

Market Operations and Liquidity Provision at the Bank of Canada

Mark de Guzman, Financial Markets Department

- The Bank of Canada has a responsibility to conduct monetary policy to maintain a low and stable rate of inflation and, in co-operation with other agencies, to promote the stability and resilience of Canada's financial system.
- To achieve its monetary policy and financial stability objectives, the Bank has established a clear framework to guide its financial market operations, support the provision of routine liquidity to facilitate settlement in the payments system, and respond to extraordinary or emergency liquidity needs.
- Although the framework was generally effective throughout the 2007–09 global financial crisis, the Bank recently updated it to help ensure that it remains so. Going forward, the Bank must continue to be proactive and respond to the evolving financial system in a prudent and calibrated fashion, considering and making future enhancements to the framework as needed.

This article provides a concise overview of the Bank of Canada's framework for market operations and liquidity provision.¹ Throughout the discussion some of the enhancements to this framework that have recently been implemented are described. These enhancements were motivated by developments in the financial market environment during and following the 2007–09 global financial crisis.

The Bank of Canada's Framework for Market Operations and Liquidity Provision

The Bank conducts a range of financial market operations as part of its regular responsibilities and provides liquidity to the Canadian financial system as required. Each of the operations and facilities, or tools, is designed to achieve one or both of the following objectives:

- implement monetary policy by reinforcing the Bank's target for the overnight rate
- support financial stability by facilitating the efficient functioning of Canadian financial markets and by providing backstop liquidity under extraordinary circumstances

¹ For the complete framework, including terms and conditions and other related information, see <http://www.bankofcanada.ca/markets/market-operations-liquidity-provision/framework-market-operations-liquidity-provision>.

The Bank's framework is predicated on using targeted and well-designed tools to provide market participants with an incentive to trade with each other. The tools focus on liquidity—providing or absorbing it—as a means of influencing short-term interest rates under normal market conditions. These tools can also be used to help resolve a more protracted liquidity shortage, whether it is broad-based or at a specific Canadian financial institution. Factors related to liquidity provision, such as distribution, timing and amount, are therefore important considerations to ensure the effectiveness of the Bank's framework. The tools are facilitated by—and influence—the size, structure and management of the Bank's balance sheet.

Under normal market conditions, the Bank prefers to adopt a less active role in markets to help minimize potential distortions from its activities. It uses its tools only when necessary to reinforce its monetary policy and financial stability objectives and relies on its counterparties to redistribute central bank liquidity. Under this approach, the Bank's counterparties facilitate the transmission of its policy objectives to the broader Canadian financial system, given that these counterparties are the system's main market participants and play a central role in influencing liquidity conditions.

In situations of severe market-wide liquidity stress, the Bank generally continues to rely on its counterparties to redistribute liquidity. It is quite likely, however, that the Bank would take on a more active role in providing liquidity, as it did in response to the 2007–09 global financial crisis when it activated a number of temporary market-wide facilities. The parameters of these facilities varied along different dimensions, including eligible counterparties, eligible securities and terms. As well, the Bank might, for example, provide market-wide liquidity more frequently, perhaps even make it readily available, or it might respond to persistent liquidity shortages of specific financial institutions directly.

◀ *The Bank of Canada prefers to adopt a less active role in markets under normal conditions to help minimize potential distortions from its activities*

Ensuring the Bank's Framework Remains Effective

Financial markets are dynamic, constantly evolving and adapting to change. To help ensure the effective implementation of monetary policy and to support the smooth and efficient functioning of the Canadian financial system, it is important for the Bank to be alert to any changes. The Bank's aim is to be proactive and respond to the evolution of the financial system in a prudent and calibrated fashion.

For these reasons, in 2013 the Bank began a review of its framework for market operations and liquidity provision that was completed in 2015. The review took into account experiences in responding to the global financial crisis both in Canada and in other jurisdictions as well as the evolving operational practices at other major central banks. Following the review, the Bank published a consultation paper in which several framework enhancements were proposed.² The underlying objectives of the enhancements were to increase the effectiveness of the overall framework in response to the ongoing and expected changes in the external environment, including lessons learned from the crisis, and to manage the expected future growth in the Bank's balance sheet.

Some of the changes considered in the external environment relate to the ways financial institutions manage their liquidity needs. In Canada, for example, liquidity across the system has typically been distributed by the

² See <http://www.bankofcanada.ca/2015/05/public-consultations-bank-canada-framework-financial-market-operations> for further information about the Bank's consultation papers.

major banks and primary dealers. At present, there are 17 participating financial institutions in the Large Value Transfer System (LVTS)—Canada’s main payment system and a key part of monetary policy implementation. These institutions have accounts at the Bank of Canada and execute payments with each other throughout the day. But primary dealers of Government of Canada securities are the main counterparties to the Bank in its market operations. These institutions can access and redistribute central bank liquidity more broadly over the normal course of their business activities.

Over the past few years, however, this liquidity redistribution channel has evolved. Specifically, the Bank has observed that financial institutions have become somewhat less willing to borrow extra liquidity through the Bank’s operations and redistribute it to others. It appears that these institutions have become more focused on meeting their own liquidity needs. More broadly, financial institutions have been rationalizing the use of their balance sheets and moving away from balance-sheet-intensive and low-margin business lines. Although there have been no major liquidity disruptions from this change in financial institutions’ behaviour, it was prudent to consider such behaviour when the Bank’s framework was being updated.

Other considerations were the changing dynamics in core funding and government debt markets, including increased demand for such high-quality liquid assets, and the degree of Government of Canada securities trading “on special,” that is, at repo rates well below the general collateral rate. From 2013 to 2015, a growing number of Government of Canada bonds were persistently being traded on special, causing tightness, or pressure, in the repo market. Repo tightness typically reflects an imbalance between the demand for and availability of certain securities in the repo market. Protracted repo tightness can affect the cash prices of these bonds and contribute to a reduction in market liquidity. It can also lead to an increase in settlement fails.³

Several structural and cyclical factors had been at play in causing this more widespread and persistent repo tightness over this period, including the following:

- increased foreign ownership of Government of Canada bonds,
- changes in the activities of financial institutions in the repo and securities-lending markets,
- greater demand for high-quality assets (partly to meet regulatory requirements) and
- lower financial incentives to lend out bonds given low interest rates.⁴

Another important consideration was the changing dynamics in the Bank’s balance sheet. Although the volume of currency in circulation—the largest liability for the Bank—has recently outpaced the growth of nominal gross domestic product (GDP), it has historically increased in line with GDP and was assumed to do so. This would increase the Bank’s asset requirements accordingly. As part of its market operations, the Bank had been purchasing

◀ *One of several changes the Bank of Canada has observed is that financial institutions have become less likely to borrow extra liquidity through the Bank’s operations to redistribute to others*

³ A settlement fail occurs when, on the settlement date of a trade, either the seller does not deliver the securities in due time or the buyer does not deliver funds in the appropriate form.

⁴ The incidence of bonds trading on special in Canada has declined significantly over the past year because overall holders were more active participants in the repo and securities-lending markets.

a fixed share of 20 per cent of each nominal bond at auction for its balance sheet and, in some scenarios, that share would have to be raised further if no changes were made to the Bank's purchases.⁵

An increase in the Bank's participation at each auction would further reduce the tradeable float of Government of Canada securities in an environment of increasing investor demand for such securities, in part reflecting regulatory changes. Such a reduction was expected to have some effect on the liquidity of Government of Canada securities, and the Bank's purchases of these securities were therefore considered part of the potential enhancements.

After completing its review, the Bank concluded that its framework for financial market operations and liquidity provision has generally been effective in achieving its objectives but that making some enhancements in several areas would be prudent. Interested parties were invited to provide comments on the proposed enhancements, and the Bank also held a series of meetings with industry associations and other stakeholders.

Respondents were supportive of the overall direction of the Bank's proposed changes. The comments acknowledged the Bank's efforts to enhance certain areas of its financial market operations to improve the effectiveness of the overall framework in light of ongoing and expected changes in the external environment. Respondents also acknowledged the Bank's efforts to manage its balance sheet in a manner appropriate to achieving its monetary policy and financial stability objectives.

Taking into consideration the feedback received, the Bank implemented several changes to its framework for financial market operations and to its Emergency Lending Assistance (ELA) policy, which have been in place since 1 October 2015.⁶ The framework described below is the Bank's current framework that reflects these enhancements. **Table 1** at the end of this article summarizes the Bank's framework for market operations and liquidity provision.

◀ *Changes to the Bank of Canada's framework for financial market operations and its Emergency Lending Assistance Policy have been in place since 1 October 2015*

Reinforcing the Target for the Overnight Rate

The Bank of Canada conducts monetary policy by setting and reinforcing the target for the overnight interest rate, often referred to as the policy rate, through its market operations. This directly influences the interest rates at which banks and other financial system participants borrow and lend funds for a term of one business day. The level of the overnight interest rate and expectations about its future path also influence other longer-term interest rates as well as a broader range of asset prices.

Because almost all wholesale payments (measured by value) flow through the LVTS, it is the focus of the Bank's monetary policy operating framework.⁷ To facilitate trading at the target rate, the framework includes the operating band, or interest rate corridor, which is in turn supported by standing deposit and lending facilities.⁸ The midpoint of the operating band

5 See http://www.bankofcanada.ca/wp-content/uploads/2010/07/statement_policy.pdf for further information on the Bank's policy for acquiring and managing financial assets for its balance sheet.

6 The revised ELA policy was published in December 2015. See <http://www.bankofcanada.ca/markets/market-operations-liquidity-provision/framework-market-operations-liquidity-provision/emergency-lending-assistance/> for more information on the ELA policy.

7 See <http://www.bankofcanada.ca/core-functions/financial-system/canadas-major-payments-systems/#lvts> to learn more about the LVTS.

8 There are two standing lending facilities: the Standing Liquidity Facility, which is available to LVTS participants, and the Overnight Standing Repo Facility (formerly the Overnight Standing Purchase and Resale Agreement Facility), which is available to primary dealers.

is the Bank’s target for the overnight rate, and the presence of the standing deposit and lending facilities provides strong incentives for transactions between major participants in the overnight market to take place at or near the target rate.

The level of the settlement balances available in the system can also be adjusted to address some frictions in the payments system, such as timing differences or forecast errors, and to further support trading at the target for the overnight rate.⁹ Unexpected payment frictions in the market can, however, sometimes put pressure on liquidity and cause the overnight rate to move away from the Bank’s target rate during the day. If the Bank judges that this deviation stems from broad-based payment frictions, it can offset this pressure by adding or withdrawing liquidity using overnight repo or overnight reverse repo operations.

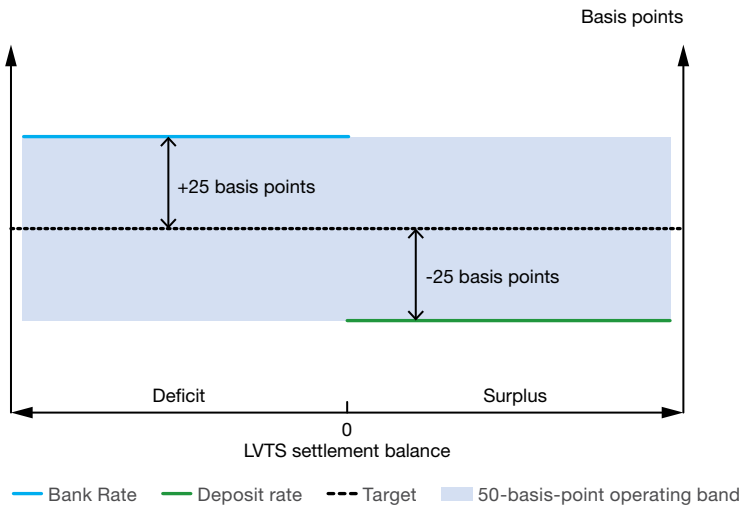
◀ If the Bank judges deviation of the overnight rate stems from broad-based frictions, it can offset pressure by adding or withdrawing liquidity with routine operations

Operating band

The Bank’s operating band is an interest rate corridor of 50 basis points around the Bank’s target for the overnight rate (Figure 1). LVTS participants in a positive position in the LVTS at the end of each day must leave these funds on deposit with the Bank in their settlement account. The remuneration rate for these settlement accounts is the “deposit rate” (the target rate minus 25 basis points), which is the bottom of the operating band.

Conversely, LVTS participants in a deficit position at the end of the day must ensure that the balance in their settlement account is at least zero. To offset their deficit position, these participants must take an overnight collateralized advance from the Bank through the Standing Liquidity Facility (SLF) at the Bank Rate (the target rate plus 25 basis points), which is the top of the operating band.

Figure 1: The Bank of Canada’s operating band



9 On a daily basis, there can be uncertainty about the timing of specific market transactions, such as the settlement date for when a merger and acquisition can occur, or forecasting errors, particularly on high volume days, because of the challenges that LVTS participants face in estimating both their own cash flows and those of their clients.

These arrangements encourage transactions for overnight funds in the marketplace to be at rates within the operating band. This is because participants know that if they have a positive balance they will earn the deposit rate, at a minimum, and will not need to pay more than the Bank Rate to cover shortfalls in their settlement account. Given that the opportunity costs of borrowing from and depositing funds with the Bank at the end of each day are generally the same when using the midpoint of the operating band as a reference (i.e., ± 25 basis points), participants have an incentive to trade with each other at or near the Bank's target for the overnight rate.

Standing Liquidity Facility

Through the SLF, the Bank of Canada can routinely provide overnight credit (advances) to participants in the LVTS that are experiencing temporary liquidity shortages as a result of unexpected payment frictions.¹⁰ Advances extended by the Bank to LVTS participants under the SLF must be secured using a wide range of high-quality collateral.¹¹ By enabling overnight settlement in the LVTS payments system, the SLF reinforces monetary policy and facilitates the smooth functioning of the financial system.

The Bank reinforces monetary policy with the SLF because LVTS participants accessing the SLF pay the Bank Rate. The higher cost of using the SLF provides an incentive for LVTS participants to cover their net deficit positions by trading with other participants at rates within the operating band before settling using the SLF. While only LVTS participants have access to the SLF (and a deposit facility), this incentive supports the Bank's monetary policy objectives more generally by influencing the behaviour of a broader group of market participants through their interactions with LVTS participants.

The SLF also encourages the smooth functioning of the financial and payment systems by providing overnight liquidity to institutions that are unable to borrow from their LVTS counterparts. In the majority of cases, LVTS participants are able to borrow from each other to settle any end-of-day net deficit position in the payments system. There may be occasions, however, when a participant finds itself unable to find a lending LVTS counterpart on short notice because of cash flow timing differences or technical and operational reasons, such as reaching constraints on its risk-management counterparty credit limit. The SLF ensures that LVTS participants are able to cover temporary shortfalls in funds that can arise from the daily flow of LVTS payments.

Institutions experiencing persistent liquidity shortages—shortages that would typically reflect a more structural funding stress at the institution—should not be accessing the SLF. In such extraordinary circumstances, the institution should consider requesting ELA from the Bank.

Overnight Standing Repo Facility

In 2009, the Bank introduced a new standing facility, the Overnight Standing Repo Facility (formerly the Overnight Standing Purchase and Resale Agreement Facility), intended to provide a source of funding for primary dealers in Government of Canada securities that do not have access to the SLF. The facility provides a funding backstop at the Bank Rate to primary

¹⁰ See <http://www.bankofcanada.ca/core-functions/financial-system/canadas-major-payments-systems> to learn more about Canada's major payment systems.

¹¹ Eligible collateral includes securities issued or guaranteed by the Government of Canada or a province as well as other high-quality securities that meet the Bank's SLF collateral policy. For more information on collateral eligible for the SLF, see <http://www.bankofcanada.ca/2015/06/assets-eligible-collateral-under-bank-canadas-standing-liquidity-15-june-2015>.

dealers on an overnight secured basis. It helps address potential gaps with respect to the implementation of monetary policy through the payments system by ensuring that all main participants in the overnight funding market have similar access to secured overnight liquidity at the Bank Rate, reinforcing the top of the operating band.

Adjustments to the level of settlement balances

At the end of each day, the Bank sets a target for LVTS settlement balances that is effective for the following day. This helps set trading conditions for the overnight market. As well, changes in the targeted level of settlement balances can act as a powerful signal of the Bank's resolve to reinforce its target for the overnight rate.¹²

The LVTS is a closed system, which means that the net overall cash position of the entire system will always be zero. LVTS participants with deficit positions therefore know that there is at least one participant in the system with an offsetting surplus position and that this participant is a potential counterparty for transactions at market rates. The Bank is also a participant in the LVTS and provides positive settlement balances to the other participants by simply targeting a deficit LVTS position for itself. The settlement balances provided by the Bank help reduce transaction costs and other frictions during the end-of-day process. As a result, they lessen the need for participants in deficit positions to take frequent small advances from the Bank because participants should be able to cover a deficit position by borrowing from other participants.

Changing the level of settlement balances is an effective policy tool for reinforcing the Bank's target for the overnight rate, particularly when it is facing somewhat persistent or seasonal upward pressure, such as around quarter-ends and the fiscal year-end of commercial banks.¹³

Increasing the level of settlement balances provides a strong incentive for LVTS participants to lend their cash, thus putting downward pressure on the overnight rate because higher settlement balances will result in some participants being in a positive position at the end of the day. These funds must be deposited overnight through the Bank's deposit facility and remunerated at the deposit rate.

Overnight repo and overnight reverse repo operations

The Bank conducts overnight repo and overnight reverse repo operations to further support the effective implementation of monetary policy by injecting or withdrawing intraday liquidity, thereby reinforcing the Bank's target for the overnight rate.

If transactions in the Canadian overnight market for general collateral are generally being conducted at rates above the Bank's target, the Bank may inject liquidity using overnight repo operations by purchasing Government of Canada securities from primary dealers, with an agreement to resell those securities to the same counterparty the next business day. Conversely, the Bank may withdraw liquidity using overnight reverse repo operations.

¹² See <http://www.bankofcanada.ca/markets/market-operations-liquidity-provision/framework-market-operations-liquidity-provision> for more information on how the Bank achieves its target level for settlement balances.

¹³ In spring 2009, amid the global financial crisis, the Bank temporarily adjusted its operating framework when the target for the overnight and the deposit rates were both set at 0.25 per cent. To steer the overnight rate to this value, the Bank set the target level for settlement balances at \$3 billion, its highest level since the inception of the LVTS.

Before 1 October 2015, these operations were conducted at a fixed rate equal to the Bank's target. Following an internal review of the Bank's market operations framework, however, these operations have since been conducted using a competitive auction and have higher counterparty and aggregate limits. This change in the way funds are distributed allows them to be channelled to counterparties that need them most.¹⁴ If necessary, the Bank is prepared to offer multiple rounds of overnight repo or reverse repo operations.

◀ *The change in the way the Bank distributes funds in its overnight repo operations allows them to be channelled to counterparties that need them the most*

Facilitating the Efficient Functioning of Canadian Financial Markets

The Bank undertakes financial market transactions with eligible counterparties to support monetary policy and the efficient functioning of Canadian financial markets. These transactions typically involve the purchase and sale of financial assets. The size of the Bank's holdings of financial assets is generally driven by its role in issuing currency, specifically bank notes or paper money, and the amount of it in circulation. The issuance of currency creates a liability for the Bank, the largest on its balance sheet. Government of Canada deposits, including those supporting the government's prudential liquidity plan, typically represent the Bank's second-largest liability.

To offset these liabilities, the Bank needs to hold financial assets. A small amount of these are foreign assets, primarily shares in the Bank for International Settlements (BIS). Apart from the BIS shares, these assets are mainly denominated in Canadian dollars, as are the Bank's liabilities, and composed mostly of investments in Government of Canada securities and term repos.¹⁵ Decisions about acquiring and disposing of financial assets and managing the Bank's balance sheet are based on the guidelines of neutrality, prudence and transparency.¹⁶

The Bank maintains neutrality by conducting its transactions in as broad a manner as possible to limit market distortions from its investment activities. Prudence is exercised primarily by selecting assets that have a low credit risk, and the Bank achieves transparency by communicating its balance-sheet activities to the public.¹⁷

Government of Canada Securities Portfolio

The Bank's outright holdings of Government of Canada nominal bonds and treasury bills are structured to broadly reflect the composition of the federal government's stock of nominal domestic marketable debt.¹⁸ Typically, a fixed percentage of Government of Canada bonds is acquired at each

¹⁴ Overnight repos are traded at rates equal to or higher than the Bank's target rate, depending on market conditions and bidding behaviour at the auction. Similarly, overnight reverse repos are traded at rates equal to or lower than the Bank's target rate.

¹⁵ The Bank's purchases of Government of Canada nominal bonds and treasury bills are conducted on an outright basis through non-competitive bids at Government of Canada securities auctions. The Bank may also acquire previously issued Government of Canada securities that are already trading in the market.

¹⁶ When market conditions warrant, the Bank can implement unconventional monetary policies, which may involve targeted purchases to affect certain segments of the yield curve or purchases of other assets. See the December 2015 speech by Poloz titled, "[Prudent Preparation: The Evolution of Unconventional Monetary Policies](#)" and the Annex included in the April 2009 *Monetary Policy Report* at <http://www.bankofcanada.ca/wp-content/uploads/2010/03/mpr230409.pdf> to learn more about the Bank's framework for conducting monetary policy at low interest rates.

¹⁷ This requirement for transparency may be waived under exceptional circumstances.

¹⁸ The Bank does not purchase or hold Government of Canada Real Return Bonds given the low level of issuance of such bonds and to avoid any perceived conflict with monetary policy.

bond auction to achieve the target structure for asset allocations.¹⁹ The Bank's minimum purchase amount, which was reduced to 15 per cent on 1 October 2015, is disclosed ahead of the relevant bond auction, and the actual amount purchased is disclosed in the bond auction results.²⁰ The public would also be notified of any change to this fixed percentage of purchases. This helps support the efficient functioning of Canadian financial markets because the neutrality and predictability of the purchases help mitigate potential market volatility or price distortions in the Government of Canada securities market.

Term repo operations

Following the Bank's review of its financial market operations framework, term repo operations—the temporary acquisition of high-quality assets through the repo market—were added as part of the Bank's routine operations beginning on 1 October 2015. The rationale behind this decision was to promote the orderly functioning of Canadian financial markets, help manage the Bank's balance sheet and provide the Bank with information on conditions in short-term funding markets.²¹

Term repos reduce the need for the Bank to acquire Government of Canada securities outright for its balance sheet, improving the liquidity of these securities and thereby supporting the efficient functioning of Canadian financial markets. Because the Bank's holdings of Government of Canada securities are generally held to maturity, purchasing fewer of them improves their liquidity because there are more available in the market for investors and other market participants to trade. These term repo operations may encourage the further development of, and liquidity in, the longer-term repo market in Canada. They also enhance the Bank's flexibility in its asset management.

Securities-Lending Program

The Bank established its Securities-Lending Program in 2002 to help support the liquidity of Government of Canada securities by providing a secondary and temporary source of these securities to the market. Under this program, the Bank can lend a portion of its holdings (up to 50 per cent) of Government of Canada securities to primary dealers when the Bank judges that a specific bond or treasury bill is trading below a certain threshold, or is unavailable, in the repo market. Securities are lent through a tender process for a term of one business day.

This program helps support the liquidity of the Government of Canada securities market and is designed to support efficient clearing and price discovery. A liquid and transparent market for Government of Canada securities is important for the efficient functioning of Canadian financial markets. It helps the government and other borrowers in their financing activities and supports the Bank's objectives in the transmission of monetary policy.

¹⁹ Government of Canada treasury bills and cash-management bills are acquired in variable amounts, based on Bank staff projections of expected future demand for bank notes and other liabilities as well as on the maturity profile of its current holdings of treasury bills at the time of each auction.

²⁰ Auction details, including the Bank's minimum purchase amount, are disclosed approximately one week before each bond auction in the bond's Call for Tender. Results are provided on the day of the bond auction.

²¹ Term repos transacted by the Bank typically have approximately one- and three-month terms. The Bank may also conduct term repos for different terms—for example, to offset seasonal fluctuations in the demand for bank notes.

Providing Liquidity Under Extraordinary Circumstances

Under extraordinary circumstances, the Bank has the authority to provide exceptional liquidity to support financial system stability. The Bank can provide market-wide liquidity in a number of ways to respond to severe system-wide liquidity stress, including by providing secured advances and by conducting buy and sell-back securities transactions.²² However, to address funding shortages at specific financial entities, ELA would typically be the appropriate tool.

The origin of the financial stress is a key factor in determining whether liquidity should be provided on a market-wide basis versus a bilateral basis (for example, ELA).²³ More specifically, the Bank considers the degree to which the origin of the pressure is generalized or not. The stress could be experienced across Canadian financial markets, for example, and driven by general risk aversion or factors outside of Canada, or it could be localized at a Canadian financial institution, such as an LVTS participant. Market-wide liquidity facilities are designed to address the former case, while ELA is used to address the latter.

To provide an example of the use of market-wide facilities, global financial markets experienced severe pressure in 2008 driven by a series of failures and near-failures of financial institutions in the United States and Europe. Liquidity was impaired for both financial and non-financial entities, with market-based financing proving difficult for many of these borrowers. In Canada, liquidity in financial markets also declined, though the deterioration was much less severe than that in other markets. Given that the stress was market-wide and not driven by a severe and idiosyncratic liquidity shortage of a specific Canadian financial institution, the Bank expanded its provision of market-wide liquidity and activated a number of temporary market-wide liquidity facilities.

Providing market-wide liquidity

In response to a severe system-wide liquidity shortage, the Bank could expand existing tools (e.g., overnight repo/overnight reverse repos, term repos) along different dimensions to support the efficient functioning of Canadian financial markets. If, however, the Bank judges that the liquidity shortage may become more intense or might require additional flexibility, it can introduce additional market-wide liquidity facilities to further support liquidity needs. In terms of assessing system-wide stress, the Bank's regular term repo operations provide details on short-term funding markets that complement information gathered by the Bank through market intelligence.

Expanding existing tools

In terms of expanding existing tools, the Bank could increase the size or overall amount of liquidity provided (possibly alongside an increase in the level of settlement balances), the term of the operations and/or their frequency. Additional expansions of existing operations could include broadening the set of eligible collateral and/or increasing the list of eligible counterparties, subject to any criteria deemed appropriate by the Bank.

◀ *The origin of the financial stress is a key factor in determining whether liquidity should be provided on a market-wide basis versus a bilateral basis*

²² The provision of such advances would be subject to the Bank's Rules Governing Advances to Financial Institutions. See <http://www.bankofcanada.ca/wp-content/uploads/2015/12/rules-governing-advances-financial-institutions.pdf> for more information.

²³ Canadian financial institutions or financial market infrastructures experiencing persistent liquidity shortages can consider requesting ELA from the Bank and must meet certain eligibility requirements.

A key benefit to expanding existing tools to respond to system-wide liquidity stress is that the stigma associated with their use during such an event would be low, given they are routine. Those counterparties experiencing more severe liquidity stress might therefore be more willing to make use of the Bank's expanded liquidity tools, which may help normalize the situation more quickly. Helping resolve the system-wide liquidity stress may, however, require increased flexibility beyond expanding the Bank's existing tools.

◀ *Helping resolve system-wide liquidity stress may require increased flexibility beyond expanding the Bank's existing tools*

One factor that may necessitate increased flexibility is that the Bank's operations are typically auction-based and conducted at fixed intervals, a format that might not always be the most effective. Under certain stress scenarios, for example, those institutions that need the liquidity the most may not have sufficient access or may be unable to access liquidity—even if the Bank conducts operations more frequently. Similarly, as expectations for increased system-wide liquidity pressure mount, market participants might engage in hoarding activity, becoming less inclined to redistribute central bank liquidity.

Distribution and timing could therefore prove to be critical when responding to market-wide liquidity stress or actively trying to limit its intensification. Accordingly, an additional tool the Bank could use more proactively to provide market-wide liquidity with greater flexibility is to activate the Contingent Term Repo Facility (CTRF), which would become a standing (readily available) bilateral facility once activated.

◀ *Once activated, the Contingent Term Repo Facility would offer greater flexibility to provide market-wide liquidity on a standing basis*

Contingent Term Repo Facility

The Bank's standing facility to respond to severe market-wide liquidity stress is the CTRF. Upon activation, the CTRF would offer eligible counterparties liquidity directly on demand. This facility would provide the Bank with the flexibility to offer liquidity beyond primary dealers and their affiliates, at the Bank's discretion, should the Bank deem it necessary to support the stability of the Canadian financial system. Counterparties beyond primary dealers and their affiliates would need to demonstrate significant activity in the Canadian money and/or bond markets, be subject to federal or provincial regulation and meet any other conditions the Bank requires.

Activation and deactivation of the CTRF would be at the Bank's sole discretion, as warranted. CTRF terms and conditions would also be published upon activation. This not only helps reassure counterparties that an extraordinary market-wide liquidity facility is in place but also helps mitigate the inherent moral hazard because activation and the terms are at the Bank's discretion. This facility would not be used to address idiosyncratic liquidity shocks at individual institutions.

If the CTRF is activated, the Bank would undertake prudent disclosure procedures, such as preserving counterparty confidentiality, that are consistent with helping mitigate the potential stigma that could be associated with this facility. An appropriate degree of transparency, such as operation dates, amounts, terms and rates, would also be provided to the public at the proper time.

Emergency Lending Assistance

ELA is a loan or advance to eligible financial institutions and financial market infrastructures at the Bank's discretion. The provision of ELA is extraordinary and designed to provide last-resort liquidity to individual financial institutions or financial market infrastructures that are facing serious liquidity problems.

For further information on the Bank’s ELA policy and its recent changes, see the article entitled “Recent Changes to the Bank of Canada’s Emergency Lending Assistance Policy” in this issue of the *Bank of Canada Review*.

Conclusion

Financial markets have evolved and, given their dynamic nature, they are expected to continue to do so. To ensure that its monetary policy and financial stability objectives are achieved, the Bank will continue to regularly monitor developments in the financial market environment and to prudently consider appropriate enhancements to its framework to respond to shifts in the external landscape.

Table 1: Summary of the Bank’s framework for market operations and liquidity provision

Reinforcing the target for the overnight rate		
Purpose	Tool	Key features
To deal with temporary end-of-day liquidity surpluses resulting from unexpected payment frictions in the Large Value Transfer System (LVTS)	Deposits at the Bank of Canada	<ul style="list-style-type: none"> ▪ Counterparty’s discretion ▪ Overnight term ▪ Deposit rate ▪ Liquidity absorbing ▪ Available to LVTS participants
To deal with temporary end-of-day liquidity shortages resulting from unexpected payment frictions in the LVTS	Standing Liquidity Facility Overnight Standing Repo Facility	<ul style="list-style-type: none"> ▪ Counterparty’s discretion ▪ Overnight term ▪ Bank Rate ▪ Liquidity providing ▪ Standing Liquidity Facility: <ul style="list-style-type: none"> ▪ Secured advance ▪ Available to LVTS participants ▪ Overnight Standing Repo Facility: <ul style="list-style-type: none"> ▪ Repo transaction ▪ Available to primary dealers
To help reduce counterparty searches and other frictions intraday and during the end-of-day LVTS process	Adjustments to the level of settlement balances	<ul style="list-style-type: none"> ▪ Bank’s discretion ▪ Usually set above zero ▪ Liquidity providing ▪ Available to LVTS participants
To deal with generalized intraday liquidity pressure	Overnight repos Overnight reverse repos	<ul style="list-style-type: none"> ▪ Bank’s discretion ▪ Overnight term ▪ Multi-price auction ▪ Liquidity providing or absorbing ▪ Repo transaction ▪ Available to primary dealers

(continued...)

Table 1: Summary of the Bank's framework for market operations and liquidity provision (continued...)

Supporting the efficient functioning of Canadian financial market		
Purpose	Tool	Key features
To manage the Bank's balance sheet in a prudent, market-neutral and transparent manner	Primary market purchases of Government of Canada treasury bills and nominal bonds	<ul style="list-style-type: none"> ▪ Purchases structured to broadly reflect the composition of the federal government's stock of nominal domestic marketable debt ▪ Fixed percentage of bonds acquired at each auction on a non-competitive basis, variable amount of treasury bills acquired to manage the Bank's balance-sheet needs
To manage the Bank's balance sheet and promote the orderly functioning of Canadian short-term funding markets	Term repos	<ul style="list-style-type: none"> ▪ Schedule announced in advance ▪ Variable but typically one- and three-month terms ▪ Liquidity providing ▪ Multi-price auction ▪ Repo transaction ▪ Available to primary dealers
To help support the liquidity, efficient clearing and price discovery of the Government of Canada securities market	Securities-Lending Program	<ul style="list-style-type: none"> ▪ Program threshold triggers ▪ Overnight term ▪ Multi-price auction ▪ Collateralized loan ▪ Available to primary dealers
Providing liquidity under extraordinary circumstances		
Purpose	Tool	Key features
To respond to severe system-wide liquidity stress	Expanding existing operations	<ul style="list-style-type: none"> ▪ Expand existing operations along different dimensions, such as <ul style="list-style-type: none"> ▪ amount of liquidity provided or absorbed ▪ term ▪ eligible collateral ▪ frequency ▪ Available to primary dealers but could be expanded
To respond to severe system-wide liquidity stress with expanded flexibility	Contingent Term Repo Facility	<ul style="list-style-type: none"> ▪ Bank's discretion to activate ▪ Counterparty's discretion once active ▪ Repo transaction ▪ Terms and conditions published upon activation ▪ Available to primary dealers but could be expanded
To provide last-resort liquidity to individual financial institutions or financial market infrastructures that are facing serious liquidity problems	Emergency Lending Assistance	<ul style="list-style-type: none"> ▪ Secured loan/advance at Bank's discretion ▪ Maximum term of six months, renewable at Bank's discretion ▪ Minimum rate is the Bank Rate ▪ Available to members of Payments Canada ▪ Other eligibility criteria: <ul style="list-style-type: none"> ▪ Federally regulated financial institutions: credible recovery and resolution framework ▪ Provincially regulated financial institutions: credible recovery and resolution framework, provincial indemnity, important to stability of financial system ▪ Financial market infrastructures: designated for Bank of Canada oversight