



April 15, 2009

## The Bank of Canada is one step away from adopting a quantitative policy The necessity to offset deflation risks with inflationary measures

### Summary

- With key interest rates closing in on zero and fiscal policies that are going more and more heavily into the red, the downside pressure on inflation created by the intense contraction in economic activity has prompted many of the industrialized economies' central banks to adopt non-traditional measures to further ease their respective monetary conditions.
- A "quantitative" policy involves expanding a central bank's balance sheet by creating banking reserves in order to increase the supply of money in the economy. The operation consists of replenishing the markets with liquidity in the hope that banks will not be as reticent about lending, in order to jump start economic growth.
- To date, the Bank of Canada (BoC) has not had to make this move—all of the credit facilities put forward were financed, initially by selling assets held by the Bank, then by issuing Treasury bills, the funds for which were placed in the government account at the Bank.
- However, the rapidly deteriorating economic situation and expectations of a slow, modest recovery indicate that the BoC's work is not yet done. Among other things, Canada's output gap has widened substantially, showing that pressures on underlying inflation will be broadly contained.
- With a key rate of just 0.50%, the BoC is running out of leeway in terms of its traditional instruments. An additional 25 basis point cut or a change in the operating band cannot be ruled out, but what happens next is likely to occur via credit and quantitative easing.
- However, adopting a quantitative policy is not without consequences and raises a number of questions. What is the main goal? How will the BoC's balance sheet expand? What securities will be bought, and how much of them? Is it better to focus on the general level of interest rates, or rate spreads? Then comes the scope of the quantitative policy needed. Too little easing would be wasted effort, whereas too much easing would be hard to control when it comes time to reverse it, and could create inflation problems.
- It appears that the next step involves granting longer-term credit. The BoC could also favour buying corporate debt. The financial strains have in part eased since the climax reached right after the Lehman Brothers bankruptcy in the United States, but companies are still hesitant to borrow because of a surge in risk and liquidity premiums. Provinces are also facing important borrowing needs, and rate spreads, which are holding at record highs, remain unfavourable. Probably, a number of measures will be instituted at the same time. In the end, it may be necessary to combine them with direct purchases of government securities.
- Adopting a quantitative policy is not without risk. Among other things, increasing the monetary base could lay the groundwork for a surge in inflation over the longer term. However, the example of Japan in the 90s demonstrates that doing nothing to prevent deflation now is a greater risk than tackling inflation later.

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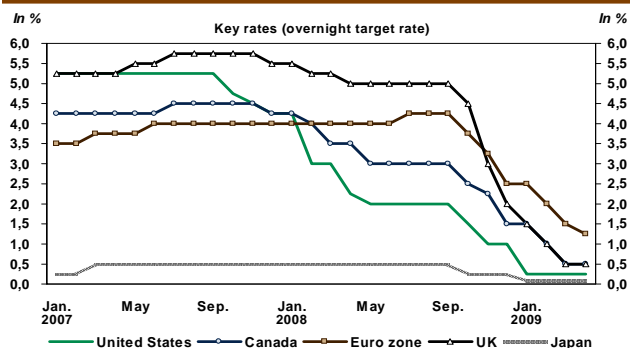
NOTE TO READERS: The letters **k**, **M** and **B** are used in texts and tables to refer to thousands, millions and billions respectively.

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**RATES ARE CONVERGING ON ZERO AROUND THE WORLD**

With key interest rates closing in on zero (graph 1) and fiscal policies that are going more and more heavily into the red (graph 2), the downside pressure on inflation created by the intense contraction in economic activity has prompted many of the industrialized economies' central banks to adopt non-traditional measures to further ease their respective monetary conditions.

**Graph 1 – G7 countries converging towards a “zero” policy**



Sources: Datastream and Desjardins, Economic Studies

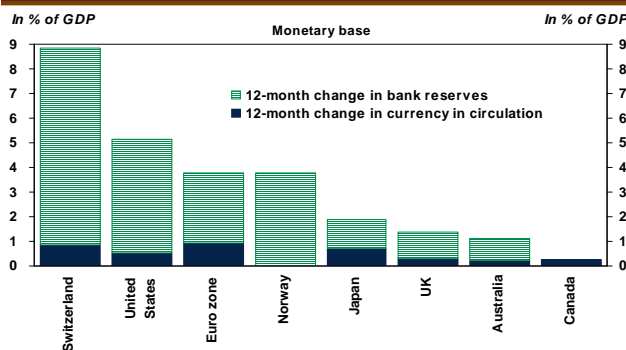
**Graph 2 – Astronomical sums will be deployed to stimulate economic growth**

	Value (US\$B)	In % of GDP
United States	787.0	5.8
Canada	28.7	2.0
UK	30.8	1.1
Germany	102.9	3.1
France	38.9	1.5
Italy	90.5	4.3
Japan	87.6	2.0
Australia	36.4	4.0
China	586.0	15.0
India	14.3	1.3
Russia	14.2	1.1
Brazil	2.6	0.2
Other countries	80.6	---
<b>Total</b>	<b>1 900.5</b>	<b>---</b>

Sources: United Nations and Desjardins, Economic Studies

Evidently, as the United States is the source of most of the problems associated with the ongoing financial crisis, the Federal Reserve (Fed) is leading the way in the fight for monetary reflation<sup>1</sup>. After having taken the target rate for federal funds into a 0.00% to 0.25% band, the Fed clearly shifted into “quantitative” mode. In fact, the various private sector credit facilities have more than doubled the assets on the Fed’s balance sheet, more precisely from US\$884B in August 2008 to over US\$2,000B recently.

**Graph 3 – Industrialized nation’s monetary base is expanding**



Sources: Datastream, Bloomberg, Reserve Bank of Australia, Bank of England and Desjardins, Economic Studies

Since then, other major central banks have joined its ranks (graph 3); Canada is thought to be preparing to do so shortly.

**WHAT IS A QUANTITATIVE POLICY?**

Not very common, a “quantitative” policy (quantitative easing, or QE) involves expanding a central bank’s balance sheet by creating banking reserves (high-powered money) in order to increase the supply of money in the economy. The operation consists of replenishing the markets with liquidity in the hope that banks will not be as reticent about lending, in order to jump start economic growth.

In general, a central bank’s balance sheet can be expanded to:

**1) Inject liquidity into the financial system**

The first step involves injecting huge amounts of liquidity into the financial markets so as to shield solvent institutions from the strains in the credit supply. This can be done through sterilized intervention (offset by an opposite operation), i.e. the funds come from depositing the proceeds of an issue of government debt securities or by selling assets held by the central bank. Typically, it takes the form of a purchase and resale agreement (repo). It can also involve last-resort loans to the financial institutions.

**2) Lend funds (banking intermediation)**

In a credit crunch, financial institutions are usually hesitant about lending their excess liquidity. Among other things, this may reflect the need to increase their capital in order to deleverage. The risks of seeing a competitor go bankrupt also makes them cautious. Under these conditions, the central banks have a duty to act as lenders of last resort.

<sup>1</sup> Reflation refers to fiscal and monetary stimuli aimed at boosting output.

### 3) Buy securities directly from the market

These can range from securities issued by the federal government or other tiers of government, to agency securities and high-quality corporate securities. For the latter, as corporate securities constitute a higher risk than Treasuries, particularly during times of crisis, the government makes a provision for potential loss. Note that the central bank is not mandated to take on credit risk.

#### EXAMPLES OF QE

In an industrialized economy, unconventional policies are rarely used. Until recently, Japan provided the only concrete example of quantitative easing in modern history.

##### *The case of Japan (2000-2006)*

Afflicted with a deflation problem, at the end of the 90s, the Bank of Japan (BoJ) resigned itself to dropping its interest rate target and favouring a policy designed to ensure the level of reserves held by financial institutions with an account at the central bank. The failure of Japan's monetary policy, partly because of how long it took to implement it, highlights the need to stave off deflation risks.

##### *The case of the United Kingdom (2009- )*

Due to the sharp downturn by Britain's economy and strains in the financial markets, the Bank of England (BoE) decisively lowered its key rate starting in July 2008, taking it to just 0.50%. However, this did not appear to be enough to eradicate a major risk that inflation would settle below the medium range target, 2%. As it was running out of leeway, the BoE undertook other monetary measures to increase the money supply and improve credit, with a program to buy up £75B in public and private securities, financed out of banking reserves.

##### *The case of Switzerland (2009- )*

The economic situation's sharp deterioration and deflation risks prompted the Swiss National Bank (SNB) to vigorously ease monetary conditions. In addition to lowering interest rates by 225 basis points since the crisis began, the SNB substantially increased liquidity through repo operations, by buying Swiss franc bonds issued by private sector borrowers and purchasing foreign currencies on the foreign exchange markets.

##### *The case of the United States (2009- )*

Unlike Japan, which focused solely on the reserve level (a liability<sup>2</sup>), the Fed is currently more focused on restoring credit; as a result, it is more concerned about assets.

<sup>2</sup> A central bank's liability consists of currency in circulation and reserves.

The first measures the Fed took appeared to be aimed at injecting liquidity using credit facilities<sup>3</sup> for longer periods than overnight, to support the interbank market and the short-term debt instruments market.

Subsequently, the Fed sought to restore credit using programs involving unsterilized purchases of mortgage-backed securities and whole loans; asset-backed securities (car loans, student loans, credit card debt and small business loans); securities of federal mortgage refinancing agencies; and mortgage claims secured by these agencies.

Since then, the rising strains on bond rates due to the financial markets' concerns about the massive financing required for the U.S. deficit prompted the Fed to take its quantitative easing effort one step further, intervening directly in the interest rate curve by buying up Treasuries. Note that the success achieved by the BoE and the SNB, which had taken this road shortly before that, allowed the Fed to monetize government debt without creating too much distortion in the markets<sup>4</sup>.

##### *The new case of Japan (2000-2006)*

A return to deflation and a net deterioration of economic activity have pushed the BoJ to favour quantitative policies once more. To ensure market stability in Japan, the Bank further increased the provision of funds maturing over the fiscal year-end and actively purchased Japanese government securities and commercial paper (CP) under repurchase agreements. The Bank continued to conduct outright purchases of CP, special funds-supplying operations to facilitate corporate financing. Moreover, on March 4, 2009 the Bank commenced outright purchases of corporate bonds.

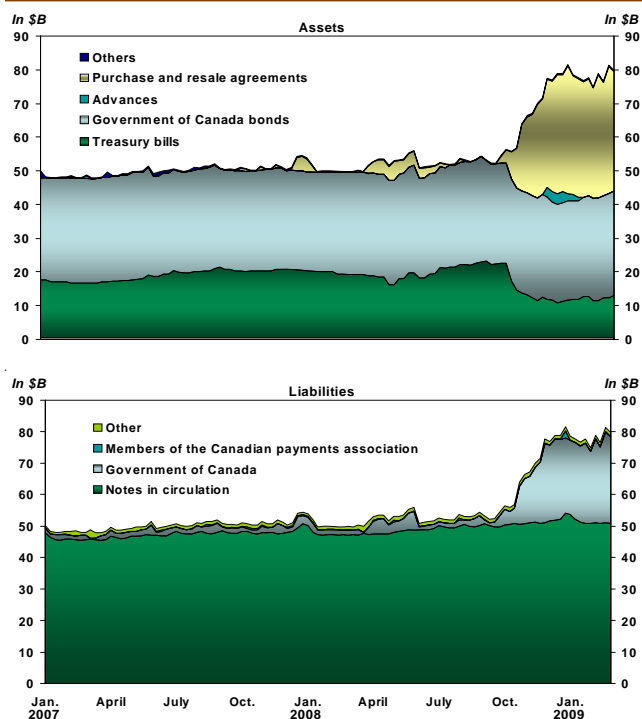
The European Central Bank still has some cards to play, but it would be surprising if it manages to avoid concrete quantitative easing.

To date, the Bank of Canada (BoC) has not had to make this move—all of the credit facilities put forward were sterilized, initially by selling assets held by the Bank, then by issuing Treasury bills, the funds for which were placed in the government account at the Bank (graph 4 on page 4).

<sup>3</sup> For a complete review of the Fed's programs, see [http://www.newyorkfed.org/markets/Forms\\_of\\_Fed\\_Lending.pdf](http://www.newyorkfed.org/markets/Forms_of_Fed_Lending.pdf).

<sup>4</sup> Debt monetization, i.e. the purchase of government securities financed by an increase in the reserves that commercial banks hold at the central bank or, more often, by the «money printer», is an operation of last resort. Common examples of monetization, mainly concentrated in emerging economies, have often led to hyperinflation issues, so simply mentioning monetization is enough to give people the chills. The fact that the Fed has gone this far shows how serious the economy's situation is.

**Graph 4 – Up to now, the BoC has sterilized all of its credit facilities**



Sources: CANSIM, Datastream and Desjardins, Economic Studies

Upcoming moves promise to be different. In particular, the old “Everybody else is doing it, so let’s go!” refrain could prove true. But, before we draw conclusions about this, we should review the actions that the BoC and the government are taking.

**CANADIAN AUTHORITIES’ RESPONSE TO THE CRISIS**

Canada’s monetary and government authorities responded to the crisis swiftly. After taking a break due to the risks associated with skyrocketing oil prices in the first half of 2008, the escalation in the financial strains triggered by the bankruptcy by Lehman Brothers, the U.S. investment bank, and by the imbroglio in Congress, prompted the BoC to return to its monetary easing cycle, lowering key rates by a total of 400 basis points since the end of 2007.

Moreover, to mitigate the impacts of the credit crisis on Canada’s economy, the BoC instituted a variety of measures to increase liquidity. It increased the amounts outstanding for its purchase and resale agreements, and broadened the list of securities eligible as collateral and the list of eligible counterparties, and new lending facilities were created (see table 1).

Simultaneously, the government set up facilities to secure some bank liabilities to, among other things, ease tensions in the interbank market. Moreover, further steps were taken to facilitate access to long-term credit in Canada through a program to buy up to \$125B in blocks of insured mortgages.

Efforts by Canadian authorities, in conjunction with efforts made by the major industrialized countries, have helped to ease some of the strain in the interbank market and lower retail interest rates. However, given the overall context, this is no time to rejoice; further measures will have to be taken.

**Table 1  
Bank of Canada liquidity facilities introduced since 2007 Q4**

	<i>Announced</i>	<i>Weekly amount offered</i>	<i>Peak amount outstanding**</i>	<i>Eligible securities</i>	<i>Approved counterparties</i>
<b>Term PRA</b>	12/12/2007	2 to \$12B	\$37B	SLF eligible: GOC securities, NHA-MBS, CMBs, other government guaranteed securities, provincial bonds, BAs, CP, ABCP, BDNs, corporate bonds, UST	Primary dealers and direct participants in the Large Value Transfer System
<b>Term Loan Facility (TLF)</b>	12/11/2008	\$2B	\$4.175B	Non-mortgage loan portfolios	Direct participants in the Large Value Transfer System
<b>Term PRA for Private Sector Money Market*</b>	14/10/2008	\$1B	\$25M	BAs, BDNs, CP, ABCP	Primary dealers and federally / provincially regulated market participants who demonstrate significant activity in private money markets
<b>Term PRA for Private Sector Instruments</b>	23/02/2009	\$1B (minimum)	---	BA, BDNs, CP, ABCP and corporate bonds	Federally / provincially regulated market participants who demonstrate significant activity in private bond and/or money markets

\* This facility will be replaced by the Term PRA for Private Sector Instruments on 16 March, 2009; until that time, this facility will remain operational. \*\* In par-value terms.  
Source: Bank of Canada

**THE BOC STILL HAS WORK TO DO**

The economic statistics released recently show that the relative advantage Canada seemed to have has eroded substantially (graph 5). Manufacturing shipments are freefalling; the merchandise trade balance is now in a deficit position for the first time since 1976; retail sales are a disaster; and the labour market has deteriorated at an average of 71,000 jobs a month from the October 2008 peak: a pace unheard of!

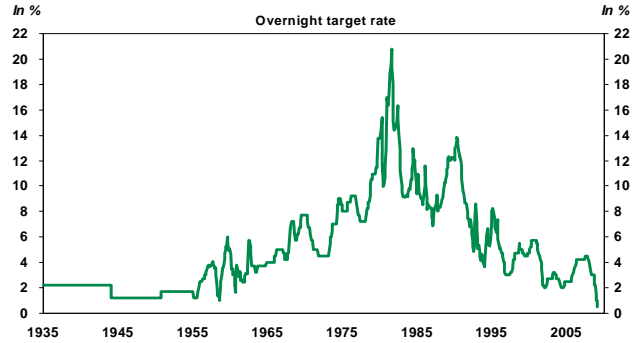
**Graph 5 – The economic situation is deteriorating fast**



Sources: Datastream and Desjardins, Economic Studies

Due to the rapid deterioration in the global and Canadian economic context, and with no inflationary pressure, the BoC unsurprisingly lowered its key rate by 50 basis points, taking it to a historic low of just 0.50% on March 3 (graph 6). It simultaneously announced that rates would stay low for a long time: “the overnight rate can be expected to remain at

**Graph 6 – The BoC has dropped its key rate to its lowest level since 1958**



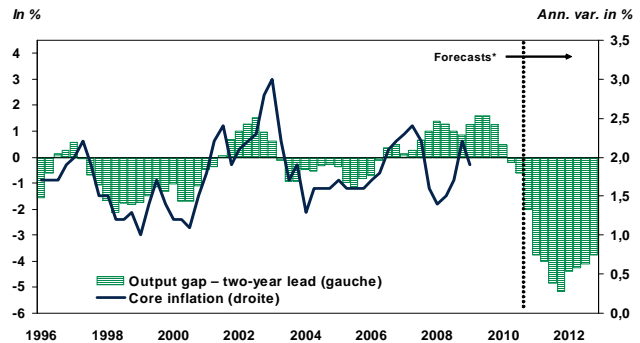
Sources: Bank of Canada and Desjardins, Economic Studies

this level or lower at least until there are clear signs that excess supply in the economy is being taken up.”

Here, our growth estimate for Canada’s economy (much lower than the outlook issued by the BoC last January<sup>5</sup>) is compatible with substantial widening by the output gap, which could close in on 6% by the end of 2009. Moreover, our scenario, which calls for a soft recovery, means that it could be hard to close the gap in the next few years.

The surplus supply will keep downside pressure on prices and, although we are not anticipating any deflation outside of energy, there is a risk that the inflation target (2%) may not be met over the medium range (graph 7).

**Graph 7 – Downward inflationary pressure will become more important in Canada**



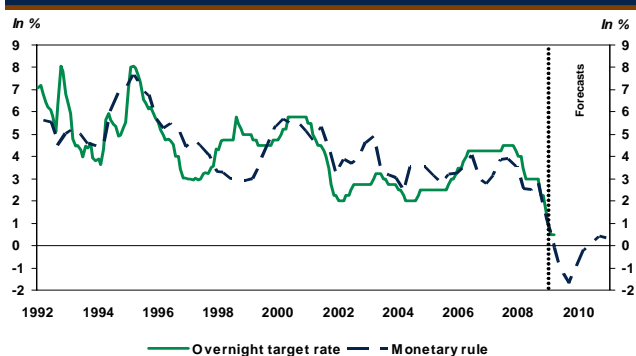
\* Starting in the fourth.  
Sources: Statistics Canada and Desjardins, Economic Studies

<sup>5</sup> Mark Carney's allusion on March 31 to the effect that the first quarter could see the biggest contraction in real GDP since 1961 signals that the BoC will inevitably present a growth outlook that has been revised downward for 2009 and 2010 in its April 23 *Monetary Policy Report*.

### THE BOC IS RUNNING OUT OF TRADITIONAL MONETARY TOOLS

Under the circumstances, our monetary indicators shows that the BoC will have to adopt a quantitative policy as soon as possible (graph 8). Clearly, at 0.50%, the BoC has very little leeway for traditional monetary policy. Although we cannot rule out the possibility that it will lower rates to 0.25%, the Bank is already looking at less conventional avenues. "Given the low level of the target for the overnight rate, the Bank is refining the approach it would take to provide additional monetary stimulus, if required, through credit and quantitative easing<sup>6</sup>."

Graph 8 – The BoC still has work to do



Sources: Datastream and Desjardins, Economic Studies

In theory, the BoC could lower its key rate target to 0.00%. Large Value Transfer System (LVTS) participants are not showing much reticence about exchanging their daily surpluses on the interbank market at the target rate, so the lower limit of the BoC's operating band could be zero or even negative<sup>7</sup> (see box 1 on page 7 for more details on the BoC's operating band).

In practice, however, the marginal impact of lowering key rates beyond 0.50% seems limited and, generally, would do more to create distortions than benefits. First, a zero rate policy could be a problem for money market investment funds, as the negative return (due to administration charges) would prompt some investors to sell off their assets<sup>8</sup>; then, the structure of Canadian commercial loans calls for prudence in that 1) variable loans are based on the BoC's prime rate and 2) an overly low

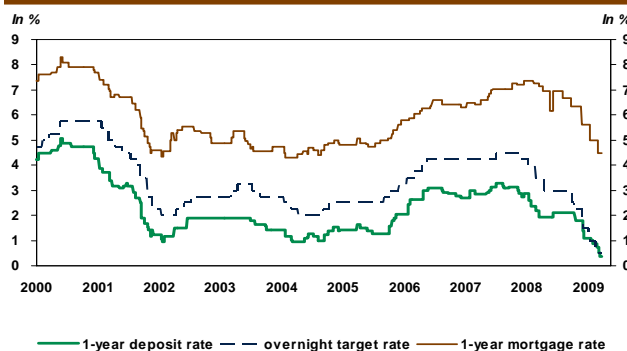
<sup>6</sup> The BoC will announce how, if necessary, it intends to institute its quantitative policy and other less conventional measures in its April 23, 2009 *Monetary Policy Report*.

<sup>7</sup> It would, however, be surprising if that happened, as LVTS participants will no doubt prefer to get rid of their reserves rather than paying to keep them on deposit with the BoC.

<sup>8</sup> However, it would have the value of prodding investors to take more risks, a measure that could cause rate spreads to narrow.

key rate would compromise the margin needed to cover the difference between deposit rates (usually lower than the key rate) and lending rates (usually higher than the key rate) and generate a profit (graph 9). If the key rate comes down enough to push deposit rates toward zero, any further cut to lending rates would put pressure on financial institutions' profit margins, a situation which would work against the goal of encouraging credit. This would probably prompt the financial institutions to not follow in the BoC's footsteps.

Graph 9 – Lower key rates could be problematic for financial institutions' profitability



Sources: Datastream and Desjardins, Economic Studies

For many analysts, a quantitative policy cannot be initiated until interest rates are at zero<sup>9</sup>. The idea is that, as the central banks are not seeking to mop up the excess liquidity generated by their quantitative policy via sale and repurchase agreements<sup>10</sup>, this would have the effect of driving interest rates down to zero immediately. In fact, this could not happen in Canada unless the BoC were to change its monetary framework. As the financial institutions cannot have surplus reserves<sup>11</sup>, the BoC only has to remunerate them at its lower operating band target or, even better, simply change the lower limit and make it equal to the key rate. In a way, this is what the Bank of England did recently.

<sup>9</sup> For a review of the literature on this topic, see D. Amirault and B. O'Reilly, "The Zero Bound on Nominal Interest Rates: How Important Is It?", Bank of Canada, Working Paper 2001-6, April 2001.

<sup>10</sup> For a central bank, a sale and repurchase agreement involves selling government securities with a promise to buy them back the next day. The supply of securities on the market is putting downside pressure on prices and, as a result, upside pressures on interest rates.

<sup>11</sup> Note that Canada's monetary policy is implemented in a system without reserve requirements. In Canada, the framework provided by rules on interbank payments settlement and by the costs of deficits and surpluses on settlement accounts provides a strong incentive for the banks and other clearing institutions to target zero balances.

**Box 1****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.

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.

Source: Bank of Canada

**HEADING FOR QUANTITATIVE MEASURES?**

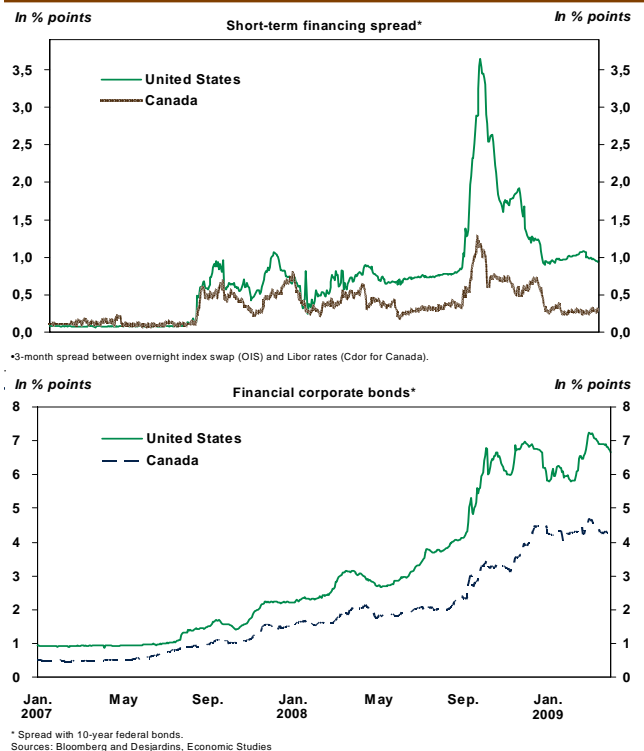
The door is therefore open to unconventional policies in Canada. However, adopting a quantitative policy is not without consequences and raises a number of questions. What is the main goal? How will the BoC's balance sheet expand? What securities will be bought, and how much of them? Is it better to focus on the general level of interest rates, or rate spreads? And, once the situation starts to get back to normal, what is the exit strategy? It will take a transparent plan to keep inflation expectations around the 2% inflation target.

In general, the interest rate level can be lowered by the direct purchase of no-risk government securities, whereas rate spreads are closed by buying private securities from a specific market. While an action that is focused on buying government securities is clearly less likely to make political waves, it is possible that a quantitative policy may only be completely effective by combining the two.

Then comes the scope of the quantitative policy needed. Too little easing would be wasted effort, whereas too much easing would be hard to control when it comes time to reverse it, and could create inflation problems. One thing is certain, Canada's needs appear to be much smaller than those of the United States and United Kingdom; further monetary easing will be done on a much smaller scale (graph 10).

**POLICIES TO FAVOUR**

The way ahead is not clearly marked for now and it is hard to tell with any certainty whether the path taken will have the desired effects. It appears that the next step involves granting

**Graph 10 – Canada's needs are not as important on a relative basis**

longer-term credit. If needed, however, the BoC could complement its interventions by adopting quantitative policies aimed at outright purchases of debt securities.

### Commercial paper

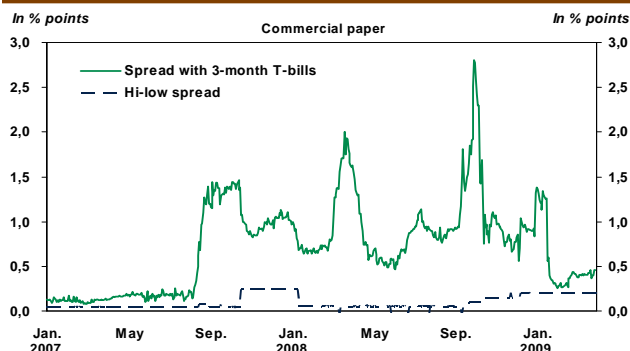
The financial strains have in part eased since the climax reached right after the Lehman Brothers bankruptcy in the United States, allowing issues of commercial paper to stabilize (graphs 11 and 12). However, financing terms remain relatively short. Somewhat like the Fed's Commercial Paper Funding Facility (CPFF), which was immensely successful, the BoC could increase liquidity in the short-term financing market by buying three-month commercial paper from issuers.

**Graph 11 – The commercial paper market has frozen**



Sources: CANSIM and Desjardins, Economic Studies

**Graph 12 – Financing spreads are narrowing, but demand remains weak and issues are short term**

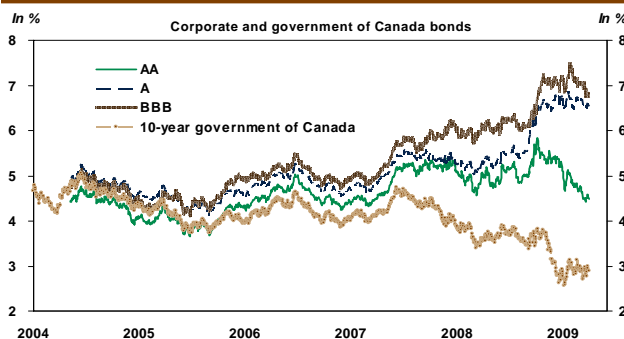


Sources: Bloomberg and Desjardins, Economic Studies

### Corporate debt securities

Canadian companies have also been hurt by the turmoil in the financial markets, firstly because credit conditions have tightened, but also due to the recession's impact on their business outlooks. Although demand for corporate securities is strong (primarily due to the nosedive in supply since last fall), companies are hesitant to borrow because of a surge in risk and liquidity premiums (graph 13), even though, in the end, borrowing costs are low (a factor that can mainly be chalked up to the surge in the prices of government bonds). The BoC could thus be prompted to buy high-quality corporate debt. However, the secondary market is fairly small.

**Graph 13 – Financing is done at unfavourable rates**



Sources: Bloomberg and Desjardins, Economic Studies

### Bank debt securities

One way to get around the problem would be to lean toward financial institution securities. Narrowing rate spreads would allow them to lower financing costs and stabilize their operating margins, which would prompt them to increase their lending. Globally speaking, Canadian financial institutions have shone, with less exposure to asset-backed securities, less leveraging<sup>12</sup> and more appropriate lending standards, allowing them to remain profitable and not forcing them to turn to capital. Still, although they appear to be better capitalized than their American and European counterparts, they have still been hurt by the strains in the global interbank market<sup>13</sup>, and the sources of capital have dried up. Moreover, they are not immune from the recession's repercussions on their loan portfolios. Among other things, the consumer's situation is worsening fast—consumers have been deeply affected by the drop in stock market and home prices, at a time when debt ratios were peaking.

### Mortgage securities

The real estate market is starting to be in real jeopardy—prices must be stabilized as quickly as possible by further improving refinancing conditions and conditions for access to ownership by measures designed to narrow mortgage rate spreads. The government program to buy up blocks of NHA

<sup>12</sup> According to the Bank of Canada, the major Canadian banks have an average asset-to-capital multiple of 18. A higher ratio indicates that more of the bank's assets have been financed by debt rather than by injecting the bank's own capital. The ratio is thus a measure of a financial institution's debt load and the degree to which it is leveraged. Note that Canadian regulations require that a maximum ratio of 20 be maintained. The comparable figure for U.S. investment banks is over 25, for European banks is in the 30s, and for some major global banks is over 40. For further details, see the speech by Bank of Canada Governor Mark Carney to the Canadian Club of Montréal on September 25, 2008.

<sup>13</sup> Among other things, this is due to the fact that some countries have guaranteed the debt or partially nationalized their banks, making Canada's financial institutions less globally competitive.

(National Housing Act) mortgage-backed securities helped get some of the work done, but commercial banks' financing needs are not as pressing, and the most recent auctions were less successful. Moreover, the size of the program (\$54B to date) has created distortions in the markets, pushing swap spreads into negative territory, a situation that creates higher financing costs for the banks (graph 14). The BoC could take over from the government, buying Canada Mortgage Bonds (CMBs) directly from the financial institutions. CMBs are guaranteed by the government, which would keep the BoC from taking on credit risk.

**Graph 14 – CMB rates remain high when accounting for financing conditions**



Sources: Datastream and Desjardins, Economic Studies

### Provincial bonds

Another source of concern stems from the crowding out effects created by the federal government's large financing needs, not only for businesses, but also for provinces. The contraction in economic activity and the Harper government's recovery plan should generate deficits of \$34B in 2009-2010 and \$30B in 2010-2011. The federal government's fiscal health remains exemplary, internationally speaking, but the first increase in the debt in 11 years could still cause some anxiety. Among other things, the Government of Canada's debt program will increase this year and next year, to handle anticipated financing requirements of \$101B. The problem is that the provinces are also grappling with pressing needs (table 2).

In particular, Ontario should post a record \$14.1B deficit in 2009-2010 due to rapid growth in program spending (+12.5%). The deficit could reach \$12.2B in 2010-2011 and \$9.7B in 2011-2012. In all, the deficit will total almost \$57B from 2008-2009 to 2014-2015.

The pressures on Québec's finances are just as great. Deteriorating economic conditions will cause a 2.4% decline in own-source revenue and a 4.5% increase in program spending in 2009-2010. A \$3.9B deficit is forecast for 2009-2010, with the deficit for 2010-2011 projected to be \$3.8B,

**Table 2**  
**2009-2010 borrowing requirements**

In M\$	<i>Maturities and redemptions<sup>1</sup></i>	<i>Borrowings</i>
Ontario	15,000	34,800
Québec	5,245	7,028
Hydro-Québec	1,931	2,100
Financement Qué.	1,500	2,750
British Columbia	2,631	5,810
Alberta & ATB	0	1,175
Alberta Cap. Fin.	1,500	1,500
Saskatchewan	960	1,190
Manitoba	1,541	3,253
New Brunswick	379	2,412
Nova Scotia	n.a.	n.a.
NL & Labrador	245	1,371
Prince Edward Island	n.a.	n.a.
<b>Total</b>	<b>30,932</b>	<b>63 389</b>

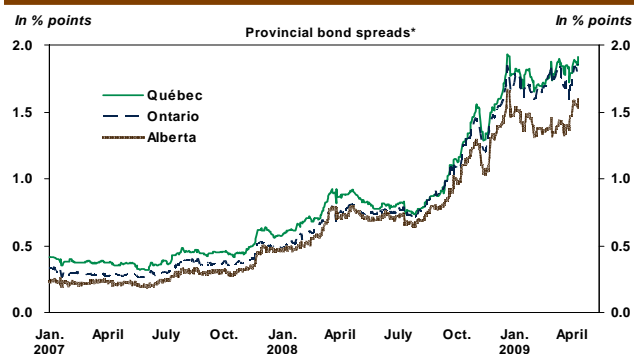
n.a.: not available; <sup>1</sup> Reported by provinces.

Source: Desjardins Securities

something that has not been seen since 1995-1996. Despite the economic recovery forecast for 2010, the Québec government's budget will remain in the red until at least 2012-2013.

On an absolute basis, provincial bond rates are still low, but the financial strains have driven spreads with federal bond rates to record peaks, relatively speaking (graph 15). As buying one province's bonds rather than another's could create distortions in the markets, the BoC will no doubt have to move on a weighted basis.

**Graph 15 – Bond spreads remain unfavourable to Provinces**



\* Compared to 10-year government of Canada bonds.  
Sources: Bloomberg and Desjardins, Economic Studies

In short, the BoC has many options. What remains to be seen is which sector it intends to focus on. Probably, a number of

**Box 2**

**Money creation: An example with numbers**

Assume that, in step 1, the central bank buys \$100,000 in securities from a financial institution. The latter now has \$100,000 in excess reserves and can offer \$100,000 in new loans (step 2). Two thirds of these loans take the form of deposits with other financial institutions; one third remains outside the financial institutions as cash (step 3).<sup>3</sup> In step 3, there is a \$100,000 increase in the money supply, i.e. \$66,667 in new deposits and \$33,333 in cash. However, the creation of new money does not stop there: As deposits have increased, financial institutions can do more lending. In step 4, they lend \$60,000, assuming that they hold 10% of the deposits back as a reserve. This process repeats itself several times, so that, in the end, the total of the new reserves (which corresponds to 10% of the deposits) and cash would be \$100,000 (increase in the money base), and the quantity of money would have increased by \$250,000.

measures will be instituted at the same time. In the end, it may be necessary to combine them with direct purchases of government securities.

**WHAT ARE THE RISKS?**

Adopting a quantitative policy is not risk-free. Among other things, increasing the monetary base could lay the groundwork for a surge in inflation over the longer term. However, the example of Japan in the 90s demonstrates that doing nothing to prevent deflation now is a greater risk than tackling inflation later.

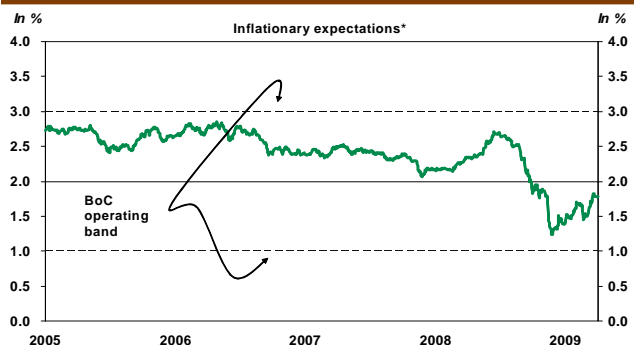
In a deflationary context, a vicious circle is triggered. Dropping prices for assets and consumer goods encourages consumers to repay their debt and cut their spending. The return to savings, although it is rational behaviour on the individual level, inevitably leads to further price decreases, and so on, taking aggregate production and wages down in its wake.

The fact still remains that, if the policy works, the money placed at the financial institutions' disposal could quickly swell the money supply, a situation that is potentially dangerous for price stability. Among other things, Canada's financial institutions are more active in the credit market than their U.S. counterparts. In fact, outstanding consumer credit is still on the rise and it is clear that Canada's money multipliers have not fallen as much as they have south of the border. Because of this, every dollar injected into Canada's financial system is more likely to generate greater monetary growth here than in the United States (see box 2). The BoC will therefore need a transparent exit strategy to ensure that its medium-term inflation target of 2% can be achieved (graph 16).

**CONCLUSION**

The rapidly deteriorating economic situation and expectations of a slow, modest recovery indicate that the BoC's work is not yet done. Among other things, Canada's output gap has widened substantially, showing that pressures on underlying inflation will be broadly contained.

**Graph 16 – Monetary authorities will have to make sure inflationary expectations do not become unanchored**



\* Derived from 20-year real return bonds.  
Sources: Datastream and Desjardins, Economic Studies

With a key rate of just 0.50%, the BoC is running out of leeway in terms of its traditional instruments. An additional 25 basis point cut and a change in the operating band cannot be ruled out, of course, but what happens next is likely to occur via quantitative easing.

The BoC has many options. They will be presented in the *Monetary Policy Report* on April 23. In a speech on April 1, Mark Carney warned the markets against thinking that it would be putting all of its measures into play:

“To be absolutely clear, outlining a framework does not necessarily imply that these policy options will be deployed. Their use will be a function of the outlook for output and inflation and of the relative effectiveness of the instruments in achieving the inflation target.”

Regardless, the BoC will already have used another tool in its monetary arsenal: moral suasion!

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