Mark Carney: Dutch disease

Remarks by Mr Mark Carney, Governor of the Bank of Canada and Chairman of the Financial Stability Board, to the Spruce Meadows Round Table, Calgary, Alberta, 7 September 2012.

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Introduction

Some regard Canada's wealth of natural resources as a blessing. Others see it as a curse.

The latter look at the global commodity boom and make the grim diagnosis for Canada of "Dutch Disease."[1] They dismiss the enormous benefits, including higher incomes and greater economic security, our bountiful natural resources can provide.

Their argument goes as follows: record-high commodity prices have led to an appreciation of Canada's exchange rate, which, in turn, is crowding out trade-sensitive sectors, particularly manufacturing. The disease is the notion that an ephemeral boom in one sector causes permanent losses in others, in a dynamic that is net harmful for the Canadian economy.

While the tidiness of the argument is appealing and making commodities the scapegoat is tempting, the diagnosis is overly simplistic and, in the end, wrong. Canada's economy is much more diverse and much better integrated than the Dutch Disease caricature. Numerous factors influence our currency and, most fundamentally, higher commodity prices are unambiguously good for Canada.

That is not to trivialise the difficult structural adjustments that higher commodity prices can bring. Nor is it to suggest a purely *laissez-faire* response. Policy can help to minimise adjustment costs and maximise the benefits that arise from commodity booms, but like any treatment, it is more likely to be successful if the original diagnosis is correct.

The global outlook

The global economy is experiencing a broad-based deceleration from an already modest pace.

A new normal for the United States

The U.S. recovery is following the same dreary path of other advanced economies that have experienced financial crises. GDP growth has averaged just 2.2 per cent since the trough in 2009. Indeed, it is only with justified comparisons to the Great Depression that the success of the U.S. policy response is apparent.

The only good news is that some progress on repairing balance sheets is being made.

U.S. banks have substantially increased their capital (common equity to total assets is up by more than 25 per cent). American households have recovered more than two-thirds of the $16 trillion fall in their net worth in the aftermath of the crisis, though we estimate that it will take several more years for households to make up the balance.

Despite this, total debt in America has barely fallen from its peak of 250 per cent of GDP – a level last seen in the Great Depression. This is because U.S. government debt has increased $4 for every $1 reduction of household debt. Such treading water will persist for some time

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[1] The term "Dutch Disease" was first coined by The Economist in 1977 to describe the poor performance of the Dutch economy after a major natural gas discovery.

since private domestic demand is still not sufficiently robust to outweigh an aggressive fiscal tightening.

Bottom line, with less capital investment and more structural unemployment, the Bank estimates that the U.S. economy will remain over $1 trillion smaller in 2015 than we had projected prior to the crisis (***Chart 1***).

Even in this room, that is a big number.

An existential crisis in Europe

Europe is stagnating with GDP still 2 per cent below its pre-crisis peak and private domestic demand a stunning 6 per cent below. A tough combination of fiscal austerity and structural adjustment will mean falling wages, high unemployment and tight credit conditions. As a consequence, Europe is unlikely to return to its pre-crisis level of GDP until a full seven years after the start of its *last* recession.

Given ties of trade, finance and confidence, the rest of the world is feeling the effects.

Europe's contraction is driving banking losses and fiscal shortfalls. But these challenges are merely symptoms of an underlying sickness: a balance of payments crisis.

To repay the creditors in the core, the debtors of the periphery must regain competitiveness. This will be neither easy nor quick.

The burden cannot solely be on increasing unemployment and reducing wages in countries like Spain. An increase in German wages (and inflation) would ease the transition, especially if the structural reforms now under way across the deficit countries actually boost productivity.

Important measures have been announced over the summer to begin to restore the single financial market, break the toxic links between banks and sovereigns and, potentially, help ensure that all euro-area countries can finance at more sustainable rates.

All of these measures need to be fully implemented, not just announced. In that regard, the Bank very much welcomes yesterday's announcement by the European Central Bank (ECB) of significant new measures to address convertibility risk and improve the transmission of monetary policy. However, it will take some time to restore market confidence, and it will take years for fiscal and structural adjustments to work. Moreover, the discussions over the federal institutions that may be ultimately required to support a durable monetary union are still in their infancy.

Emerging-market economies

In China and other emerging economies, the deceleration in growth in recent months has been greater than anticipated, reflecting past policy tightening, weaker external demand and the challenges of rebalancing to domestic sources of growth.

Real GDP in China grew 7.6 per cent in the second quarter – the slowest pace in three years. Recent data suggest continued softening in this quarter.

In part, this reflects a welcome policy-induced slowdown from the increasingly unsustainable rates of growth in recent years. With large vulnerabilities building in the housing sector, evidence of overinvestment increasing, and inflation above target, Chinese policy-makers appropriately responded by tightening monetary and macroprudential policies.

Less anticipated has been the extent to which weaker external demand, especially from Europe, has weighed on export growth.

More recently, in light of slowing growth and moderating price pressures, the People's Bank of China has eased monetary policy and the fiscal stance has been relaxed. In both regards, authorities retain considerable additional policy flexibility. The Bank of Canada expects

Chinese growth to average about 7.5 per cent over the next few years, materially below the unsustainable double digit rates seen since the trough of the crisis.

The diagnosis

Why we expect commodity prices to remain elevated

Given the strains on global growth, commodity prices have fallen 13 per cent since their peak in April of last year and can be expected to remain volatile.

Nonetheless, prices are still about 25 per cent above their longer-term averages in real terms.

In fact, real prices for energy and metals have been well above their long-term averages for more than 7 years, and real food prices are now at their highest level in 35 years (***Chart 2***).

Throughout the current, decade-long boom, the scale of price increases has been higher, and the range of affected commodities broader, than in previous upturns. Since 2002, prices for metals and grains have more than doubled, while crude oil prices almost quadrupled.

The question is whether such strength will persist.

The Bank's view is that a large, sustained increase in demand is the primary driver of elevated prices. The breadth and durability of the commodity rally underscore this conclusion.

Rapid urbanisation underpins this growth. Since 1990, the number of people living in cities in China and India has risen by roughly 500 million, the equivalent of housing the entire population of Canada every 18 months (***Chart 3***). Despite the current, sharp cyclical slowdowns in China and India, this secular process can be expected to continue for decades.

So, even though history teaches that all booms are finite, with convergence to Western levels of consumption still a long way off, the demand for commodities can be expected to remain robust and prices elevated.

In Canada, the impact of rising commodity prices has been reinforced by strong growth in the supply of some commodities. Oil is now our most important commodity by value (***Chart 4***), with its share rising over the past 15 years from 18 per cent to 46 per cent of total Canadian commodity production.

The declining importance of manufacturing

Coinciding with this period of elevated commodity prices, the share of the manufacturing sector in Canadian GDP has declined since the turn of the century from 18 per cent to around 11 per cent.

For the promoters of Dutch Disease, this is the "a-ha" fact, with the coincidental relationship described as causal. With a broader view, however, it is evident that the decline in manufacturing is only partially in response to the rising exchange rate and, in fact, is part of a broad, secular trend across the advanced world (***Chart 5***). Major forces of globalisation and technological change have dispersed manufacturing activity across borders, increasingly concentrating the highest value-added *stages* of production in advanced economies.

In 1970, Canada's manufacturing-to-GDP ratio was 6 percentage points below the average of members of the Organisation for Economic Co-operation and Development (OECD). Today, it is 3 percentage points behind. Likewise, the share of jobs in manufacturing has declined, but not as steeply as it has in our commodity-importing neighbour to the south (***Chart 6***). Although the adjustment has been difficult, it has occurred over a longer period of time than the boom in commodity prices and, in general, Canada has not lost ground relative to other advanced economies.

What drives the currency?

The coincident strength of commodity prices and the Canadian dollar in recent years has been treated by some as *prima facie* evidence of Dutch Disease in Canada. But this diagnosis ignores the fact that the Canadian dollar is influenced by a diverse set of factors.

Commodity prices do play a role. Canada is a net exporter of commodities while our main trading partner, the United States, is a net importer. This causes our respective terms of trade to move in opposite directions in response to commodity-price changes. As a result, the Canada-U.S. exchange rate tends to appreciate when global commodity prices rise (***Chart 7***).[2]

But this is just the beginning of the story, accounting for about one-half of the appreciation of our currency over the past decade. Other factors also play important roles.

Since 2002, the U.S. dollar has depreciated against many currencies, including those of both commodity exporters and importers. The Canadian dollar has appreciated against the U.S. dollar by an amount similar to that of the currencies of two major commodity importers, Japan and the euro area (***Chart 8***).

Overall, the Bank estimates that about 40 per cent of the appreciation of the Canadian dollar since 2002 is due to the multilateral depreciation of the U.S. dollar.

The balance of the appreciation reflects forces other than U.S.-dollar weakness and commodity prices. In particular, a variety of attributes make Canada an attractive investment destination, including our sound public finances, resilient financial system, and credible monetary policy.

These strengths limit the downside risk associated with Canadian assets, making Canada a rare safe haven in a risky world.

This status is reflected in the behaviour of Canadian 10-year yields, which tend to decline at the same time as risky assets such as global equity prices. This correlation suggests that money flows into Canadian bonds in response to increases in perceived risk. Indeed, by this measure, Canada's safe-haven status is second only to the United States and the United Kingdom (***Chart 9***). This was not always the case. During the Great Moderation, this correlation was essentially zero (***Chart 10***).

How commodity revenues affect our economy

The symptoms we are seeing are not those of Dutch Disease but rather of structural changes in the global economy to which Canada must adjust. Although these changes create pressure, their overall impact is positive.

Analysis using the Bank of Canada's main projection model – the Terms-of-Trade Economic Model (ToTEM) – illustrates how different types of shocks to the supply and demand for commodities impact the Canadian economy.[3]

Regardless of the cause of a commodity-price increase, Canada's improved terms of trade cause income, wealth and GDP to rise (***Chart 11***). In all cases, the Canadian dollar appreciates, but its adverse impact on our non-commodity exports is partially offset by the fact that a stronger currency reduces the cost of productivity-enhancing machinery and equipment and imported inputs to production.

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

[3] ToTEM is well-suited to this type of analysis. As its name suggests, the model was designed to capture the effects of terms-of-trade movements on the Canadian economy. The model has been estimated using state-of-the-art techniques and it fits the key relationships in the data well.

Consider three different cases that cause energy prices to rise 20 per cent, or roughly the increase that occurred between mid-2010 and 2011.

When the source of the commodity-price increase is stronger U.S. demand,[4] the impact on Canadian GDP is greatest: just over a 3 per cent increase after five years, equivalent to about $57 billion. This is because the improvement in Canada's terms of trade is strongly reinforced by greater demand for our non-commodity exports. In fact, this additional demand more than offsets the competitiveness losses in manufacturing and services stemming from higher wages, higher resource prices and a stronger dollar.

This scenario is the commodity cycle as we used to know it. It is fast becoming a historical artefact.

When, as is now the case, stronger demand from emerging Asia is the cause of the rise in energy prices, the net increase in GDP is about 1 per cent after five years, or one-third of the impact of the U.S. demand shock. This more muted response is because Canada has relatively little direct exposure to these export markets. Therefore, there is less additional demand to offset the competitiveness effects.

Finally, an increase in commodity prices driven by a transitory reduction in commodity supply generates the smallest GDP benefits, about 0.2 per cent in the first year. In this case, the adverse impact of the appreciation is reinforced by the decline in economic activity in the rest of the world caused by the supply disruption.

The run-up in oil prices in the past few weeks is an example of a commodity shock that provides only marginal benefit to Canada.

In all three cases, the impact of increased economic activity in Canada on underlying inflation is largely offset by an appreciation of our exchange rate. This helps limit the direct impact of higher commodity prices on the prices all Canadians pay for food, gas and other commodity-intensive goods.

When commodity prices increase, revenues from the resource sector spread through the Canadian economy via three channels: fiscal redistribution, especially by the federal government; personal wealth increases, through income and ownership of stock; and interprovincial trade.

It is important to recognise that, for almost all the provinces, trade inside Canada has grown fast enough to offset a significant portion of the declines in international trade. Central Canada, for instance, suffered a real decline in international exports of $18 billion between 2002 and 2008, which was almost entirely offset by increases in interprovincial exports of $16 billion.

Some of this reflects increased sales to Western Canada from Central Canadian machinery makers, primary metal producers, and chemical companies.

Much of the gains in interprovincial trade volumes were in services rather than goods, which was where most of the declines in international exports occurred. Well-paid services, such as professional, mining, and financial services, play a significant role in increased trade between Central Canada and Alberta (***Charts 12*** and ***13***).

Improving Canada's economic health

Recognising that higher commodity prices are good for the Canadian economy does not mean that policy has no role. The first objective of policy, of course, should be to do no harm. This brings me to the exchange rate.

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[4] Modelled as an increase in U.S. potential output.

Should the bank lean against the exchange rate?

Some have argued that the Bank of Canada could improve welfare by leaning against commodity-driven movements in the nominal exchange rate.

It is important to remember that with changes in the terms of trade, adjustments will follow. It is only a question of how. Our floating exchange rate helps to achieve the appropriate adjustments without forcing very difficult changes in the overall levels of wages, output and prices.

We can use ToTEM to simulate the effect of the Bank leaning against a commodity-driven exchange rate appreciation through a reduction to the policy rate. In the short run, stabilising the nominal exchange rate helps to support non-commodity exports as well as Canadian producers who face competition from imports. But, ultimately, this effort is futile. Over time, wages and inflation rise, causing the real exchange rate to appreciate. Non-resource exporters are faced with the same competitiveness challenges as they are today.

Moreover, this leads to a sustained period of above-target inflation, which begins to unhinge inflation expectations. Monetary policy eventually has to tighten aggressively to restore price stability. The cost of this misadventure is lower output of about 1 per cent and higher volatility in inflation, output and employment than when the exchange rate is allowed to do its work (***Chart 14***). The outcome could be even worse if the Bank cannot quickly re-establish its credibility after betraying earlier commitments to Canadians.

So, in general, the Bank does not intervene, except in exceptional circumstances, such as if there were signs of a serious near-term market breakdown or if extreme currency movements seriously threatened the conditions that support sustainable long-term growth of the Canadian economy.[5]

The Bank does take the exchange rate into account in setting policy. The persistent strength of the Canadian dollar has been one of the reasons why monetary policy has been exceptionally accommodative for so long.

Improve our exposure to countries driving the commodity cycle

Economic activity in our major trading partners – particularly the United States – is no longer the main driver of commodity demand growth.

Research at the Bank and elsewhere suggests that, while oil and metals prices have historically moved with the business cycle in the advanced world, this relationship has broken down over the past decade. In particular, industrial activity in emerging Asia now appears to be the dominant driver of oil-price movements (***Chart 15***).[6]

Our reliance on the United States, which still takes nine times as many of Canada's exports as fast-growing emerging-market economies, is an issue only if we expect U.S. underperformance relative to both history and the rest of the world to continue. Unfortunately, that is what we must expect for some time, as the United States goes through a difficult adjustment process.

In this context, the only way to recover the beneficial correlation between commodity prices and demand for Canadian manufacturing exports is to diversify our export markets toward fast-growing emerging markets. That is one of the many reasons why Canada is pursuing an aggressive, emerging-market-focused trade strategy.

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[5] Bank of Canada, "Intervention in the Foreign Exchange Market," 2010.

[6] C. Cheung and S. Morin, "The Impact of Emerging Asia on Commodity Prices," Working Paper No. 2007–55, Bank of Canada, 2007.

Capture more value added in Canada

Our challenge is to develop our commodities intelligently and sustainably. Eastern Canadian consumers are importing oil and paying the global price, at an average $35 premium to the price received by Western heavy oil producers over the past year. New energy infrastructure-pipelines and refineries could bring more of the benefits of the commodity boom to more of the country.

Other new markets can be found at home. For example, as of November 2011, 255 Ontario firms were suppliers to the Canadian oil sands.[7] As well, Ontario's exports of mining-related services to Alberta grew 44 per cent in the last year measured. Capturing more of the value added in commodity production, from energy to agriculture, remains a tremendous opportunity for all of Canada.

We should also recognise that, in an era of high resource prices, better operating efficiency, improved resource management and products with a more sustainable environmental footprint make commercial and social sense. Advances in building energy efficiency, enhanced farm yields and power plant performance would pay immediate domestic dividends.

However, the real prize may be in emerging markets, which contain an estimated 85 per cent of the resource productivity opportunities in the world.[8]

Improve interprovincial mobility

Crucial to capturing value added in Canada is ensuring that workers across the country can fully utilise their skills. A common complaint, especially in this province, is the lack of skilled labour. Research by the Bank of Canada and others shows there are implicit and explicit barriers created by provincial borders; for example, differences in occupational licensing, which deter interprovincial migration.[9] The New West Partnership Trade Agreement could be an important step to bringing down such barriers. For Canada as a whole, amendments agreed to in 2009 to the Agreement on Internal Trade (AIT) to encourage interprovincial mobility of regulated professionals and skilled trades have similar potential, if implemented.

Increase skills to compete

With technology and trade transforming the workplace, the need to improve skills across the spectrum of work has never been greater.

First, we need to continue to improve the skills of our managers. Only one third of managers in Canada have a university degree, compared with almost half of American managers.[10]

Second, we need to grow further and target better our already high level of post-secondary attainment. Even though Canada has the highest level of tertiary education in the OECD, only 60 per cent of our graduates work full-time, compared with the OECD average of 75 per cent. Further, 20 per cent of university-educated adults earn less than half the median wage.

Quite simply, we need a lot more graduates in skilled trades as well as sciences, technology, engineering and math. STEM degree holders earn a $500,000 average lifetime wage

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[7] Canadian Association of Petroleum Producers (CAPP).

[8] R. Dobbs, J. Oppenheim, F. Thompson, M. Brinkman and M. Zornes, "Resource Revolution: Meeting the World's Energy, Materials, Food, and Water Needs," McKinsey Global Institute Report, November 2011.

[9] D. Amirault, D. de Munnik and S. Miller, "What Drags and Drives Mobility: Explaining Canada's Aggregate Migration Patterns," Working Paper No. 2012–28, Bank of Canada, 2012.

[10] Institute for Competitiveness and Prosperity, "Management Matters," 2009; N. Bloom, "Management and Productivity in Canada: What Does the Evidence Say?," Industry Canada, Working Paper No. 2011–05.

premium and can be up to five times less likely to be unemployed.[11] To develop our full resource potential and to compete in advanced manufacturing, our firms will increasingly need workers with such skills.

Third, we need to continue to focus on skills upgrading and (re)training for existing workers to make up for historic underinvestment in these areas.[12]

Sustained business investment

The scale of the resource opportunity and the challenges of succeeding in a fiercely competitive global economy are some of the reasons why the Bank expects sustained business investment.

Since the start of the recession, total Canadian business investment has been below average, while investment in machinery and equipment has been near average, in comparison with other postwar recoveries (***Charts 16*** and ***17***). With the strongest balance sheets on record (***Chart 18***) and benefiting from one of the most resilient financial systems in the world, the need for Canadian firms to build additional precautionary cash balances appears limited.

There is a balance between prudence and action. Yes, there are immense uncertainties in the world economy, but we need to focus on what we can control.

We can't save the Euro, fix America's fiscal cliff or restart their housing market. Should we just wait out a decade-long deleveraging process in the crisis economies? Should we lower our expectations? Or should we control our destiny by building on our strengths in the new global environment?

Conclusion

Building on our strengths requires that we respond appropriately to the opportunities the global transformation affords us. That starts with recognising that the strength of Canada's resource sector is a reflection of success, not a harbinger of failure.

The logic of Dutch Disease requires that we undo our successes in order to depreciate our currency. Taken to its natural conclusion, this logic dictates that we shut down the oil sands, abandon our resource wealth, have high and variable inflation, run large fiscal deficits and diminish our financial sector.

Such actions would surely weaken the Canadian dollar, but they would also weaken Canada.

In a world of elevated commodity prices, it is better to have them. Bank of Canada research shows that high commodity prices, regardless of the cause, are good for Canada. Rather than debate their utility, we should focus on how we can minimise the pain of the inevitable adjustment and maximise the benefits of our resource economy for all Canadians.

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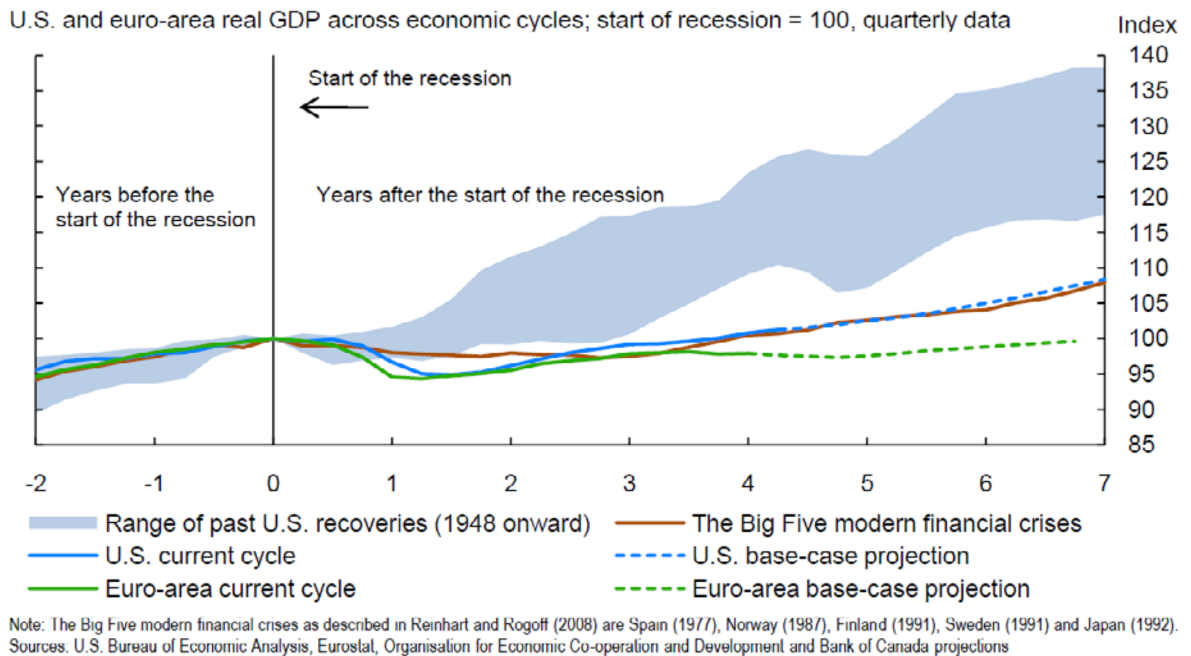
[11] R. Dobbs, A. Madgavkar, D. Barton, E. Labaye, J. Manyika, C. Roxburgh, S. Lund and S. Madhav, "The World at Work: Jobs, Pay, and Skills for 3.5 Billion People," McKinsey Global Institute, June 2012.

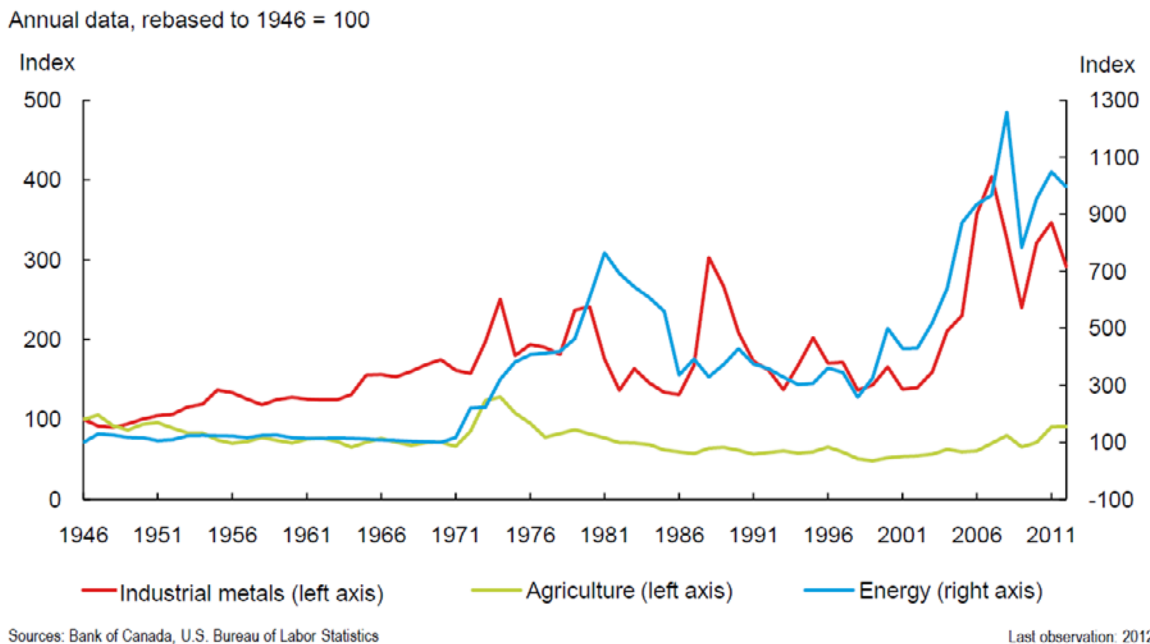
[12] One third of Canadian workers (31 per cent) participate in job-related, non-formal training (compared with the OECD average of 28 per cent). But the number of hours spent in training is relatively low-the average Canadian worker spends 15 hours in job-related, non-formal training per year, compared with an OECD average of 18 hours. In Germany, the average is 26 hours. In Scandinavian countries, adults spend 35–40 hours per year in job-related, non-formal training. See OECD (2011), Education at a Glance 2011: OECD Indicators, OECD Publishing.

Chart 1: U.S. and euro-area recoveries are particularly weak



Note: The Big Five modern financial crises as described in Reinhart and Rogoff (2008) are Spain (1977), Norway (1987), Finland (1991), Sweden (1991) and Japan (1992).
Sources: U.S. Bureau of Economic Analysis, Eurostat, Organisation for Economic Co-operation and Development and Bank of Canada projections

Chart 2: Most commodity prices well above historical averages



Sources: Bank of Canada, U.S. Bureau of Labor Statistics

Last observation: 2012

Chart 3: Massive, rapid urbanization to continue in Asia

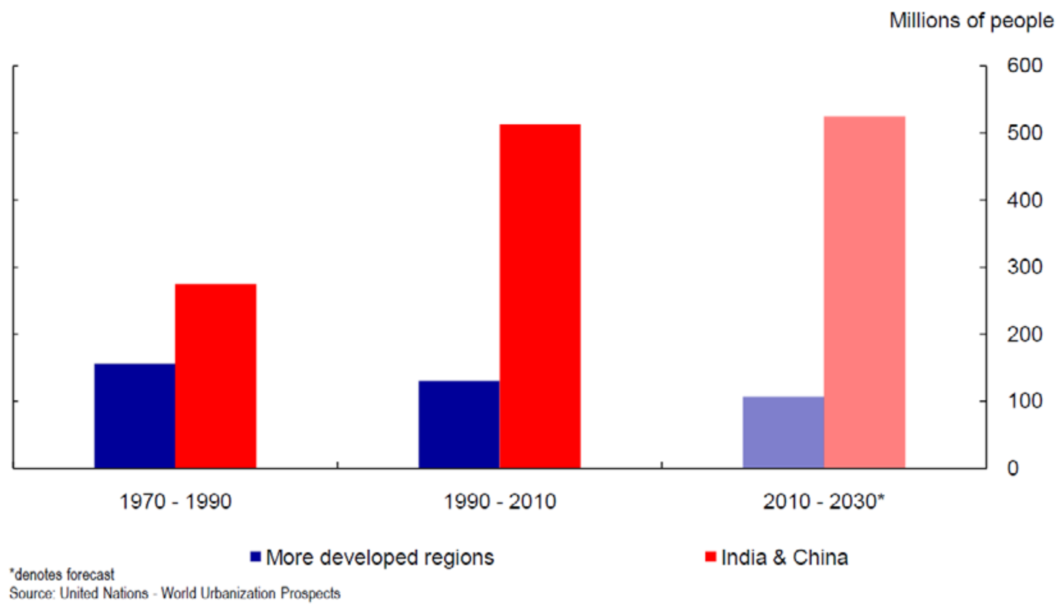


Chart 4: Oil is now Canada's most important commodity

Weights of sub-components of BCPI

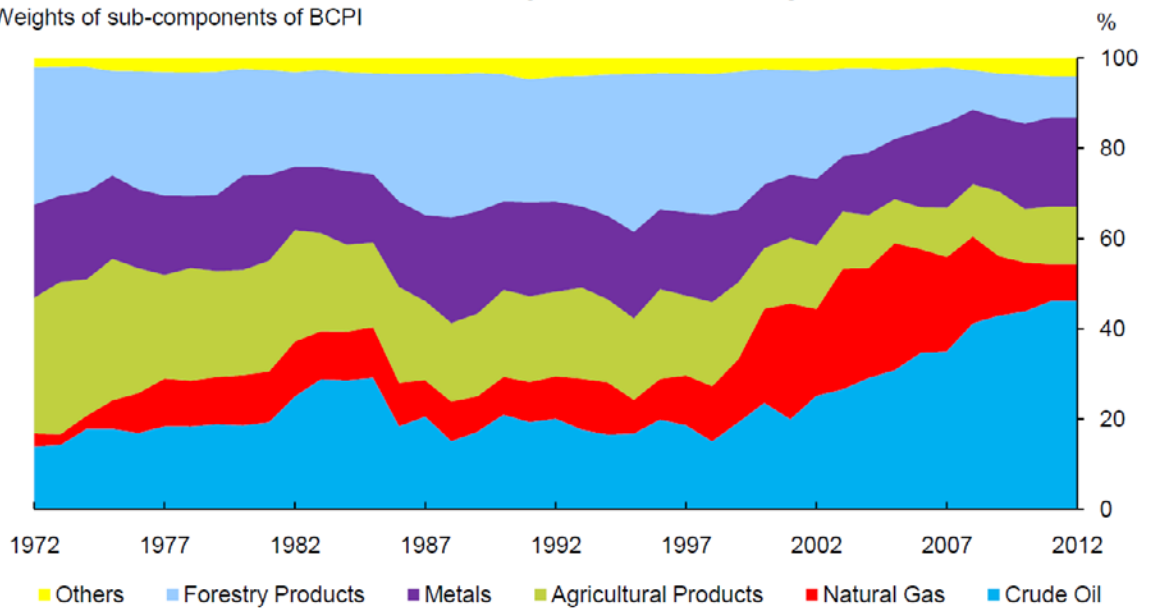
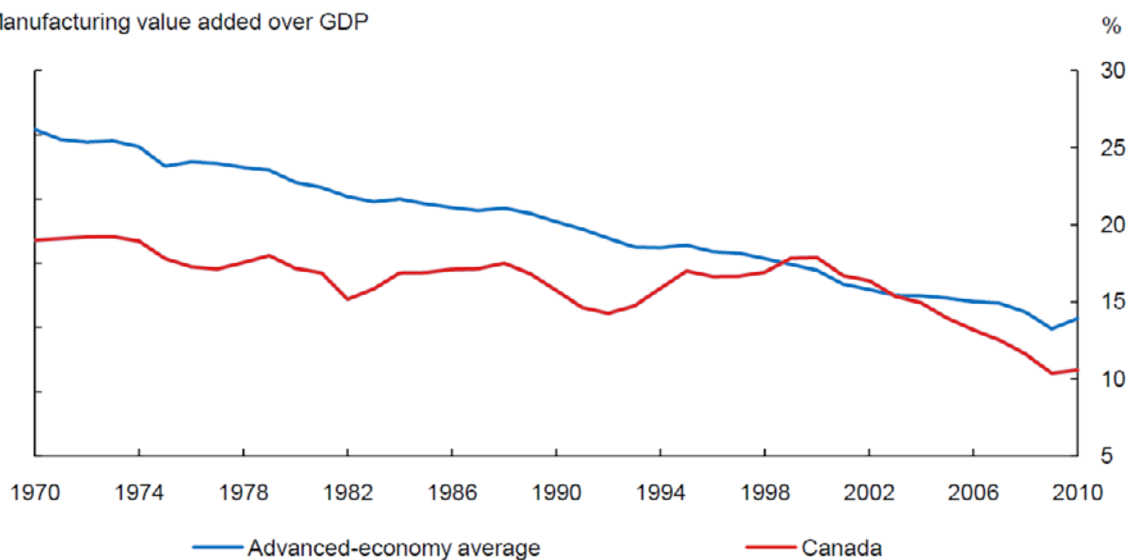


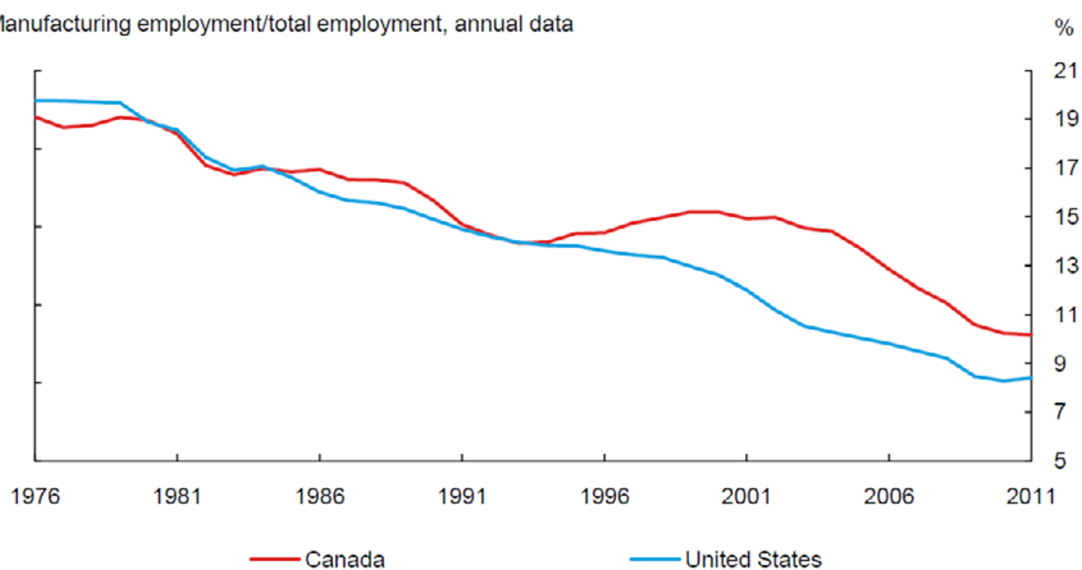
Chart 5: Secular decline of manufacturing across advanced world



Note: The advanced-economy average is that of the 1973 members of the OECD. The weighting is by GDP at purchasing power parity.
Sources: United Nations National Accounts Database; University of Pennsylvania, Penn World Table, Version 7.1;
IMF World Economic Outlook database (April 2012)

Last observation: 2010

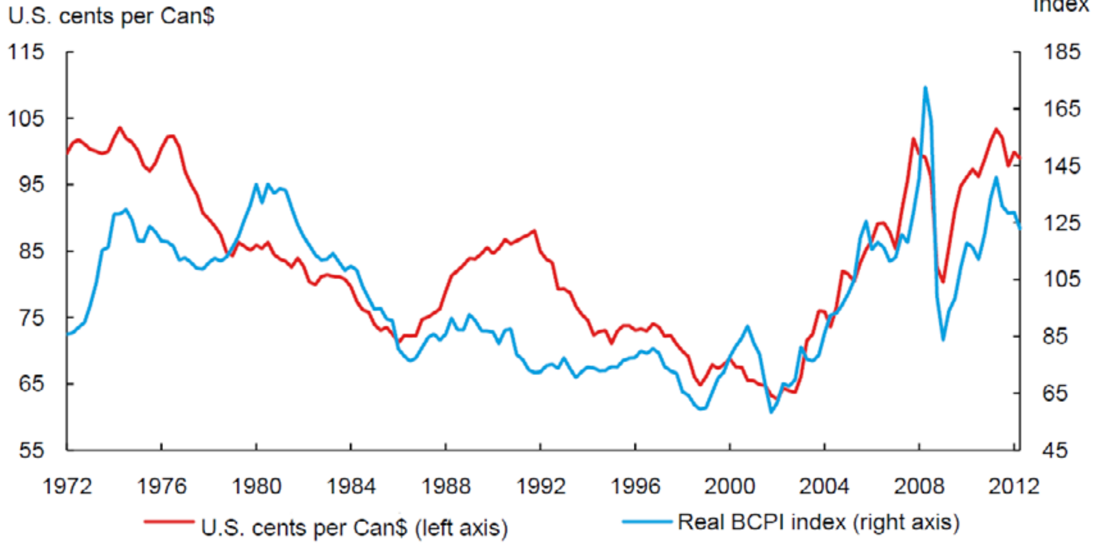
Chart 6: Share of manufacturing jobs down more steeply in the U.S.



Sources: Statistics Canada and U.S. Bureau of Labor Statistics

Last observation: 2011

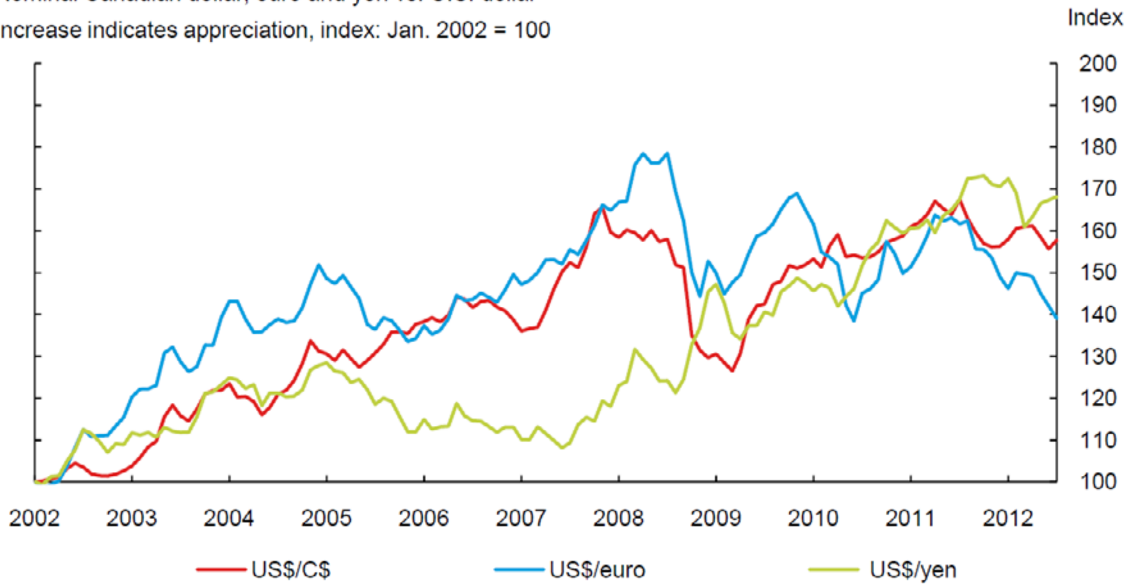
Chart 7: Canadian dollar correlated with commodity prices



Source: Bank of Canada and staff calculations

Last observation: 2012Q2

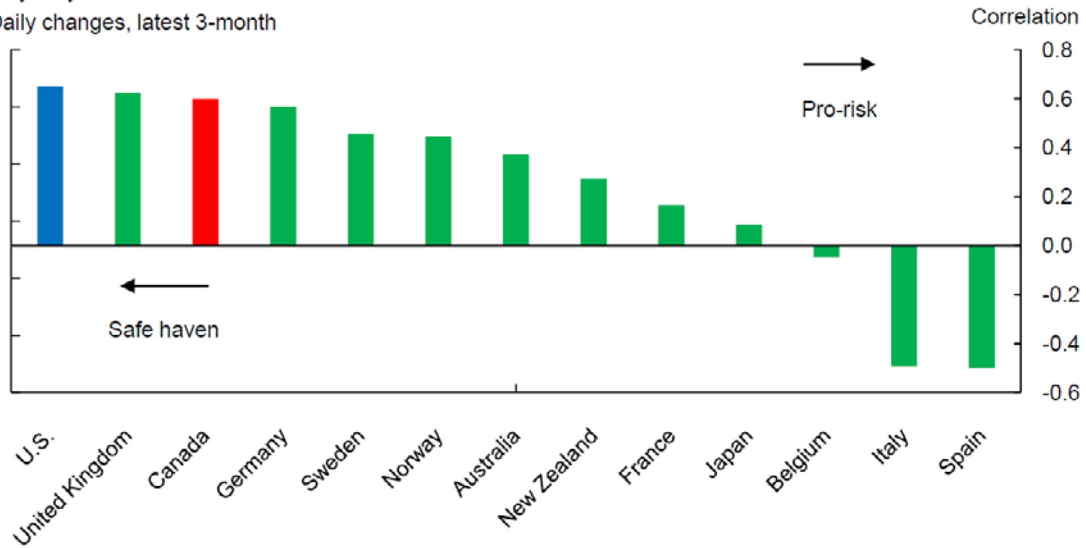
Chart 8: Canadian-dollar appreciation similar to euro and yen



Sources: Federal Reserve Board, Haver Analytics

Last observation: July 2012

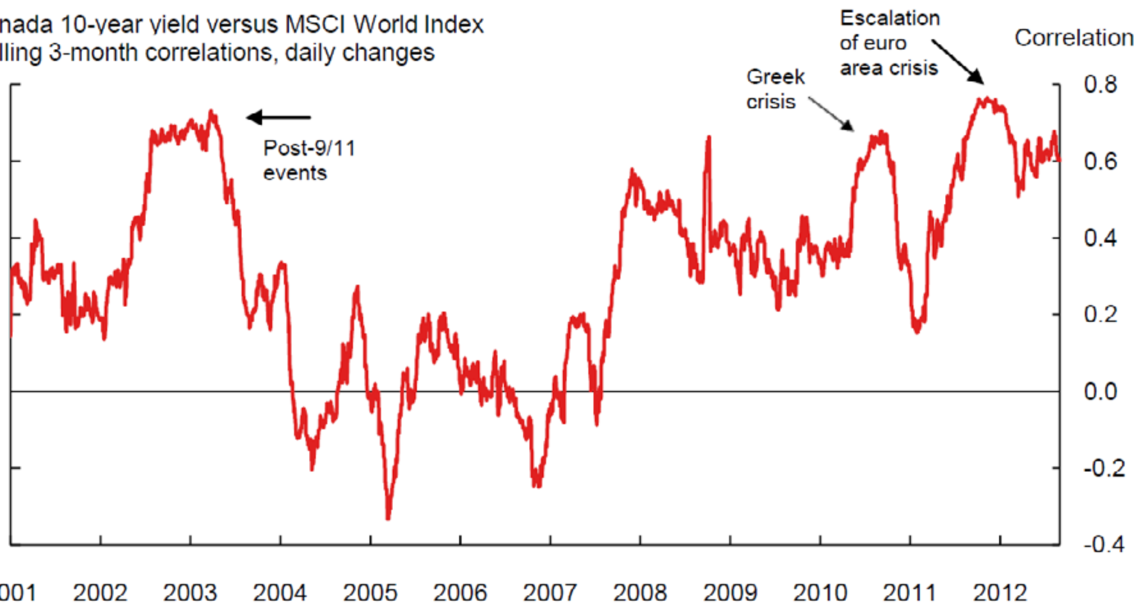
Chart 9: Canada's safe-haven status second to U.S. and U.K.



Note: MSCI World Index is a weighted equity index of developed-world markets.
Source: Bloomberg

Last observation: 30 August 2012

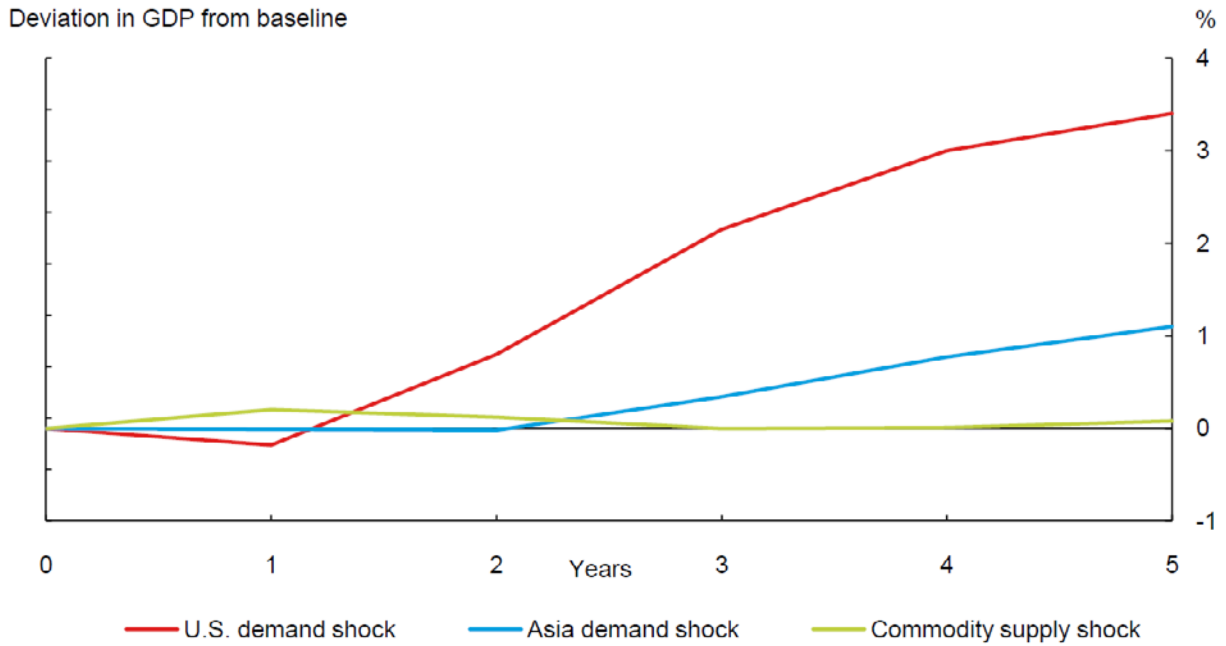
Chart 10: Pre-crisis, Canada was not regarded as a safe haven



Note: MSCI World Index is a weighted equity index of developed-world markets.
Source: Bloomberg

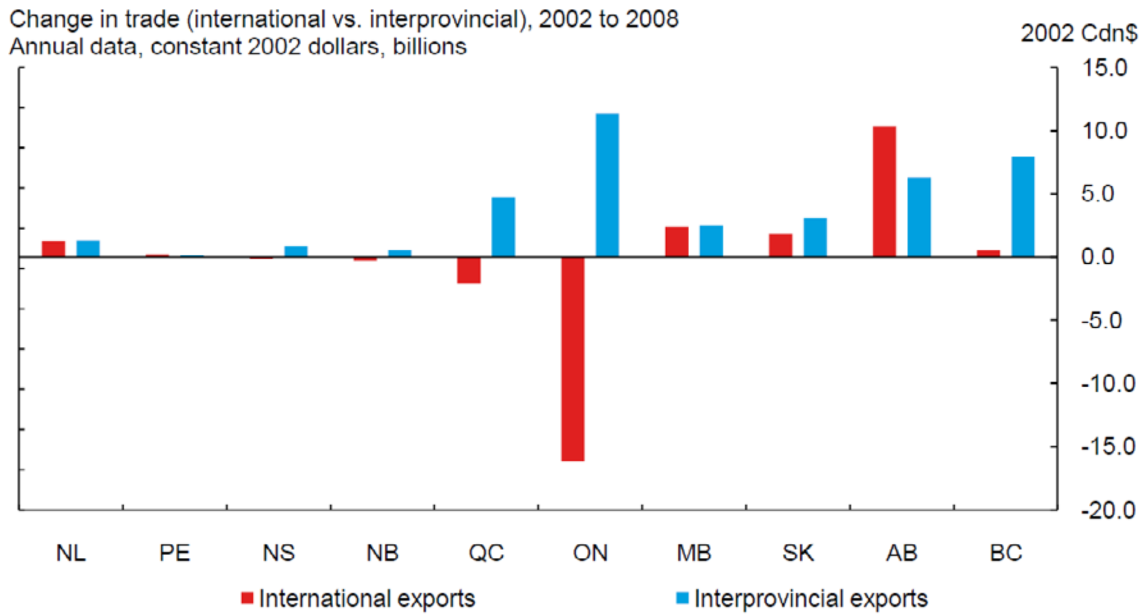
Last observation: Aug 30, 2012

Chart 11: GDP impact depends on source of commodity-price movement



Source: Bank of Canada calculations

Chart 12: Trade inside Canada has grown faster than international trade



Source: Statistics Canada

Last observation: 2008

Chart 13: Services dominate interprovincial trade growth

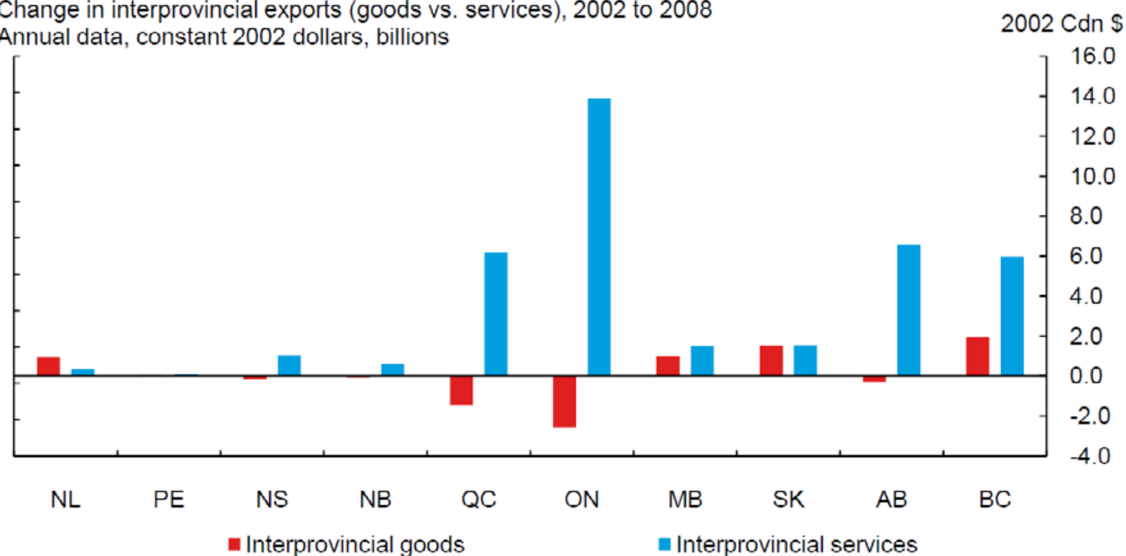
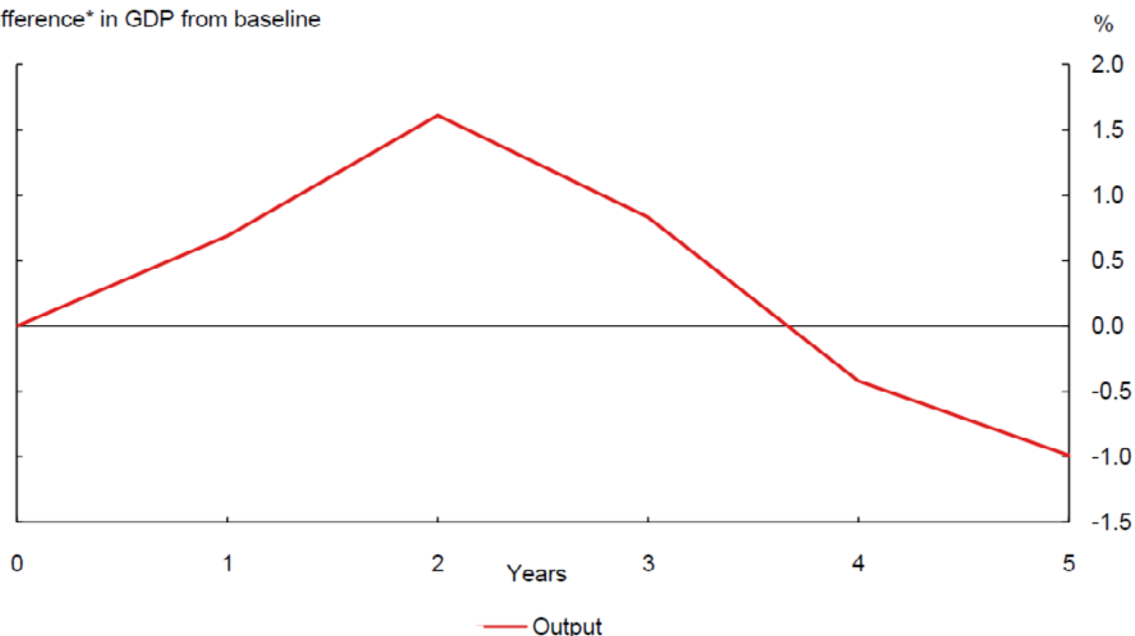
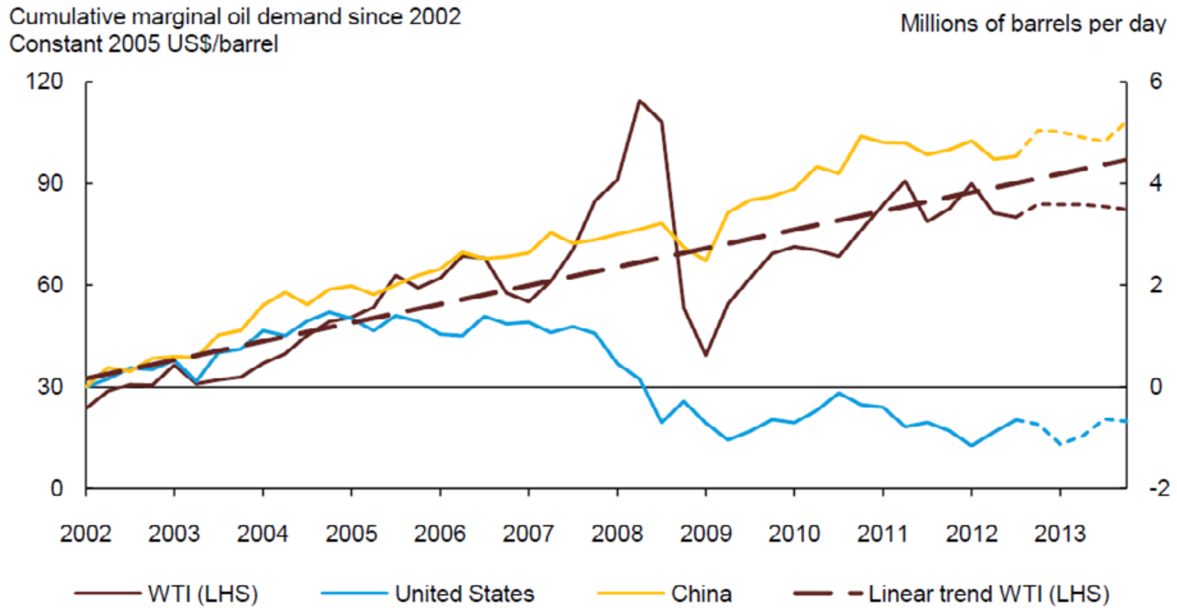


Chart 14: Leaning against the exchange rate ultimately leads to lower output



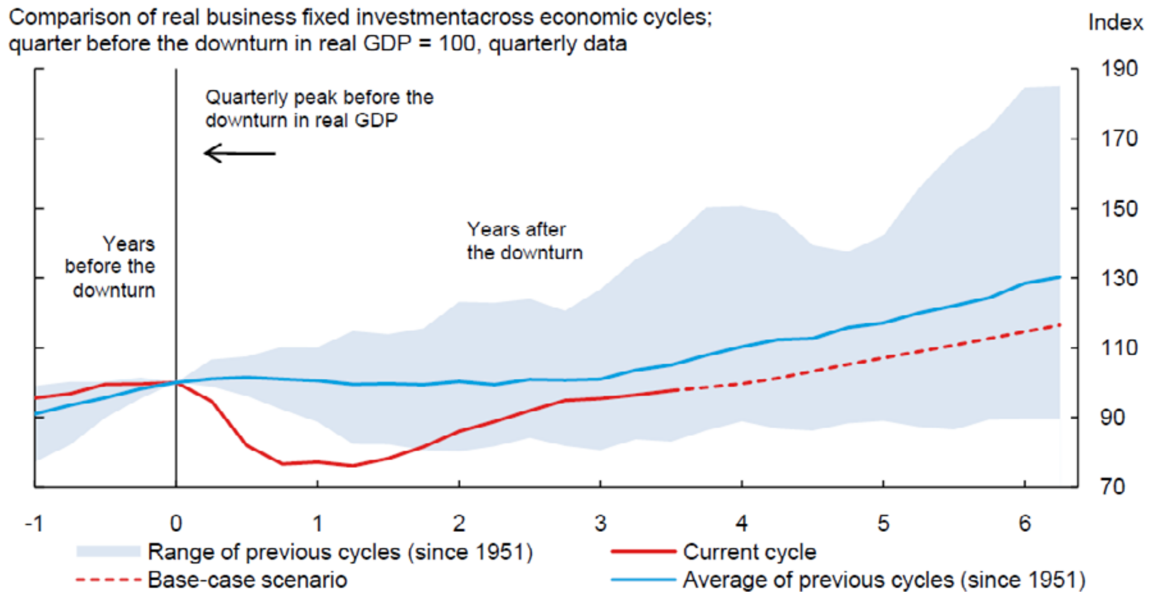
* denotes difference in GDP between leaning and no leaning
Source: Bank of Canada calculations

Chart 15: Chinese demand driving oil prices



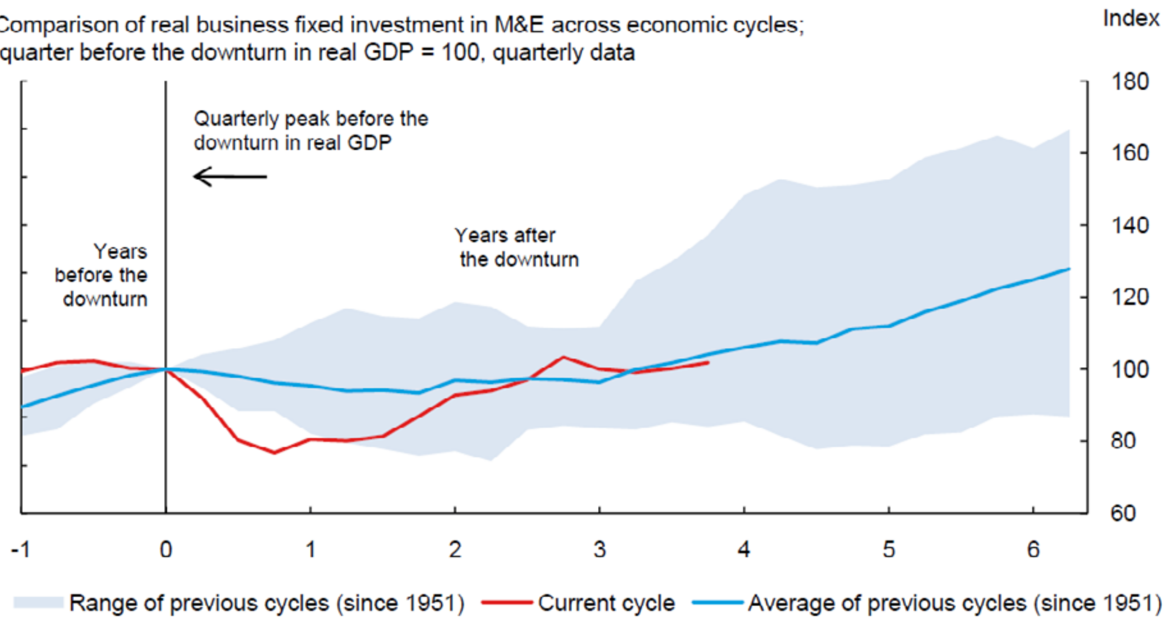
Sources: International Energy Agency, IMF *World Economic Outlook* April 2012, U.S. Bureau of Economic Analysis

Chart 16: Business investment below average of postwar recoveries



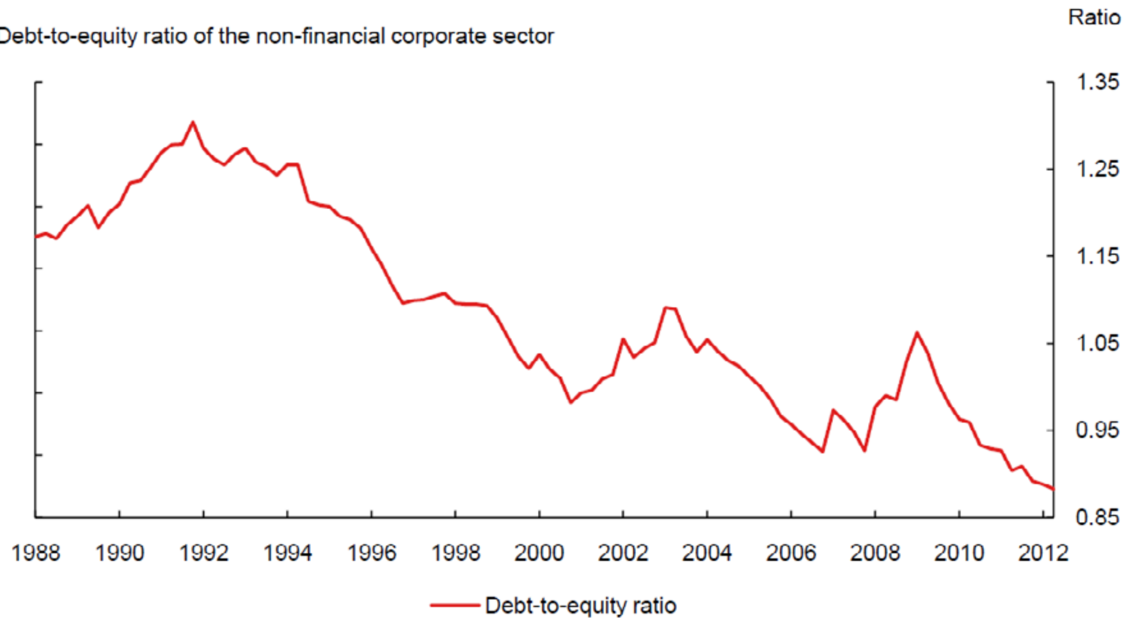
Note: The current cycle shows the historical data and base-case projection from the July 2012 Monetary Policy Report
Sources: Statistics Canada and Bank of Canada calculations and projections

Chart 17: Business M&E investment near average of postwar recoveries



Sources: Statistics Canada and Bank of Canada calculations

Chart 18: Canadian corporate leverage is at an all time low



Source: Statistics Canada, Quarterly Financial Statistics for Enterprise

Last observation: 2012Q2