

More Stability, Please

**A New Policy Approach
to Canada's Exchange Rate**

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Executive Summary

Ontario's economy has experienced a significant loss of exports over the last several years, amounting to almost 10 percentage points of GDP. The evidence is clear that the substantial increase in the value of the Canadian dollar has been a direct contributor to Ontario's trade deficit.

The high Canadian dollar has also made Ontario's efforts to cope with global trends far more difficult. It has frustrated the major effort that Ontario has made to improve its competitiveness, including significant business tax reductions.

In the period since the dollar began surging, Canada has experienced an 11 percent decline overall in real manufacturing output, compared to a 23 percent increase in output in the US over the same period. The three largest provinces all suffered declines in manufacturing output, with Quebec and British Columbia not far behind Ontario.

Those who claim that the decline in manufacturing output has not resulted from the increase in the value of the Canadian dollar are misinterpreting the data. Canada's largest loss has been to competition from the US. A high dollar has also caused declines in service sector exports and relatively low capital investment due to weak demand for Canadian goods and services, which has harmed productivity growth.

The Canadian dollar has been strongly correlated with movements in oil prices in the past few years. International speculators clearly believe that high oil prices imply a high Canadian dollar.

However, this correlation has the hallmarks of a market overreaction that is not supported by economic fundamentals. If the high value of the dollar were justified by rising oil exports, Canada would have a rising trade surplus. In fact, Canada now has a large trade deficit, in spite of the growth in oil exports. The money flowing into Canada does not come in the form of productive investments, but rather it is used to hold bonds and other money market instruments.

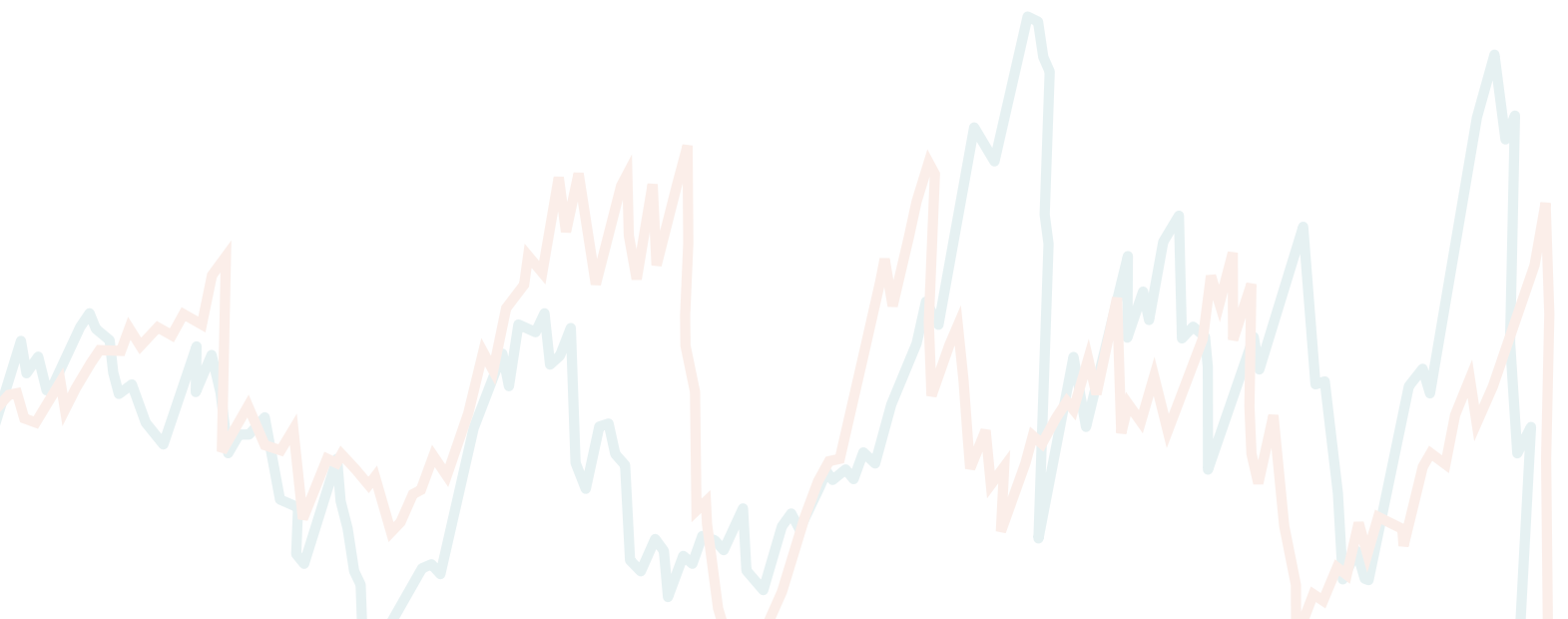
The fact that the Canadian dollar is already overvalued does not mean that it cannot rise even more. The volatility in exchange rate markets is so large that there is a risk of the dollar rising considerably farther above parity in a speculative binge. In an unstable world, Canada's currency is understandably viewed as a safe haven.

However, Canada's economy is small relative to the investment funds available and its markets can easily become overwhelmed.

The Bank of Canada has acknowledged that commodity prices do not justify such a high dollar. Governor Mark Carney has warned that "over the medium term, [believing that commodity prices justify the high Canadian dollar] is going to be... a recipe for losing money."

The Bank of Canada now has an opportunity to step in and take a more active role in countering this speculation. Severe under- and over-valuations of the currency are unhealthy for the economy, as they cause dislocations and inefficiency.

Allowing financial forces to dominate the currency, without regard to impacts on the real economy, is not a sound long-run policy. The federal government and the Bank of Canada have the tools to make Canada a less hospitable destination for speculative investment tied to the price of oil. Recent steps by the Swiss National Bank show that this is feasible. The Bank of Canada should consider taking similar steps. This would include asserting that it will not accept an unlimited range of deviation for the dollar. Publicly communicating that the Bank will intervene to mitigate speculative volatility tied to the price of oil would be beneficial for the long-term health of the real economy.



Introduction

In recent years, Canada's exchange rate has been at historically high levels. There are differing views on the extent to which this high exchange rate, generated in part by a booming resource sector, has hurt other parts of the Canadian economy. This paper will look at the issue from the perspective of the Ontario economy.

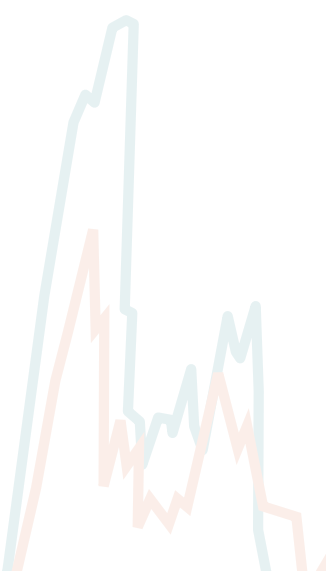
Growth in the Ontario economy has been slower than in much of the rest of Canada over this period. At the core of this is a decline in Ontario's trade balance. Ontario's net exports have gone from a surplus a few years ago to a large deficit. This reduction in demand is equal to about 10 percent of the province's GDP.

Because Ontario is dependent on the US as a market for its products and services, the economic challenges faced by that country have contributed to this drop in exports.¹ But Ontario has also suffered a loss in its share of the US market, in part due to competition from countries whose currencies have not appreciated to the same extent as Canada's.

The Ontario economy is performing below its potential. When there is excess capacity and weak demand, businesses do not invest in new capital, and productivity growth suffers. The result has been little growth in the standard of living and a growing fiscal deficit. Challenges have been felt in all export areas – services as well as manufacturing.

The provincial government has taken steps to address these challenges by cutting taxes for business, improving infrastructure, investing in human capital, and providing incentives for research and innovation. These structural improvements have not had a chance to produce their potential benefits in the face of the macroeconomic headwinds that hit Ontario, particularly the Canadian dollar's overvaluation.

This paper will explore the impact of exchange rate increases on Ontario's economy, the factors influencing those exchange rate increases, and policy levers that are available to help address this challenge.



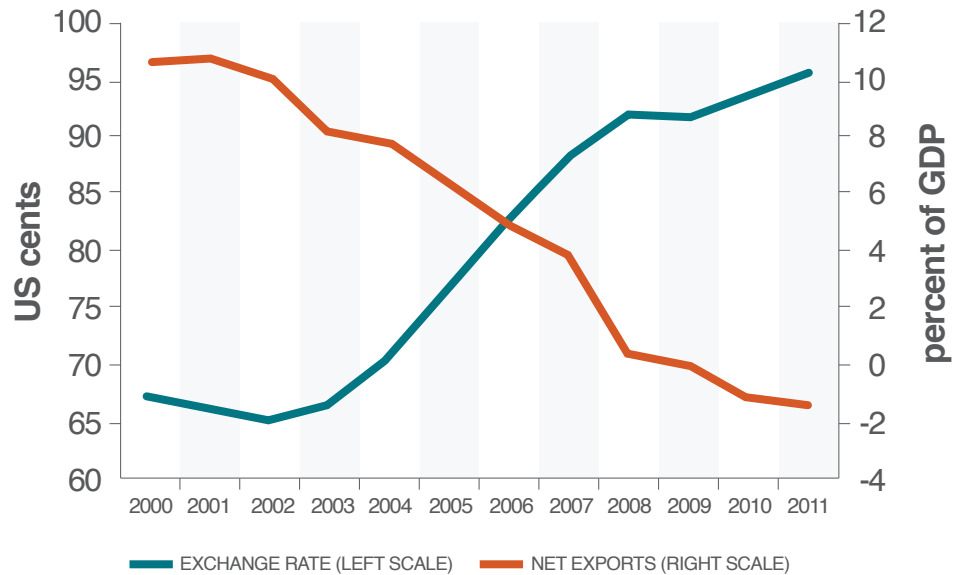
Impact of Exchange Rates on Ontario's Economy

Trade Deficit

Ontario has historically been a net lender to the rest of Canada and the rest of the world, funded by a trade surplus. That has disappeared in a very short span of years. The Ontario economy has gone from a large surplus as recently as 2007 to a significant deficit this year. Between 2003, when the Canadian dollar started appreciating, and 2011, the decline in Ontario's net exports has been a striking 10 percentage points of GDP.

FIGURE 1

Ontario's Net Exports and the Exchange Rate

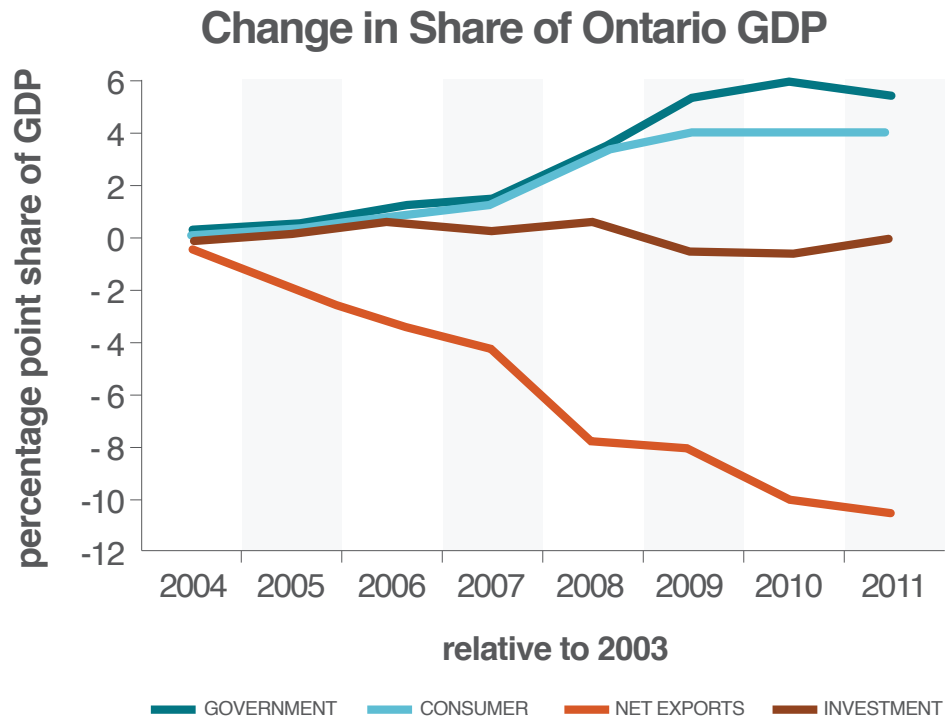


note: a three year moving average of the exchange rate is shown.

As can be seen in Figure 1, there is a strong inverse relationship between the Canadian dollar and Ontario's trade deficit. This is evaluated with greater precision using econometric analysis as discussed in the Appendix. That analysis confirms that the overvaluation of the Canadian dollar explains most of the decline in Ontario's trade balance.

If this had occurred because businesses wanted to invest more in Ontario, and they were importing more capital goods, it would not be a problem. It might even be a good thing. However, business investment has not replaced lost exports. In fact, business investment as a share of Ontario's GDP has fallen slightly in recent years. Part of the reason is businesses see weak demand for Canadian products due to the high dollar.

FIGURE 2



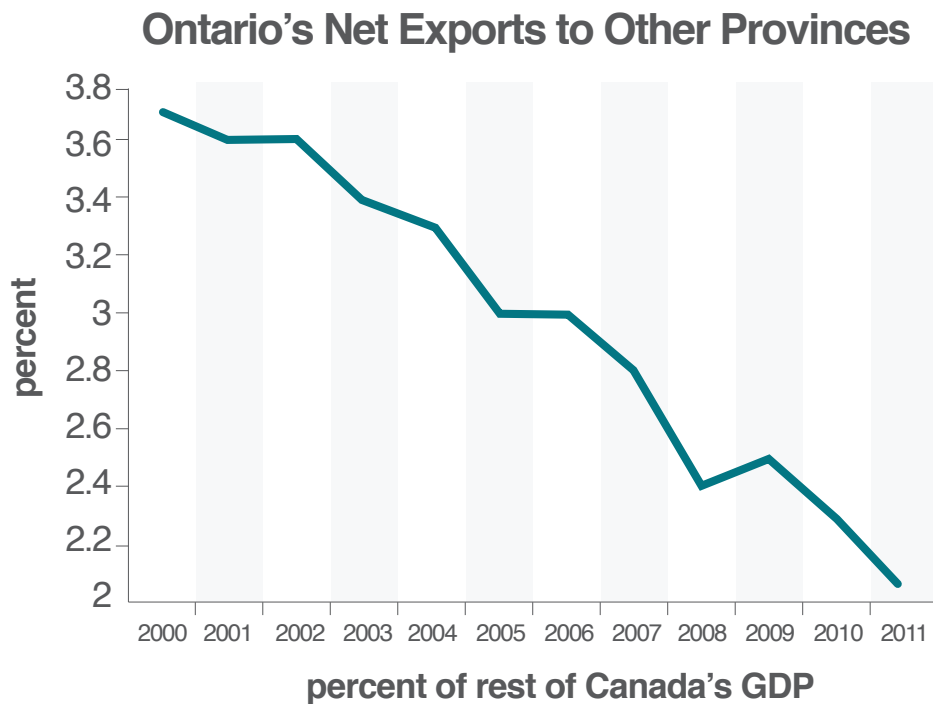
The two areas of spending that have to some extent made up for lost exports are government spending and consumption spending. Government spending is up about 6 percentage points of GDP over the past several years, and public sector employment has been responsible for the majority of job creation in Ontario.

Ontario's provincial government deficit in the 2012-13 fiscal year is estimated to be \$11.9 billion, and recent budgets have set out a plan to eliminate that deficit by 2018. This will mean reduced government spending and reduced growth in public sector employment.

“It has been argued that the Canadian economy has not been hurt by the high dollar at all, and even that manufacturers have fully adjusted. This conclusion is not supported by the evidence.”

Household spending on consumer goods and on housing have been the other sources of growth in demand, and are also heavily dependent on borrowing. Although provincial data on household credit is not available, on a Canada-wide basis household debt has doubled since 2003, rising by about \$800 billion. Debt has grown sharply relative to income, in response to low borrowing rates. Strong consumer and housing demand in Ontario, coupled with low income growth, suggests that a substantial share of this debt growth was in Ontario.

FIGURE 3



source: Statistics Canada

Some commentators have suggested that the oil boom in Alberta has generated significant job growth in Ontario's manufacturing sector because Alberta buys manufactured goods from Ontario. While it is true that some Ontario manufacturers have gotten business from the oil sands, the overall effect of this, unfortunately, is small. Ontario's exports to the other provinces have not kept pace

with the growth of GDP in those provinces (see Figure 3), and this no doubt reflects the fact that at the current exchange rates, imports from other countries are less expensive than products from Ontario.²

In a recent paper, economist Philip Cross argued that the Canadian economy has not been hurt by the high dollar at all, and even that manufacturers have fully adjusted.³ This conclusion is not supported by the evidence.

Mr. Cross based his analysis on nominal dollar manufacturing sales, including processed natural resources, as opposed to real production in manufacturing.⁴ As Andrew Jackson observed in response to Cross, looking at manufacturing output in real terms over the period of the dollar's appreciation, "if 2002 is set as the base year, U.S. manufacturing output grew by 23.2 per cent by 2011, while shrinking by 11.5 per cent in Canada."⁵

The decline in manufacturing was steeper in Ontario, where real GDP from manufacturing fell more than 20 percent over the period analyzed by Mr. Jackson. Ontario manufacturing consists mainly of the standardized products available through international trade, and its customers are more sensitive to the price they are charged than those purchasing more specialized products.

Other provinces clearly suffered as well and underperformed relative to the US. Overall, the rest of Canada recorded zero growth in real manufacturing output from 2002 to 2011. BC and Quebec both suffered drops in manufacturing production.

Overall employment grew more slowly in Ontario than in the rest of Canada in every single year from 2004 to 2009 inclusive. Private sector employment in Ontario has been particularly hurt. While the overall employment rate (employment as a percent of working age population) has fallen about 2 percentage points since 2003, the private sector employment rate has fallen by about 4 percentage points.

In Figure 4, it is noticeable that the private sector employment rate was on a downward trend in Ontario even prior to the recession, when it was rising in the rest of Canada and the US. This development had a negative impact on private sector wages. As Figure 5 shows, private sector wages in the rest of Canada experienced a steep increase between 2000 and 2008 whereas they remained rather stagnant in Ontario.

FIGURE 4

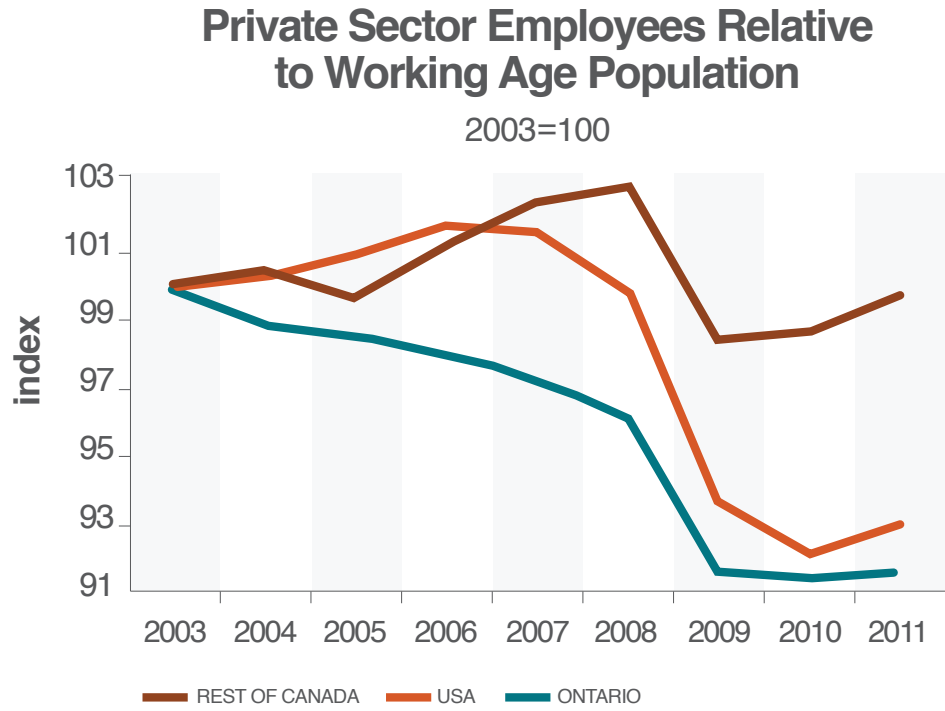
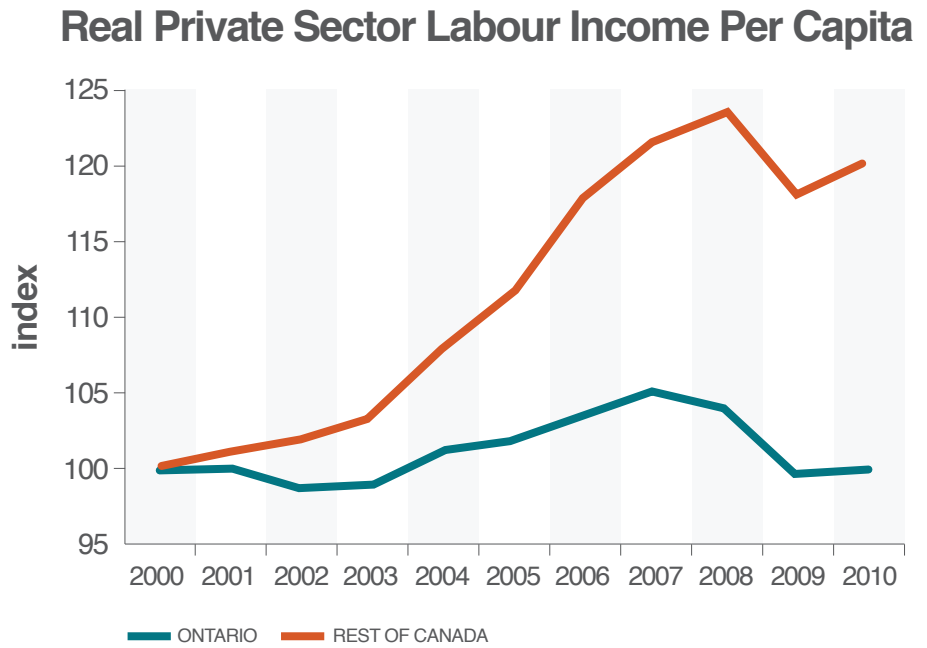
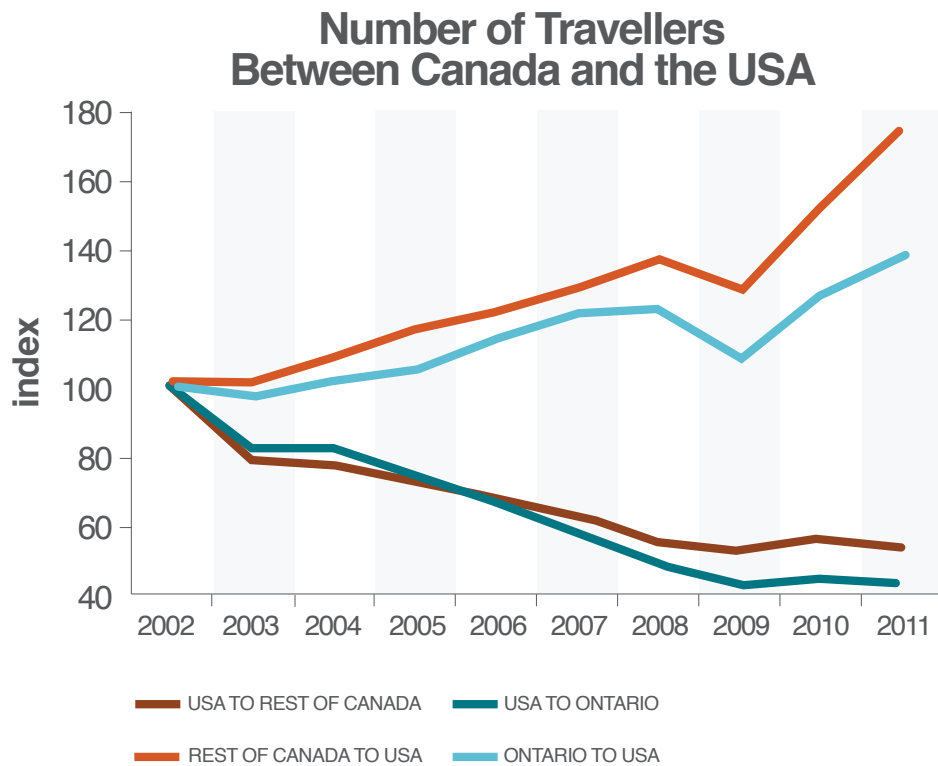


FIGURE 5



It's Not Just Manufacturing

FIGURE 6



Ontario's loss in trade extends beyond manufacturing, although the impact is largest in manufacturing because of its relative size. This can be seen by the fact that the decline in the share of manufacturing output in overall GDP in Ontario from 2004 to 2011 represents less than six percentage points of GDP. Over that same period, overall Ontario net exports have declined by 10 percentage points of GDP.

Even if we assume that all the decline in manufacturing production corresponds to lower exports, that still leaves about 40 percent of the decline in net exports unaccounted for. The loss of exports (and increased incursion of imports) runs through the economy, including the service sector.

For example, Figure 6 shows the shifts in tourism since 2002. We have seen a significant increase in the number of travellers from Canada to the US, while travel from the US to Canada has declined sharply. Also, companies are increasingly shifting office and data processing services from Canada to lower cost countries.

Precise, current data on the composition of imports and exports is hard to obtain. Given the high proportion of imported components in manufacturing, this can

only be estimated accurately using complex input-output modelling, and these data come out slowly.⁶

Further complicating the analysis, Statistics Canada does not provide provincial-level data on imports of services. Although data on provincial exports of services are published, this has an unusually large margin of error since so much of service exports consists of exchanges within multinational companies. Unlike imports and exports of physical goods, which all have to pass through customs checkpoints at the border and can (at least in theory) be counted, services trade is invisible, and difficult to monitor.

The final two charts look at the issue of weak US economic growth. The Bank of Canada has argued that part of Canada's trade problem is that our manufactured exports go mainly to the industrialized world, rather than the faster-growing markets of the developing world.

The high dollar has made this situation even more challenging for Ontario, resulting in a loss of market share in the US economy. That is, Ontario's exports to the US have grown even more slowly than the already slow growth of US GDP.

This may be partly due to competition from more dynamic countries, such as China. However, evidence shows that other high-wage developed countries (e.g. Germany) have managed to increase their exports to the US relative to US GDP over the same period.

As might be expected, a significant portion of Ontario's lost trade is not to competition from other countries such as Mexico or China, but the United States itself. As purchases from Canada become more expensive, more of what the US used to buy from Canada is made in the US instead. This is evident in sectors such as automobiles and steel, where Ontario's exports to the US have fallen relative to US domestic production.

It will be noted in Figure 7 that the decline in Ontario's exports to the US was fairly muted until about 2007. Part of the reason for this is that many types of international trade depend on existing capital facilities and contractual relationships. As a result, trade adjusts with a lag of a few years to changes in the exchange rate.

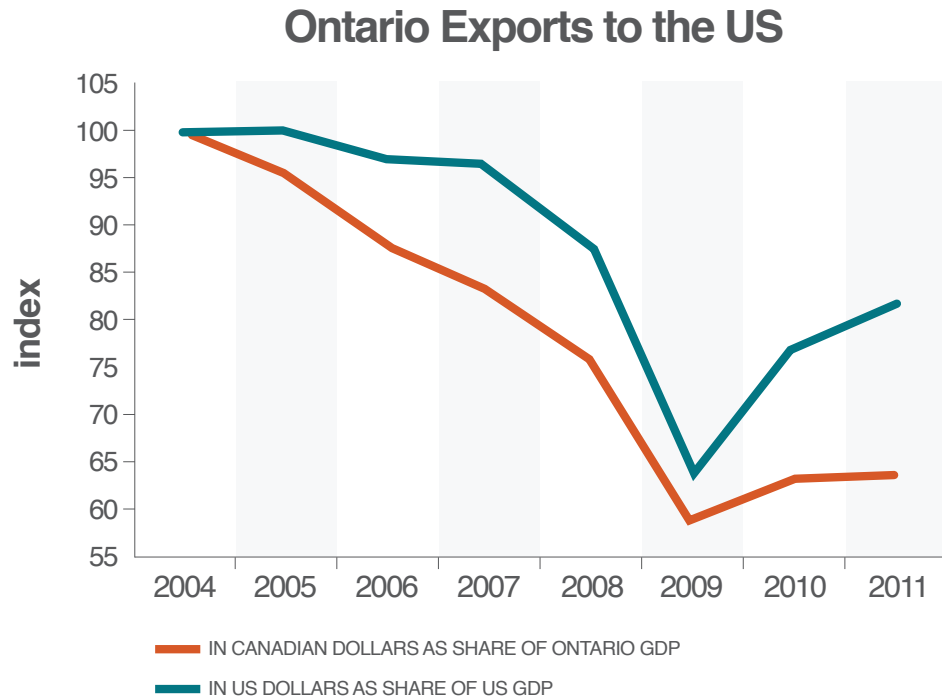
“The implication is that Ontario has likely not suffered all the impact that could occur if the dollar stays at current levels.”

In some instances, the variable operating costs of a plant in Ontario may be relatively low, so it is not worth shutting it down even with the high level of the dollar. However, with a high dollar, it is not worth re-investing, and the capital will not be renewed. The implication is that Ontario has likely not suffered all the impact that could occur if the dollar stays at current levels.

Figure 7 shows Ontario's exports from the perspective of the United States, expressed in US dollars. Ontario's exports have declined about 25% relative to US dollar GDP, since 2004. That is itself a substantial decline.

However, the impact on Ontario businesses that sell to the US is even greater (Figure 8). They get US dollars for what they sell, but when they exchange those US dollars, they get fewer Canadian dollars in return to pay local expenses, including wages. That is why, relative to Ontario's GDP in Canadian dollar terms, there has been such a significant decline in Ontario's trade balance. From the viewpoint of Canadian exporters, whose expenses are set mainly in Canadian dollar terms, this has led to weak profits, or losses.

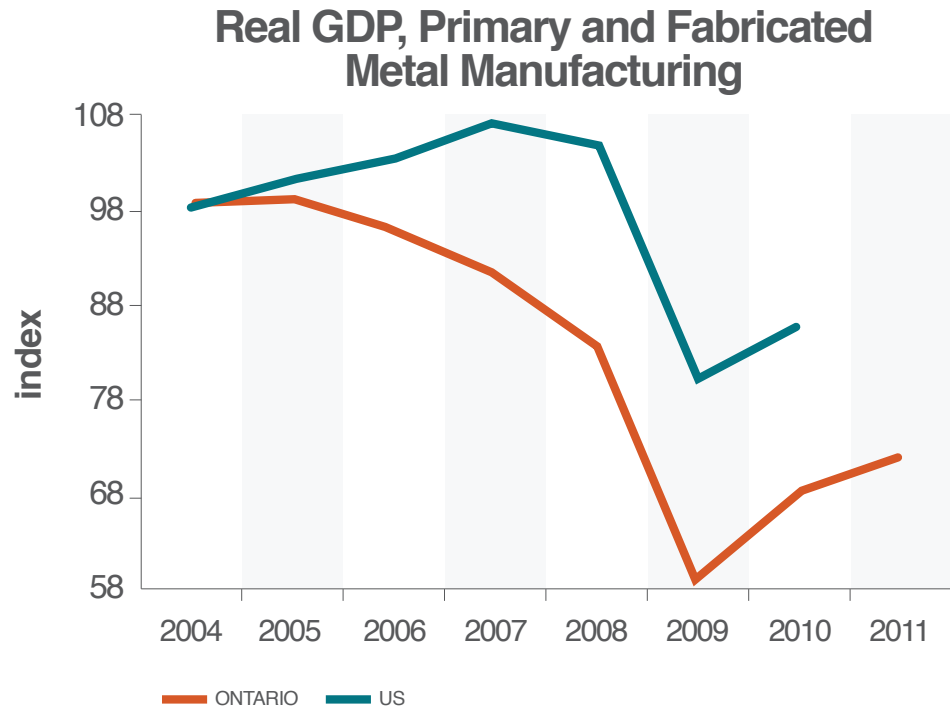
FIGURE 7



The Ontario economy has many innovative exporting companies in high technology areas such as software. For example, Research in Motion manufactures most of its hardware in developing countries, and its Ontario facilities are intellectual operations that develop new products and software.

The relative profitability of companies like RIM is greatly impacted by the exchange rate. RIM pays its staff in Canadian dollars, while the revenue it garners around the world is in the form of foreign currency that has much less value in Canadian dollar terms than it did several years ago.

FIGURE 8



Productivity and Investment

Productivity is a perennial topic of debate and concern in Canada. It is a challenging topic for a number of reasons.

First, productivity is very difficult to measure, particularly in the service sector, where so much of it is reflected in service quality and convenience. Comparisons are made against the US, but each country's statistical agency uses quite different criteria in measuring productivity, so these comparisons can be misleading. Experts at Statistics Canada have cautioned that "a confidence interval of at least 10 percentage points" applies to comparisons of productivity between Canada and the United States.⁷

Second, productivity is very much influenced by a range of behavioural changes and changes in the composition of the economy. Therefore, productivity data (even when accurately measured) often fail to provide valid information about underlying

“Even if productivity growth could be boosted by an ambitious 2 or 3 percent per year, that would not have a significant impact on a cost disadvantage of 30 or 40 percent that has emerged due to a rise in the dollar.”

potential for growth in the standard of living.

Many of the manufacturing industries that have been hurt by the high dollar were among the most productive in terms of absolute output per hour worked. They have become a smaller part of the economy, and to the extent that the lost employment has been replaced, much of it is in single-person self-employed businesses, which have the lowest level of productivity in the economy.⁸ Therefore, the average level of productivity can drop substantially merely by shifts in composition even without any change in the productivity of any particular activity.

Productivity has also been reduced as a result of lower output, leading to lost economies of scale and the need to spread overhead over a smaller output. A Statistics Canada study found that “the dramatic increase in the value of the Canadian dollar during the post-2000 period almost completely offset the advantages enjoyed by export-market participants.” This shows that the productivity gap between export-oriented companies and non-exporters can almost entirely be explained by changes in the exchange rate.⁹

The employment changes in the Ontario economy over the past several years have been in the direction of smaller scale and less efficiency:

TABLE 1

Class of worker (thousands)	2007	2012	Percent change
Total private sector employees	4384	4410	0.6
Private sector employees, firms with 500+ employees	547	477	-12.8
Self-employed with employees	317	307	-3.1
Self-employed without employees	653	729	11.5

When the Canadian dollar was low, commentators suggested that Ontario businesses lacked the incentives to boost productivity, since the low dollar made it easy to do business without needing to cut costs. Some now suggest that the high dollar should be an incentive for Ontario companies to work harder to improve productivity.

TABLE 2

	1997-2002	2003-2010
Canadian dollar in US cents, average value	67.1	86.5
Ontario business sector productivity, average annual % change	2.8	0.3
Ontario manufacturing productivity, average annual % change	3.6	0.2

The reality is that economy-wide productivity is not the result of the decisions of individual companies, but is a function of the broader economic environment. Productivity growth is strongly positively correlated with the business cycle, particularly for manufacturing. Econometric analysis suggests that manufacturing sector productivity growth rises or falls about 0.6 percent for each 1 percent change in demand.¹⁰

The average figure for productivity growth is misleading, as it makes it appear as if all industries have simply grown more slowly. In fact, the average is the random outcome of a wide range of underlying variation. Some sectors have maintained reasonably good growth, while some sectors have had absolute declines in the level of productivity, reflecting the low level of capacity utilization.¹⁰

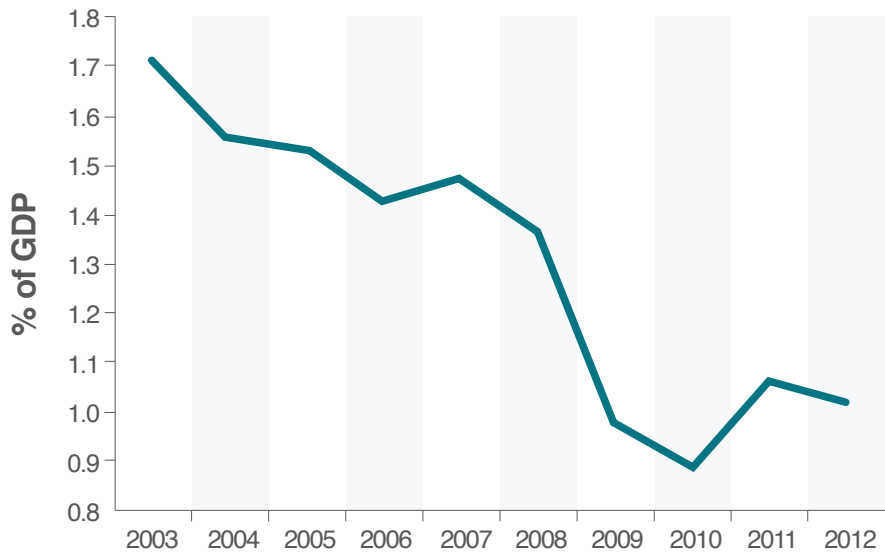
Even if productivity growth could be boosted by an ambitious 2 or 3 percent per year, that would not have a significant impact on a cost disadvantage of 30 or 40 percent that has emerged due to a rise in the dollar. The end result is low (or no) profits for exporting industries, and a lack of incentive (or even ability) to make new investments.

Investment is one of the important factors that typically increases productivity. As Figures 9 and 10 show, investment in manufacturing, the key export sector, has plummeted since the dollar's rise. After depreciation is taken into account, the real stock of machinery and equipment owned by Ontario manufacturers in 2012 was about 25 percent lower than in 2003. In the rest of Canada, stock declined about 10 percent.¹¹ This large decline in Ontario is driven by weak demand for Canadian products due to the high Canadian dollar.

Investment in sectors other than manufacturing has also not been strong by historical standards. Overall, business investment was slightly less than 9 percent of GDP in 2011, compared to about 11 percent of GDP in the late 1990s and early 2000s, when the dollar was lower.¹²

FIGURE 9

Investment by Ontario's Manufacturing Industry in Machinery and Equipment



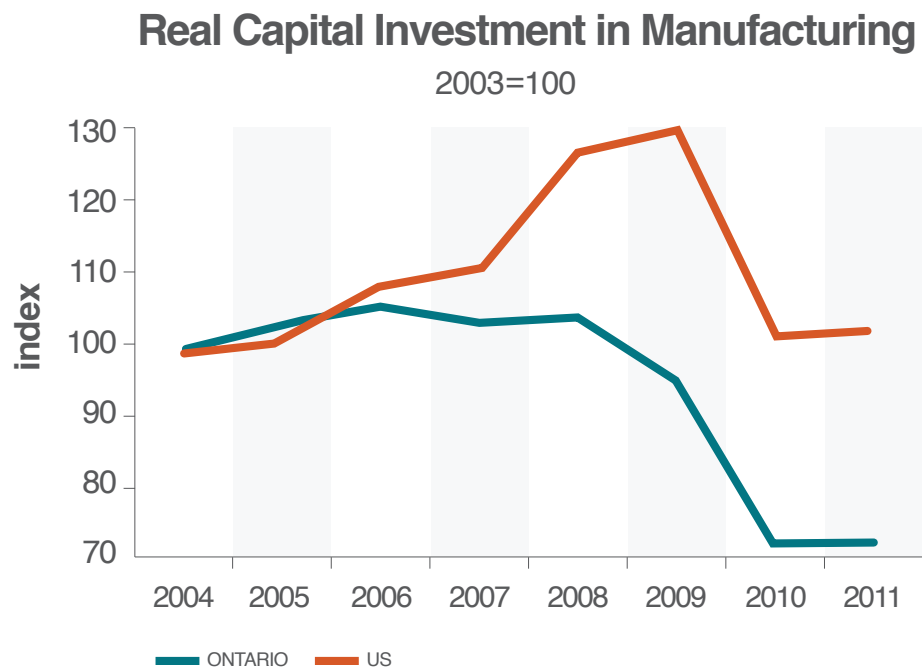
source: Statistics Canada

Productivity growth has been strongly affected by this shift in conditions. Prior to 2003, Ontario was enjoying a period of strong productivity growth. Since the dollar's increase, average productivity growth has been near zero. When commentators suggest that Ontario's challenge would be solved if businesses made efforts to become more productive, they ignore the impact of external conditions such as the exchange rate on these business decisions. Even increased productivity will not come close to offsetting the rapid increase in the value of the dollar.



“When commentators suggest that Ontario’s challenge would be solved if businesses made efforts to become more productive, they ignore the impact of external conditions such as the exchange rate on these business decisions. Even increased productivity will not come close to offsetting the rapid increase in the value of the dollar.”

FIGURE 10



source: Statistics Canada Table 031-0002 and US Census of Manufacturing

The Causes of the High Dollar

Many in the financial markets have referred to the Canadian dollar as a “petrocurrency.” However, the high value of the dollar cannot fully be justified on this basis. Bank of Canada Governor Mark Carney has said that “it is far too simplistic to talk about the Canadian dollar as a commodity currency, let alone a currency that moves consistent with one commodity. And to trade or to invest in the currency along those lines, ultimately over the medium term, it’s going to be a recipe for losing money.”¹³

The Bank of Canada takes the position that about half the rise in the value of the Canadian dollar is due to high commodity prices. They based this on econometric equations which have found a high correlation between the dollar and commodity prices in recent years. However, while high commodity prices may have been causal in econometric terms, that does not mean that this was a necessary outcome. Financial markets are path-dependent, and sometimes go in directions not dictated by economic fundamentals alone.

Some commentators tend to attribute every small fluctuation in the Canadian dollar to a change in the world price of oil. A look at the charts showing the day to day and month to month variations in the values of the dollar and oil do show a strong correlation.

Proponents of the petrocurrency view note that Canada is a net exporter of oil and that high oil prices make Canadian oil companies more attractive to foreign investors. Some positive correlation between the dollar and oil prices makes sense. But does the magnitude of the effect make sense?

The Canadian dollar’s appreciation runs counter to the logic of economic fundamentals. High commodity prices would only be a reasonable cause of the high dollar if high commodity prices were causing a large influx of money into Canada, but that is not the case.

Experience has demonstrated that financial markets do not always operate on a rational basis. Economists such as Robert Shiller and Richard Thaler argue that markets are in fact prey to irrational fads, such as the dot-com bubble of the previous decade and the recent housing price bubbles in many countries. There is good reason to believe that the market’s reaction in moving the Canadian dollar sharply higher and lower in response to oil prices follows a similar pattern and is out of proportion to the importance of oil production in the Canadian economy.

It is possible that the Bank of Canada may have inadvertently helped generate this behaviour. Although the Bank of Canada has published its macroeconomic model for many years, until recently it did not publish the exchange rate equation used in it. This

“Bank of Canada equation” for the dollar is now public knowledge, and the price of oil is one of the explanatory variables in it. This was affirmed in a paper published in 2006,¹⁴ which roughly coincides with the period in which the dollar began moving more closely in line with oil prices.

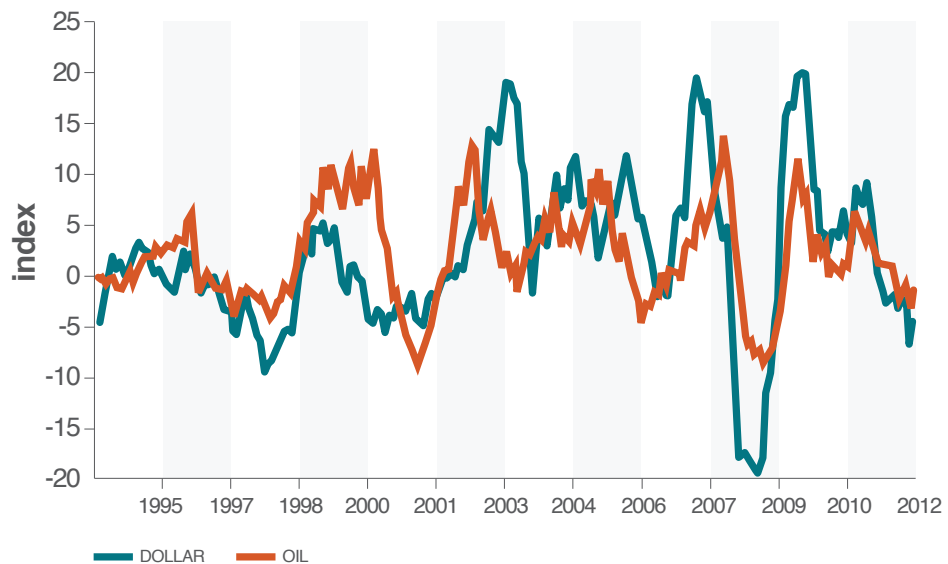
Until at least the early 2000s, it appears that the view even at the Bank of Canada was that higher oil prices lead to a lower value of the dollar, contrary to the current view.¹⁵ The idea that rising oil prices might be a negative for the Canadian economy is not implausible, even when Canada is a net exporter of oil. Canadians as consumers suffer lower disposable income from rising oil prices.

The key issue is how much of the income from high oil prices stays in Canada, and how quickly that gets recycled in the form of more investment in oil extraction. Investment often responds with a lag, and the amount of investment will vary from occasion to occasion, depending on the degree of optimism that investors have about the persistence of the high oil prices. If they are believed to be temporary, there will be less investment, and more of a negative shock to the overall economy when oil prices rise.

Figure 11 shows a graph of the twelve month percentage change in the exchange rate and the energy portion of the commodity price index published by the Bank of Canada. In the period beginning around 2007, the dollar’s ups and downs coincide very closely with those of energy prices, and in terms of relative magnitude have become much larger. By contrast, prior to 2007, the dollar often moved in the opposite direction from the price of oil, and when they moved together, the dollar’s response was muted.¹⁶

FIGURE 11

Increasing Co-Volatility of the Dollar and Oil Price



note: the energy price index has been normalized so that the average value of the two lines is equal.

Has this increased response of the dollar been justified by an increasing importance of oil in Canadian trade? In 2004, when the Canadian dollar was only 77 US cents, net crude oil exports accounted for 2 percent of Canada's goods and services exports. In 2011, the crude oil balance had risen to 7.5 percent of goods and services exported, and the Canadian dollar had increased to average slightly more than 101 US cents. That is a substantial increase in oil exports, but not sufficient to explain the increase in the dollar.

The purpose of the exchange rate is, of course, to balance the supply and demand for Canadian exports and imports. Suppose Canada's oil exports are booming, and this lifts Canada's trade surplus so that there is increased demand for Canadian dollars. The price of the Canadian dollar should rise to balance supply and demand.

Canada's trade balance indicates that the dollar's rise in response to the oil price is a significant overreaction. Far from rising due to higher oil exports, Canada's trade surplus has turned into a deficit. Canada's balance of payments surplus on goods and services was \$55 billion in 2004. By 2007, it had been cut almost in half due to the rising dollar, even before the recession. It turned negative in 2009, and stood at -\$22 billion in 2011.

The trade deficit, by itself, is not decisive, because the other possible effect of high oil prices is increased investment flows into Canada. If foreign investors want to take advantage of high oil prices by investing in the Canadian oil sector, that also increases the demand for Canadian dollars. In such a situation, it would be normal for the trade balance to decline.

Capital flows can also be considered part of an exchange rate's fundamentals. Some analysts calculate a "fundamental equilibrium exchange rate" that attempts to factor in what the actual capital flows are at any time, whatever the factors driving those capital flows. However, a more realistic view is that the capital flows used in such calculations should be the long-run sustainable flows related to the real fundamentals of saving and investment, and not transitory flows related to market sentiment.

“The Bank of Canada takes the position that about half the rise in the value of the Canadian dollar is due to high commodity prices... However, while high commodity prices may have been causal in econometric terms, that does not mean that this was a necessary outcome.”

“The money coming into Canada is not related to real investment, but is being invested in bonds and money market paper.”

As seen in table 3 below, the money coming into Canada is not related to real investment, but is being invested in bonds and money market paper. When the exchange rate rises due to these inflows, it has the perverse effect of making economic growth weaker and government deficits larger.

This is an undesirable situation where the higher demand for Canadian bonds is allowed to create a correspondingly higher supply. If the exchange rate is allowed to rise because foreign investors want to buy Canadian bonds, economic growth slows, leading to lower tax revenues for governments and larger deficits. This forces them to borrow more from the foreign investors who are so eager to lend to them. The flexible exchange rate, managed with a laissez-faire policy, allows foreign investors to induce the Canadian economy to become more indebted.

In the last few years, we have seen a negative trade balance accompanied by a high dollar. Over that period, Canadians have invested more in foreign companies than foreign investors have invested in Canada.

Canada’s balance on foreign direct investment was an outflow of \$47 billion. The big inflows over this period were in the money market, at \$34 billion, and in the bond market, with a staggering net inflow of \$241 billion over three years. The net purchase of non-controlling portfolio stocks was a modest inflow of about \$10 billion over this period.

TABLE 3

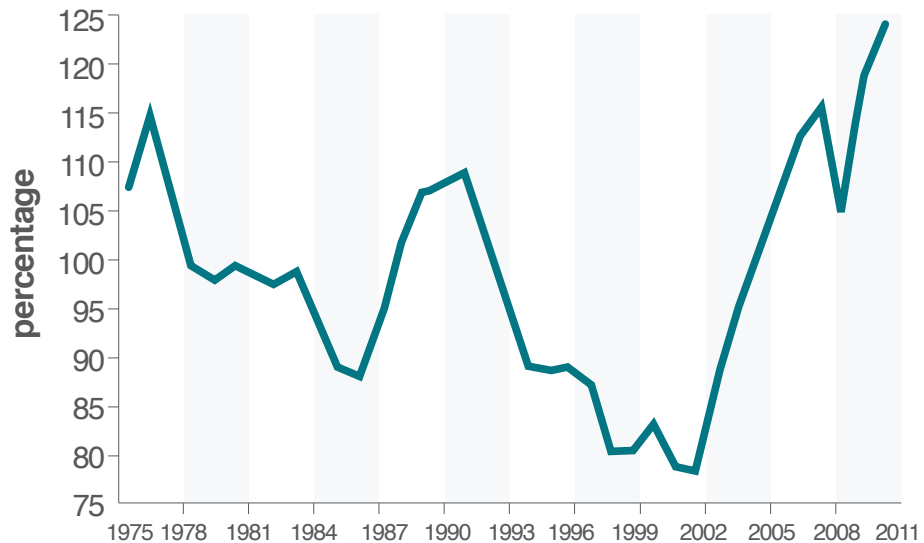
Net balance of capital flows	Cumulative Total from 2009 to 2011 in billions of dollars
Foreign direct investment	-47.3
Purchase of stocks for portfolios	9.9
Money market	33.6
Bonds	241.2

Source: Statistics Canada, Cansim Table 376-0002

The oil price, in its effect on the dollar, plays into the demand for bonds. The market's belief that the Canadian dollar is a petrocurrency, and that world oil prices are likely to stay high, creates confidence that the value of the dollar will stay high. This gives bond buyers confidence that the value of their Canadian bond investments will be safe.

FIGURE 12

Canadian Dollar Relative to its Fundamental Value as Estimated by the OECD



Investors are willing to accept bond yields that are very low by historical standards because Canadian bonds are considered safe and the yield is still higher than on US bonds. At first sight, this might be considered a good thing, as it allows Canadian governments to borrow cheaply. However, it should be remembered that part of the reason why Canadian governments need to borrow is that Canada's exports have deteriorated. If the dollar were lower, economic growth would be considerably stronger, and government deficits would be smaller.

According to the OECD, the fundamental value of the Canadian dollar is only about 81 US cents.¹⁷ The overvaluation of the Canadian dollar by this measure is the largest that has ever been experienced. The general consensus from economic research is that, in the long run, currencies do experience a substantial reversion toward their purchasing power parity (PPP) value.¹⁸

However, this can take many years. The Canadian dollar is likely to soften if the US economy resumes sufficiently strong growth leading the market to anticipate that the Federal Reserve will raise interest rates. Whether this happens in 2014, 2015, or

later is difficult to predict. In the meantime, the longer the overvaluation of the dollar persists, the more Canadian exporters lose market share.

Some supporters of a high dollar policy contend that Canadian workers' wages should be reduced to speed up the adjustment to the higher dollar. Inevitably, there is a gradual adjustment through wages that helps offset the higher dollar. However, this adjustment is not a simple process. The direct wages paid by an exporting company represent only a fraction of its total costs. It buys goods and services from other providers in the Canadian economy (including from government), and wages would need to be reduced all the way across the line. That is why the exchange rate is more than just an ordinary price, and why adjusting to large changes in it is such a slow and painful process.

Potential Policy Responses

The Canadian dollar is not locked into petrocurrency status. There is no fundamental conflict between the success and expansion of Canada's oil sector and its manufacturing sector. The high correlation between the dollar and oil prices can be characterized as being driven by market speculation. If the Bank of Canada is willing to take a more interventionist approach, it is likely that it would be able to assert greater control over the dollar, and steer the economy to a path less damaging to exports of non-oil goods and services.

A large amount of foreign money is coming into Canada due to its reputation for sound monetary and fiscal rectitude. A country that manages its finances well for its own domestic purposes can find that it is a pyrrhic victory. This has been taken to an extreme in the case of Switzerland, a small country that has been the victim of money fleeing the euro crisis.

The Swiss National Bank has responded by setting a ceiling of 1.2 Swiss francs per euro. As noted in a recent OECD report, the SNB "announced it stands ready to purchase unlimited amounts of foreign exchange to enforce the exchange rate ceiling. The SNB argued that the overvaluation of the Swiss franc poses an acute threat to the Swiss economy and that, without the lower limit, there would have been the risk of a deflationary development.

In view of the speed and size of the appreciation, the intervention by the SNB was appropriate to fulfil its mandate to maintain price stability."¹⁹ The Swiss franc appreciated by about 30 percent against the euro over a five year period, which is a

smaller increase than the Canadian dollar experienced against the US dollar over the same period.

It is interesting to note that a key function for a central bank in managing its currency downward is to be assertive in order to affect market psychology. Once it has made its point to speculators, additional steps may not be required. This has been seen in the case of Switzerland. One analyst has observed that “the SNB has stopped having to buy up foreign currencies with new Swiss francs, which it did in earnest to prove its commitment in 2011.”²⁰

The exchange rate has an important role in contributing to the proper macroeconomic functioning of the economy. In some situations, it is appropriate for the value of the Canadian dollar to rise. This would be when the demand for Canadian exports is very strong, causing a trade surplus, full employment, and an overheated economy where inflation is threatening to increase. In these instances, the exchange rate ought to rise in order to dampen the demand for Canadian exports.

These conditions do not currently exist in the economy. As already mentioned, Canada has a growing international trade deficit. Money is flowing into Canada for essentially speculative purposes. Canada, with interest rates around 1 percent compared to 0.1 percent in the United States, and with a reputation for a well managed and reliable financial system, is very attractive to those looking for safe investment.

This has brought more money into Canada than Canadians need. The money is not being invested usefully in long-term productive capital. The Canadian dollar is perceived as a safe haven for investment, but the irony is that the Bank of Canada's lack of intervention to minimize speculation means that the dollar will in fact be more volatile and less secure. The Swiss learned that lesson and have intervened to protect the integrity of their currency.

Canadians would benefit from a lower exchange rate – and one that reflected the dollar's fundamental value. Higher exports and employment would generate more income for Canadians, and would reduce incentives to borrow from foreign lenders.

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“Declaring an upper limit policy target on the value of the Canadian dollar would discourage much of the speculative investment that is coming to Canada.”

Figure 2 (see pg.5) shows the impact of these incentives. The high dollar contributes to lower revenue and income growth in Canada. As a result, tax revenue is lower, deficits are larger, and governments borrow more. Lower income growth, coupled with record low interest rates, creates an incentive for consumers to borrow more than may be prudent for the long term.

A central bank has the power to reduce the value of its own currency by quantitative easing. For example, the Bank of Canada could offset capital inflows by making investments in US government treasury bills. As seen in the Swiss example, a relatively low level of actual spending would likely be required.

Declaring an upper limit policy target on the value of the Canadian dollar would discourage much of the speculative investment that is coming to Canada. For many foreign investors, it is not Canada’s 1 percent interest rate that is tempting, but the prospect that they might earn an additional 5 or 10 percent capital gain if the Canadian dollar goes even higher.

Keeping the currency high to choke off demand would be appropriate as a temporary situation, where the economy is above full employment and inflationary pressures are building. However, Canada is nowhere near that point. The core inflation rate is well below the Bank of Canada’s target value. Alberta, with Canada’s lowest unemployment rate, has an annual inflation rate of only 1 percent.

There is no doubt a sense of national pride that comes with having a strong currency. However, it is incumbent on the Bank of Canada to swallow its pride and admit that the Canadian economy cannot afford it.

Nor would lowering the dollar have much impact on the inflation rate. A recent Bank of Canada article observed that “a substantial empirical literature has shown that the correlation between changes in consumer prices and changes in the nominal exchange rate has been quite low and declining over the past two decades.”²¹

A thorough study by Statistics Canada summed up the situation as follows: “When the Canadian dollar depreciated in the 1990s and early 2000s, the relative prices paid by Canadian consumers did not rise in proportion to the higher costs of imported products. By the late 1990s, the exchange-rate-adjusted prices paid for goods in Canada were near or below the median U.S. price levels. As the dollar then strengthened after 2002, relative price levels in Canada reversed course. Hence, in relation to prices in the United States, Canadians tend to pay less when the dollar devalues, and more when the dollar appreciates.”²²

It may be unrealistic to attempt to reduce the dollar towards its fundamental value of 80 US cents quickly. However, even steps that produced a modest decrease

in the overvaluation would be welcome. One of the highest priorities could simply be to re-assure people that the dollar is not headed for a much higher level than it has already reached. In a totally unregulated market, that remains a risk that confronts any business contemplating an investment or expansion in the Ontario economy.

The example of the ceiling set on the Swiss franc by the Swiss National Bank shows that such a policy is feasible. It is important to note that such steps would not drive the Canadian dollar below its purchasing power parity value. Attempting this would likely prompt strong concerns from Canada's trading partners.

Such uncertainty and volatility are particularly harmful, as noted by Jayson Myers, President of the Canadian Manufacturers and Exporters Association: "If you go back to 2007, the dollar rose from 95 cents to \$1.10, then it fell to 78 cents, and then went back up to parity. Those swings are really difficult to manage. It hurts on the way up and it hurts on the way down. That variability is very difficult, particularly for a small company that simply doesn't have a lot of financial expertise it can call on for hedging."²³

The Bank of Canada is legitimately concerned that Canadian interest rates are too low for Canada's economic conditions. The overheated housing market in some areas of Canada has been an indication of this. Under the standard *laissez-faire* approach, the Bank of Canada cannot increase interest rates (as it might want to), as that would push the dollar even higher. However, having an explicit policy to manage the level of the dollar might provide the secondary benefit of giving the Bank greater flexibility on managing interest rates to better correspond to domestic conditions.

In that regard, the steps taken by Finance Minister Flaherty to regulate the terms of home mortgages appear to have had some success in dampening overheated housing markets. This is a useful lesson in demonstrating that there are more tools available in the monetary policy toolbox than is usually imagined.

It is not always necessary to disturb the whole economy when one sector is out of sync. Consumer lending rates in a highly concentrated and regulated domestic financial system are quite susceptible to regulation.²⁴ Because foreign speculators do not have ready access to retail mortgage markets or consumer lending markets in Canada, raising rates specifically in those sectors allows demand to be dampened without harming exports.

If the domestic demand for borrowing can be cooled off through regulatory means, that would further ease any concern that a lower dollar might produce higher inflation. If necessary, a withholding tax on interest earned by foreign lenders could be considered, as has been done in other countries.²⁵

“The Bank of Canada should... formulate a policy regarding the dollar’s value, and provide assurance to people who make real, productive investments in Canada that their profits will not be vulnerable to exchange rate volatility.”

Canada has had unbalanced economic growth in the last few years. We have had excessive growth in domestic demand (financed by debt) to offset the weak industrial production that has resulted from the overvalued exchange rate. Undertaking measures to gradually lower the dollar so that it approaches its true value, while also controlling retail borrowing through regulatory measures, would help balance the situation.

Conclusions

Central Canada, representing well over half the Canadian economy, has been negatively impacted by the high value of the dollar. The evidence shows that the costs of the currency’s overvaluation outweigh its benefits for Canadians.

It has often been claimed that there is a conflict between the success of Canada’s oil industry and Ontario’s manufacturing sector, and that the value of the dollar cannot be reduced without reducing oil exports. However, the evidence shows that the high dollar is not solely a product of strong oil exports. If fundamental factors such as oil exports were setting the dollar’s value, it would be much lower.

Canada’s trade balance has dropped into a large deficit position since the dollar’s rise, indicating that it is overvalued even taking into account higher energy exports. To the extent that there is an association between the high dollar and high oil exports, it has been fuelled by speculation and does not reflect fundamentals. The Bank of Canada has the policy tools to burst that speculative bubble – ensuring that the Western Canadian resource sector and the Central Canadian manufacturing sector can both be competitive.

Speculators who are buying Canadian money market instruments hope that the Canadian dollar will rise considerably higher than parity with the US dollar. Given the volatility that exists in exchange rate markets, a value of \$1.10 or \$1.20 US for the Canadian dollar is not out of the question, and would yield huge profits for people who have made short-term money market investments in Canada. While it would be a boon for speculators, the possibility that the Canadian dollar might rise much further from its already elevated level poses a serious risk to exporting businesses.

Companies that might otherwise contemplate new business investment in Canada are understandably deterred by this risk element, which would reduce their prospects of exporting profitably from Canada. The Bank of Canada should turn its attention to this. It should formulate a policy regarding the dollar's value, and provide assurance to people who make real, productive investments in Canada that their profits will not be vulnerable to exchange rate volatility. This policy would increase Canada's potential growth rate and would not undermine the Bank of Canada's objective of maintaining a low rate of inflation.

Appendix

Econometric Investigation of Ontario's Net Exports

The key issue to be determined is the quantitative effect of the exchange rate on Ontario's net export position. The appropriate indicator to use is the deviation of the Canadian dollar from its fundamental value. This was depicted in Figure 12 (see pg.21) which shows the ratio of the actual market exchange rate to the PPP value estimated by the OECD.

This ratio was used as an explanatory variable in a regression equation, where the variable to be explained is Ontario's net international exports as a percentage of GDP. The ratio was in the form of a polynomial distributed lag, with a period of four. This reflects the fact that many trade arrangements are done on long-term contracts, and often adjust with a time lag to changes in the exchange rate.

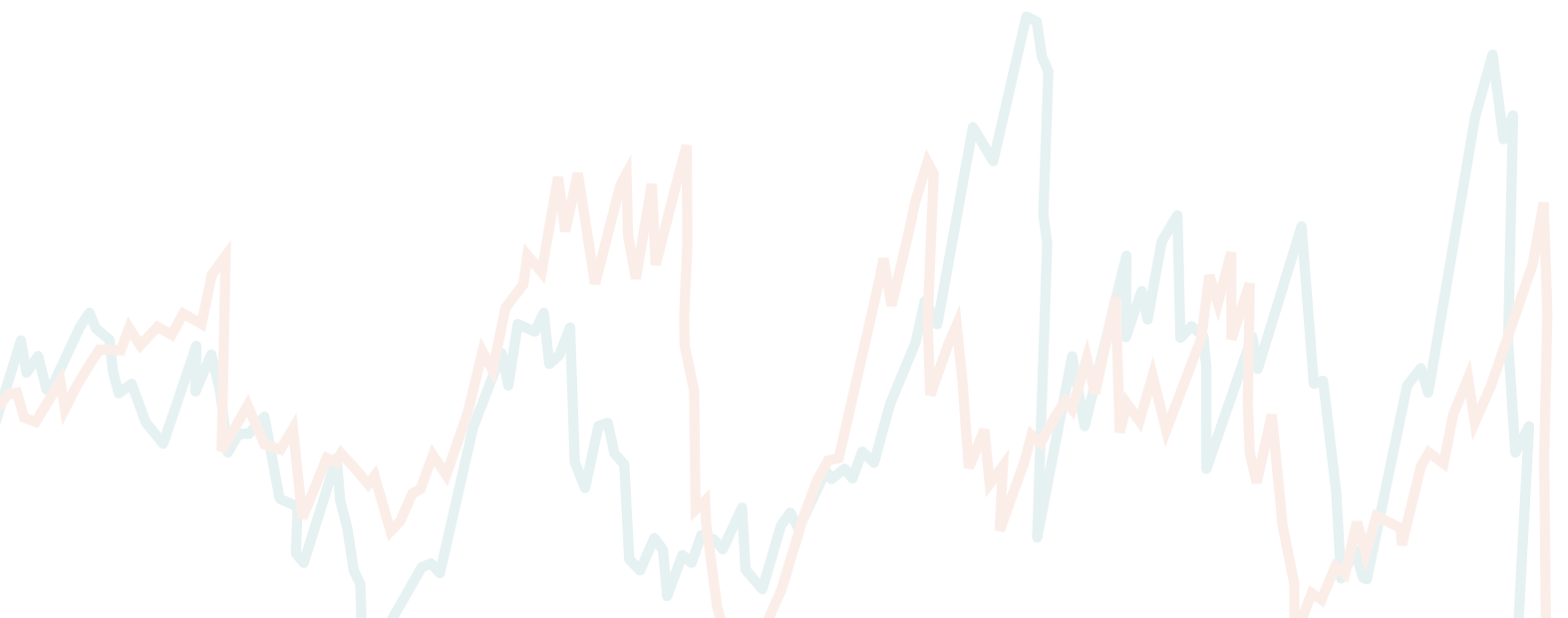
The only other explanatory variable included is the difference between the US and Ontario real GDP growth rates. Its statistical significance is fairly low. The US real GDP growth rate by itself was also tried, and its significance was even lower. The exchange rate clearly dominates Ontario's trade.

The exchange rate to PPP ratio is highly significant. The sum of coefficients on the distributed lag terms implies that elimination of the 25 percent overvaluation of the exchange rate from its PPP value (the situation as of 2012) could increase Ontario's net exports by about 7 percentage points of GDP. The coefficient on the exchange rate term is remarkably stable. The regression was also carried out over a much shorter sample ending in 2002, before the latest run-up in the exchange rate started. As seen in the table below, the sum of coefficients was almost identical to what was found for the longer sample period ending in 2011.

Net balance of capital flows	Sample from 1982-2011 dollars	Sample from 1982-2002
Difference between US and Ontario real GDP growth rates	0.21 (1.43)	0.29 (1.53)
Four year distributed lag of deviation of the Canadian dollar from Purchasing Power Parity	-0.29 (-8.1)	-0.27 (-4.5)
Corrected R ²	0.90	0.81
Durbin-Watson statistic	1.72	1.54

Note: t-statistics are shown in parentheses

As further confirmation of the regression results, a Johansen test finds the net export variable and the exchange rate deviation (with a lag of 3) to be co-integrated at the 99 percent level of confidence.



Endnotes

The author has benefitted from the comments of Matthias Oschinski, Matthew Mendelsohn, Peter Jarrett, Jim Stanford and two anonymous referees.

¹The Bank of Canada issued a recent paper arguing that slow growth in Canada's main export markets is an important factor, while acknowledging that the Canadian dollar has also played a role. However, the variable under discussion there is Canada's declining share of total global exports. In effect, this analysis exaggerates the problem and by doing so provides a misleading diagnosis. Part of the decline of Canada relative to the world is due simply to more rapid growth in newly industrializing countries, whose share of total world production is inevitably rising. However, stronger growth in other countries, other things equal, does not have to cause lower growth in Canada. For example, Ontario's exports could be doing quite well, and the Ontario economy could be operating at full capacity, even though Ontario's share of total global exports is continuously declining. By looking at a larger issue than the one that is actually relevant to Canada, the Bank of Canada mistakenly attributes more of the blame to other factors besides the high dollar. See Daniel de Munnik, Jocelyn Jacob and Wesley Sze, "The Evolution of Canada's Global Export Market Share," Working Paper 2012-31, Bank of Canada.

²Ontario's exports specifically to Alberta follow the same trend as shown in the chart, but data on exports to individual provinces are only available up to 2008.

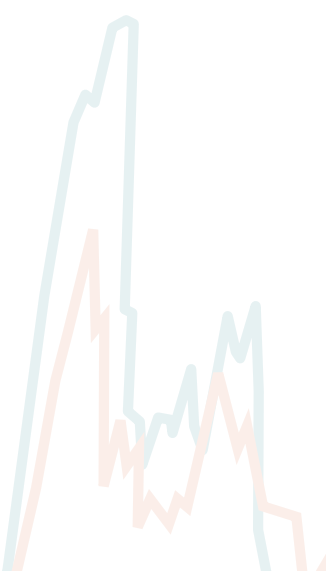
³Philip Cross, "Dutch Disease, Canadian Cure: How Manufacturers Adapted to the Higher Dollar," Macdonald-Laurier Institute, January 16, 2013.

⁴To take one example, Cross's Table 1 shows primary metal manufacturing sales as growing from \$36.1 billion in 2002 to \$48.5 billion in 2011. However, data on real GDP for primary metal manufacturing show it as falling from \$11.1 billion in 2002 to \$10.3 billion in 2011, in constant dollars. Why is GDP so different from sales? The total sales of the primary metal sector represent not just the value of manufacturing work done, but also the value of the underlying minerals that have been purchased from the mining sector and made into finished metal. It confounds mining with manufacturing, and also adds in the price inflation of raw commodities such as gold.

⁵http://www.theglobeandmail.com/report-on-business/economy/economy-lab/why-there-is-little-satisfaction-to-be-found-in-canadian-manufacturing/article7473462/?cmpid=rss1&utm_source=dlvr.it&_rob_utm_medium=twitter

⁶At the present time, only data up to 2008 are available.

⁷John R. Baldwin, Jean-Pierre Maynard, Marc Tanguay, "A Comparison of Canadian and U.S. Productivity Levels: An Exploration of Measurement Issues." Economic Analysis Research Paper Series, Statistics Canada Catalogue no. 11F0027MIE No. 028, 2005, at p. 6.



⁸Statistics Canada estimates that about half of the entire productivity gap between Canada and the United States is caused by the unincorporated business sector. John Baldwin, Danny Leung, and Luke Rispoli, "Labour Productivity of Unincorporated Sole Proprietorships and Partnerships: Impact on the Canada-United States Productivity Gap," Economic Analysis Research Paper Series, Statistics Canada Catalogue no. 11F0027M - No. 071, 2011.

⁹"Export Market Dynamics and Plant-level Productivity: Impact of Tariff Reductions and Exchange Rate Cycles," by John Baldwin and Beiling Yan, Economic Analysis Research Paper Series, Statistics Canada, 2010. It should be noted that this study only went up to 2006, and the Canadian dollar has appreciated further since then.

¹⁰Further analysis can be found in the author's paper "A Sectoral Analysis of Ontario's Weak Productivity Growth," January 2013, at www.peterspiro.com/sectoralproductivity.pdf

¹¹Data obtained from Cansim Table 031-0002.

¹²The figures cited here are in actual dollars. Optimists will point out that much equipment is imported, and it now costs less to purchase due to the stronger dollar. However, if total spending has gone down as a result of this, in spite of tax cuts, that suggests a disappointingly low price elasticity of demand for investment. As of November 19, 2012, Statistics Canada has substantially rebased and revised its investment data, and history is only available back to 2007. In real terms, machinery and equipment investment as a share of GDP was about 4.8 percent in 2011, virtually the same as in 2008, in spite of the large intervening tax cuts which under ordinary circumstances ought to have substantially boosted investment.

¹³Press Conference, Ottawa, April 18, 2012, <http://www.reuters.com/article/2012/04/18/canada-carney-idUSL2E8FI8GD20120418H>

¹⁴R. Issa, R. Lafrance, and J. Murray, "The Turning Black Tide: Energy Prices and the Canadian Dollar." Bank of Canada Working Paper No. 2006-29.

¹⁵David Laidler, "The Exchange Rate Regime and Canada's Monetary Order," Bank of Canada Working Paper 1999-7, referring to the Bank of Canada model at footnote 9, stated that "a fall in the price of oil strengthens the Canadian dollar, and vice-versa."

¹⁶In the sample prior to up to 2006, the correlation coefficient between the dollar and oil prices was only 0.32. In the period starting in 2007, the correlation more than doubled to 0.76.

¹⁷The OECD looks at the relative prices of purchasing goods and services in different countries to estimate the purchasing power parity value of different currencies. Data are available from http://stats.oecd.org/Index.aspx?DatasetCode=SNA_TABLE4.

¹⁸For surveys of the research, see Robert Lafrance and Lawrence Schembri, "Purchasing-Power Parity: Definition, Measurement, and Interpretation," Bank

of Canada Review, Autumn 2002; and Alan M. Taylor and Mark P. Taylor, "The Purchasing Power Parity Debate," *Journal of Economic Perspectives*, Fall 2004.

¹⁹OECD Economic Surveys: Switzerland, January 2012, p. 8

²⁰Timothy B. Lee, "Central Banks Are Never Out of Ammunition", *Forbes*, May 31, 2012, quoting Evan Soltas. <http://www.forbes.com/sites/timothylee/2012/05/31/central-banks-are-never-out-of-ammunition/>

²¹Jeannine Bailliu et al, "Has Exchange Rate Pass-Through Really Declined? Some Recent Insights from the Literature." *Bank of Canada Review*, Autumn 2010. The authors strain mightily to find some caveats, but the bottom line is that exchange rate pass-through is generally quite low, as documented by the Statistics Canada study that followed two years later.

²²Guy Gellatly and Beiling Yan, "New Evidence on Exchange-rate-adjusted Prices in Canada" *Statistics Canada Economic Insights*, Catalogue no. 11-626-X — No. 002, 2012. The failure of Canadian consumer prices to drop to fully reflect the high dollar has also been emphasized by Doug Porter, "Loonie's Leap: Mind the (Price) Gap." *Special Report*, BMO Capital Markets Economics, 2009.

²³Richard Blackwell, "Thriving in the era of the strong loonie." *The Globe and Mail*, Wednesday, Sep. 26 2012.

²⁴As an example of the type of fine-tuning that is possible, Douglas Peters and Arthur Donner have proposed a "penalty tax" on new mortgages if necessary to cool an overheated housing market. (*Toronto Star*, May 10, 2012.) Douglas Peters is a former Chief Economist of TD Bank and former Secretary of State for International Financial Institutions.

²⁵A recent IMF paper provides some insights on this issue. It is written from the perspective of emerging economy countries, but some of the ideas are relevant to Canada as well. Jonathan D. Ostry, Atish R. Ghosh, and Marcos Chamon, "Two Targets, Two Instruments: Monetary and Exchange Rate Policies in Emerging Market Economies," *IMF Staff Discussion Note*, February 2012.

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