

The Impact of Higher Commodity Prices on Canada's Trade Balance¹

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Executive summary

Commodity related sectors are carrying a greater weight in Canada's trade balance due to their recent price hikes. The objective of this report is to calculate the impact of changes in commodity prices on Canada's trade balance.

Three price scenarios were used to compute the results using a simple accounting method. Amongst the three price scenarios, the base-case scenario, in which prices of commodities grow inline with the wholesale price index (WPI) revealed that the commodity sector will contribute to over \$110 billion to the merchandise surplus by 2010. In the low-price scenario, prices were lowered by 20% resulting in a contribution of \$88.8 billion to the surplus, while in the high-price scenario where prices were increased by 20%, commodities will contribute \$133 billion. In all three scenarios energy continued to contribute to the largest share in the surplus ranging from \$43.6 billion to \$65.4 billion followed by industrial metals (\$23.8 billion to \$35.6 billion) and forestry products (\$21.4 billion to \$32.1 billion).

Although Canada is a developed and industrialized economy, it continues to rely on commodities for its surpluses. This not surprising due to the fact that Canada has abundance of natural resources combined with an increase in an appetite for commodities in the global market, especially in the emerging economies.

¹ This paper has been adapted from its original version published in the "Seventh Annual Report on Canada's State of Trade"

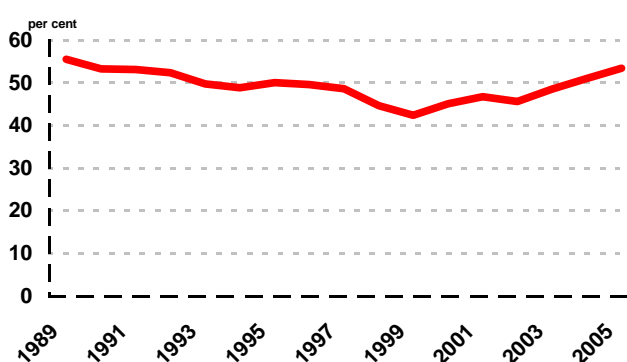


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1. Introduction

Canada has historically been a net exporter of commodities, particularly energy, industrial goods and forestry products. The commodity sector has always played an important role for Canada's economic prosperity. In 2005, the commodity sector accounted for 12 per cent of GDP and over 50 per cent of exports (see Figure 1).² Recently, robust economic growth in economies such as China and India, along with other geopolitical and supply/demand factors, have been creating upward pressure on global commodity prices. The objective of this short section is two-fold; firstly, to analyze the impact of recent price booms in energy and industrial commodities on Canada's trade balance and secondly to provide an estimate of the impact of commodity price changes on Canada's trade balance going forward.

Figure 1
Commodities Share in Canada's Exports, 1989-2005



Source: Statistics Canada

2. Background and Assumptions

Commodity prices have been rising sharply in recent years. Since 2002, when the prolonged price increases began, the commodity price index had risen 78 per cent by the end of 2005, while the energy index rose 137 per cent over the same period.³ Crude oil prices hit an all time monthly high of US\$65.6 per barrel⁴ in September, 2005, while natural gas prices also reached a high of US\$10.97 per thousand cubic feet in October, 2005. The peaks recorded during these two months were due to the disruptions caused by hurricane Katrina; however, crude oil and natural gas prices since then have not dropped to their pre-Katrina levels. The industrial material index also increased by 43 per cent since 2002. All major industrial metal prices have been increasing since 2002, especially copper, iron ore and nickel, which have each more than doubled in price. Aluminium, gold, silver and zinc have also appreciated in value by more than 40 per cent during this period.

² Sectors included for computations are: agriculture, forestry, fishing and hunting, mining and oil and gas extraction, wood product manufacturing, paper manufacturing, petroleum and coal products, chemical manufacturing, non-metallic mineral product and primary metal manufacturing.

³ Bank of Canada's commodity price index.

⁴ Cushing, OK WTI Spot Price FOB (USD per barrel).



According to forecasts from the IMF, industrial commodity prices are expected to increase further, up 12.3 per cent in 2006 followed by a slight decrease in 2007.⁵ The U.S. Energy Information Administration (EIA) estimates that oil prices will remain high, averaging US\$65 per barrel in 2006 and \$61 in 2007 under the assumption that the current demand for oil will be sustained and that there will be a modest increase in oil production capacity while geopolitical risks continue.

Canada's top net exports⁶ have been dominated by resource-based commodities for some time; this is more apparent in recent years—10 of the top 12 net export of goods⁷ in 2005 were energy and industrial goods and materials as can be seen in the Table 1.

Table 1: Canada's Top 12 Net Exports in 2005 (\$ in millions, customs basis)

	2002	2003	2004	2005	% Change 2005/2002
Natural gas	17,661	24,262	24,474	32,281	82.8%
Passenger vehicles	32,302	27,901	31,504	29,583	-8.4%
Coniferous wood	10,201	8,306	10,866	9,776	-4.2%
Crude oil	6,009	6,629	9,052	7,990	33.0%
Newsprint	6,293	5,597	5,265	5,212	-17.2%
Vehicle transmission	7,941	5,975	4,624	4,223	-46.8%
Wood pulp	4,180	4,115	4,567	3,995	-4.4%
Paper	2,720	2,350	2,831	3,074	13.0%
Light oils (not crude)	3,298	3,408	2,891	3,021	-8.4%
Oil (not crude)	1,880	2,057	2,470	2,823	50.1%
Potassium chloride	2,375	1,922	2,169	2,758	16.2%
Aluminum alloys	2,375	2,265	2,541	2,614	10.1%

Source: Statistics Canada

The recent commodity price increases have had a positive impact on Canada's trade surpluses as can be seen from the Figure 2. In 2005, the surplus reached \$67 billion (balance of payments basis), the third consecutive annual increase. The industrial material sector, which includes metals and forestry products, contributed to the lion's share of the surplus, recording \$82 billion in net exports in 2005, while net exports in energy reached \$54 billion that year—both record highs. Industrial metals exports recorded increases both in quantity and prices in 2005 while energy sector increases in

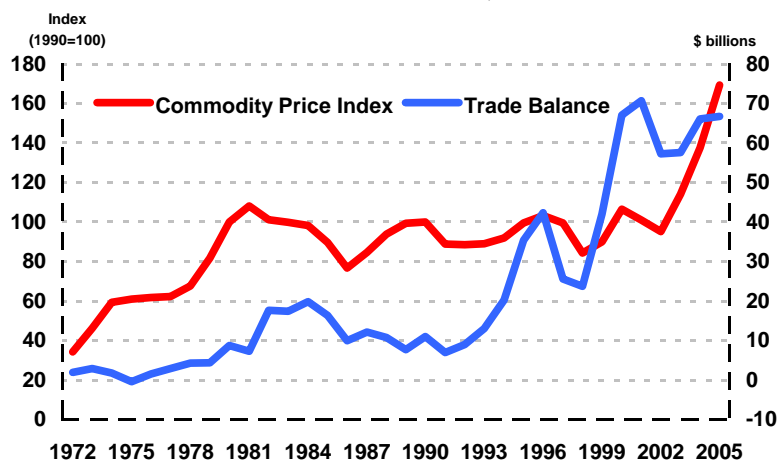
⁵ IMF World economic outlook database, April 2006.

⁶ Net exports are computed by subtracting imports from exports.

⁷ The data is at the HS6 level.

net exports were strictly a price effect. Excluding the impact of higher energy prices, the trade surplus in energy would have been much lower at an estimated \$38 billion⁸ in 2005. Although the trade surplus in commodities is enormous (over \$95 billion in 2005), the overall merchandise trade surplus (at \$67 billion in 2005), was reduced by other sectors that saw imports increase faster than exports.

Figure 2
Commodity Price Index
& Merchandise Trade Balance, 1972-2005



Source: Statistics Canada

This highlighted section will analyze the medium-term (2006-2010) impact of higher commodity prices on Canada's trade surplus. The following three scenarios are used to estimate the impact on the trade balance:

- Low-index scenario: The commodity price index will fall 20 per cent from its 2005 level over the next five years.
- Baseline scenario: The commodity price index will increase at the same rate as the forecasted increase in the wholesale price index (WPI). There will be a net increase of 11.5 per cent by 2010.
- High-index scenario: The commodity price index will increase by 20 per cent above the WPI forecasted by Global Insight. At this rate, the commodity index will increase by 33.8 per cent by 2010 in nominal terms.

The above price scenarios are used to generate estimated impacts on Canada's merchandise trade balance. It is important to note that for all of these scenarios, we assume no impact on the volume of the commodity traded.

⁸ Figures are based on 2004 energy prices.

3. Methodology

The methodology consists of two parts. First, we will estimate the impact on net exports for the twelve major net exporting commodities⁹ based on the three prices scenarios as previously mentioned. These results will be computed using the three commodity price levels as the primary variable, while leaving all other factors such as volume constant. For the purpose of this report, a simplified accounting method was used.

4. Summary of the Impact

The three price scenarios indicate a positive contribution to the trade surplus ranging from \$89 billion to \$133 billion by 2010 with the energy sector contribution being the largest share. This is not surprising since Canada has historically depended on its exports of commodities for its trade surpluses. As prices of commodities increase, so does the overall impact on the merchandise trade surplus.

Table 2: Impact on Canada's Trade Balance by Year 2010 in \$ millions

	2005	Low (-20%)	Baseline	High (+20%)
Energy	47,763	43,619	54,523	65,428
Coal	2,640	2,554	3,192	3,830
Crude Oil	8,491	7,388	9,235	11,081
Natural Gas	36,631	33,678	42,097	50,516
Industrial Metals	25,100	23,766	29,708	35,649
Aluminium	7,669	7,782	9,727	11,672
Copper	3,815	3,518	4,398	5,278
Nickel	4,135	3,705	4,632	5,558
Zinc	1,134	1,043	1,303	1,564
Precious Metals	5,624	5,223	6,529	7,835
Iron Ores	2,725	2,495	3,119	3,742
Forestry Products	22,381	21,381	26,726	32,071
Lumber	10,402	10,257	12,822	15,386
Pulp	5,707	5,441	6,801	8,161
Newsprint	6,271	5,683	7,103	8,524
Overall Projected Impact on the Trade Balance	95,244	88,766	110,957	133,149

⁹ Coal, crude oil, natural gas, zinc, precious metals (gold & silver), iron ores, lumber, pulp and newsprint.



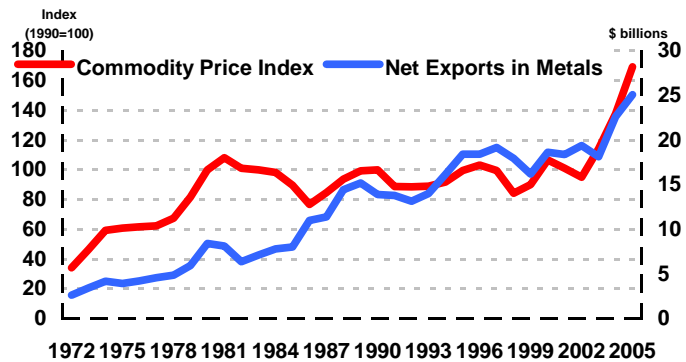
Energy

In all three scenarios, natural gas is the largest contributor to the trade surplus, adding as much as \$50.5 billion by 2010 in the high price scenario. Close proximity to the largest energy consumer, the U.S., combined with an existing extensive network of pipelines makes Canada the ideal place from which Americans get their natural gas. Despite the large increase in the value of natural gas exports, which was pushed up by natural gas prices, the volume of exports was up only marginally, by 1.3 per cent. Crude oil, to a lesser degree, will also continue to contribute to the trade surplus, ranging from \$7.4 billion to \$11.1 billion in the low and high scenarios respectively. The impact of higher oil prices on Canada's trade balance is somewhat offset by imports of crude oil for domestic consumption (namely the Atlantic Provinces, Quebec and Ontario). Canadian coal export prices and quantities increased by 72 per cent and 8 per cent, respectively, pushing net export levels up by \$1.3 billion to \$2.3 billion in 2005. If coal prices were to increase further, as in the case of the high prices scenario, coal will add \$3.8 billion to the surplus by 2010. Thus, the energy sector overall will contribute between \$43.6 and \$65.4 billion as shown in the Table 2.

Industrial Metals

Growth in the volume of exports in the metal sector during 2005 was mixed. Aluminium, copper, gold, silver and iron had positive growth (see Table 3), while the volume of zinc (-13 per cent) and of nickel (-8.7 per cent) fell despite the increase in their prices. The quantity of aluminium exports grew by 12 per cent while recording \$7.7 billion in net exports in 2005. Aluminium was by far the largest contributor to the trade surplus in the industrial metal sector. Gold and silver prices boosted growth in precious metal net exports as their prices increased by 8.7 per cent and 9.7 per cent, respectively. These price developments pushed net exports in precious metals up by 12.8 per cent to \$5.6 billion in 2005. Metal demand continues to grow, pushed even higher by global economic expansion, particularly in China. The extent to which the metal sector will contribute to the trade surplus will primarily depend on price levels. More recent price forecasts are mixed amongst metals. For instance, gold prices are on the upswing while aluminium prices have subsided as global supply increases. However, the overall impact will continue be positive in all three scenarios.

Figure 3
Commodity Price Index and Net Exports in Metals (Aluminium, Copper, Nickel, Zinc, Precious Metals and Iron Ores), 1972-2005



Source: Statistics Canada



Table 3: Quantity of Metal Exports

Millions of units	HS Code	2002	2003	2004	2005	% Change 2005/2004
Aluminium (KGM)	7601	2,133	2,233	1,999	2,240	12.0%
Copper (KGM)	7403	244	221	283	300	6.1%
Nickel (KGM)	7502	102	95	125	114	-8.7%
Zinc (KGM)	79	652	626	666	579	-13.0%
Gold (GRM)	7108	172	162	199	237	19.2%
Silver (GRM)	7106	1,854	1,772	1,489	1,549	4.0%
Iron and Steel (KGM)	7208	853	754	713	980	37.5%

Source: Statistics Canada

Forestry Products

Despite lower export volumes of newsprint and pulp and a minor increase (+0.5 per cent) in lumber exports, all three forestry products continue to be in the top 12 net exports for Canada. Export prices for newsprint were up 4.3 per cent, while prices for pulp and lumber fell by 5.9 per cent and 9.7 per cent, respectively. Overall, the forestry products sector contributed \$22.4 billion to Canada's merchandise trade surplus in 2005. This was an 8.7 per cent drop from the previous year when prices for lumber and pulp were higher by 11 per cent and 6 per cent, respectively. Despite the lacklustre price performance of forestry products compared to other industrial products, they will continue to play an important role in contributing to the trade surplus in the future, adding to \$26.7 billion to the trade surplus by 2010 in the base case scenario.

5. Conclusion

In all three scenarios examining the impact of changes in commodity prices on Canada's trade balance, commodities will account for a larger share of Canada's trade balance in 2010 than they do today. Even with prices declining in both nominal and real terms, sheer volume will lead to the result that Canada will increasingly be characterized by some once again as a 'hewer of wood and a drawer of water.'

