



Diminishing inflation in Canada

The environment is conducive to larger-than-expected cuts in key interest rates

The current economic slowdown in the United States, jitters on financial markets and deterioration of the nation's credit conditions are factors that led the Bank of Canada (BoC) to launch a monetary easing cycle on December 4. Certain inflationary risks still remain to the domestic Canadian economy's good performance, nonetheless. These risks are the positive gap in terms of potential production levels, the continuing tightness of prevailing labour market conditions and the upswing in real salaries. Faster-than-expected deceleration of inflation allowed the BoC to take preventive measures. In all likelihood, this situation largely results from the accentuation of competitive pressures associated with the impact on prices of the loonie's strength.

"Both total and core inflation have been lower than was projected in the October Monetary Policy Report, largely reflecting a price-level adjustment related to increased competitive pressures in the retail sector stemming from the level of the Canadian dollar [...] Both core and total CPI inflation are projected to fall below 1 1/2 per cent by the middle of this year before returning to the 2 per cent target by the end of 2009."

Bank of Canada, January 24, 2008

One fact, however, that has been abundantly documented in the economic literature is the diminished pass-through into import prices—and even more significantly, into consumer prices as whole—associated with the Canadian dollar's rise in value. What is actually going on? And to what extent will this situation allow the Bank of Canada to pursue its monetary easing so it can contend with the adverse effects caused by a decline in U.S. demand for our export products and the deterioration of credit conditions,¹ despite inflationary pressure linked to the strength of domestic Canadian demand?

We will demonstrate in this *Economic Viewpoint* that exchange rate pass-through into import prices has been relatively stable over the past few years, particularly if we exclude oil prices. We will, however, discover that there has been very little pass-through (virtually none, in fact) into the consumer price index (CPI).

We can explain recent adjustments in the CPI by a change in perception among economic agents given the magnitude and sustainability of the Canadian dollar's rise in value. Under these conditions, the vitality of the loonie (which, on average, has maintained parity with the greenback since October) will continue to exert downward pressure on the prices of Canadian consumer goods over the next few months. This situation will allow the BoC to continue its monetary easing.

¹ Exchange rate pass-through is generally defined as the change in percentage of import (or consumer) prices due to a one percent change in the nominal exchange rate.

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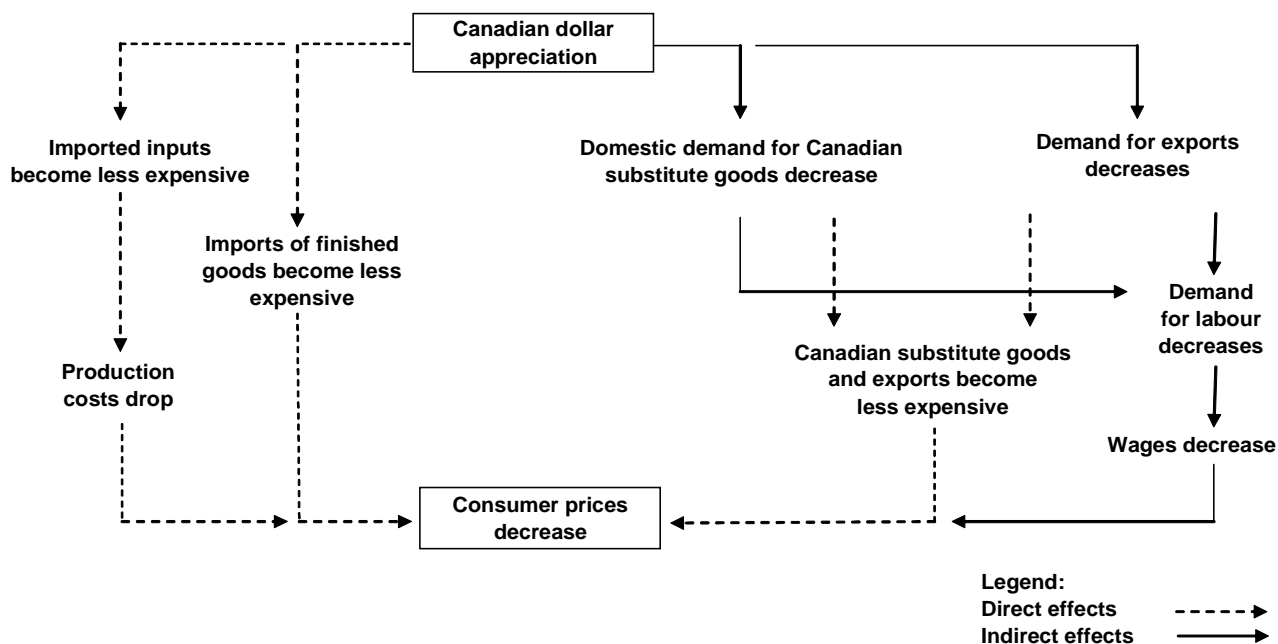
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Table 1 - Pass-through from an exchange rate appreciation to consumer prices



Source: Bank of Canada Review, winter 1996-1997

TRANSMISSION CHAIN

Exchange rate fluctuations will inevitably have a short-term impact on price levels,² for a small and open economy like that of Canada. Such effects can be direct or indirect (table 1).

Direct effects reflect the transmission of changes in the exchange rate to import prices and thus to production costs, which have a certain impact on consumer prices.

Indirect effects depend on changes in the trade balance. When the value of the Canadian dollar rises, decreased competitiveness of domestically-produced goods and increased buying power of households for goods produced abroad combine to produce a drop in net exports. This decline triggers a slowdown in aggregate Canadian demand, tending to alleviate inflationary pressures.

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Economic theory does, however, demonstrate that pass-through into import prices is limited and incomplete. This situation partly results from the fact that the one price law and

purchasing power parity are not robust,³ and that a market segmentation exists, whether in terms of consumer preferences (such as a preference for local products) or of regulations (as with the Canadian automotive market).

For industrialized economies, a change in currency rates results in a pass-through into import prices of about 60% in the short term and 75% over a longer period.⁴

In Canada, a simple comparison demonstrates a high correlation between the evolution of exchange rates and fluctuations in import prices—and an even higher correlation if energy prices are excluded⁵ (graphs 1a and 1b).

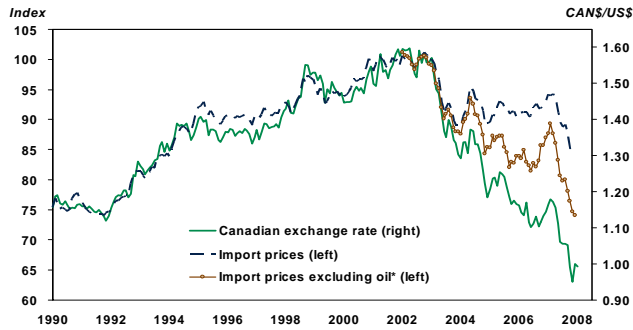
² In the case of a large (price maker) economy, the deflationary effect on domestic prices of an appreciation in the exchange rate is offset by a rise in world prices resulting from an increase in world demand. A small (price taker) economy has no influence on world prices. See McCarthy (2007).

³ Purchasing power parity is particularly low for economies whose currencies are linked to the evolution of prices for raw materials.

⁴ See Campa and Goldberg (2002). Ihrig, Marazzi and Rothenberg arrive at similar results but demonstrate that pass-through has declined over the years, dropping from 70% in the 1970s and 1980s to some 40% over the past 15 years.

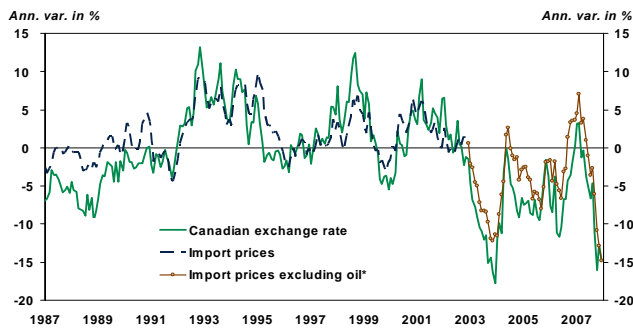
⁵ The marked rise of oil prices in U.S. dollars since 2003 has only partially been offset by the rise of the Canadian dollar during the same period.

Graph 1a – Import prices (specially excluding energy) and the exchange rate are closely correlated



* Data available for the construction of this index start in 2002.
Sources: Datastream and Desjardins, Economic Studies

Graph 1b – Changes in the Canadian exchange rate have a direct impact on import prices excluding energy



* Data available for the construction of this index start in 2002.
Sources: Datastream and Desjardins, Economic Studies

Thus, in line with the latest Canadian data,⁶ there is a better than 70% link between changes in the Canadian dollar's value and the fluctuations in import prices⁷ (graph 2).

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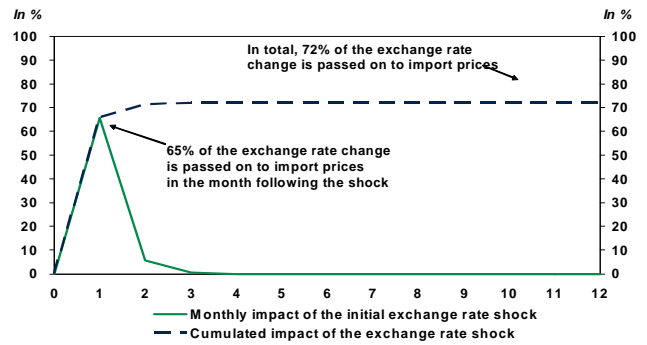
The pass-through to consumer prices is generally much lower. In fact, the drop in production costs associated with the decline in price for import products is rarely completely passed through to consumer prices. There are many reasons for this phenomenon.⁸ It is partly due to price adjustment costs, to the demand situation, to the share of imported products present in the consumer price index (CPI) basket, to the volatility of the exchange rate, to the substitutability of local and imported

⁶ See Bouakez and Rebei (2006).

⁷ As noted in Bailliu and Fujii (2004) and Ihrig, Marazzi and Rothenberg (2006), elasticity between the Canadian exchange rate and import prices may be overestimated due to the method used by Statistics Canada for indexing import prices, which merely consists of taking a weighted average of production prices for Canada's main commercial partners and converting them into Canadian dollars, by multiplying them by the nominal exchange rate.

⁸ For further details on the reasons for the limited impact of pass-through, see Mann (1986) and Krugman (1980).

Graph 2 – Exchange rate pass-through to import prices

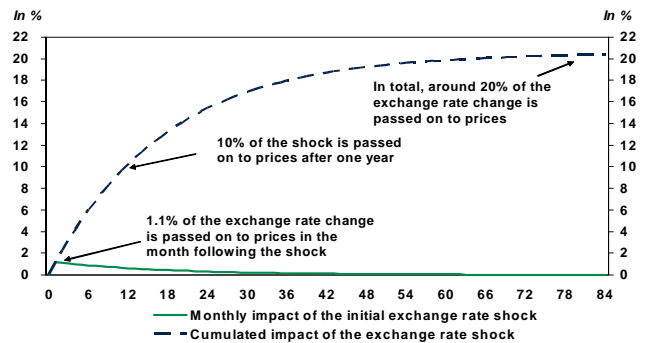


Source: Desjardins, Economic Studies

goods, to the rigidity of nominal wages and prices, to price discrimination and to the (temporary or permanent) nature and scope of the rise in the exchange rate.

For industrialized economies, the pass-through into the CPI after one year has stood at an average of 20% since 1970, with a sharp decline in the second half of the sample. In view of the high penetration of imported products in Canada (imports represent some 30% of the GDP, resulting in a very open economy), we might assume that there would be a substantial pass-through into consumer prices.⁹ But as the literature suggests, we have indeed found very little pass-through. In the short term, the pass-through relationship is virtually non-existent and rises to some 10% after one year (graph 3). This is perplexing, since the percentage of imports in the CPI basket has climbed over this same period.¹⁰

Graph 3 – Exchange rate pass-through to consumer prices



Source: Desjardins, Economic Studies

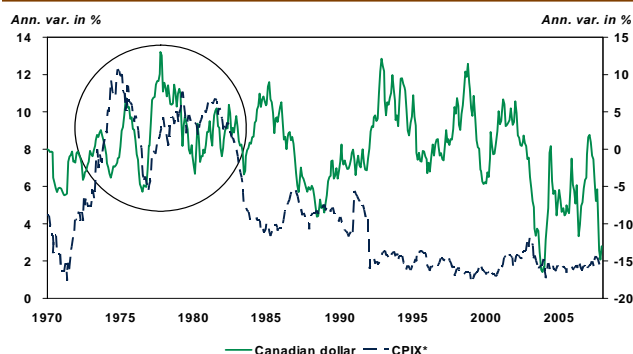
⁹ In principle, the bigger the percentage of import goods in the CPI basket, the greater the pass-through to consumer prices.

¹⁰ According to the BoC, the share of imports in the CPI has climbed over the past few years from 15% in 1976 to nearly 27% in 1997. See Bank of Canada (2000).

CONTROL OVER INFLATION

Pass-through is first and foremost a function of the persistence of exchange rate and price shocks.¹¹ The basic assumption here is that the low inflationary conditions prevailing within a number of industrialized nations have served to dampen pass-through of exchange rates into consumer prices (graph 4).

Graph 4 – Pass-through to consumer prices is more complete in periods of high inflation



* Consumer price index excluding 8 most volatile.
Sources: Statistics Canada and Desjardins, Economic Studies

Price stability in Canada is ultimately and primarily due to the selection of a monetary policy that emphasizes control over inflation.¹² Under these circumstances, the short-term impact on inflation of an appreciation in the exchange rate will be offset over the longer term by the impact of Central Bank actions on exchange rates.¹³

PERSISTENT APPRECIATION OF THE CANADIAN DOLLAR

Although pass-through has diminished over time, we believe that the recent downward adjustments that can be observed in the prices of goods will continue over the next few months. This situation essentially results from how economic agents (consumers, retailers, governments, etc.) perceive the scope and sustainable nature of the appreciation of the Canadian dollar. Because of the close links that have formed between the value of the Canadian dollar and oil prices, the loonie's appreciation is now seen as a longer-term shock (graph 5).

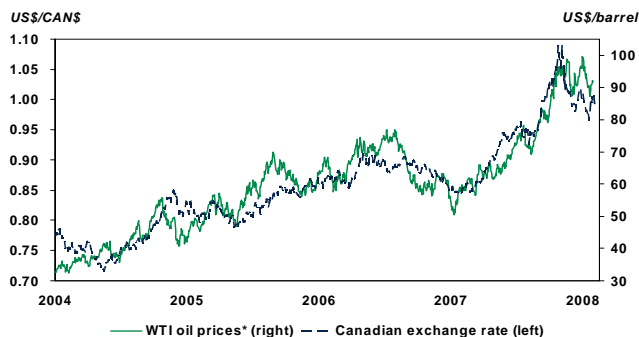
Furthermore, the Canadian dollar's recent parity with the greenback has made it easier to compare prices with those of the U.S. market. This factor should encourage retailers to trim

¹¹ See Taylor (2000) for general principles and Bouakez and Rebei (2006) for the Canadian case.

¹² The BoC has had specific inflation targets since 1991.

¹³ If the BoC anticipates greater (or lower) inflationary pressures, it brakes (stimulates) aggregate demand by raising (lowering) interest rates. This process also helps increase (decrease) the value of the Canadian dollar, which in turn generates a negative (positive) pass-through into prices.

Graph 5 – Oil prices remain one of the predominant factors of the loonie



* West Texas Intermediate.
Sources: Datastream and Desjardins, Economic Studies

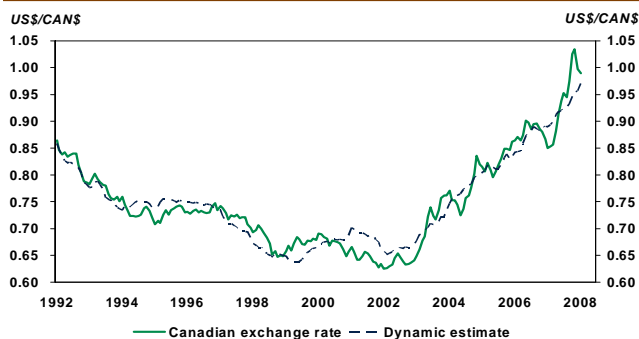
their profit margins and to continue revising prices downward.¹⁴

“The fact that the Canadian dollar is almost at parity with its U.S. counterpart has apparently made consumers more aware of the considerable gaps between U.S. and Canadian prices, which has resulted in a larger-than-anticipated correction in the prices of certain goods, such as cars.”

Bank of Canada, January 24, 2008

It would also appear that appreciation of the Canadian dollar is not solely linked to an increased demand for Canadian products. The loonie has not only greatly benefited from a general sense of pessimism toward the greenback, but has been the target of speculators (graph 6).

Graph 6 – The Canadian dollar is more in line with fundamentals



Sources: Datastream and Desjardins, Economic Studies

Given these facts, the drop in import prices (generated by the recent rise in the Canadian dollar) was not entirely offset by a

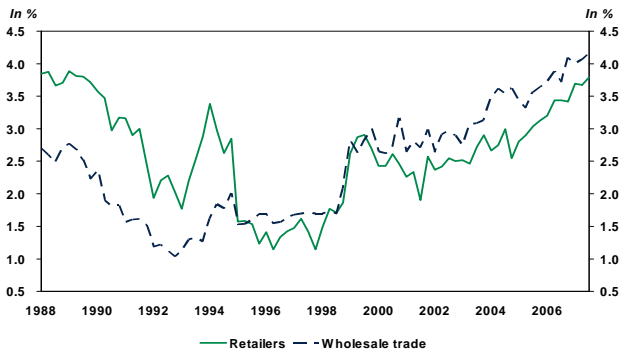
¹⁴ For further information on links between oil prices and the Canadian dollar, see *Economic Viewpoint*, "Petrocurrency: good or bad for Canada's economy?" October 11, 2006.

rise in consumer prices (resulting from the rise in aggregate Canadian demand), which may have resulted in a recent rise in pass-through.

RECENT ADJUSTMENTS

Retailers typically let their profit lines fluctuate, rather than adjust prices, in the face of exchange rate volatility, price discrimination and temporary shocks. The astronomical leap in retailer profits over the past few years is, accordingly, no stranger to this phenomenon (graph 7). We can however see that retailer profits are at historically high levels. We should therefore look forward to a levelling off, or even a correction of these margins in 2008, particularly as the Canadian dollar is expected to remain strong.

Graph 7 – Profit margins



Sources: Statistics Canada and Desjardins, Economic Studies

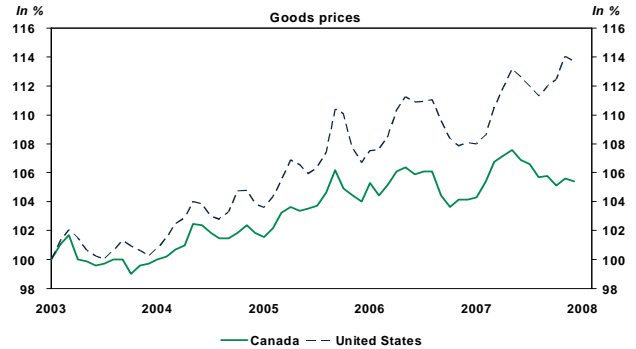
Under these conditions, market price adjustments should persist. The prices of certain durable and semi-durable goods (which include a high percentage of imported products) have already dropped sharply from last year. Car prices, for example, are down an average 3.5% over the last three months of 2007. We can observe a similar corrective movement with respect to recreational equipment, electronics and clothing.

It is, however, difficult to separate the impact of the exchange rate from that of globalization, because prices for goods have declined more or less everywhere on the planet due to high competition caused by the penetration of cheap producer goods originating in Asia. The establishment of foreign superstores on the domestic market is a good example of this phenomenon. A comparison still shows that prices have dropped more swiftly in Canada than in the U.S., illustrating how pass-through works in the nation (graph 8).

THE BoC'S FLEXIBILITY

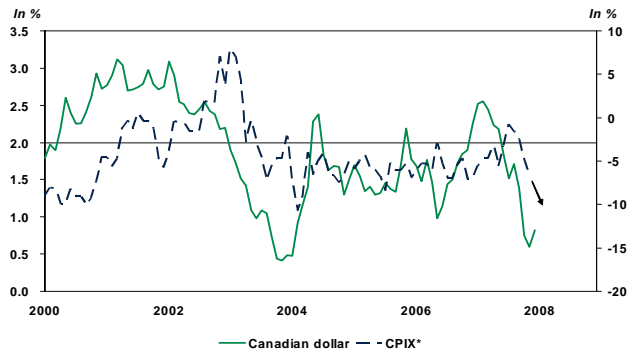
The implications are important in conducting monetary policy. In particular, the recent rise in pass-through should serve to offset inflationary pressures linked to the positive gap in potential production levels (graphs 9 and 10), to tight

Graph 8 – Goods prices: Canada vs United States



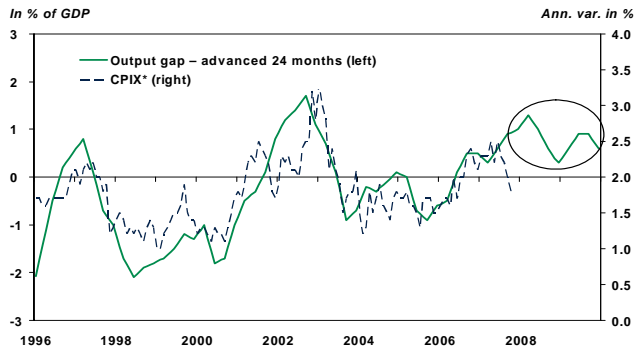
Sources: Datastream, Statistics Canada and Desjardins, Economic Studies

Graph 9 – Competitive pressures linked to the vitality of the loonie...



* Consumer price index excluding 8 most volatile. Sources: Datastream and Desjardins, Economic Studies

Graph 10 – ... should offset inflationary risks underlying the vitality of the domestic demand

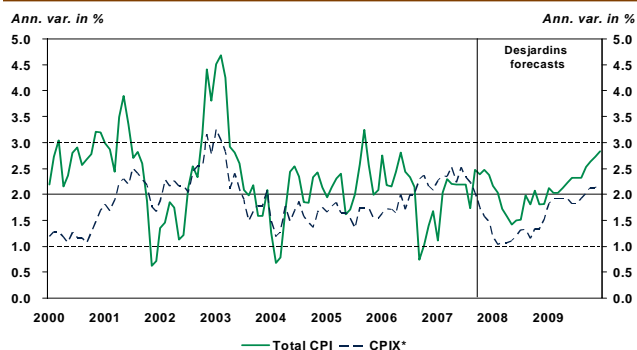


* Consumer price index excluding 8 most volatile. Sources: Datastream and Desjardins, Economic Studies

conditions prevailing on the labour market and to the evolution of real wages.

The BoC has already downwardly revised its inflation projection. It now estimates that both core inflation and total CPI will remain under 1.5% through mid-2008, a forecast matching our own estimates (graph 11).

Graph 11 – Inflation forecasts



* Consumer price index excluding 8 most volatile.
Sources: Datastream and Desjardins, Economic Studies

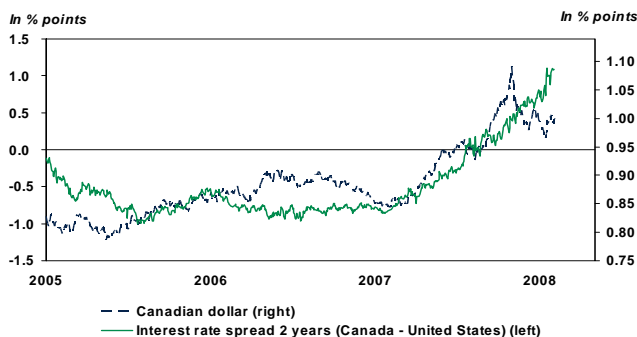
Under such circumstances, the BoC has the flexibility it needs to further reduce its interest rates so as to ensure that the Canadian economy stays on track despite the high risk of recession south of the border.

During the meeting of central bankers and finance ministers in Tokyo, Japan, Mark Carney, BoC Governor clearly stated that rates would be further eased in the near future:

“[...] monetary stimulus is likely to be required in the near term to keep aggregate supply and demand in balance and to return inflation to target of the medium term. The timing and degree of that stimulus will be determined at future fixed announcement dates [...]”

With the Fed in an aggressive monetary-easing mode, the BoC must make sure not to let the spread between short-term Canadian and U.S. interest rates widen further, so as to limit upward pressures on the loonie (graph 12).

Graph 12 – An increase in the interest rate spreads would exert upward pressure on the loonie



Sources: Datastream and Desjardins, Economic Studies

The market is ambivalent about the size of future rate reductions, but we are of the opinion that the BoC must step up the pace as of the March 4 meeting with a 50 basis point cut, to 3.50%.

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