central banks take decisions. Several issues were raised during the discussion. First, it was noted that the structure of decision making might affect committee members’ behaviour. In individualistic committees, i.e., those that do not make decisions by consensus, the information content provided by minutes might provide interesting insights. Given the uncertainty about the outcome, timely communication of committee decisions is more difficult to achieve through a detailed press communiqué after the meeting, since uncertainty about the outcome of the vote prevents drafting a very detailed communiqué in advance. Hence, minutes are likely to be the main source of information for the public. Second, voting might induce strategic behaviour. In light of the scrutiny of the financial press and potential increases in uncertainty signalled to markets, committee members might weigh carefully whether they want to signal dissent and make differences in views

public if they realize that their dissenting vote does not change the decision. Lastly, it was discussed whether committees respond to new information more sluggishly than single decision-makers. Sharing information, deliberating as a committee, and voting might introduce frictions, for example, if not all committee members react to or process new information in a similar fashion. This can imply that, in response to a changing economic environment, the committee might react more slowly than single policy-makers.

Keynote Address

While the benefits of inflation targeting have been recognized by many central banks, political constraints may restrict the framework under which some central banks operate. For instance, central banks may not have a clear inflation target, or their political mandate might entail more than one goal, as is the case for the U.S. Federal Reserve. This session explored ways for central banks to reap some of the benefits of inflation targeting, even if they cannot move to a fully-fledged inflation-targeting regime.

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The backdrop to the keynote address by Frederic Mishkin of the Board of Governors of the U.S. Federal Reserve System was that the Fed changed its communication policy in October 2007. The Federal Open Market Committee (FOMC) has increased the transparency of U.S. monetary policy by providing more information on individual forecasts of FOMC members and by extending the horizon for their projections from two years to three. Publishing projections helps to anchor inflation expectations because projections help financial markets to infer future central bank actions. Challenges for policy-makers can arise, however, if central banks cannot directly communicate a target value for inflation, e.g., because the central bank's mandate is not formulated in terms of a numerical target or because the central bank has more than one goal. The proposal Professor Mishkin advocated was to offer an alternate way of conveying long-run values of variables of interest to financial markets by publishing long-run forecasts; i.e., forecasts over a horizon of 5 to 10 years—*under appropriate monetary policy.* Essentially, this indicates the desired steady-state value of, say, growth and inflation with which the central bank feels comfortable.

The general discussion emphasized the difficulty of communicating a clear goal under political constraints. Lack of a clear target introduces uncertainty about the central bank's long-run objective, and many agreed with Professor Mishkin's idea of providing long-run forecasts as a way to give markets an indication of policy-makers' views. This session also highlighted the difficulties associated with adopting a focused objective like inflation targeting when the political environment is not fully supportive.

Session 3: Communication and Transparency

A trend witnessed in central banks over recent years is a remarkable rise in transparency. The disclosure of policy decisions and the macroeconomic analysis on which they are based has increased greatly. The objective of this session was to review the trends in central bank communication and transparency, to evaluate their relationship with inflation targeting, and to examine the effects of greater transparency and better communication.

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The presentation, "Trends in Monetary Policy Transparency," by Petra Geraats of the University of Cambridge, explains how central banks have become much more transparent, not only to increase their accountability, but also to enhance the effectiveness of monetary policy. Comparing inflation-targeting central banks with non-inflation targeters, Professor Geraats finds that inflation targeters are more transparent and have increased their levels of transparency much

faster. And, lastly, there are still significant differences in the degree of information disclosure across central banks. For instance, while the communications of some central banks are focused on explaining the rationale behind their most recent monetary policy decision, other central banks go so far as to release a projection for the future path of interest rates over the next several quarters.

Professor Geraats' presentation was discussed by Tomas Holub of the Czech National Bank, Masayoshi Amamiya of the Bank of Japan, Donald Kohn of the Board of Governors of the U.S. Federal Reserve System, and Jan Qvigstad of the Norges Bank. The discussion confirmed the notion that stark differences exist in central bank transparency and communication. The discussion focused on how to minimize uncertainty in financial markets about future actions of the central bank. While all central banks implicitly talk about future policy decisions in some form, there is a trade-off between providing the central bank's best view on what the likely path of interest rates will be while simultaneously expressing uncertainty around that outlook and its conditionality. Supplying information in the form of a projection for the future path of interest rates provides insights into the central bank's thinking. At the same time, it bears the risk of constraining the central bank from changing course in the face of new information.

To avoid confusion in financial markets, good communication is essential. The Czech National Bank, for example, has provided verbal guidance on the path of future interest rates since 2002, and began publishing a forecast for the numerical path in 2008. In their view, an important element in providing guidance to financial markets, while not constraining future actions of the central bank, is to be very open about forecast errors in terms of inflation, as well as for the interest rate path. By regularly publishing historical charts contrasting actual policy rates with the forecasted interest rates at the time the decision was taken, the Czech National Bank attempts to communicate the uncertainty surrounding the interest rate forecast. Experience from the Norges Bank indicates that since it has been making the projection of the interest rate path public, market participants seem to focus increasingly on how the central bank interprets economic news. This market behaviour is viewed as an indication of how financial markets' understanding of the central bank's reaction to macroeconomic developments has improved. As well, for each interest rate decision, the Norges Bank discusses shocks to the previous projection, and their implications for the interest rate path (dubbed "delta analysis"). This policy has helped to guide markets as to how the previous projection of the interest rate path has been changed by economic developments. Lastly, a somewhat different approach to communicate uncertainty surrounding the economic outlook is taken by the Bank of Japan. Here, each member of the monetary policy committee is asked to provide their individual probability distribution for growth of real gross domestic product and consumer price inflation. The Bank of Japan then publishes the average of these calculations in a "risk-balance chart." This indicates how the committee as a whole views the distribution of risks for the economy.

Closing Panel: The Future of Inflation Targeting

The closing panel featured Malcolm Edey from the Reserve Bank of Australia, Ulrich Kohli from the Swiss National Bank, John Murray from the Bank of Canada, Lars Svensson from the Sveriges Riksbank, and Bill White, formerly from the Bank for International Settlements. The topic was ways to further enhance the inflation-targeting framework. Many central banks are still searching for optimal solutions in terms of decision-making, transparency, and communication. In light of this, the closing panel was looking ahead and discussed possible innovations, both at the technical level and in communicating uncertainty.

Lars Svensson emphasized the medium-term nature of inflation targeting. He advocated a decision-making procedure that is focused on following the appropriate interest rate path to restore inflation to its target level. His view is that, taking the target inflation rate as given, the task of the monetary policy committee is to decide on the path for the output gap, and, correspondingly, how quickly inflation can be returned to the target. Viewed from this angle, the focus of the discussion becomes the anticipated path of interest rates, not the current interest rate decision. From a practical perspective, the Swedish central bank found it helpful to supply the members of the monetary policy committee with charts showing the implications of different interest rate paths on the evolution of key economic variables, such as inflation or the output gap. The committee members then vote on different scenarios generated by different interest rate paths, rather than having to vote on the path directly.

John Murray touched on many of the topics raised in earlier sessions, including, in particular, the feasibility and desirability of moving from inflation targeting to price-level targeting. In an inflation-targeting framework, past shocks to the price level are not reversed by future monetary policy actions. This means that even if inflation is kept within a tight range, the price level need not necessarily evolve along a predetermined path (depending on the shocks hitting the economy). Consequently, even if two central banks share very similar objectives in terms of inflation targets, over a longer period, their actual price-level paths can differ substantially (depending, for example, on their vulnerability to external shocks). One way to reduce this uncertainty is to adopt a framework whereby the central bank targets a path for the price level.

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Malcolm Edey provided a skeptical perspective of the potential benefits of price-level-targeting. The economic benefits from inflation targeting have been substantial, and it is not clear, in his view, that the gains from moving to price-level targeting will be large. Similarly, he expressed concern that it would be hard to communicate the case for an interest rate change, based on the deviation in the price level from a path that might have been set years earlier. With central banks having made the "big gains" already, Edey is wary of putting those gains at risk by overselling the case for what he believes are "incremental further improvements." On this point, however, comments from the floor indicated that the gains from inflation targeting were initially widely underestimated, and that it could be the case that the gain from moving to price-level targeting might be underestimated as well.

Ulrich Kohli, representing a central bank that does not consider itself an inflation targeter, focused on the broader benefits of inflation targeting. An important accomplishment of inflation targeting is that it has highlighted the importance of a stable objective. Even if central banks do not formulate their objective in terms of an inflation target, the notion that financial markets need guidance about the central bank's ultimate goal has had a lasting impact on non-inflation targeters. A clear framework about the central bank's objective is crucial, particularly in the face of large economic shocks. He also noted that not all inflation targeters are equally successful in stabilizing inflation expectations in the face of large shocks. Some central banks have recently had to modify their inflation target, acknowledging that the initial target was not feasible in the current economic environment. This change risks jeopardizing the credibility of the central bank.

Bill White acknowledged the benefits of inflation targeting in keeping inflation low, but pointed out that the exclusive focus on low inflation has not prevented the build-up of financial instability. He recommends a "serious rethink" of the goals of central banks, most notably the operating paradigm of seeking price stability. White advocates integrating issues of financial stability more explicitly with the conduct of monetary policy. Many issues of financial stability need to be addressed by regulatory measures, but there is nevertheless a role for frameworks that focus on the "long-term" to avoid the build-up of unsustainable imbalances.