



TD Economics

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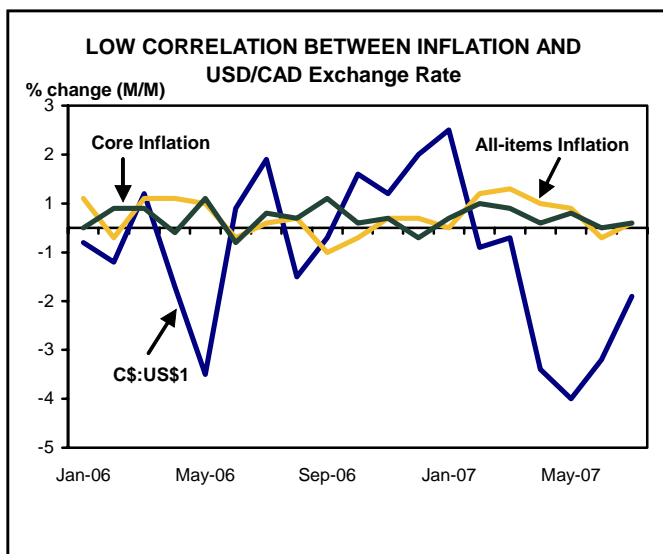
THE STRONG CANADIAN DOLLAR IS NO LONGER AN ALLY IN THE FIGHT AGAINST INFLATION

There has been much talk about the ability of the stronger Canadian dollar to augment the actions of the Bank of Canada in its fight against the elevated inflationary pressures that currently exist in the Canadian economy. This assertion, however, appears to be at odds with the empirical evidence. The current evidence points to a diminished role for the stronger dollar, as the pass-through of changes in the Canadian dollar to domestic consumer prices has fallen significantly over the past decade or so.

In this piece we examine the data to assess the extent of the pass-through of changes in the USD/CAD exchange rate to consumer prices. We argue that, contrary to popular beliefs and standard economic theory, the empirical evidence on the dampening impact of the strengthening dollar on consumer prices is limited at best, and in fact, in some cases (depending on the model estimated) the appreciating Canadian dollar could be associated with

HIGHLIGHTS

- **Since January 2007, the Canadian dollar has appreciated by 15%, while the import price index has fallen by close to 6.4%.**
- **Despite the stronger dollar and lower import prices, consumer goods prices have remained stubbornly high in Canada – increasing by 2.1% over the same period.**
- **Notwithstanding the strong theoretical foundation, the empirical evidence suggests no significant pass-through of changes in the Canadian dollar to consumer prices.**
- **In turn, we should not look for inflation in Canada to decline significantly on this factor.**



higher core consumer prices – especially in the long run.

Two channels of operation

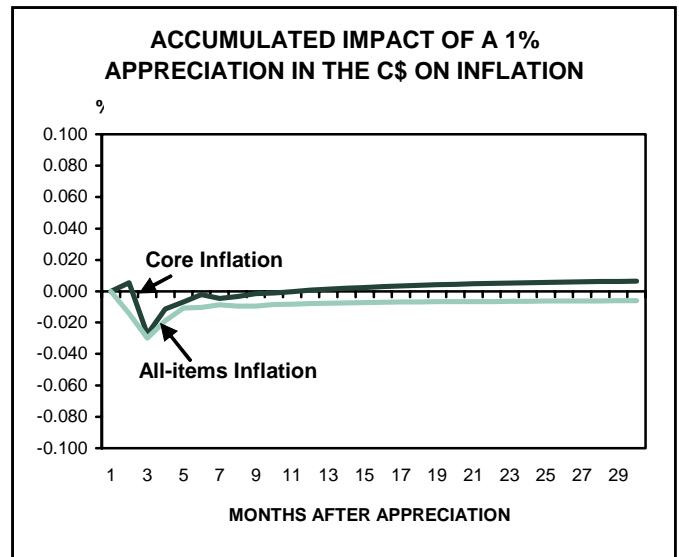
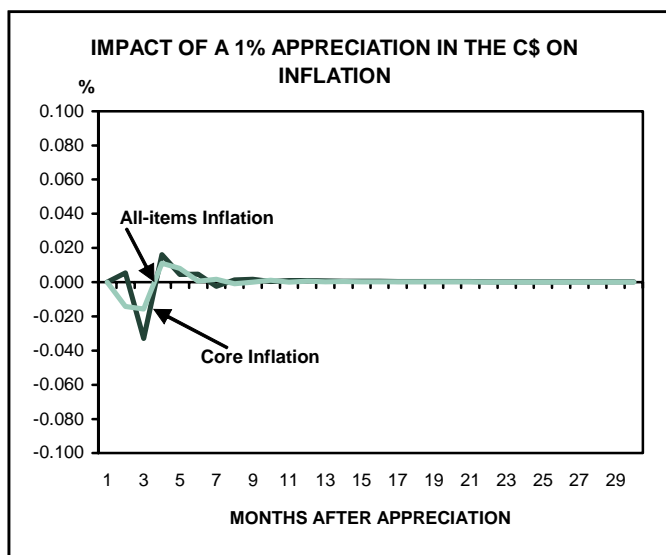
In general, there are two channels of operation through which changes in the exchange rate can affect domestic consumer prices. The first of these channels is the indirect impact on prices through the trade balance. When the Canadian dollar strengthens, it results in increasing domestic imports relative to exports, which lead to lower domestic GDP on account of its negative impact on the trade balance. This increases economic slack, thereby relieving some of the inflationary pressures – and consequently, lowering inflation. The second channel is the more direct influence on domestic consumer prices, which is transmitted via its effects on imported consumer goods prices.

What the theory says

Since the beginning of the year, the Canadian dollar has undergone a fair-sized rally, which has resulted in the dollar gaining 12% in value against the US dollar. Indeed, while most of this was driven by favourable fundamentals, that is, the result of the resurgence in commodity prices – in particular, in energy prices and metals – more recently, favourable mergers and acquisitions activities have also played an important role, as has the popularity of carry trades involving long positions on the CAD.

Yet, despite this enormous rise in the value of the Canadian dollar, consumer goods and services prices have remained stubbornly sticky, and have shown little signs of falling – in line with the reduction in the cost of the imported consumer products. This would seem to suggest that the helping hand from the stronger dollar has not been as forthcoming as many would have expected.

This behaviour has been very surprising, and even perplexing to many. On the surface, it would seem obvious that a stronger Canadian dollar should result in lower prices for consumer goods in Canada – at least for imported goods, and to a lesser extent for those commodities with significant import content. After all, in principle, you can drive across the border with the stronger dollar in your pocket to pick up the latest electronic gadget, for example, whose price has not fallen sufficiently in Canada to reflect the lower price that the local retailer would have paid for it. And with hordes of consumers taking advantage of these arbitrage opportunities, prices in Canada should fall to ensure that the wedge between the price of the traded com-



modity in Canada and the US is eliminated. This, however, has not been the case in Canada.

What the data say

Despite its strong theoretical appeal, the empirical evidence of any significant pass-through to consumer price inflation in Canada in the data is patchy at best. In the first place, it is a well established empirical fact that the pass-through of exchange rate movements to consumer prices is incomplete. That is, a 1% appreciation in the Canadian dollar results in a less than 1% reduction in the price of domestic consumer goods. However, what has actually occurred since the 1970s is that the exchange rate pass-through has fallen dramatically across most OECD countries. And indeed, the experience in Canada is no exception.

For example, Ihrig et al. (2006) estimates that the average consumer price pass-through elasticity estimate for the G7 countries have fallen from 0.134 during 1975-1989 to -0.007 in the 1990-2004 period. And even in the U.S., the pass-through estimate has fallen from 0.014% to -0.019%.

These observations are particularly surprising, since it comes at a time when increased global trade has meant that the share of traded commodities in the domestic consumer baskets in these countries have increased dramatically over the same period, and if anything, this should lead to an increase in the pass-through estimate.

Using Canadian data between 1998 and 2007, we estimated various econometric models and found no statistically significant evidence of any pass-through from move-

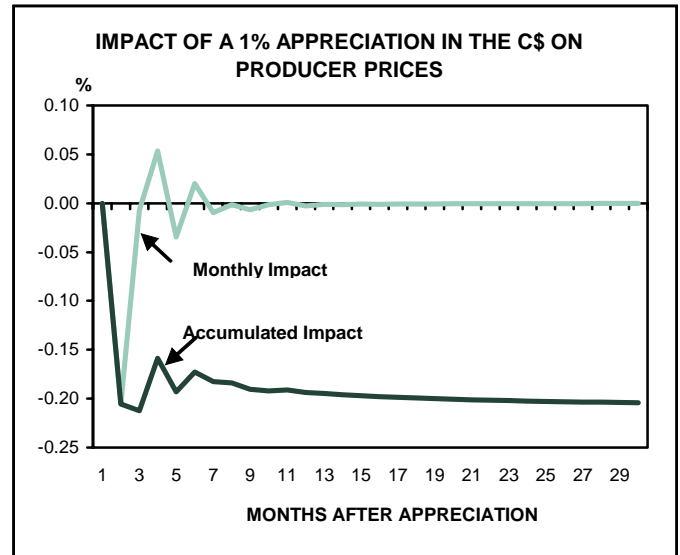
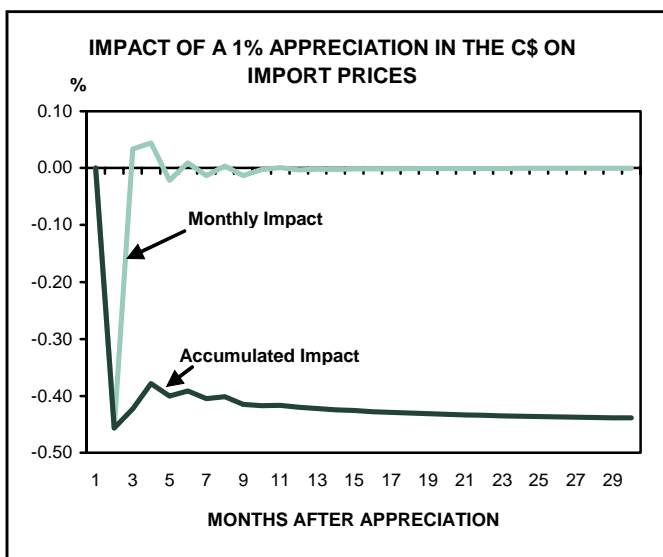
ments in the Canadian dollar to consumer prices¹. In other words, the appreciating Canadian dollar has not had any significant impact on domestic consumer prices – and should impact it little in the coming months. Indeed, while our estimations suggest some pass-through in the short-run (though statistically insignificant), the impact completely washes out in the long run. This is a far cry from the historical estimates of upwards of 0.20% for the pass-through elasticity to consumer prices, and contrasts with the estimated 0.05% short-run and 0.09% to 0.18% in the long-run published in the Bank of Canada Review (2006).

The case of the disappearing link

Notwithstanding the lack of evidence of any significant impact on consumer goods prices, the pass-through to import prices and the producer price index from changes in the exchange rate are high and statistically significant – it is just the follow-through to consumer prices that is non-existent. In the case of import prices, the pass-through in the first month is 46% - meaning that a 1% appreciation in the Canadian dollar decreases import prices by 0.46% in the first month - while the long-term impact (in 30 months), falls slightly – but remains high at 43%².

At the next step of this transmission mechanism, the elasticity estimates drops by half, with the pass-through to producer prices measured at 21% in the first month and 20% in the long-run.

Further down this chain the estimate falls even more, with a 1% appreciation in the Canadian dollar resulting in a 0.04% decline in consumer goods prices in the first month following the appreciation, while the impact after 30 months



falls to less than 0.03%. But this small influence on consumer goods prices isn't strong enough to show up regularly in the overall CPI data.

This clearly indicates that while the stronger Canadian dollar has resulted in lower import and producer costs, these savings have not been consistently passed on to consumers in the form of lower consumer prices. As noted above, the reasons for this are varied. However, the evidence appears to point to the pricing behaviour of Canadian firms (and/or foreign importers) as the main impediment to the further transmission of the gains from the stronger Canadian dollar to consumer prices. Needless to say, the evidence presented here mirrors the experience of the 1990s when retailers absorbed the higher cost of imports resulting from the depreciating Canadian dollar – with the weaker dollar not feeding directly into higher consumer prices.

Why is the pass-through so low?

As one would imagine, the reason for local prices not adjusting in line with the changes in the Canadian dollar is somewhat nuanced. The main culprit for the small pass-through is undoubtedly the pricing behaviour of Canadian importers, and to a lesser extent the behaviour of foreign exporters – who may choose to price their goods in Canadian dollars. Other significant factors that may contribute to this low elasticity estimate include the high cost of distribution, trade frictions, and the cost of other associated non-traded goods and services that piggy-back on top of traded commodities before they are sold as consumer products.

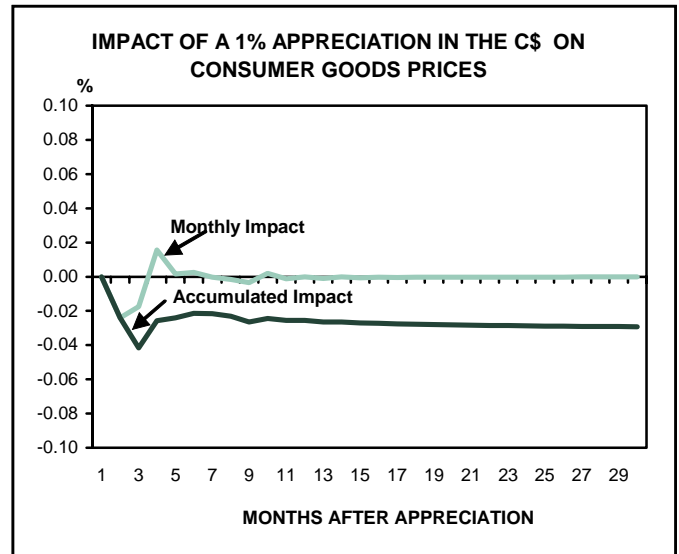
One other key contributor is the nature of the monetary

policy regime being pursued in Canada. That is, with inflation expectations well anchored, the long-run inflation rate will inevitably fall towards the 2% target of the bank of Canada irrespective of the behaviour of the exchange rate.

One important caveat worth noting

Without complicating the analysis further, it is important to note that the source (and nature) of the exchange rate movement will crucially determine the extent of the pass-through to consumer prices. If the change in the exchange rate is the result of favourable economic conditions in Canada (a Type 1 movement in the language of the Bank of Canada, such as higher commodity prices), then the impact of the pass-through will be less obvious in the data. The reason for this is quite simple. When economic conditions improve, it generally results in higher prices for goods and services in the economy. To the extent that this economic improvement leads to an appreciation in the exchange rate, the pass-through would basically result in a partial unwinding of the initial price increases – thereby limiting the extent of the pass-through estimate. Insofar as changes in commodity prices are of a Type 1 nature, the higher prices in recent years have filtered directly into the domestic inflation rate.

On the other hand, if the exchange rate movement were the result of factors not associated with the economic fundamentals in Canada economy (a Type 2 movement), such as carry trades, there would be no unwinding of any first round impact on prices, and as such the pass-through estimate is likely to be more significant. To the extent that most of the appreciation in the Canadian dollar up until 2007Q1 have been due to favourable fundamentals (or Type 1 appreciation), the absence of any significant pass-through for the earlier appreciation should not be surprising.



The Bottom Line

The empirical evidence clearly demonstrates that changes in the Canadian dollar over the past years have had little (statistically significant) impact on the core consumer price inflation rate in Canada. While this contrasts starkly with much of the theoretical literature and the historical estimates, it is not unique in any way to the evidence for other countries. What this certainly means is that the anticipated dampening effect of the strong Canadian dollar on consumer prices is not empirically supported, and as such, the Bank of Canada should expect to receive little help from the stronger Canadian dollar in its effort to remove the existing inflationary pressures in the Canadian economy. As such, the evidence gives credence to the view that some further monetary policy response in the future from the Bank of Canada to address the current inflationary pressures may be necessary - independent of any changes on the part of the Canadian dollar.

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Endnotes

- ¹ The estimates were generated using current standard models in the literature; see Campa and Goldberg (2005), Choudhri et al. (2005), and Ihrig et al. (2006) for three approaches to estimating the pass-through elasticity coefficient. The impulse responses (impact graphs) were generated by estimating a modified version of the vector autoregression (VAR) model developed by Choudhri et al. (2005).
- ² Note that these elasticity estimates might slightly overestimate the pass-through elasticity to import and producer prices due to the manner in which Statistics Canada calculate the import and producer price indices.

References

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