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# A Primer on the Implementation of Monetary Policy in the LVTS Environment

## Introduction

The Bank of Canada's method for implementing monetary policy is closely linked to the system through which payments clear and settle daily. Coincident with the introduction of the Canadian Payments Association's electronic system for the transfer of payments (the Large Value Transfer System or LVTS), a new approach to the implementation of monetary policy was adopted on 4 February 1999.[1] This primer summarizes the objectives and the key elements of the framework that the Bank uses to implement its monetary policy. It also includes a table of the key features of the framework in the LVTS environment and a glossary of terms with respect to the Bank of Canada's monetary policy operations.

## Policy overview

The Bank of Canada establishes a target rate for the overnight interest rate within an operating band in order to influence other short-term interest rates and the exchange rate.[2] The ability to influence other short-term rates partly reflects the fact that inventories of money market securities are generally financed with overnight funds. However, other factors, including changing market expectations and exchange rate developments, also affect how other interest rates, including those with relatively short terms to maturity, respond to changes in the target rate.

Changes in the Bank's target for the overnight interest rate are the first stage in the transmission mechanism through which the monetary policy actions taken by the Bank affect total spending in the economy and, ultimately, inflation. In addition, the Bank could change its target rate to help stabilize financial markets in certain circumstances.

1. For more details, see *"The framework for the implementation of monetary policy in the Large Value Transfer System environment"*, on the Bank of Canada web site.

2. See the Hermes lecture published in the Summer 1995 *Bank of Canada Review.*

# Key features of the operating framework: The operating band, the target rate and settlement balance management

## Operating band

The Bank of Canada's primary influence on the overnight rate is through its 50-basis-point operating band for the overnight interest rate.

- The interest rate charged for overdraft loans to LVTS participants at final settlement is the upper limit of the operating band. This interest rate is the Bank Rate.
- The interest rate paid by the Bank of Canada on positive balances after settlement of the LVTS is set at the lower limit of the band.
- Changes in the operating band and, hence in the Bank Rate, are announced by 9 a.m. via a press release, on the effective date.

The overnight rate typically stays within the band since participants are aware that they will earn at least Bank Rate less 50 basis points on positive balances and need not pay more than Bank Rate to cover negative balances given the standing facilities at the Bank of Canada.

## Target rate

The Bank has a target interest rate at the midpoint of the operating band for the overnight interest rate.

- To reinforce the target rate, if required, the Bank of Canada will intervene in the overnight market with open market buyback operations at the target rate at 11:45 a.m. The intervention is at midday to encourage market participants to trade with each other during the morning when a large proportion of daily funding activity occurs.[3]
- If the overnight rate is generally trading above the target rate, the Bank will intervene with Special Purchase and Resale Agreements (SPRAs), commonly referred to as "repos".
- If the overnight rate is generally trading below the target rate, the Bank will intervene with Sale and Repurchase Agreements (SRAs), commonly referred to as "reverses".
- If the overnight rate is generally trading around the target rate, there will be no intervention.
- The counterparties to these transactions will be primary dealers.
- Each counterparty will have a predetermined limit for offerings of either SPRAs or SRAs.

3. In extraordinary circumstances, the Bank could intervene with additional buyback operations.

## Settlement Balance Management (cash setting)

During the initial stages of operating under this framework, the Bank of Canada typically set the level of settlement balances in the financial system at zero. Therefore any participant in the LVTS with a surplus funds position would be aware that there was at least one participant in the LVTS with an offsetting deficit position who was a potential counterparty for transactions at market rates. However, the overnight rate typically traded above the target rate indicating that there was some demand for excess settlement balances. Since September 1999 at month-ends, and November 1999 on a daily basis, the Bank has generally provided some positive level of settlement balances, most recently around $50 million, but somewhat higher when technical pressures occur.

### The transfer of government deposits to affect the level of settlement balances

- To maintain the level of settlement balances at its desired level, the Bank must neutralize the net impact of any public sector flows between the Bank of Canada's balance sheet and that of the financial system. (Public sector flows include government receipts and disbursements, the Bank of Canada's own transactions, and those of its clients.)
- This neutralization (and any change in the level of excess settlement balances) is effected through the transfer of government deposits from/to the government's account at the Bank of Canada to/from its accounts with participants in the LVTS.
- The transfer is made through the twice-daily auction of Receiver General (federal government) balances—the first at 9:15 a.m. and the second at 4:15 p.m.
- The difference between the total amount auctioned and the total amount maturing equals the amount of the neutralization and the change in the level of excess in the system. For example, if the government were to receive $100 million net in taxes into its account at the Bank of Canada (the government's banker), in the absence of any neutralizing action, settlement balances in the system would decline by this amount. The Bank would therefore arrange a net increase of $100 million in the government deposits auction to leave the system unchanged (or a net increase of $200 million to increase the level of balances in the system by $100 million). On the other hand, if the Bank transacted $100 million in SPRAs, there would be a net reduction of $100 million in that day's government deposit auction (or if there were no change in the amount to be auctioned, this would represent a net increase in settlement balances of $100 million).

### Presettlement period

After the close of client business in the LVTS at 6 p.m., LVTS participants have a period of one-half hour in which to enter into transactions with each other. This will allow participants to reduce their LVTS positions—positions that resulted from their own and their clients' transactions—at interest rates typically constrained by the limits of the operating band. In fact, trades should occur at rates within the band since it is typically more advantageous for both the lending and borrowing parties to trade at a rate within the band than to resort to the Bank of Canada facilities at the limits of the operating band.

### Paper-based payment items

Paper-based payment items, such as cheques, continue to be cleared through the Automated Clearing Settlement System (ACSS). Some consideration was given to moving to a next-day settlement for the net amounts due to or due from the ACSS, but the financial institutions concerned preferred to maintain the existing system of retroactive settlement. These institutions also chose the option of eliminating the calculation (averaging) period and having the Bank charge for overdrafts and remunerate positive balances at a given spread around the operating band for operational simplicity. The rate spread for ACSS balances was originally 250 basis points and is now 150 basis points above and below the operating band. The midpoint of this wider band is equal to the midpoint of the operating band for the overnight rate.

Although the ACSS continues to exist, virtually all of the value of public sector flows and most market-related wholesale transactions move through the LVTS. Therefore, the LVTS is the sole focus of monetary policy operations.

## Summary

In the LVTS environment, the Bank of Canada affects financial markets through its influence on the overnight interest rate by setting a target rate at the mid-point of a 50-basis-point operating band for this rate and through a framework that is designed to hold the rate within this band.

## Implementing monetary policy in an LVTS environment

| | **LVTS** |
|---|---|
| **Operating band (50 basis points)** | **Upper limit = Bank Rate** |
| | Changes in band announced by 9 a.m. on the effective date so that participants may operate within a trading day with full knowledge of the rates that apply to their accounts at the end of the day. |
| | Upper limit is the rate at which the Bank of Canada provides overdraft loans at the end of LVTS settlement |
| | Lower limit is the rate paid on deposits by the Bank of Canada at the end of LVTS settlement |
| **Target rate** | **Midpoint of operating band = Target Rate** |
| | If required, reinforced at 11:45 a.m.through buy-back operations at the target rate; either SPRA (if trades above) or SRA (if trades below) |
| **Cash setting** | Used to<br>• neutralize the impact of public sector flows to/from Bank's balance sheet (if the level of settlement balances is zero) and<br>• to adjust the level of settlement balances. |
| | Effected through transfer of government balances from/to the Bank of Canada to/from the direct clearers |
| | Transfer of government deposits effected through the twice-daily auctions of government balances on day T for value day T. The neutralization of public sector flows and any change in the level of excess settlement balances is effected by the difference between the amounts auctioned and the amounts maturing. |

## Glossary

### ACSS

The ACSS (Automated Clearing Settlement System of the Canadian Payments Association) is the system through which paper-based payment items, such as cheques, are exchanged and the amounts "due to" and "due from" are calculated. The final net clearing gain or loss is settled through the transfer of funds to or from the individual direct clearer's accounts on the books of the Bank of Canada at midday on a retroactive basis. Prior to the introduction of the LVTS, all payment items cleared through the ACSS.

### Advances

An "LVTS advance" is a secured loan provided by the Bank of Canada to a participant in the LVTS to cover a deficit in its end-of-day LVTS cash position. The interest rate on the one-business-day loan is set at the upper limit of the operating band for the overnight interest rate (Bank Rate).

The Bank also provides "ACSS advances" to the directly clearing members of the CPA in order to cover deficits from the ACSS. The interest rate charged for these advances is currently Bank Rate plus 150 basis points. These advances are not viewed as integral to the implementation of monetary policy since virtually all government and Bank of Canada activity, as well as most large-value private sector payments, settle through the LVTS.

### Bank Rate

The minimum rate at which the Bank of Canada extends short-term advances to members of the Canadian Payments Association (CPA). Effective 22 February 1996, the Bank Rate is set at the upper limit of the Bank's operating band for the overnight interest rate.

### Overnight rate

The interest rate at which funds are borrowed or lent for a term of one business day. As a result of differences with respect to legal format, collateral arrangements, etc., interest rates on various overnight instruments may differ slightly. However, all principal overnight rates move closely together because of market arbitrage, and the modest differentials are not important from the viewpoint of monetary policy. As a measure of the overnight interest rate, the Bank of Canada compiles an estimate based on the weighted average cost of overnight financing for major investment dealers and major banks. Overnight funds are obtained through buyback arrangements (repos), call loans, and swapped foreign exchange funds. There is also an overnight market for wholesale and interbank deposits, which are not collateralized and which are not included in the Bank's measure.

### Participants

Those members of the Canadian Payments Association (CPA) who participate in the LVTS and settle directly on the books of the Bank of Canada. The direct clearer designation applies to those CPA members who participate in the ACSS and maintain a settlement account at the Bank of Canada. All direct clearers are participants in the LVTS.

**Primary dealers**

The subset of government securities distributors that the Bank of Canada deals with when it conducts SPRAs and SRAs. Primary dealers have a number of responsibilities that include maintaining a certain share of the Government of Canada securities markets and market-making in Government of Canada securities. The terms government securities distributors and primary dealers replaced the former classification of primary distributors and jobbers respectively. See “Revised rules pertaining to auctions of Government of Canada securities and the Bank of Canada’s surveillance of the auction process” 11 August 1998 on the Bank of Canada’s website for more information.

**Sale and repurchase agreements (SRAs)**

Reverse repo-type transactions in which the Bank of Canada offers to sell Government of Canada securities to designated counterparties with an agreement to buy them back at a predetermined price the next business day.

SRAs were first used in 1986 in order to offset undesired downward pressure on the overnight rate of interest. From mid-1994 until the implementation of the LVTS, SRAs were used to reinforce the lower limit of the operating band and were transacted with the major banks. In the LVTS environment, they are initiated at midday if overnight funds are generally trading below the target rate; primary dealers are the designated counterparties.

**Special purchase and resale agreements (SPRAs)**

Repo-type transactions in which the Bank of Canada offers to purchase Government of Canada securities from designated counterparties with an agreement to sell them back at a predetermined price the next business day.

SPRAs were first used in 1985 by the Bank of Canada to relieve transitory and undesired upward pressure on the overnight interest rate. The term “special” indicated that the Bank had discretion over their use, unlike regular Purchase and Resale Agreements (PRAs), which were arranged within specified limits at the initiative of eligible investment dealers (money market jobbers). From mid-1994 until the implementation of LVTS, SPRAs were used to reinforce the upper limit of the operating band and were transacted with jobbers. In the LVTS environment, they are initiated at midday if overnight funds are generally trading above the target rate; primary dealers are the designated counterparties.