

**Research****Research highlights****Highlights of Policy-Relevant Research: 2005****Introduction**

Leading-edge research is a key element of the Bank's Medium-Term Plan (2003-2005). Research is vital for the Bank to meet its commitment to excellence in each of its functions: monetary policy, financial system, currency, and funds management. By asking some fundamental questions and seeking the answers we expand our policy-relevant knowledge.

There are eight main themes in the research program for 2005:

- Theme 1: Renewing the Inflation Target
  - Theme 2: Adjustment to External Developments
  - Theme 3: Productivity and Potential Output
  - Theme 4: Asset Prices
  - Theme 5: Financial System Efficiency
  - Theme 6: Financial System Stability
  - Theme 7: Operational Efficiency—Funds Management and Currency
  - Theme 8: The Next Generation of Bank Notes
- Supporting the Research: Tools and Data

Upon completion, the results of most research projects will be available on the Bank's website at Research & Publications.

**Theme 1: Renewing the Inflation Target**

One of the Bank's main responsibilities is to maintain CPI inflation near the midpoint of the inflation-control target range. By the end of 2006, the Bank will need to renew the joint inflation-control agreement with the government. In preparation, the Bank's research will focus on questions related to the midpoint and the range of the target, as well as the time horizon for returning inflation to target.

The Bank continues to work on improving its general understanding of how prices are set in the Canadian economy. As in 2004, part of this research will focus on examining and assessing the performance of various models of the inflation process. Given the inherent uncertainty associated with such models, the Bank will also continue to explore the question of optimal monetary policy under uncertainty.

Research questions include:

- What would be the cost and benefits of changing the midpoint or the range of the inflation target?
- What are the strengths and weaknesses of alternative theories of price determination?

**Theme 2: Adjustment to External Developments**

As a small, open economy, Canada has a keen interest in an international monetary system that operates effectively, facilitates the expansion of trade and investment, and promotes adjustment among countries in response to shocks.

A key challenge for monetary policy is to understand how the economy adjusts to external developments and to assess the implications of these developments for the balance between aggregate demand and supply, and thus for inflation.

Research questions include:

- What factors might inhibit the efficient operation of the international monetary system and the orderly resolution of global imbalances?
- What are the advantages and disadvantages of different exchange rate and monetary regimes?
- What role do fundamental forces play in determining the value of the Canadian dollar and its impact on the Canadian economy?

### **Theme 3: Productivity and Potential Output**

Available data suggest that the surge in productivity growth experienced by the United States, thought to be associated with innovations in information technology, has not been matched in other countries. This in spite of the fact that, by its nature, information technology is not specific to a particular location but can be transferred to other countries.

Understanding productivity and its effect on potential output is important for monetary policy because the gap between aggregate supply and demand is a key indicator of future inflation. Improving our understanding of the evolution of the trend in labour supply is also key to a better understanding of potential output.

Research questions include:

- Why has labour productivity grown faster in the United States than in Canada and other G-7 countries?
- How are Canadian labour productivity, labour supply, and potential output growth likely to evolve?
- To what extent does the financial health of non-financial corporations affect a country's long-term growth prospects?

### **Theme 4: Asset Prices**

Equity-price booms and busts in Japan, the United States, and other economies have stimulated research on asset prices and on their relation to monetary policy.

Understanding asset-price movements is important to monetary policy because they may have important implications for how monetary policy is transmitted to the economy, not least because they determine the value of wealth, which is an important determinant of borrowing and spending.

Research questions include:

- Are asset-price movements a useful predictor of future capacity pressures and inflation?
- How do changes in asset prices affect the transmission mechanism of monetary policy in Canada?

### **Theme 5: Financial System Efficiency**

An efficient financial system is critically important to the effectiveness of monetary policy, the long-run stability of the financial system, financial innovation, and economic growth. The Bank of Canada thus has a strong interest in promoting the efficiency of the Canadian financial system.

Many of the specific factors that affect the efficiency of financial institutions, markets, and infrastructure are not well understood. In general, information, liquidity, and a sound financial infrastructure are critical to the efficient functioning of financial markets and institutions.

Research questions include:

- What factors might be inhibiting the efficiency and productivity of the Canadian financial system?
- How important to the Canadian economy are frictions that cause inefficiencies in the financial system?
- How might clearing and settlement systems in Canada operate more efficiently without compromising safety?

### **Theme 6: Financial System Stability**

A stable financial system contributes importantly to the welfare of all Canadians because it can absorb adverse domestic and international shocks, both real and financial.

Payment, clearing and settlement systems underpin the financial system. The Bank of Canada is responsible for the oversight of Canada's key clearing and settlement systems which are well-protected against systemic risk. Nevertheless, financial risk is continually changing. One major research goal is to better understand the nature of these risks.

Research questions include:

- What is the best way to do sectoral and macro-financial risk management in Canada?
- How might risk be reduced even further in the Bank's payment operations?
- What is the best oversight process for systemically important payment, clearing and settlement systems?

### **Theme 7: Operational Efficiency—Funds Management and Currency**

As fiscal agent for the Government of Canada, the Bank provides high-quality, effective, and efficient funds-management services, including management of the Exchange Fund Account and of the government's treasury and domestic debt.

In providing Canadians with secure bank notes, the Bank carries out various activities related to the design, production, and distribution of bank notes.

Research will focus on the efficiency with which the Bank performs its functions as fiscal agent, as well as on operational efficiency in the production and distribution of bank notes.

Research questions include:

- What is the optimal structure of Government of Canada debt?
- How can we increase the cost-effectiveness of managing foreign exchange reserves?
- How can we improve our framework for supplying and distributing bank notes?

### **Theme 8: The Next Generation of Bank Notes**

It takes years to go from concept to the actual issue of a new series of bank notes. While the Bank has just finished launching a new series of notes, it is already establishing the vision and strategic direction for the next generation of notes.

Research questions include:

- What vision, strategic direction, and research are needed for the next generation of bank notes?
- What security features and materials should be included in the next generation of bank notes, and what contribution can Canadian technology make to this work?
- How are Canadian bank notes used, how efficient are they relative to other payment methods, and what is the likely evolution of bank notes?

### **Supporting the Research: Tools and Data**

Researchers at the Bank use various types of models to examine policy issues from different perspectives. Therefore the improvement of existing models and the development of new ones is of major interest.

Rigorous macroeconomic models of the monetary transmission mechanism continue to be the most important item in our economists' tool kit, and so the lion's share of our development work is aimed at improving these models.

In addition to structural general-equilibrium models, the Bank continues to develop new reduced-form models for economic analysis and forecasting. Many of these will include financial variables, including micro-financial

data. These models are most often used to identify variables that are useful indicators for monetary policy.

The Bank is also expanding the range of financial models used to conduct research and analysis into financial behaviours, including those of financial market participants and financial institutions.

On another front, the Bank is developing models for analyzing financial infrastructure; in particular, a model to analyze systemically important payment, clearing and settlement systems.

Researchers at the Bank use various financial databases to examine policy issues from a number of perspectives. This is not only because the questions and approaches differ, but also because of incomplete, inconsistent, or unavailable Canadian financial data for the questions being posed. In response, the Bank has initiated a project to assess the extent to which gaps in financial data can be filled for Canadian businesses (financial and non-financial), households, financial markets, and payments, clearing and settlement systems. Priority in filling these gaps will be given to those areas that the Bank has identified as priorities for policy research and analysis.