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Check Against Delivery

When the Unconventional Becomes Conventional: Monetary Policy in Extraordinary Times

Good afternoon. The financial turbulence that began in the U.S. subprime-mortgage market in August 2007 reached maximum intensity towards the end of 2008, and enveloped the entire global economy. Strains that had previously been concentrated in a few major financial centers turned into a full-blown crisis, affecting both industrial and emerging-market economies through trade, financial, and confidence channels.

Policy-makers reacted quickly, applying unprecedented monetary and fiscal stimulus as the gravity of the situation became clear. For central banks, this involved pushing target interest rates to historic lows and providing emergency liquidity on an extraordinary scale. Although a number of "green shoots" have recently appeared and the global economy is no longer deteriorating at an accelerating rate, we remain in the midst of the deepest and most synchronous contraction of the postwar period.

Many central banks have tested the limits of their traditional monetary policy instruments and have turned to so-called "unconventional" measures. Others are giving unconventional measures serious consideration. These instruments are unfamiliar and there is a great deal of confusion over exactly what they are and how they work. Some observers believe that they will be largely ineffective, making a deflationary spiral inevitable. Others worry that they will be too effective, or will be left in place too long, leading to an inflationary spiral. Either way, unconventional monetary policy instruments are regarded by many as a decidedly risky option.

The main purpose of my presentation today is to address these misconceptions and to alleviate some of the unnecessary concerns that have arisen about the use of unconventional monetary policies. First, I will explain what central banks mean when they refer to unconventional measures, and how these measures differ from conventional monetary policy measures. Second, I will review the principles that have been developed to help guide the use of such instruments, if it is deemed necessary. Finally, I will examine their potential effectiveness in the light of recent experience.

While it's too early to draw strong conclusions, the experience to date with unconventional measures has been largely positive. I'll give some examples to support my upbeat assessment later in these remarks. But I'll begin with a few comments about recent economic developments, and the remedial policy actions that have been undertaken.

Recent Economic Developments

A G-7 colleague has cleverly summarized the experience many of us are living these days as "redesigning an airplane while flying it." Sometimes it may feel this way; however, this does not do justice to the coherent policy frameworks and careful planning that help guide many of the policy measures that we are implementing. The unprecedented economic times in which we live and work have forced us to be increasingly creative. Every major industrial country is now in recession, as are many emerging-market economies. Those EMEs that are still growing have witnessed a marked deceleration in real economic activity, and any hopes of "decoupling" have long since disappeared. Concerns about stagflation, which dominated policy debates as recently as eight months ago, have largely dissipated, replaced by concerns of deflation. Headline inflation in advanced economies has fallen dramatically, reflecting the collapse in commodity prices and widening output gaps, and is expected to dip briefly below zero in many countries.

It is important to note that despite the dire news, a recovery is still in prospect, aided by aggressive policy actions. The Bank of Canada recently published its spring *Monetary Policy Report*, where we outlined our views on current economic conditions and the near-term outlook. In a special annex to the *Report*, we also presented a framework for unconventional monetary policy and how this could be applied, if necessary. You can find this document at: http://www.bankofcanada.ca/en/mpr/pdf/2009/mpr230409.pdf

These are exceptional and unsettling times; anything that can be done to reduce uncertainty and instill confidence is particularly welcome. It was with this in mind that the Bank of Canada decided to add the special annex to its last *Report*. Our framework for conventional monetary policy, based on a flexible exchange rate, an explicit inflation target, and clear accountability has served us well, and will continue to guide our future actions. The annex builds on this foundation, providing a clear contingency plan for unconventional measures and for dealing with some extraordinary challenges.

Monetary and Fiscal Policy Responses

Policy-makers in Canada, the United States, and elsewhere have moved with exceptional speed and determination to support financial markets, restore growth, and re-equilibrate the real economy. Authorities have provided extraordinary assistance to the financial sector in the form of emergency liquidity, balance sheet guarantees, asset purchases, and recapitalization as appropriate. Ambitious and concerted discretionary fiscal measures have also been initiated and, together with automatic fiscal stabilizers, will help lift aggregate demand.

Equally impressive and timely action has been undertaken by monetary authorities through aggressive cuts to policy interest rates (see Chart 1.) These short-term rates are now close to zero – the lowest level that nominal interest rates can go. Attempts to push nominal rates persistently below zero are bound to be ineffective, since investors always have the alternative of converting their securities into cash. Indeed, the effective lower bound (ELB) for policy interest rates, as I shall explain in a minute, is likely to lie somewhat above zero. This suggests that most major central banks have already reached the maximum dosage of their conventional monetary policy medicine. This doesn't mean, however, that central banks are out of ammunition.

Conventional Monetary Policy and the Effective Lower Bound

In more conventional times – that is, when banks and financial markets are fully operational – the process of monetary policy transmission follows a reasonably direct and well-understood path. The first step involves a careful monitoring and forecasting of economic activity and inflation. Second, the central bank must decide whether more or less macroeconomic stimulus is needed. For many central banks, this is guided by an explicit (or implicit) inflation target, since keeping inflation low, stable, and predictable is generally accepted as the best contribution that a central bank can make to the economic well-being of its nation's citizens.[1] The value of having such a clear and credible target will be explored in more detail a little later in these remarks.

Third, if action is necessary, the central bank will either lower or raise its target interest rate, depending on the circumstances. From there, the monetary impulse is transmitted to other financial instruments with longer maturities, including the interest rates charged by banks on loans. While few transactions are actually conducted at the target rate, the interest rates that they influence further out the yield curve do have a material effect on the borrowing and lending decisions of households and businesses.

Once the target interest rate approaches zero, conventional monetary policy has gone just about as far as it can go. Nominal interest rates, as noted earlier, cannot fall below zero, and most central banks would aim to stop slightly above this level, leaving a small positive margin or buffer. Pushing policy rates too low can lead to problems in financial markets and restrict the flow of credit at the very time central banks are trying to restore it.

For these and other reasons, policy-makers are often reluctant to drop their target rate much below 25 or 50 basis points, the effective lower bound or ELB for many central banks.

Unconventional Monetary Policy Instruments

Once the ELB has been reached, monetary policy can continue to ease, but other means must be found to increase the flow of credit and to lower interest rates out the maturity spectrum. Three basic mechanisms have been identified for this purpose.

1. Conditional statements about the future path of policy rates. The first mechanism is a conditional commitment regarding the future path of the policy interest rate. In normal times, this type of interest rate guidance is usually kept to a minimum or expressed in very general terms. In extraordinary times – such as we now face – it may be necessary to be more explicit and make a clear conditional commitment to keep the target overnight rate low for an extended period. Using this approach, central banks can influence interest rates well out the yield curve, because long-term rates are largely a reflection of expected

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[1] The Bank of Canada was one of the first to adopt explicit targets and aims to keep inflation at 2 per cent.

future short rates. While it may not be possible to lower the overnight rate any further, expectations at longer maturities can still be shaped by conditionally committing to keep the overnight rate low.

For this mechanism to work, the conditional commitment must be credible, and inflation expectations must remain well anchored. Canada's positive experience over the past 18 years with an inflation targeting framework is especially helpful in this regard. Inflation targeting has reduced the risk of deflationary expectations, permitted aggressive policy action in response to the current crisis, and will no doubt make it easier to exit from any unconventional policies that are introduced.

2. Quantitative Easing. The second unconventional mechanism is quantitative easing. It is sometimes referred to pejoratively, and mistakenly, as "printing money." Quantitative easing occurs whenever a central bank purchases private or public sector securities by expanding its reserve base. These purchases directly affect the yields of the securities that are bought, putting downward pressure on their interest rates and upward pressure on their prices. They also inject additional central bank reserves into the financial system, which deposit-taking institutions can use to generate additional loans.

All quantitative easing is, by definition, "unsterilized." Although this is correctly viewed as unconventional, it closely resembles the way monetary policy is described in most undergraduate textbooks, and is broadly similar to how it was conducted in the heyday of monetarism.

3. Credit Easing. Credit easing is the third mechanism, and is a term reserved exclusively for central bank purchases of private sector assets in segments of the market where dislocations and credit constraints appear to be most severe. It is designed to ease credit conditions by stimulating more active trade in certain assets and through a process of portfolio substitution.

Sterilized purchases of private sector assets can be effected either by selling existing assets on the central bank's balance sheet – essentially swapping "good" assets for "bad" – or by creating additional central bank reserves and then sterilizing, or mopping up, the extra reserves by selling new government securities.[2] Credit easing can also be combined with quantitative easing, in which case the purchase of private assets will remain unsterilized and the reserve base will expand.

Four Guiding Principles

Although the three unconventional monetary policy instruments I have just described have been studied extensively, real-world experience with them in recent times is limited. Any decision to use them necessarily involves some risk and uncertainty. To deal with these challenges, the Bank of Canada has identified four key principles that would guide

[2] It is important to note that the latter would involve a net expansion of the central bank's balance sheet, but without any increase in reserves. In contrast, quantitative easing involves expanding the reserve base available to the private sector. Unfortunately, many observers mistakenly assume that any increase in a central bank's balance sheet represents quantitative easing.

its actions whenever these unconventional measures are employed. These principles can be summarized in four words: focus, impact, neutrality, and prudence.

1. Focus. Any unconventional action initiated by the Bank must have as its primary objective the achievement and maintenance of the Bank's 2 per cent inflation target. Restoring the normal functioning of financial markets and the flow of credit would be important considerations, but only to the extent that they help to achieve the ultimate objective.

2. Impact. Decisions regarding which unconventional instruments to use, and when, would depend on current and prospective economic conditions, as opposed to a mechanical game plan. In the case of credit easing, consideration would be given to the severity of the market failure, the ability of the Bank to correct it, and its importance for the functioning of the real economy. Financial markets that were under the most extreme pressure would not necessarily be given priority. The impact on output and inflation would be the determining factor.

3. Neutrality. Unconventional monetary policy measures would also be implemented in a manner that minimized the chances of distorting other markets or producing unintended consequences elsewhere. This would imply operating in as broad a market segment as possible and avoiding targeted assistance to specific industries or firms.[3]

4. Prudence. The fourth principle – prudence – can be exercised in several ways. One is to minimize the risks that unconventional policies might pose for the central bank's balance sheet and hence, taxpayers' pockets. Credit and quantitative easing can subject a central bank to market risk, especially if it is holding long-term instruments and interest rates begin to rise more than expected. Ironically, this rise could be a sign that the unconventional policies were working.[4] Credit easing could also subject a central bank to credit risk, since it involves the purchase of less-creditworthy instruments. Some of these risks can be mitigated through careful screening, the imposition of a minimum credit rating, and dealing in shorter-term instruments. But this will not always be possible if the central bank wants to achieve a particular effect.

Prudence of a slightly different sort is also needed to ensure the unconventional measures that have been put in place can be reversed or undone without undue market disruption or threat to the central bank's macro objectives. Some short-term and short-dated assets can easily roll off the central bank's balance sheet as they mature. Longer-term assets, in contrast, might have to be sold off slowly or held to maturity.[5]

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[3] Targeted assistance might be appropriate for achieving other social and economic objectives but is properly viewed as the purview of elected governments as opposed to central banks.

[4] As financial markets stabilize, interest rates out the yield curve (particularly on government instruments) would be expected to return to more normal levels.

[5] Although it isn't a guiding principle, close coordination between the central bank and the treasury is also necessary. This will avoid confusion and help maximize the effectiveness of any measures that are taken to ease credit conditions and stimulate the economy. Just as the boundary between monetary stability and financial stability becomes increasingly blurred in the midst of a financial crisis, so too does the boundary between monetary and fiscal policy actions. It isn't uncommon for both central banks and governments to initiate credit-easing measures, and it is important that the two work together.

Some Useful Indicators

Central banks monitor a number of economic and financial indicators in the normal course of events; but in uncertain times, the need for a diversified and vigilant approach is even greater. Changes in interest rate levels and spreads before and after any unconventional measure has been introduced can serve as a rough barometer of its impact – a sort of crude event analysis. Anecdotal information drawn from surveys of businesses, households, and financial institutions can also help central banks monitor changes in the pricing, terms and conditions of debt financing and borrowing. The surveys of senior loan officers conducted in most advanced economies are examples of this.

The growth of various credit and money aggregates can also be used as a rough guide. Of course, since movements in credit and money can be driven by either demand or supply factors, it won't always be clear which way the real financial linkages are running. Moreover, relationships between money, credit, and the real economy are seldom stable, even in tranquil times. In periods of high volatility and very low interest rates, the instability becomes even more extreme. As a result, price and interest rate measures are likely to prove more reliable.

Many central banks have constructed summary measures to judge the ease or tightness of financial conditions in their markets. These financial conditions indices (FCIs) are empirically based and include a number of different indicators, each weighted by its estimated impact on GDP growth. Some representative indices for Canada and other countries are shown in Charts 2 and 3. Although one shouldn't assign too much importance to a particular FCI level, large changes in an FCI probably indicate a significant easing or tightening.

At the Bank of Canada, we have brought all of our credit measures together on a single web page. This collection, which we have dubbed our Credit Dashboard, can be viewed at: http://credit.bank-banque-canada.ca/index.php/about

Are Unconventional Monetary Policies Working?

The basic question remains: Does unconventional monetary policy actually work? There is good reason to believe that if these measures are implemented vigorously and with the clear support of authorities, they will be successful. Initial results for the unconventional policies recently employed by Canada, Japan, the euro zone, the United Kingdom, and the United States are certainly promising. However, any assessment of the effectiveness of these measures must necessarily be treated with considerable caution.

- First, these are early days, and we don't have a great deal of evidence to draw on.
- Second, several policies are often initiated simultaneously, so it is difficult to gauge the impact of any particular one.
- Third, spillover effects from one market to another could be significant but difficult to detect.

- Fourth, short-run and long-run effects could differ enormously and will depend importantly on the initial conditions in the economy and how the policy is applied.
- Fifth, lower spreads and interest rates may reflect weaker demand as opposed to an easing in credit conditions. Attempting to draw definite conclusions is therefore risky.

It is also important to remember that each country's economic and institutional circumstances are different and may require a different approach to unconventional monetary policy easing. No single formula will suit all cases. This is reflected in the different strategies recently adopted by a number of countries. Switzerland, for example, lacks deep markets in government and private-sector securities, and has decided to conduct quantitative easing via unsterilized intervention in the foreign exchange market. Japan's financial markets have not been as seriously affected as those in many other advanced countries, but its banks have needed significant support, so most of Japan's unconventional efforts in the past year have been focused on banks.[6]

The United Kingdom has concentrated most of its quantitative easing in the market for government bonds or gilts, since commercial paper and corporate bond issuance are not as significant. The focus in the United States is quite different again. Greater emphasis has been put on quantitative easing using private sector assets.

Canada has not been subject to many of the imbalances and vulnerabilities that have affected other countries, and has had less need for unconventional measures. The Bank of Canada has not engaged in credit or quantitative easing, but has made a conditional commitment regarding the future path of the target interest rate. At the Bank of Canada's last fixed announcement date we lowered the target overnight rate to 25 basis points – consistent with our estimate of the effective lower bound – and committed to keep the rate there until the end of the second quarter of 2010, conditional on the inflation outlook. This conditional commitment was buttressed by a decision to offer term purchase and resale agreements out to a one-year maturity, with set maximum and minimum bid rates.[7]

So, how have all of these diverse actions fared? Here is a brief and tentative summary of how the unconventional measures adopted by Canada and other industrial countries have performed so far.

- *Conditional commitments* -- Several countries have made conditional commitments indicating that they are prepared leave their target interest rates at or near the ELB for an extended period. All of them appear to have had some effect

[6] Although Japan's financial system was relatively unaffected by the global turmoil, last fall conditions in its commercial paper and corporate bond markets tightened sharply. In that context, the Bank of Japan began to buy commercial paper and corporate bonds to support corporate financing.
[7] We also announced that, in our best judgment, these actions and the easing that they implied would be sufficient to return the real economy to equilibrium and inflation to its 2 per cent target by mid-2011. No quantitative easing would, therefore, be necessary unless conditions deteriorated relative to the Bank's projection.

on market yields, at least at the time of the announcement. Canada has made the most explicit commitment of the major industrial countries and has backed its words with actions. The result has been significant and lasting, in the form of a 10- to-20-basis-point decline in implied yields on government bonds out to one year (see Chart 4.)

- *Quantitative easing* -- Experience here is more limited, but targeted unsterilized purchases of corporate debt and commercial paper in Japan and the United Kingdom appear to have reduced spreads and increased issuance. Unsterilized purchases of government securities in the United Kingdom and in the United States led to sharp declines for a short time when these programs were first announced, but yields have since reversed. Authorities believe that this does not reflect the waning influence of the programs, but rather the arrival of more positive economic news and other developments that would have triggered even larger upward movements had the programs not been in place.
- *Credit easing* -- Borrowing costs and interest rate spreads in almost all markets have improved for a variety of reasons, but significant changes in specific markets can be linked directly to the introduction of certain central bank (and government) credit-easing programs. These include, among others, the Government of Canada's Insured Mortgage Purchase Plan (IMPP); the U.S. Federal Reserve's purchases of GSE direct obligations and mortgage-backed securities (MBS); and the U.S. Commercial Paper Funding Facility (CPFF.) (See Chart 5.)

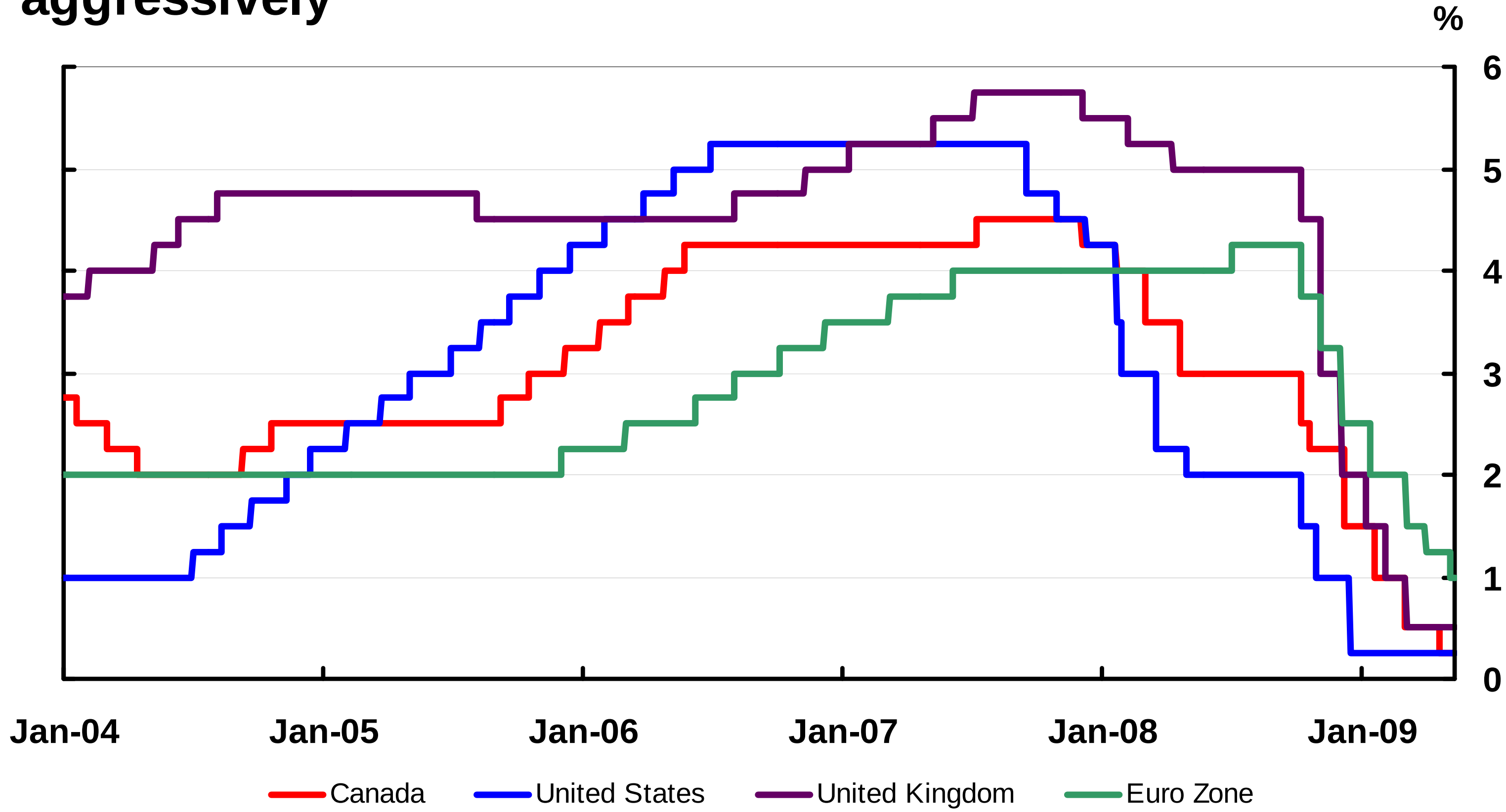
The early results, along all three unconventional policy channels, are generally encouraging.

Conclusion

I would like to leave you with four main messages: First, central banks are not out of ammunition; unconventional monetary policy measures can be effective. Second, while their use is subject to somewhat greater uncertainty than traditional tools, unconventional measures are more fresh than frightening. In many cases, they are direct extensions of what we do in the normal course of business. Third, prudent strategies are available to minimize the credit and interest rate risks borne by the public sector and hence, the taxpayer. Fourth, extra care will be taken to achieve an orderly exit, guided by the clear monetary policy frameworks that most central banks now have in place. This will help to minimize the chances of a premature and destabilizing "exit," and also guard against a sharp rise in inflation.

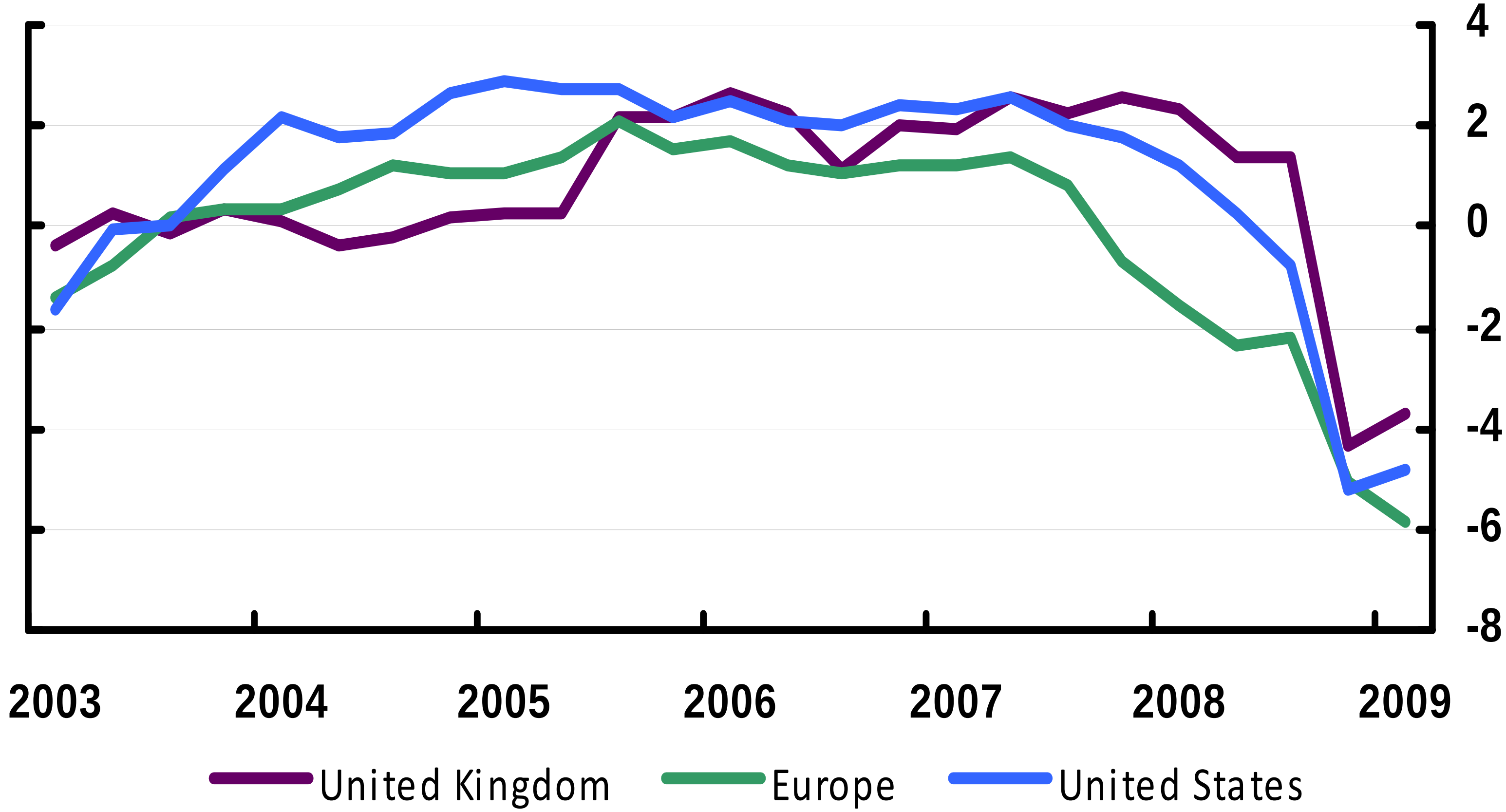
Stated more simply, the risks of either a deflationary collapse or an inflationary spiral have been greatly exaggerated. Central banks will not forget to shut off the liquidity taps when additional stimulus is no longer required. But we shouldn't get ahead of ourselves. We must first reach a point where growth is self-sustaining and we are confident that our inflation objective can be reached.

Chart 1: Monetary authorities have lowered policy rates aggressively



Sources: Bank of Canada, U.S. Federal Reserve, Bank of England, and European Central Bank

Chart 2: Financial Conditions Indices for the United Kingdom, Europe and the United States



Source: OECD

Chart 3: Financial Conditions Indices for Canada

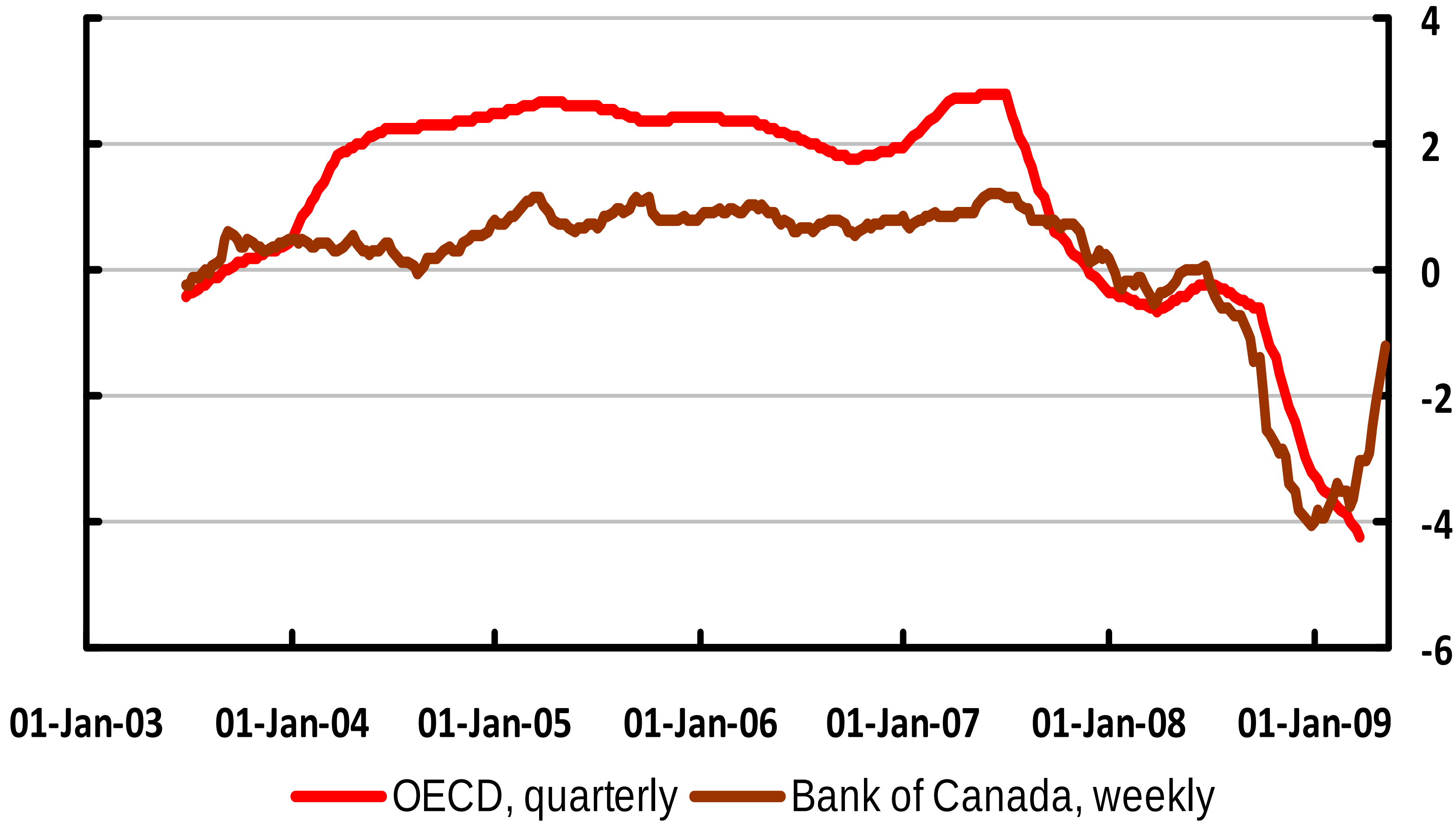


Chart 4: **OIS Yields in Canada before and after the 21 April announcement**

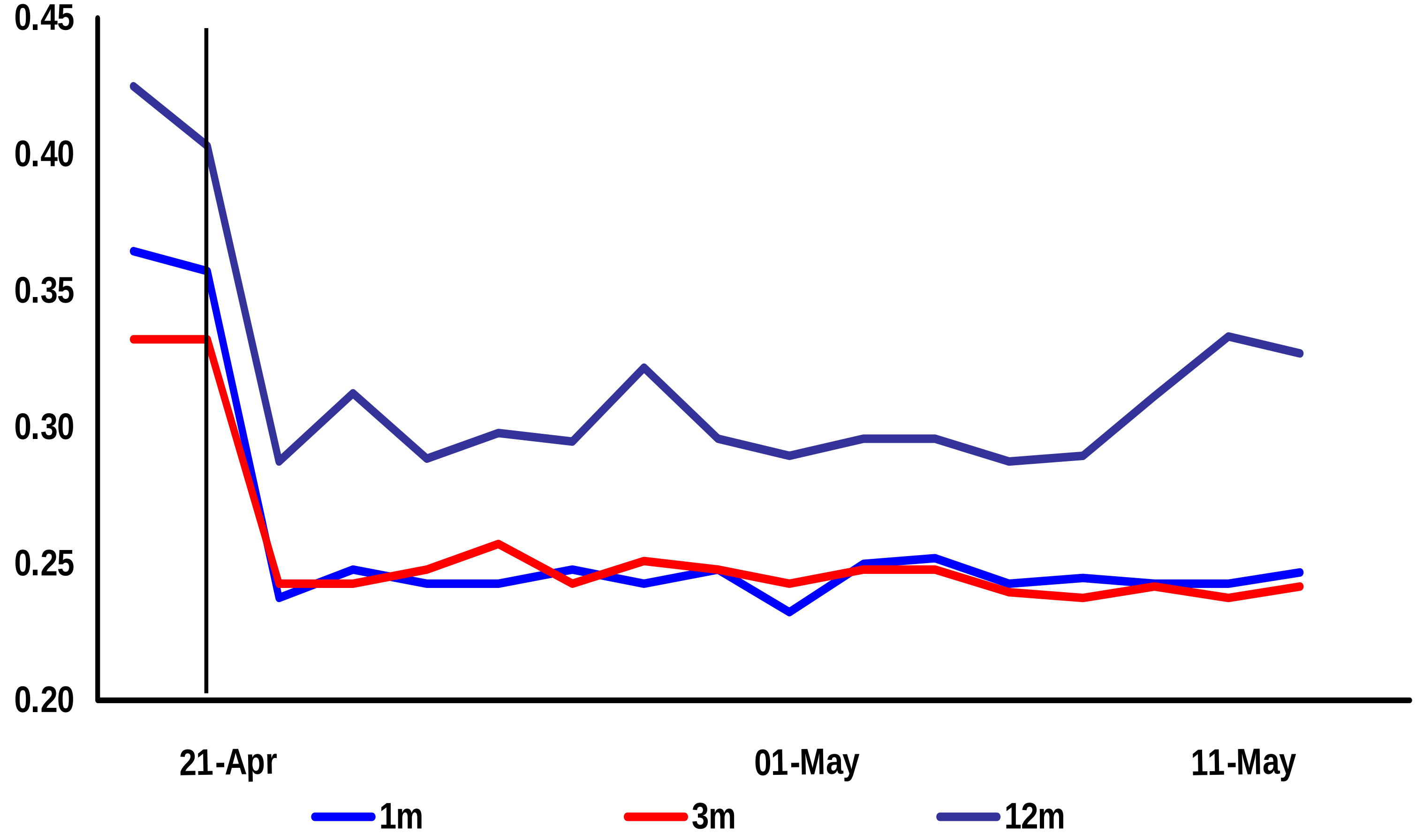
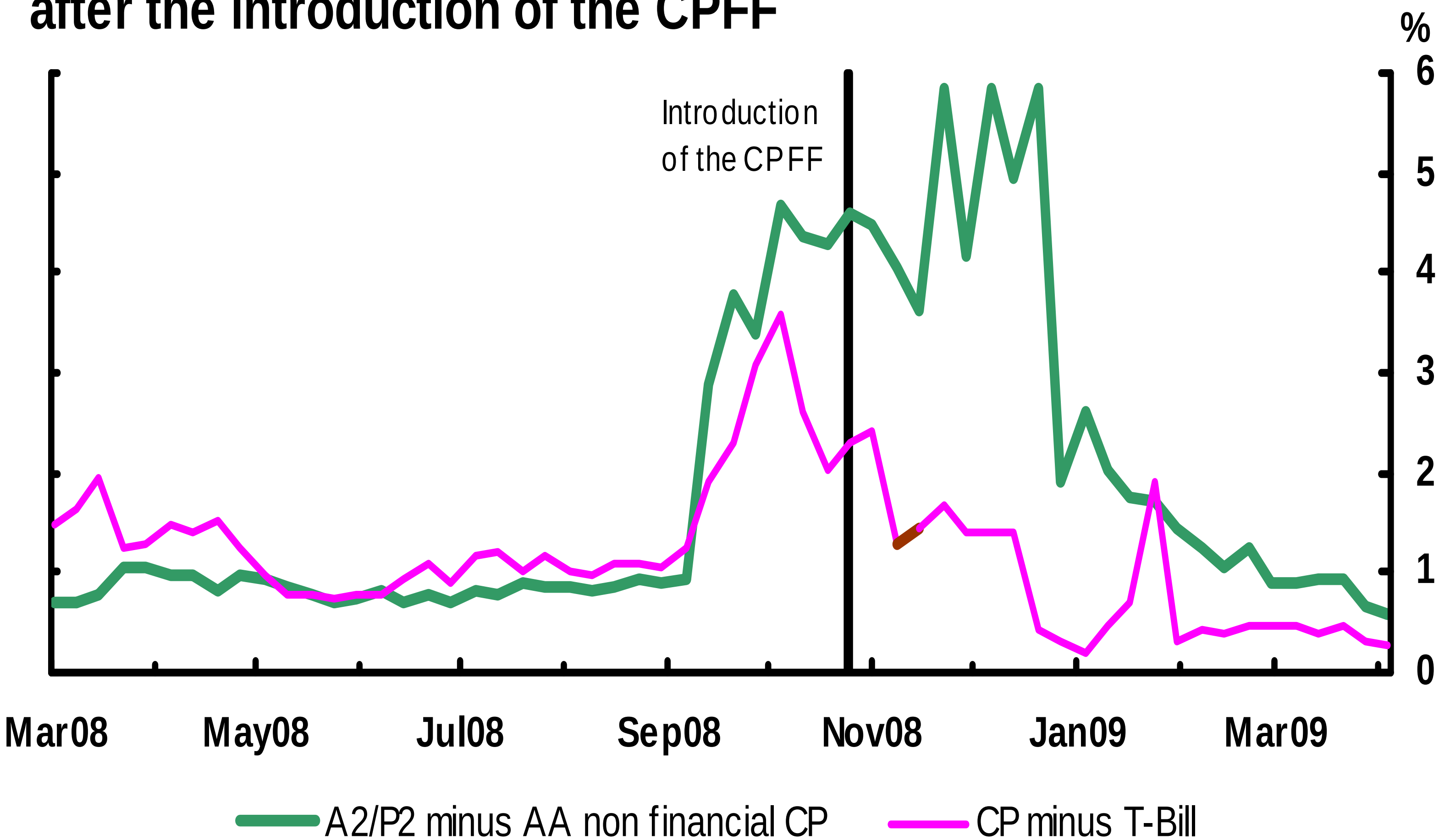


Chart 5: Commercial Paper Spreads in the U.S. before and after the introduction of the CPFF



Source: DataStream