



TD Economics

Special Report

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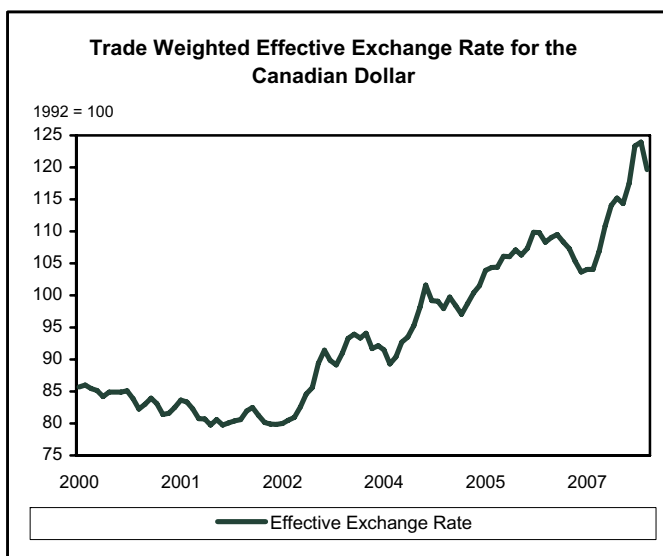
HAS THE CANADIAN DOLLAR GONE TOO FAR, TOO FAST?

Canadian Dollar Strength

On September 20, 2007 all bets were off as the Canadian dollar crashed through the US\$1 barrier, and stood at par with the U.S. dollar for the first time since 1976. The euphoria of this achievement was then subsequently eclipsed on October 31, 2007 when the loonie was pushed beyond the previous post-1950 high of US\$1.0614 (C\$0.9422) – which was set in August 1957³ – chalking up a new high mark at US\$1.1030 (C\$0.9066) on November 7, 2007. Indeed, while the ascent in the value of the loonie could be traced back to 2002 (when it was at its lowest value against the greenback), the rapid appreciation in 2007, and in particular, the stratospheric jumps in September and October that year, have been spectacular by all measures. No wonder that the loonie was named the “Canadian Newsmaker of 2007” by a leading U.S. news magazine. Since then, however, the CAD has weakened noticeably. In fact, by the end of 2007, the Canadian dollar had fallen back below parity with the U.S.

HIGHLIGHTS

- After hitting a low of US\$0.6179 (C\$1.6184)¹ in January 2002, the Canadian dollar has stormed back with a vengeance, blasting through parity with the U.S. dollar for the first time in over 30 years on September 20, 2007, and peaking at a new high mark of US\$1.1030 (C\$0.9066) on November 7, 2007.
- The ascent of the dollar has been primarily based on improvements in Canadian macroeconomic fundamentals and favourable global economic conditions, but the move past parity to the US\$1.1030 (C\$0.9066) value in November suggested that the Canadian dollar had gone beyond levels supported by these fundamentals.
- In this analysis we estimate three alternative equilibrium exchange rate models to ascertain the fair value for the CAD associated with each. They suggest a fair value for the CAD of between US\$0.9298 (C\$1.0755) and US\$0.9526 (C\$1.0498)².
- Despite the economic dislocation associated with the recent volatility in the Canadian dollar, much of the recent CAD appreciation should be seen in the context of the adjustment process of a well functioning, dynamic open economy like Canada.
- Despite the recent gyrations in the Canadian currency, conventional economic theory suggests that a floating exchange rate is a more appropriate mechanism for dealing with real shocks of the sort that Canada has faced in the past decade, as the exchange rate will absorb some of the impact that would otherwise buffet the economy.



dollar, though it continues to hover around the parity mark.

Not surprisingly, the rise in the loonie has not only been against the greenback, since the Canadian dollar has appreciated against other major currencies. In fact, since 2002, the Canadian dollar has appreciated against the U.K pound and the Japanese yen. And on a trade weighted-basis the appreciation in value is close to 50% – though much of this is the result of the appreciation against the USD – which accounts for over 76% of the currency basket.

The key factors at play in driving the post-2002 resurgence in the loonie are well established. These can be summarised as: the growth in global demand for commodities produced by Canada, strong domestic macroeconomic fundamentals, and favourable financial market conditions – driven in large part by the rate cutting campaign undertaken by the Fed in the latter half of 2007, and the decline in the greenback against most major currencies – as investors’ sentiments shifted away from the U.S. dollar.

Is it sustainable?

Given the recent rise in the value of the Canadian dollar against the U.S. currency, the focus of the debate has shifted decidedly to whether the factors that have contributed to this upward momentum in the Canadian dollar will allow it to hold on to these hard-earned gains over the near to medium-run. In essence, the questions that now need to be answered are: (1) what is the equilibrium (or fair) value of the Canadian dollar? (2) Can the Canadian dollar maintain its strength against the US dollar? And finally, (3) what are the implications of this for the Canadian economy, and monetary policy making by the BoC more generally?

In this piece we attempt to provide answers to these questions, and in so doing offer some insights on where we see the dollar being in the near to medium-term, and its implications for the Canadian economy as a whole. We show that while much of the recent appreciation in the Canadian dollar is consistent with the underlying macroeconomic fundamentals, the evidence suggests that the dollar had gone slightly ahead of itself, particularly in the second half of 2007. Notwithstanding this observation, we believe that the Canadian dollar should remain strong in the near to medium term.

Estimating the “fair value” for the CAD

To ascertain the equilibrium or fair-value of the Canadian dollar, we adopt three approaches to exchange rate

determination. The models assessed in this analysis are a purchasing power parity methodology, a reduced form bilateral behavioural equilibrium exchange rate model, and a reduced-form error correction model developed by economists at the Bank of Canada and further modified by us.

Not surprisingly, the equilibrium value obtained varies widely, and depends crucially on the model and time period considered. From these estimates, however, the Canadian dollar appears to be fairly valued between US\$0.9298 (C\$1.0755) and US\$0.9526 (C\$1.0498)⁴. And as such, these findings accord with the widely held view that while much of the recent surge in the loonie was the result of favourable fundamental economic factors, the temporary flirtation with the US\$1.10 value was perhaps well beyond the levels supported by these favourable fundamental factors at play.

Model 1: Purchasing power parity

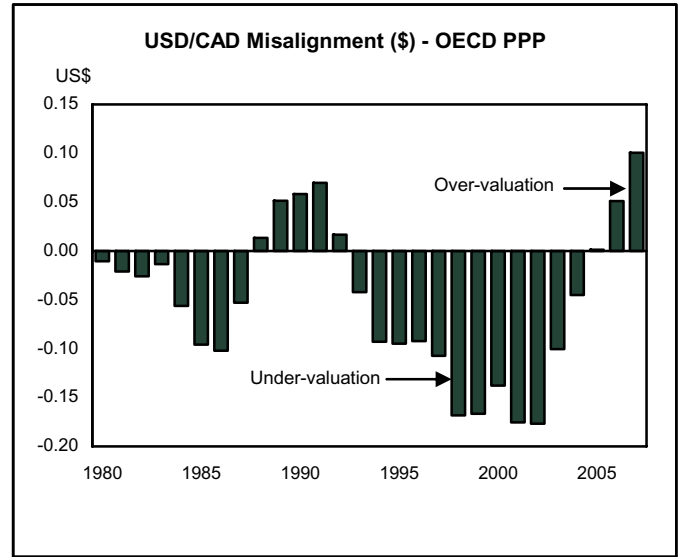
The simplest and most common approach to equilibrium exchange rate determination is purchasing power parity (PPP). In principle, PPP is based on the assertion that in the long-run the price of any commodity (or basket of commodities) in any two countries should be equalised when the price is adjusted at the PPP rate of exchange. In essence, the basic premise of this methodology is that the PPP equilibrium exchange rate is that value which equates the price of commodities across any two countries – such that $p_t^{ca} E_t^{PPP} = P_t^{us}$, where P_t^{ca} and P_t^{us} are the prices in Canada and the U.S at time t , respectively, and E_t^{PPP} is the exchange rate defined as the US\$ equivalent of C\$1. For example, if the price of the composite basket of goods is C\$4 and the price of the equivalent basket in the U.S. is US\$3, then the PPP equilibrium exchange rate for the Canadian dollar should be US\$0.75 (C\$1.33).

In effect, PPP essentially claims that the exchange rate between any two currencies will be in “equilibrium” when the purchasing power of the two currencies are equivalent – that is, they are able to command the same buying power. This principle is a special case of the law of one price⁵ at the aggregate level, and in so doing explicitly assumes that the long-run real exchange rate between the two countries is unitary. In this regard, in the absence of any other factors determining the rate of exchange between the two currencies, a key assumption of the PPP concept is that all relevant structural (macroeconomic) information on the economies is captured in the prices.

In general, there are two versions of the PPP theory. The first of these is absolute PPP, which is akin to the discussion outlined above. Another, simpler approach to PPP is relative PPP. This interpretation provides a more dynamic analysis on the PPP exchange rates, and claims that the exchange rate should move to reflect the inflation differences in the two countries to keep the real exchange rate constant – though this may not necessarily be equal to 1. That is, $E_t^{PPP} = X_t^{us} - X_t^{ca}$, where the variables X_t^{ca} and X_t^{us} represent the inflation rate for Canada and the U.S. at time t, respectively, and E_t^{ca} is the associated change in the PPP exchange rate. For example, if inflation in Canada is 2% and the inflation rate in the U.S. is 4%, then the PPP exchange rate should rise (or the CAD appreciate) by 2%.

The key distinction between the two PPP measures is that absolute PPP requires that PPP holds at all time, while relative PPP suggests a process by which equilibrium is reached.

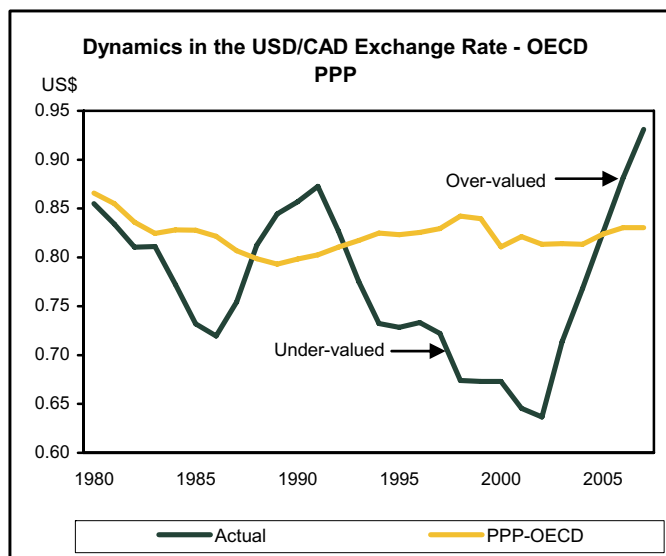
When these methodologies were applied to the CAD/USD exchange rate, the evidence suggests that the Canadian dollar is currently overvalued. In the case of the absolute PPP measure, using the OECD measure⁶ of the PPP exchange rate for the Canadian dollar, the estimated fair value of the Canadian dollar at the end of 2006 was around US\$0.8303 (C\$1.2044), compared to the average traded rate of US\$0.8815 (C\$1.1344) that prevailed at that time, suggesting that the loonie was overvalued by US\$0.0512 (C\$0.07) that year. And given that the price inflation in the two countries has remained similar in 2007, one can expect the 2007 PPP estimate to change little. In fact, if we

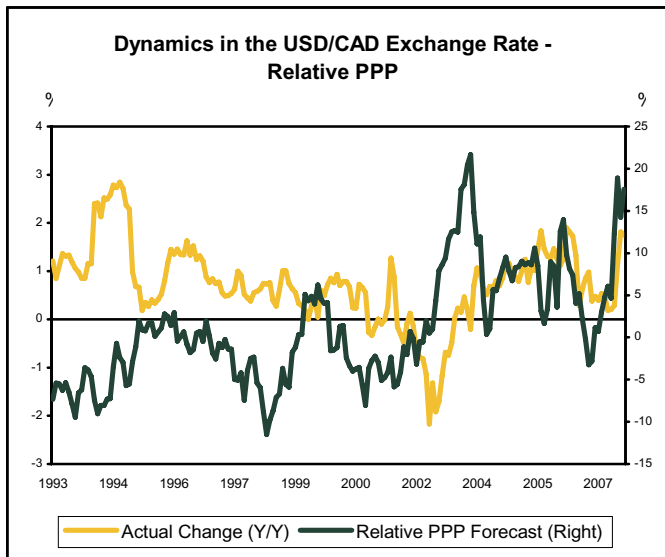


assume that the PPP measure remains unchanged in 2007, the misalignment increases to a more profound level of US\$0.1006 (C\$0.013). And this will mean that in 2007 the Canadian dollar was more overvalued than it has ever been – using this measure. This has important implications for monetary policy since it indicates that at that level the exchange rate was exerting a more profound tightening impact on the Canadian economy that it has in the past.

The relative PPP measure also suggests that the 17.5% Y/Y appreciation in the Canadian dollar in December has gone well beyond the 1.75% Y/Y appreciation supported by the differences in the inflation rates between the two countries – indicating an excess appreciation of 15.75% Y/Y in the value of the loonie. While this may be an exaggeration of the true extent of the disequilibrium in the currency, it confirms the conclusions of the absolute measure which suggests that the currency was well overvalued in 2007.

A more micro level based (and widely reported) application of the purchasing power parity concept is the Big Mac Index produced by the Economist magazine. This measure is a special case of the absolute PPP principle since it is narrowly focused on a particular product – namely the MacDonald’s Big Mac sandwich. In this case, the price of a Big Mac burger is compared across countries to ascertain the extent of the over or under-valuation of a currency relative to the US dollar – based on the price difference of the sandwich in the particular country (converted to U.S dollars) and the price in the U.S. According to this measure (based on prices in July), the Canadian dollar was





overvalued by US\$0.08 (C\$0.09), with the implied PPP value for the loonie being around US\$0.877 (C\$1.1403), compared to the US\$0.953 (C\$1.0493) it was traded for at that time. However, due to the narrow focus of this measure its ability to offer insights on the fair value of the Canadian dollar is limited.

Despite the appealing simplicity of the PPP methodology of exchange rate determination, there are inherent deficiencies with the approach. For one thing, the technique disregards the real economic factors that may be important in determining the “true or equilibrium” value of any currency. And despite being intuitively appealing, it lacks the requisite micro-foundations. That is, there is little economic justification for prices to be equalised across countries, given underlying differences between them. And with the inability of the law of one price (LOOP) to hold due to transportation costs and other inherent frictions, PPP is unlikely to hold perfectly even in similar economies. Moreover, with structural differences such as preferences (or tastes), market conditions, and the size and structure of the non-tradeable goods sector, one should not expect prices to perfectly converge across countries as LOOP would suggest. In fact, prices would be expected to be permanently different on account of these structural differences. And as such, the wedges between the two prices will not be eliminated by market forces. In this case, the relative PPP measure will provide a more appropriate gauge of the equilibrium dynamics in the exchange rate. However, as we noted above, relative PPP can exaggerate the associated dynamics in the equilibrium exchange rate.

Another important difficulty with this model of exchange rate determination is that it is a long-run phenomenon. That is, the PPP concept is unable to provide any useful understanding of the short-term dynamics in the exchange rate, and even as a long-run phenomenon there is little evidence to show that it is consistent with the empirical facts.

Model 2: Behavioural equilibrium exchange rate

Given the underlying flaws and inherent limitations of the PPP approach to equilibrium exchange rate modelling, a more fundamentals-based approach to exchange rate determination would suggest a model based on real factors in an economy. To this end we adopt the behavioural equilibrium exchange rate (BEER) model⁷ – which is a special case of the fundamental equilibrium exchange rate (FEER) model. The FEER was developed by Williamson (1994), and is defined as the real effective exchange rate that ensures simultaneous internal and external economic balance. That is, it is the value of the exchange rate that is consistent with an economy at full employment, and a balance of payment that is sustainable in the medium run. In theory, this framework is based on the uncovered interest rate parity condition, which states that the expected change in the value of the real exchange rate ($E_t(q_t) - q_t$) should be equal to the real interest rate spread ($r_t - r_t^*$) plus a time varying risk premium or compensation for the country-specific risk (λ_t).

$$E_t(q_t) - q_t = r_t - r_t^* + \lambda_t$$

In this regard, the BEER is usually presented as a significant improvement upon the PPP model. As a fundamentals-based model it provides a more robust guide to the equilibrium (or fair-value) analysis for the Canadian dollar since it takes account of the internal and external factors that determine the long-run “equilibrium” value of the currency, and the associated short-run movements away from that equilibrium value. The five factors considered in this model are the real interest rate spread ($r - r^*$), the terms of trade (tot), the relative price of tradable to non-tradable goods (tnt)⁸, the net foreign assets position (nfa), and the ratio of fiscal deficit to GDP (def)⁹.

$$BEER = f(r - r^*, tot, tnt, nfa, def)$$

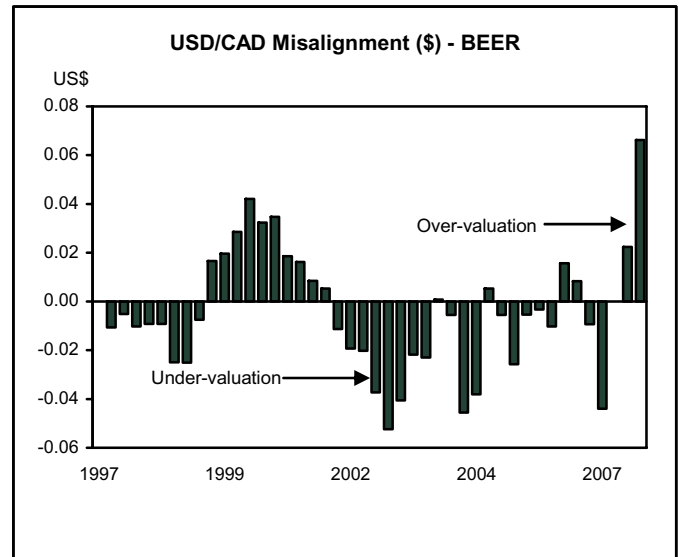
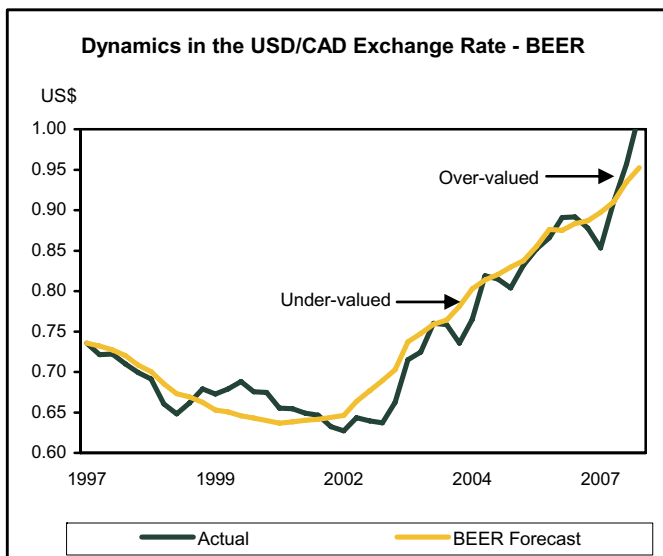
Here, the terms of trade, the relative price of traded to non-traded goods, and the net foreign assets position will

determine the long-run equilibrium value of the currency, while the short-run movements away from that equilibrium are captured by the interest rate spread and the deficit to GDP ratio – a proxy for the risk premium. In terms of their impact on the value of the exchange rate, a rise in the interest rate spread between Canada and the US, an improvement in the terms of trade, and an increase in the relative price of traded to non-traded goods would all result in an appreciation in the Canadian dollar. On the other hand, a rise in the net foreign asset position (Canadians increasing their holdings of foreign assets) and an increase in the fiscal deficit to GDP ratio in Canada relative to the U.S. will result in a depreciation of the Canadian dollar.

To ascertain the fair-value associated with this methodology, we first apply the Johansen (1988) cointegration technique to ensure that a stable unique long-run relationship exists between the variables, and then estimate an error correction model (ECM) which takes into account the long-run and short-run factors affecting the equilibrium value for the Canadian dollar. The ECM estimated is given by the following.

$$\Delta beer_t = \alpha(beer_t - \mu - \beta_1 tot_t - \beta_2 tnt_t - \beta_3 nfa_t) + \beta_4 rint_t + \beta_5 def_t + \epsilon_t$$

For this assessment, we estimated the equation using data for 1996Q1 to 2007Q2, and then use the coefficient estimates to forecast the value for the CAD two quarters ahead. The reasons for this approach are two-fold: (i) by estimating the model up to 2007Q2, we effectively abstract from the excessive noise in the exchange rate during the



second half of 2007, (ii) secondly, this approach also allows us to determine the value of the exchange rate in 2007 based on “historical experience”, as per the language of the Bank of Canada.

Like the PPP model, the evidence from this approach also supports the view that the Canadian dollar is currently overvalued. It suggests an average exchange rate of US\$0.9526 (C\$1.0498) in 2007Q4 compared to the average traded value of US\$1.0188 (C\$0.9815) – suggesting that the Canadian dollar was overvalued by US\$0.0662 (C\$0.0683) or 6.9%. Nevertheless, despite its appeal and impressive ability to replicate the behaviour of the Canadian dollar, the statistical properties of this model were less than satisfactory. In particular, the model has low explanatory power, accounting for only 17% of the movement in the exchange rate – using the adjusted R-squared statistic. This could be due in large part to the short dataset used.

Model 3: The Bank of Canada model

As a final means of ascertaining the equilibrium value for the Canadian dollar, we resort to a modified version of Issa et al. (2006) (hereafter called the BoC model) by applying it to quarterly post-1973 Canadian data. This is a reduced-form ECM based on commodity prices and the nominal interest rate spread. Here, again, we estimate the model with data between 1973Q1 and 2007Q2, and use these estimates to provide the two periods ahead forecast up to 2007Q4.

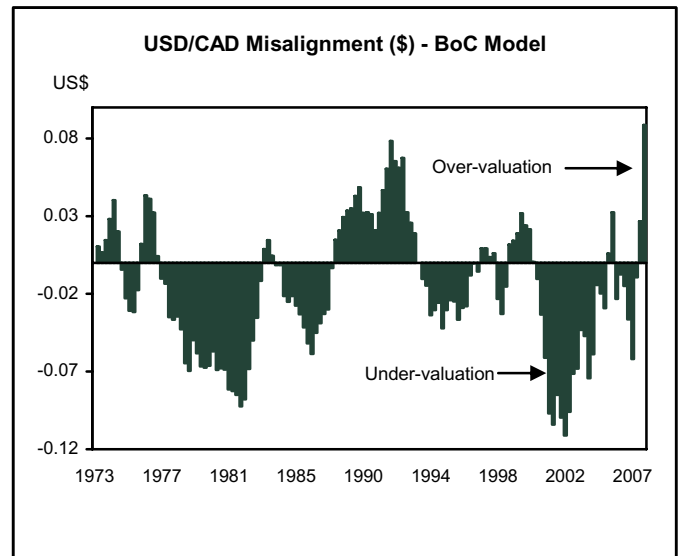
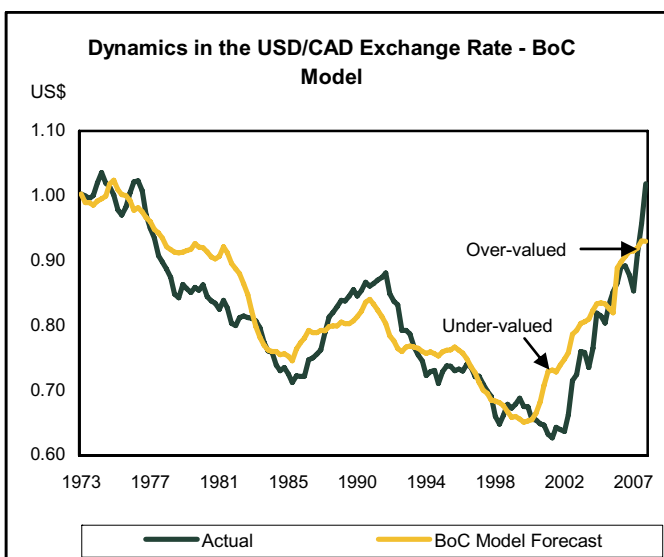
The model estimated is an ECM given by:

$$\Delta rfx_t = \alpha(rfx_t - \mu - \beta_c com_t - \beta_e ene_t - \delta_e I(t > \tau) ene_t - \delta_r I(t > \tau)) + \phi int_t + \epsilon_t$$

As before, the bracketed portion is the ECM component of the equation which captures the equilibrium relationship between the exchange rate and commodity prices.

The use of energy (ene_{t-1}) and non-energy (com_{t-1}) commodity prices as the main determinants of the equilibrium value for the exchange rate is based on the heavy exposure of the Canadian economy – and by extension the Canadian dollar – to changes in commodity prices. In fact, like the Australian and New Zealand dollars, the Canadian dollar is widely regarded as a commodity currency. And the empirical link between commodity prices and the value of the Canadian dollar attests to this fact. Using the BoC's model, a 1 percent increase in energy commodity prices is associated with a 0.20% appreciation in the Canadian dollar in the long run. In the short-run, however, the impact is an appreciation of just 0.04% in the dollar. In terms of the non-energy commodity price index, the impact is 0.34% in the long-run and 0.06% in the short-run from a 1% rise in the index. The model also predicts that a 25 bps change in the interest spread (int_{t-1}) between the U.S. and Canada would result in a 0.178% short-term appreciation in the Canadian dollar. The model also predicts that the long-run impact of a 25 bps increase in the spread would be a 1% appreciation in the value of the exchange rate – if the spread persists into the long-run.

In the final analysis, the model suggests that the fair value for the Canadian dollar at the end of 2007-Q4 is somewhere in the region of US\$0.9298 (C\$1.0755), compared to the average traded value of US\$1.0188 (C\$0.9815) during that period. This would suggest that at the end of



2007, the Canadian dollar was overvalued by US\$0.0887 (C\$0.0257), or 9.5%. As such, these findings give further credence to the view that much of the recent surge in the exchange rate through parity was the result of non-fundamental economic factors. Here again, the current level of misalignment is above the average for the twenty years and is at its highest level.

This overvaluation in the currency, however, follows an extended period between 2000 and 2006 when the markets consistently under-priced the Canadian dollar (according to the model), and as such, the overshoot could also be the result of the bursting of pent-up momentum – following a prolonged period of persistent deviation from its equilibrium value. Whichever way it is interpreted, the dollar had certainly moved beyond its fair value, according to this model. It has, however, given back most of the unjustified gains. As such, going forward, we expect the dollar to remain strong, though some modest adjustments in the near future could not be ruled out. After all, as we shall show shortly, most of the steady ascent in the loonie has been based on sound macroeconomic fundamentals at home and a supportive global economic environment. And to the extent that these factors remain in place, the strength in the Canadian dollar will be well supported into the future.

Important caveats on error correction models

Despite the theoretical appeal of error correction models (ECMs), the approach is premised on the assumption that the start and end points of the data used in the estimation represent equilibrium positions. As such, the estimated

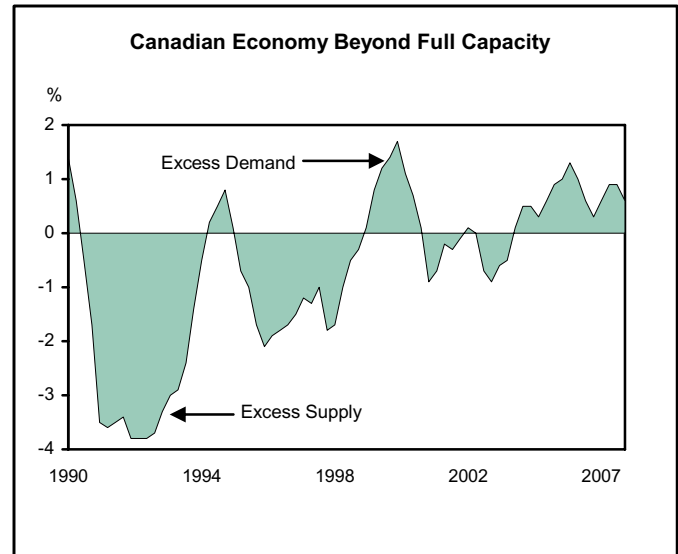
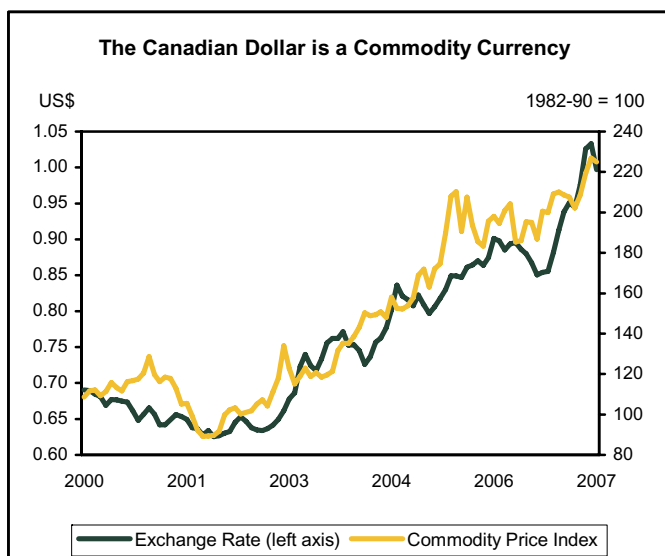
coefficients provide the requisite adjustment mechanism back to equilibrium from any departure from the initial equilibrium point. In fact, the model operates in such a way that the end point value of the actual data estimated will invariably be identified as “fair value”. This feature of ECMs undoubtedly prejudices the misalignment estimates of the model provided. One way of mitigating this apparent prejudice will be to cut the estimation period short, and use the estimated coefficients to project the model forward. However, while this has reduced the problem, it does not eliminate it entirely, and the results remain sensitive to the estimation period chosen. In our case, the cut-off period was set at 2007Q2, when the Canadian dollar was deemed to be closer to its equilibrium value.

The main sources of strength for the ascent

Turning away from the specific models considered, we believe that there have been four main drivers to the surge in the value of the Canadian dollar over the past five years; the growth in global demand for commodities, strong domestic macroeconomic fundamentals, favourable movements in the Canada-U.S. real interest rate spread, and the shift in investors’ sentiments away from the greenback.

The key impetus has been the surge in commodity prices ...

As a leading net exporter of raw materials, the Canadian economy has benefited tremendously from the upswing in the global demand for commodities brought about by the fast growing emerging markets, and in particular, China and India. And this has been a major source of



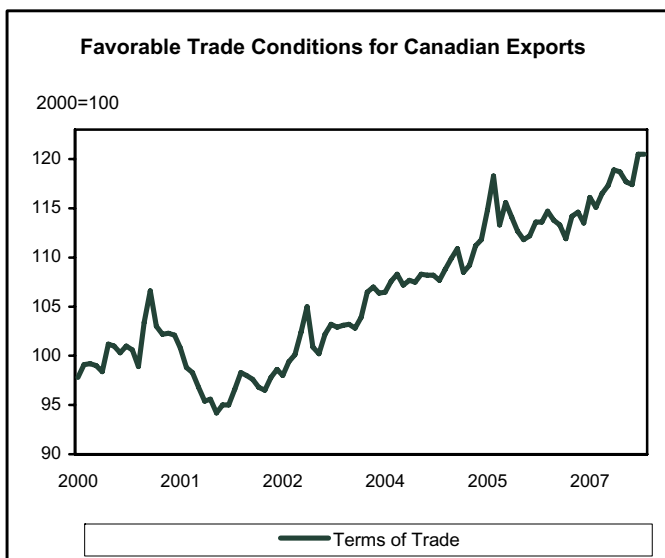
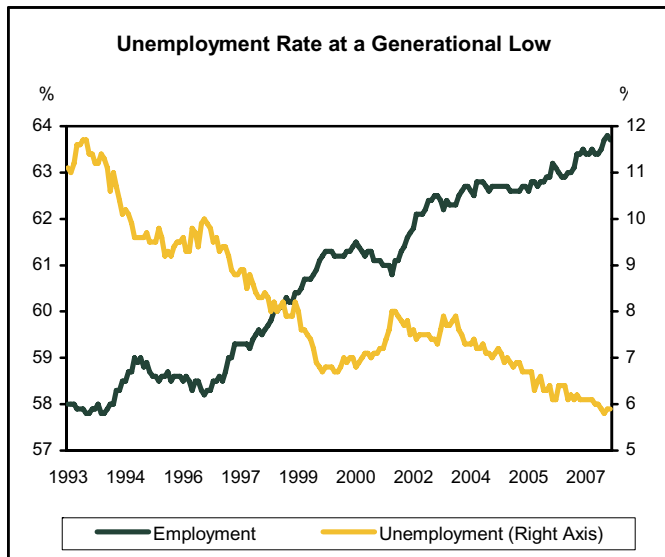
strength for the Canadian dollar. While the price for most commodities has risen over the period, the increases in the price for crude oil and other non-energy commodities such as wheat have been pronounced – and Canada is a major net exporter of both commodities. For example, since January 2002, the energy component of the Canadian commodity price index has increased by 294%, while the non-energy commodity price index has risen by 77%.

... though strong domestic fundamentals have also played an important role, ...

A second important source of strength of the Canadian dollar has been the robust growth that has ensued in the Canadian economy since 2002. This is in no small part due to the sound monetary and fiscal policies that have become a hall-mark of the recent economic landscape in Canada. For example, after reaching a high of C\$588 billion in 1997, the net public sector debt has fallen by over 12% to currently sit at C\$514 billion in 2006. During the same period, the current account for the Canadian economy shifted from a deficit of C\$5.5 billion in 1997 Q3 to stand at its current surplus level of C\$6.4 billion in 2007 Q2.

... and movement in the interest rate spread has also been favourable, ...

One other possible reason for this jump in the loonie has no doubt been the sudden shift in investors’ sentiments on the U.S. economy, as the market’s outlook for the U.S. economy took a decidedly downward shift over the past few months. There has also been an important impact coming from the Canada-U.S. interest rate spread. Whereas



Canadian 2yr bond yields were well below the U.S counterpart for a number of years, they have since risen substantially above their U.S equivalent.

... while the weakness in the U.S. dollar has also been a significant contributor

Notwithstanding the fact that the strength in the global and domestic economic environment has been supportive to the strong Canadian dollar, the shift in global sentiment away from the greenback has also played a significant role. In particular, the emerging weakness in the U.S. economy brought about by the worsening housing market and the recent credit crunch have combined to cause the markets to downgrade their near-term outlook for the U.S. economy, thereby injecting further weakness in the greenback. And

the recent aggressive interest rate cutting campaign by the FOMC in the second half of 2007 has certainly played a key role in the decline in the U.S. dollar.

Other drivers

There have also been favourable financial activities such as mergers and acquisitions, and carry trades that have contributed to pushing the Canadian dollar beyond the value justified by macroeconomic fundamentals. For example, the net speculative long positions for CAD reached a historic peak recently – suggesting that traders have been quite bullish about the Canadian dollar, and the Canadian economy as a whole. The surge in speculative activity has not been unique to the Canada dollar. In fact, the currencies of other resource-based economies such as Australia and New Zealand have also come under such increasing pressures from these forces.

What does this mean for the BoC?

The strong dollar will certainly continue to provide significant headwinds to the economic growth prospects for the Canadian economy by virtue of its impact on the net trade balance, and this will no doubt temper the inflationary pressures that currently exist in the Canadian economy. To put this in context, it is important to note that the dynamics in the dollar are part of the shock-absorber function that a floating exchange rate invariably performs. And when combined with a flexible labour market, the strong loonie will enable the Canadian economy to gravitate to the equilibrium level of output supported by the economic fundamentals. This adjustment process, however, can be very slow. For example, the BoC model suggests that only 53% of the adjustment is completed in the first four quarters.

This is not to say that the movements beyond the level supported by fundamentals will not impact the economy and the adjustment process adversely. However, in the grand scheme of things, given that most of the recent appreciation in the dollar is of a “Type 1” nature – that is factors that affect the demand and/or supply for Canadian goods – it will be considered as part of the adjustment process of a well functioning, dynamic open economy like Canada, and should be considered to be part of the natural functioning of a floating exchange rate.

This appealing feature of a flexible exchange rate (as a shock absorber) contrasts it favourably against a fixed

exchange rate regime (or even a monetary union with the U.S. for that matter). For one thing, to the extent that the shocks facing the economy are of a real nature – that is, related to economic fundamentals – a floating exchange rate will act as a shock absorber for the economy. This outcome contrasts quite starkly with a fixed exchange rate regime which would have resulted in accentuating the impact of these shocks as the central bank will be forced to defend the currency peg, instead of pursuing a monetary policy framework that is conducive to improving domestic economic conditions. This therefore means that with a floating exchange rate, the Bank of Canada will be able to pursue an independent monetary policy, compared to the alternative which would have invariably tied the hands of the central bank.

Should Canada abandon the float?

The recent gyrations in the value of the Canadian dollar, in-and-of-itself, present inevitable challenges to the Canadian economy. In fact, increased volatility incurs additional costs to both importers and exporters. However, despite this, conventional economic theory suggests that a floating exchange rate is a more appropriate mechanism for dealing with real shocks of the sort that Canada has faced in the past decade, as the exchange rate will absorb some of the impact that would otherwise buffet an economy that is facing shocks of a real nature. This in no way suggests the economy will be insulated entirely from these shocks, or that the economic volatility induced by the very nature of the exchange rate regime in the face of these shocks will be totally benign. In fact the converse is true. Indeed, while we expect that the adjustment process will have its mix of blessings and curses, depending on the perspective taken, there are important considerations that need pointing out.

For example, consider a scenario where favourable global conditions for Canadian exports arise. In this case the exchange rate appreciates as the demand for Canadian currency increases¹⁰. This appreciation in the local currency then reduces the global competitiveness of Canadian exports, thereby reducing the value of net exports. As a result, the surge in one sector will invariably be offset by a decline in the exports of other sectors to return the economy to its original equilibrium level. In a sense, the flexibility in the exchange rate ensures that the economy

will return to its equilibrium level without any policy intervention. This impact is two-fold, it reduces exports as Canadian goods become more expensive and at the same time will stimulate imports, as the strong dollar lowers the cost of imported goods.

Contrast this outcome to one where the exchange rate is fixed. In this case, when the excess demand for Canadian dollars (as a result of the favourable economic conditions) places upward pressure on the exchange rate, the monetary authority will be forced to expand the money supply to restrict the interest rate from rising – and to maintain the fixed exchange rate. This monetary policy accommodation by the central bank will then have the unwarranted impact of exacerbating the impact of the initial real shock. In fact, by expanding the money supply to maintain the exchange rate, the central bank will effectively inject further economic stimulus into the economy, with the side effect of stoking inflation.

Similarly, if the real shocks were having the reverse impact – that is, negatively affecting domestic demand – then the floating exchange rate will result in the economy being stimulated by an improvement of international competitiveness via the depreciation in the domestic currency. Here again, the fixed exchange rate regime will require the central bank to contract the money supply, thereby depressing domestic demand further.

For this reason, in the event that the economy is being assailed by real shocks, a floating exchange rate provides the perfect conduit for the transmission of these shocks, as it naturally mitigates the extent to which these shocks are transmitted in the Canadian economy. On the other hand, the reverse is true if the economy is being buffeted by monetary shocks, in which case a fixed exchange rate would be the preferred candidate. And to the extent that this is not the case, the discussion of whether or not the floating exchange rate is the appropriate monetary policy for Canada becomes muted.

The bottom line

While we believe the Canadian dollar has been somewhat overvalued, based on the models examined, there appears to be little doubt that most of its strength has come from favourable domestic and global macroeconomic conditions. As such, we expect the dollar to maintain most of this hard earned gain in the short to medium term if the

underlying fundamental factors remain in place. After all, much of the recent rise in its value has been based on strong demand for the commodities that Canada exports, the favourable domestic economic conditions, and the weakness in the out-of-favour U.S. dollar.

This confluence of factors has pushed the Canadian dollar to parity with the U.S. dollar for the first time in 30 years. However, though some modest correction to this misalignment could conceivably occur in the near-term, the

historical pattern of persistent misalignments exhibited by free-floating currencies would appear to preclude any major adjustments in the near to medium term for the Canadian dollar. Moreover, it is also the case that despite the inherent volatility associated with the current floating exchange rate regime in Canada, it is by most measures the most appropriate policy for Canada – at least for the foreseeable future.

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Endnotes

- ¹ In the assessment to follow, the exchange rate is defined as the US\$ equivalent of C\$1, with the more conventional measure of the C\$ equivalent of US\$1 provided in parentheses.
- ² This excludes the PPP equilibrium value of US\$0.8815 (C\$1.1344).
- ³ According to Powell (2004), the all-time high value for the Canadian dollar is US\$2.78 (C\$0.3597), which was set in July 1864 – predating the period when the loonie floated freely.
- ⁴ This excludes the PPP equilibrium estimate of US\$0.8815 (C\$1.1344).
- ⁵ The law of one price (LOOP) claims that in the absence of transportation and other transaction cost, the price of traded commodities should be equalised across any two countries when the local prices are adjusted by the exchange rate.
- ⁶ Unlike the FEER model, the BEER abstracts from the use of a full blown multi-country macroeconomic model in order to estimate any particular exchange rate.
- ⁷ The OECD purchasing power parities (PPPs) are the rates of currency conversion that equalise the purchasing power of different currencies by eliminating the differences in price levels between countries. In their simplest form, PPPs are simply price relatives which show the ratio of the prices in national currencies of the same good or service in different countries. As such, further manipulation of these measures is not only unnecessary, but misleading. And the use of other indices (such as GDP deflators or price indices) to further adjust the OECD PPP measures will generally lead to spurious estimates.
- ⁸ This is defined as the ratio of CPI to PPI for Canada divided by the associated ratio for the US.
- ⁹ The deficit to GDP ratio was used as a proxy of the risk premium due to the unavailability of quarterly data on federal debt in Canada.
- ¹⁰ This increase in demand can come from a combination of an increase in export revenue or from an influx of foreign capital into the Canada.

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