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A Primer on the Implementation of Monetary Policy in the LVTS Environment[1]

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 by the Canadian Payments Association of an 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.[2] 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 that lists the key features of the framework and how they function 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 for the overnight interest rate within an operating band in order to influence other short-term interest rates and the exchange rate (Thiessen 1995). 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 of Canada'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.

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

Target for the overnight rate

The Bank of Canada uses predetermined dates, known as fixed announcement dates, to communicate the target for the overnight interest rate.[3] The announcements are made at 10:00 via a press release. Should this result in a change in the target for the overnight rate, the new rate is in effect on the day it is announced.

[1] This article is an update of Howard (1998).
[2] For more details, see The Framework for the Implementation of Monetary Policy in the Large Value Transfer System Environment, 31 March 1999.
[3] The Bank of Canada retains the option of taking action between fixed dates, but it will only exercise this option in the event of extraordinary circumstances.

- The target for the overnight rate refers to the rate on collateralized, market-based overnight transactions.
- The Bank of Canada uses the rate on overnight general collateral (GC) as its guide to conditions in the overnight market.
- If required to reinforce the Target Rate, the Bank of Canada will intervene in the overnight market, typically at 11:45 to conduct open market buyback operations at the Target Rate, if required. 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.[4]
- To further reinforce the target for the overnight rate, the Bank is prepared to enter into multiple rounds of open market operations, and to conduct those operations outside of the regular time, including earlier in the morning, if necessary.
- If the overnight GC rate is generally trading above the Target Rate, the Bank will intervene with Special Purchase and Resale Agreements (SPRAs), commonly referred to as "repos" or "specials."
- If the overnight GC rate is generally trading below the Target Rate, the Bank will intervene with Sale and Repurchase Agreements (SRAs), commonly referred to as "reverses."
- The counterparties to these transactions are primary dealers that have signed a Purchase and Resale Agreement with the Bank.
- Each counterparty has a predetermined per round limit for offerings of either SPRAs or SRAs, which is expressed in par amount of the collateral pledged for the transaction.
- Typically, the Bank neutralizes the cash impact on the system of any market operations. However, the Bank has the option of not fully neutralizing the impact of market operations as an additional tool to offset pressure on the overnight rate. In the event the impact of SRA operations were not neutralized, the system would be left in a deficit position at the end of the day, requiring some participants in the Large Value Transfer System (LVTS) to take an advance at the Bank Rate under the Bank's Standing Liquidity Facility.

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.

As part of the press release communicating the target for the overnight rate, the operating band and the Bank Rate are also announced, and are effective the same day.

- The interest rate charged for overdraft loans (Advances) to LVTS participants at final settlement and also for the Overnight Standing PRA facility 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 operating band.

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[4] In extraordinary circumstances, the Bank could intervene with additional buyback operations.

- The Bank of Canada's target for the overnight rate is the midpoint of the operating band.

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

Settlement-Balance Management (cash setting)

Since the introduction of the LVTS, the level of settlement balances in the system has typically been targeted at zero or greater. Any participant in the LVTS with a deficit position is therefore aware that there is typically at least one participant in the system with an offsetting surplus position who is a potential counterparty for transactions at market rates.

Several adjustments have been made to the target level of settlement balances since the inception of the LVTS. Currently, the Bank will typically target a small positive amount of settlement balances ($25 million), thus alleviating transactions costs and other frictions from the end-of-day process and reducing the need for participants to take frequent small advances from the Bank. The Bank retains the right, however, to adjust the targeted level of settlement balances higher or lower if warranted by conditions in the overnight market.

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

- To maintain the desired level of settlement balances, 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 the participants in the auction of government cash balances.
- The transfer is made through the twice-daily auction of Receiver General (federal government) balances, the first at 09:15 and the second at 16:15.
- 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 deposit 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).

Pre-settlement period

After the close of client business in the LVTS at 18:00, LVTS participants have a period of one-half hour in which to enter into transactions with each other. This allows 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 this is typically more advantageous for both the lending and borrowing parties than to resort to the Bank of Canada facilities at the limits of the operating band.

Paper-based and small-value electronic payment items

Paper-based and small-value electronic payment items, such as cheques, pre-authorized debits, and direct deposits continue to be cleared through the Automated Clearing Settlement System (ACSS). When the LVTS was first introduced, daily ACSS volumes were approximately $40 billion. For the third quarter of 2009, average daily volumes were down to approximately $20 billion.

Since 1 November 2003, the results of the payments settled through the ACSS have been conducted on the books of the Bank of Canada on a next-day basis (Tuer 2003). [5]

Since virtually all of the value of public sector flows and most market-related wholesale transactions move through the LVTS, it is the sole focus of monetary policy operations.

Summary

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

[5] Between July 1986 and 1 November 2003, settlement of payments in the ACSS had occurred at noon the day after items were presented in the clearing process, but the results of the settlement process were recognized on the Bank of Canada's books the previous day, through backdating, or "retroactive" settlement (Dingle 1986).

Implementing monetary policy in an LVTS environment

	LVTS
Target for the overnight rate	At 10:00 on fixed announcement dates, the Bank communicates the target for the overnight rate. If this results in a change in the target for the overnight rate, the new rate becomes effective on the day announced.
	If required, the target for the overnight rate is reinforced through the use of open market buyback operations at the target rate; either SPRAs (if the overnight rate is trading above target) or SRAs (if the overnight rate is trading below target). Although these operations typically occur at 11:45, the Bank can conduct open market operations outside of this time period if necessary.
Operating band (50 basis points)	The upper limit is the rate at which the Bank of Canada provides overdraft loans at the end of LVTS settlement and also for the Overnight Standing PRA facility which is available to primary dealers. This is the Bank Rate.
	The lower limit is the rate paid on deposits by the Bank of Canada at the end of LVTS settlement.
	The midpoint is the Bank of Canada target for the overnight rate. The Bank of Canada uses the rate on overnight general collateral (GC) as its guide to conditions in the overnight market.
	As part of the press release communicating the target for the overnight rate, the operating band and the Bank Rate are also announced. Any changes to the operating band and the Bank Rate are effective on the day announced. This allows LVTS participants to operate within a trading day with full knowledge of the rates that apply to their accounts at the end of the day.
Cash setting	Used to: • neutralize the impact of public sector flows to/ from Bank's balance sheet (if the level of settlement balances is unchanged) and • to adjust the level of settlement balances.
	Effected through transfer of government balances from/to the Bank of Canada to/from the LVTS and other participants in government auctions.
	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 and small-value electronic payment items, such as cheques, pre-authorized debits, and direct deposits 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 account on the books of the Bank of Canada at midday on a next-day basis. Before the LVTS was introduced, 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).

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 was 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, principal overnight rates tend to move together because of market arbitrage. Overnight funds are obtained through buybacks (repos), call loans, and swapped foreign exchange funds. As one measure of the overnight interest rate, the Bank of Canada compiles an estimate based on the weighted average cost of overnight financing for major dealers. The Canadian overnight repo rate (CORRA) which is the weighted average rate of overnight general collateral (GC) repo trades that occurred through designated interdealer brokers, is another measure. There is also an overnight market for wholesale and interbank deposits, which are not collateralized and are not included in either the Bank's measure or the CORRA measure.

The target overnight rate refers to the rate on collateralized, market-based overnight transactions. The Bank of Canada uses the rate on overnight general collateral (GC) as its guide to conditions in the overnight market.

Participants

Those members of the Canadian Payments Association that participate in the

LVTS and settle directly on the books of the Bank of Canada. The direct clearer designation applies to CPA members that 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, which 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 also rules pertaining to auctions of Government of Canada securities.

Sale and repurchase agreements (SRAs)

SRAs are 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 on 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 typically 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)

SPRAs are 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 on 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 the LVTS, SPRAs were used to reinforce the upper limit of the operating band and were transacted with jobbers. In the LVTS environment, they are typically initiated at midday if overnight funds are generally trading above the target rate; primary dealers are the designated counterparties.

Overnight Standing purchase and resale agreement facility (Standing PRAs)

The overnight standing purchase and resale agreement facility was first introduced when the Bank of Canada moved to the effective lower bound on April 21, 2009 and has now been retained as part of the standard framework for the implementation of monetary policy in the LVTS. The standing facility is available to primary dealers at the upper limit of the operating band.

Literature Cited

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